Solomon Islands Cocoa Livelihoods Improvement Project (CLIP)

Monitoring/Impact Assessment Annual Report July 2011 to June 2012

An annual report by the Impact Assessment Team.

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A report based on analysis of data collected during field work carried out over twelve months assessing the impacts of CLIP. This report builds on the 2010-2011 report.

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Design: TerraCircle consultant
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Participating organisations

Cocoa Livelihoods Improvement Project (CLIP)

CLIP is part of AusAID's response to the SIG-Australia partnership for development initiative

Ministry of Agriculture and Livestock, Solomon Islands Government

Commodities Export Marketing Authority (CEMA)

GRM

Managing contractor for the project.

Australian Agency for International Development (AusAID)

Part of the Department of Foreign Affairs, AusAID administers the Australian Government's aid budget and provides financial support to development assistance projects and programs in the region. AusAID funded the Solomon Islands CLIP.

Impact assessment work was carried out by:

TerraCircle development assistance consultants

The South Pacific development assistance consultancy, TerraCircle, works with local NGOs and agencies, governments and intergovernmental organisations in the region. www.terracircle.org.au

Positive Developments (SI) Ltd

Sustainable development consultancy in the Solomon Islands.

Contents

Abbreviations

ACIAR	Australian Centre for International Agricultural Research
ALP	Agriculture Livelihoods Program
CEMA	Commodities Export Marketing Authority
CEPA	Cocoa Exporters and Producers Association
CIF	Cost, Insurance and Freight (Price)
CLIP	Cocoa Livelihoods Improvement Project
DCED	Donor Committee for Enterprise Development
FFS	Farmer Field School
FOB	Freight on Board (Price)
IPDM	Integrated Pest and Disease Management
kg	Kilograms
LVT	Less Variable Trees
M&E	Monitoring and Evaluation
MT	Metric Tonnes
MMW	Making Markets Work
MVT	More Variable Trees
PARDI	Pacific Agribusiness Research for Development Initiative
PGS	Participatory Guarantee System
PHAMA	Pacific Horticultural & Agricultural Market Access [Programme]
PSD	Private Sector Development
RLP	Rural Livelihoods Program
RDP	Rural Development Program
SI	Solomon Islands
SL	Sustainable Livelihoods

1. Summary

Annual impact estimates

The Cocoa Livelihoods Improvement Project (CLIP) is a three-year AUD$6.1m project which aims to increase cocoa production, improve cocoa quality and facilitate access to more competitive markets. CLIP started in July 2009 as a component of the Agricultural Livelihoods Program (ALP) but became a separate initiative when ALP closed in October 2010 and ends in June 2012. CLIP started in July 2009 as a component of the Agricultural Livelihoods Program (ALP) but became a separate initiative when ALP closed in October 2010.

Clip objectives

The objective of CLIP is to substantially increase rural incomes through increased cocoa production and improved cocoa quality and access to more competitive markets. Specifically:

- increase of cocoa exports to 10,000 tonnes in five years and 15,000 tonnes in ten years
- reduction of the differential between Solomon Islands and PNG Free-on-Board (FOB) bulk cocoa prices to 25 per cent in five years, and 75 per cent in ten years.

CLIP progress—summary results

In this section we present the summary results from the CLIP program. Three measures are used: Scale; Net additional income; and full time equivalent jobs created. The common measures aim to allow comparisons between projects which adopt the standard. These summary indicators and this report is based on the Donor Committee for Enterprise Development (DCED) guidelines which sets out best practice for market based interventions. The indicators are used to project or estimate impact to two years beyond completion—in this case up until the end of 2014.

What is DCED?:

The DCED promotes economic opportunity and self-reliance through private sector development (PSD) in developing countries. It is the forum in which donor and UN agencies share their practical experience of PSD, and agree guidance on good practice. It is also the leading source of knowledge about PSD.

The DCED standard uses three overall projections to summarise project impact: scale, net additional income and employment. Our projections for each of these impacts are included here in the summary section of the report and we have used projections up until two years after the end of CLIP—2014.

Scale

- 18% of cocoa farmers in SI have been trained in IPDM with an adoption rate of 64% leading to 11.5% of cocoa farmers practicing IPDM. Of those who adopt, they have applied IPDM to approximately 50% of their trees by end of 2011. 92% of cocoa farmers – about 10,000 still need to learn about IPDM
- 5581 farm enterprises applying IPDM out of 13,921 cocoa farm enterprises documented by CLIP and estimated 20,000 in SI
- 3357 farm enterprises received tools out of 13,921 cocoa farm enterprises in SI
- 375 Cocoa Processor Enterprises, out of a total of 1645, received drier equipment
- 102 Cocoa Processor Enterprises received training on track and track

Seed capable of producing 205,000 superior Amelonado cocoa trees has been distributed to farmers. This represents 1.3% of the target of 40%[1] of existing cocoa tree stock to improved genetic material.

1 40% is based on observations in field by Dr. John Konam and is a target not yet documented in formal CLIP records

By 2014 more than 7845 farm and other enterprises reached against target of 2300 (340% of target)

Farm Enterprises	*2011*	*2012*	*2013*	*2014*
IPDM ADOPTERS (trained by CLIP and MAL)	1357	2140	2140	2140
Spread of IPDM farmer to farmer	1148	2726	4304	4304
Adoption of IPDM by farmer with tools but no IPDM training	459	514	514	514
Farmers who have IPDM applied by pruning gangs	480	502	502	502
sub total	3443	5881	7459	7459
Other enterprises				
Processors	375	375	375	375
Tools suppliers for cocoa farmers	1	1	1	1
Black post seed farm	1	1	1	1
Pruning Gangs that continue as service providers	1	3	3	3
Exporters	6	6	6	6
TOTAL	*3827*	*6267*	*7845*	*7845*

Assumptions used for Scale calculations

Assumptions used for scale calculations	*No.*	*Source*
IPDM farmers trained - adoption rate of IPDM	64%	Sample of IPDM sites visited in IA
% of trees with IPDM applied by adopting farmers	49%	Sample of IPDM sites visited in IA
Average number of cocoa trees per farmer (total)	1118	Average farm size (trees) according to CLIP survey data was 1491 - reduced to 1118 (25%) as observations seems to indicate many farmers have slightly smaller plots
Spread of IPDM is 1-2 farmers per IPDM trainee over 3 years (0.5 farmers per year) starting from 2011	0.5	Sample of IPDM sites visited in IA
Spread does not continue beyond 2013 - 2014 due to lack of continued CLIP inputs in sector		
Application of IPDM by farmers who receive CLIP tools but not IPDM training	12%	Sample of IPDM sites visited in IA
Total number of farmers with tools from CLIP	3823	CLIP records - includes farmers who have received or partly received their tools (93 still to receive not included)
Number of IPDM farmers who also received tools	10%	Estimate based on field visits - records of IPDM training are not linked to tools distribution database
Total number of farmers trained in IPDM (end 2010)	2120	CLIP RECORDS
Total number of farmers trained in IPDM (end 2011)	3343	CLIP Records
Number of farmer operated IPDM demonstration sites established by CLIP	50	CLIP RECORDS
Farmers with pruning gangs who have completed work	480	CLIP RECORDS
Farmers who adopt IPDM apply it to an additional 20% of their trees each year	10%	Estimate by IA team confirmed with CLIP team meeting Nov 2011
Adoption by farmers with tools - assumes that an additional 12% adopt each year as they have tools / access to information		
Number of farmers joining look and learn up to Nov 2011	214	Field estimates from CLIP provincial staff
look and learn participants planned for early 2012	510	Field estimates from CLIP provincial staff
Adoption rate by look and learn participants	80%	Field estimates from CLIP provincial staff [plus small sample in Lambi area by CLIP IA

Net income

DCED: *Net income = Additional net income (additional sale minus additional costs) accrued to targeted enterprises as a result of the program per year9.*

$209 million of income increase achieved against target of $350 million cumulatively up until 2014 (60% of target).

This is based on production increases attributable to CLIP (see page 50 'Market Incentives') and new market arrangements. The current annual increase in value is $20 million in 2011 and increases to $45 million by the end of 2012. This will reach a cumulative total of 209million by the end of 2014. For list of assumptions please see production estimates.

$185 million of this cumulative increase in income goes directly to farmers and processors. Of this 38% of wet bean sales is estimated to benefit women at $5 per KG.

Income estimates were reduced from earlier projections due to the drop in world cocoa price. Had prices remained at 2010 levels CLIP would have exceeded its net additional income target.

Both men and women sell wet bean to local processors (wet bean buyers) here assumed to be average of $5kg.

Women are assumed to take half of wet bean sales and it is assumed two kg of wet bean = 1kg dry bean. Overall when looking at the net additional income for farmers and processors, 76% goes to men and 24% directly to women.

Households are benefiting from income to both men and women—see the section on results chain box 'increased income' for more details.

Costs are not included as most costs for wet bean are non cash and made within household and where they are expended in cash, it still falls to local rural income recipients.

New market arrangements are expected to add significant additional value to the cocoa sector through export of a 600 tonnes per year at a premium of about 20% over current prices. Additional income will also accrue to exporters through the increase volume of cocoa traded nationally as result of increased production.

Income from increased production

Income from increased production	*2011*	*2012*	*2013*	*2014*	*TOTAL*
Increased income to farmers and processors	19,267,859	39,627,562	58,777,431	67,295,899	184,968,751
Increased income to exporters overall	1,354,021	4,168,792	6,816,301	7,993,997	20,333,111
Increased income to solkom - 600 tonnes		1,536,000	1,536,000	1,536,000	4,608,000
Total	*$20,621,880*	*$45,332,354*	*$67,129,732*	*$76,825,896*	*$209,909,862*

Net additional income of 185 million going to farmers and processors.

Farmers and processors income	*2011*	*2012*	*2013*	*2014*	*TOTAL*	*PERCENTAGE*
Women	4,636,977	9,536,715	14,145,297	16,195,340	44,514,329	24%
Men	14,630,882	30,090,846	44,632,134	51,100,559	140,454,422	76%

Employment

DCED: *Net additional jobs created = Net additional, full time equivalent jobs created in target enterprises as a result of the program, per year and cumulatively. 'Additional' means jobs created minus jobs lost. 'Per year' comprises 240 working days (see Box 2). The program must explain why these jobs are likely to be sustainable. Jobs saved or sustained may be reported separately.*

DCED: *Full Time Equivalents (FTE)*

Adapted from: USNH. 2008; p1 and Salz et al. 2005; p7

Figures for the number of persons working less than the standard working time of a full-year full-time worker should be converted into full-time equivalents, with regard to the working time of a full-time full-year employee. Included in this category are people working less than the standard number of working days in the week, or less than the standard number of weeks/ months in the year.

There are a number of different ways of calculating FTE jobs, but a standard formula may look something like this:

Days x Weeks = FTE Days in a year

Days = Number of days the employee will work in a week. Weeks = Number of weeks the employee will work in a year. Days in a year = Number of working days in the year (for the purposes of the DCED Methodology, it will be assumed that one year comprises 240 working days)

For Example: *If an employee is scheduled to work 3 days a week for 25 weeks in 2009.*

*3 Days * 25 Weeks = FTE 0.3125 240*

By 2014, 3493 full time equivalent new jobs per annum are estimated to be created against target of 3900 (90% of target).

The additional increase of 3493 equivalent of full-time jobs (in addition to existing equivalent full-time jobs) is resulting from adoption of IPDM and increasing per tree productivity, increasing labour needed for harvesting, processing and loading for exports.

By 2014, the total EFT (including increases from IPDM application) in cocoa industry would reach 8920. The baseline equivalent full-time job in the cocoa industry (5428) is calculated using CLIP survey data on farmers and average number of trees and 2003-2010 national average export volumes.

Equivalent full-time employment

Self employment & hired labour	*Pre-CLIP 2003-2010*	*2011*	*2012*	*2013*	*2014*
Farm maintenance	3891				
IPDM Application	0	472	970	1,439	1,647
Harvest & Processing	1464	503	1,035	1,535	1,757
Export Loading EFT	73	25	52	77	88
Total EFT from IPDM & increased production		1000	2057	3050	3493
Total EFT in cocoa production	*5428*	*6428*	*7484*	*8478*	*8920*

Assumptions used in EFT calculations

Assumptions used for EFT calculations	*No.*	*Source*
Est. # trees per hectare 1 hectare (3m x 3m spacing)	1000	
Mandays for IPDM maintenance per hectare (1000 trees)	60	ADB estimate + additional days allocated 4 ringweeding (IPDM)
Mandays for harvesting processing per ton	80	ADB estimates
Mandays for export loading per 15 ton container	4	
Number of work days in a year (less weekends & holidays)	240	
EFT (Tree maintenance)	0.25	
EFT (Processing)	0.33	
EFT Export Loading	0.02	
Number of farms documented by CLIP	13,921	
Average # trees per farm	1118	
Total number of existing cocoa trees	15,563,678	
Pre-CLIP national average exports (2003 - 2010)	4391	

Gender

Compelling empirical evidence shows that gender equality is good for economic growth. Research finds correlations between gender equality and economic growth, both in comparisons across countries and over time and conclude that gender inequalities undermine nations' productivity and human capacity. Gender inequalities affect competitiveness by restraining productivity, growth, and output and indirectly hindering trade performance.[2]

Gender participation in the implementation of CLIP activities could have been better. CLIP activities have been based on the assumption that cocoa is a household crop and that husband and wife will be invited and expected to attend CLIP facilitated activities together.

Gathering specific information about women farmers was not a priority. This resulted in no women farmers in the CLIP survey database.

According to CLIP monitoring survey report[3], 47% of women in Solomon Islands are involved in cocoa. Initially, all farmers who took part in CLIP activities (equity tools, IPDM trainings etc) were selected from the farmers in the database who met the criteria. Our field visits highlight that there are lots of women owned farms, some women are processors and that women are responsible for farm care while men are more involved in processing. Most exporters are family run businesses and exporting is predominantly men's arena, but they almost always have their children, particularly daughters working in the administration and finance. Broadening the knowledge of all involved in cocoa business is necessary.

Women's participation in CLIP activities:

- 8% of farmers/processors (1193) trained by CEMA in improved processing and handling methods were female
- 7% of farmers trained in IPDM were female
- 10% of pod recipients (distributed from Blackpost) were female
- 8% of farmers and extension officers (3 out of 40) trained in grafting were women. These women have trained other women farmers. 10% of farmers practising grafting are women (4 out of 12)
- 10% of processors trained in Track 'n Trace were women
- 14% of stakeholders who have participated in overseas missions were females.

The Participatory Rural Appraisal for Gender in Agriculture by Agriculture Livelihoods Program Staff in 2010 (CLIP was a project under ALP then) in two Guadalcanal cocoa farming communities highlighted that women feel that cocoa is suitable for women and is improving their livelihoods. And while women do a lot of work in the farms, they do seem to miss out on significant participation in intervention programs.

The recommendations made then remain relevant for future cocoa industry interventions:

- CLIP gender analysis shows that women play an important role in selecting pods, collecting them, removal of wet beans, and transporting wet beans to the drier. All these areas should be carefully targeted to women for future training. In addition cocoa programs should seek to empower women into new roles – for example in drier management, record keeping or in the development of new track and trace systems. There are successful women cocoa farmers and processors and their information should be publicized as role models for other women and girls.
- It is necessary to pilot some women only training opportunities. For example women's involvement in IPDM training could be greatly improved. The theory of husband and wife being trained together claimed by CLIP has not eventuated in practice.
- An important finding is that the availability of wet bean buyers on the local level is very important for women's income and its direct contribution to meeting basic needs at the household level. The number of wet bean buyers in an area seems to relate to transport access (eg. proximity to roads). It should be investigated if there is a way to support the expansion of wet bean buying coverage.

2 World Bank. 2001. Engendering Development: Through Gender Equality in Rights, Resources, and Voice. New York: Oxford University Press; World Bank. 2009. Gender in Agriculture Sourcebook. Washington, DC: World Bank, IFAD, and FAO

3 Clark, T. March 2012 CLIP monitoring survey report

2. Where to now?

Building on the success of CLIP

CLIP has proven the potential to at least double earnings for cocoa farmers that it has been able to reach – with cocoa being the main income source of about 20% of Solomon Islands rural households.

Unfortunately CLIP was not able to run for the full five year period as originally designed. For this reason many aspects of the program were not able to be taken to scale and will rely on further follow up by other actors if the work started by CLIP is to realise its full potential.

In this section we have attempted to describe the value chain, the achievements of CLIP and the future work identified by CLIP that is required to support continued and sustainable growth of the cocoa industry in Solomon Islands.

Possible future interventions along the cocoa value chain

CLIP worked with most actors along the cocoa value chain, targeting increase in farm productivity and income but also creating alternative market opportunities and arrangements for exporters, processors and farmers (see Figure 1 over page).

Lessons learnt, and some activities that have been started that need to be continued at the closure of CLIP, provides an opportunity for well targeted interventions by other cocoa stakeholders and donor programs. While many important gains have been made, gaps in knowledge and shortfalls in institutionalizing knowledge, skills and practices exist throughout the cocoa value chain. We briefly discuss these below.

Households, cocoa farms level

IPDM has proven its ability to double per tree productivity and should be continued, reaching more farmers particularly women and remote areas. Hesitant farmers have now seen the change in trees with IPDM and are taking it up. There is evidence that IPDM is moving to the uptake stage with wide scale adoption a possibility.

There is sufficient institutionalization of the IPDM technology with MAL Extension officers, enumerators, pruning gangs and farmers being trained. Promoting the use of pruning gangs as private operations trained in four of the Provinces would ensure that IPDM is maintained and continues to spread.

Linking pruning gangs with constituency programs, exporters who actively work with groups of farmers for improved and increased productivity are possibilities.

There's also the need for second and third round of IPDM training in most sites.

Genetic improvement of cocoa trees

A few farmers, especially in Guadalcanal have embarked on selection of their own best varieties and are cloning them following training by CLIP.

A few female farmers: the Kembus in Guadalcanal Plains, Cornelius in Tarou, Chale staff in Marovo; have become highly skilled in grafting of cocoa trees. Grafted seedlings are then being planted on trial plots, for ongoing observation.

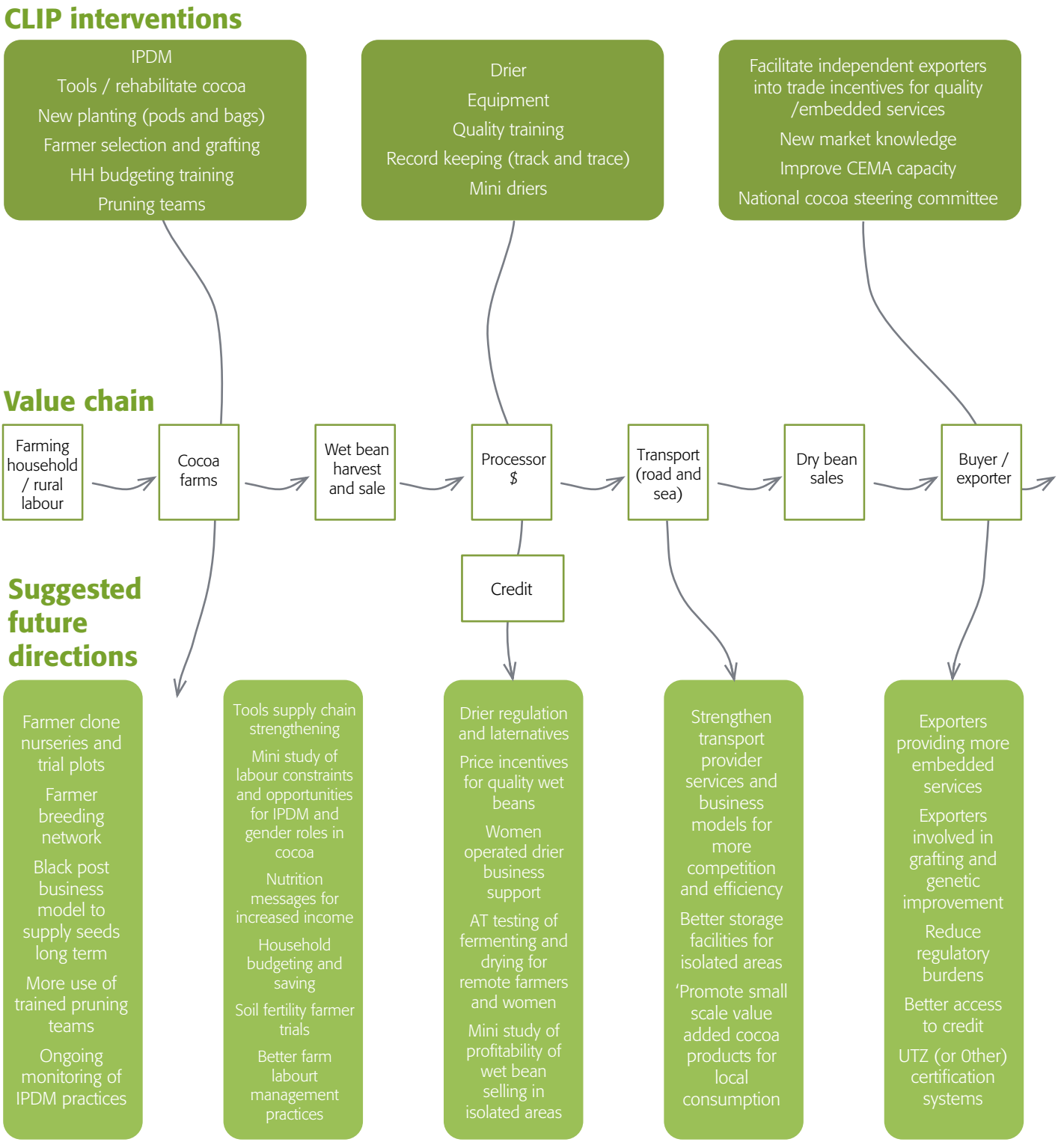
According to Dr Konam, while IPDM can double and possibly triple per tree productivity, about 80% of the trees would still under perform and need to be replaced through two cycles of selection and on farm trials.

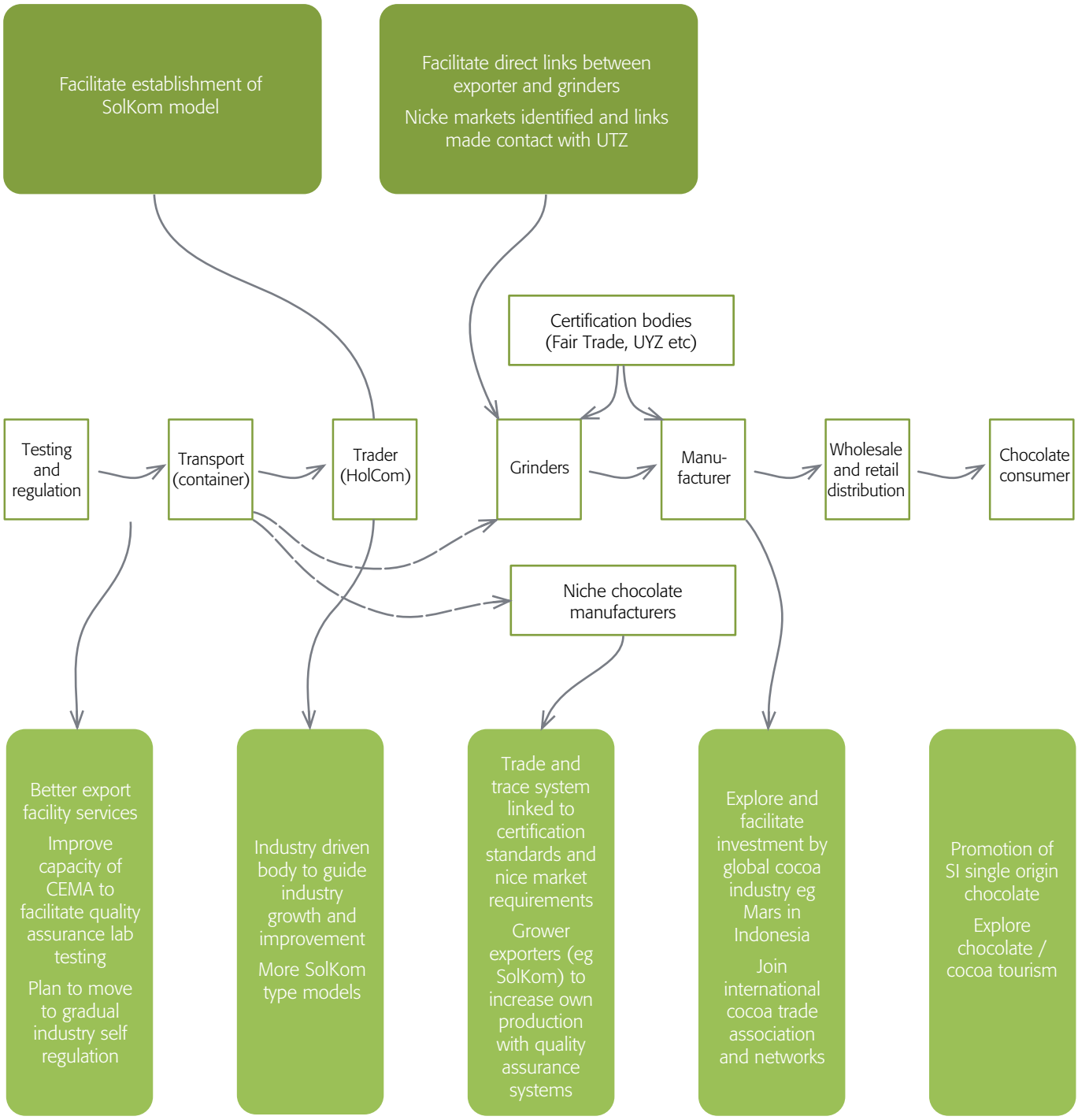
A network of cocoa farmers actively involved in improved clone selection and multiplication needs to be facilitated to help farmers distribute/exchange their best varieties for further on–farm trials in different areas –as a variety of factors influence cocoa productivity. See breeding programme timeframes developed by Dr Konam and Pelomo in p47, see Figure7: A plan for future breeding by farmers.

As IPDM is relatively new, there is a need to continue monitoring its impacts. There is the need to know how long IPDM trees remain at peak productivity before declining. Similarly, there needs to be continued observations on the performance of the grafted trees. How long it takes to peak production, how long it remains at full production before decline, what clones grows best in what conditions etc. These can be achieved through on- farm research with select farmers who are already involved in these activities.

Provision of farmer inputs using a farmer equity model was an innovative change in the Solomon Islands context that has been well implemented by MAL and

Figure 1: Cocoa value chain in Solomon Islands with CLIP completed intervention and future directions




Facilitate establishment of SolKom model
Facilitate direct links between exporter and grinders
Nicke markets identified and links made contact with UTZ
Certification bodies (Fair Trade, UYZ etc)
Testing and regulation
Transport (container)
Trader (HolCom)
Grinders
Manu-facturer
Wholesale and retail distribution
Chocolate consumer
Niche chocolate manufacturers
Better export facility services
Improve capacity of CEMA to facilitate quality assurance lab testing
Plan to move to gradual industry self regulation
Industry driven body to guide industry growth and improvement
More SolKom type models
Trade and trace system linked to certification standards and nice market requirements
Grower exporters (eg SolKom) to increase own production with quality assurance systems
Explore and facilitate investment by global cocoa industry eg Mars in Indonesia
Join international cocoa trade association and networks
Promotion of SI single origin chocolate
Explore chocolate / cocoa tourism

well received by farmers. It has led to important changes in attitude by farmers and extension services. However, the supply chain needs to be strengthened to ensure continuity of access to tools and parts for repairs for farmers in the long term.

Farmers needing to acquire tools now will struggle to find it, let alone parts for repairs. Availability within areas accessible to farmers is a real issue. While availability needs to be driven by farmers willingness to pay for tools (price and demand), there are opportunities to strengthen the supply chain such as exploring role of private sector eg. hardware/exporters/processors to facilitate some kind of agency arrangements or supplier network that better reaches cocoa farmers in rural areas so that they can continue to purchase needed tools (and spare parts) for IPDM at reasonable prices.

Increased income through increased farm productivity and improved market arrangements has been CLIP's main focus. However, insufficient attention has been paid to what happens to increased income. Savings and investing are foreign concepts to village people.

There has been some trainings in Track 'n Trace for processors/exporters and their farmers, some in planning and budgeting for households (money management). CLIP has however, failed to institutionalize these training packages making it inaccessible to other farmers at the end of the program.

Training and mentoring of trainers or training service providers needs to be up-scaled in household planning, budgeting and savings, track and trace for processors. Farmers need to be mentored to invest into their farms to achieve higher returns.

Majority of farmers say they used their increased income to meet basic needs, particularly food, specifically rice, sugar, noodle and taiyo. Increase in income probably increases food security for farmers as it opens up more options and freeing up labour from food production for other activities. Increased use of processed foods (noodles, rice, flour, sugar etc) increases the need for health and nutrition awareness.

Processors and exporters

Incentives for quality improvements do not currently exist in the value chain. This is a big challenge that needs to be addressed.

Competition between exporters for volume will continue to negate any efforts on quality. Price incentives for quality (both for wet and dry beans) would be an effective tool for maintaining quality.

There is push towards drier regulation by CEMA. Only licensed driers would be able to sell dried beans, an important component of Track 'n Trace system needed for UTZ and other certification standards necessary for accessing niche markets. It needs to be investigated as to how effective such an approach would be. Are there alternatives? Can price incentive be integrated into the system?

There is a need for support to remote farmers for testing tools for fermenting and drying.

There are successful examples of women operated drier businesses throughout the country. Kembu sisters in Guadalcanal Plains, Cornelius in Tarou in Guadalcanal, Jessica in Uzamba in Western Province, Elizabeth in Tawaimarae in Malaita and many more that need to be known and empowered with specific trainings and exposure.

Transport

Freight costs for a bag of cocoa to Honiara is currently $150 from the Provinces as well as Weathercoast, Guadalcanal and $80 per bag on land transport from Guadalcanal Plains and Lambi. Freight for other produce, including copra is approximately half the amount despite being similar volume and weight.

This inflated cost is a disincentive for farmers. A strategy on making the transportation sector more competitive needs to be explored.

Isolated areas and domestic processing

Countries in the region show that it is possible to create market for value—added cocoa products. Isolated communities, with transportation and storage issues and the increasing use of imported coffee mix could be assisted in exploring this option. Rain tree cafe is already processing local cocoa in small quantities, using it for its own drinks and baking and selling it in blocks. Such a product can be refined through a pilot project to test the demand in the domestic market. Samoa uses much of its cocoa production for domestic consumption.

Testing and regulation, container transport

There is an increasing need for better export facility services. Exporters complain about congestion and lack of spaces for loading areas within the SI Ports facility. This needs to be investigated and a more efficient system developed to improve the flow.

CLIP has supported CEMA with testing equipment at the export point. There is opportunity for more support to CEMA to further improve its capacity to facilitate quality assurance lab testing.

Buyer / exporter

Most exporters are providing some support to their faithful suppliers, either with higher per kilo prices, polybags, drier parts etc. Arania gives higher price to its registered suppliers. OBO, GRED and Elshaddai give other forms of support. Solkom offers slightly higher price and larger suppliers are given the option to export part of their cocoa with Solkom—earning an international premium price in return for accepting a level of risk and delayed payment.

There is interest among exporters to increase productivity and production. How can this interest be capitalized on to enhance private sector's ability to provide more embedded services to farmers? Farmer support services (extension, training, monitoring), affordable tools distribution, grafting and genetic improvement etc

Production to meet the quality and requirements of the markets that have been opened by CLIP is crucial. The strength of exporters who are also producers is in meeting contractual requirements in quality and volume. Relying on purchases from farmers gives less margin and risks to quality and non-compliance with a meaningful track and trace regime. Exporters must produce good quality cocoa beans on agreed specifications with their importer. Those who rely on purchases only have higher risk of losing their high price market due to failure of meeting contract terms.

The industry needs to grow. Regulatory requirements by different authorities (Inland Revenue Dept, CEMA, Customs, Ports Authority etc) need to be harmonized and kept to what is necessary to ensure that Solomon cocoa industry can further develop. For example, the licensing requirements by CEMA such as annual auditing must be harmonized with IRD requirements to keep paperwork minimal for exporters. Exporters are small-medium family run enterprises and do not always have the time and money to meet regulatory requirements. There is scope for support and training for these enterprises to put in place reliable and easy to use systems to meet basic requirements.

Access to credit for cashflow for cocoa purchases remains an issue for all exporters. Unless this is dealt with, exporters will always require pre-financing. Trainings on cashflow management especially for new exporters would also help to strengthen the financial base for businesses.

Accessing niche markets identified by CLIP should be further explored and exporters mentored to meet often exacting requirements. CLIP has already started track n trace especially to Solkom members but this needs to be up scaled. Such a system is required for UTZ and other certification systems. Processors and exporters need to be trained to think quality for niche markets instead of volume. Niche markets can be attractive because of price, small quantities and maybe a means to helping bulk exporters exit from pre-financing. But quality requirements are strict and needs to be understood properly as the higher price requires much higher quality assurance along the chain.

Trader

The cocoa industry needs to be represented by an Industry driven body to guide its growth and improvement, providing self regulation and support to its stakeholders. Lots of issues are impacting on the industry: licensing, land transportation, storage, costs of container loading, credit facilities, quality control, etc.

A group of individuals, exporting small volume of cocoa with very short contracts leaves the industry divided with no real clout to effectively address their concerns.

More Solkom like models (consortium of exporters cooperating to meet overseas buyers requirements with long term contracts) need to be nurtured. Operating on a price discounting system, final price is determined post quality checks. This in itself provides incentive for exporters/trader to ensure quality. More exporters need to be weaned from the bounds of pre-financing.

Grinders and manufacturers, niche markets

Important early steps have been taken in identifying the need for a Track n trace and other financial literacy training and support and carrying out initial training. This is seen as being the initial step towards establishing PGS for certification this needs to be institutionalized. Exporter knowledge on requirements of different markets and understanding of contractual arrangements is important.

Demand for beans from overseas buyers is expected to continue growing. Grower exporters (eg. Solkom) need to increase their own production with quality assurance systems in place.

Solomon Islands cocoa industry needs to explore and facilitate investments by global cocoa industry eg. Mars in Indonesia. What are the requirements and how can we attract such investment? SI cocoa industry should also join international cocoa trade associations and networks

Other ideas such as SI single origin chocolate which CLIP did some pioneering research and made industry contacts with, and chocolate/cocoa tourism opportunities should also be explored.

Needs for mini studies

A number of mini studies were suggested for CLIP had it run for a longer period. The studies remain relevant for assisting future interventions.

- A mini study on labour inputs is required to allow for better understanding of constraints and opportunities and how the cocoa industry is generating employment at the village level and its gender implications. During our field observations, it was clear that applying IPDM encourages more weed growth because of increased exposure to sunlight. It needs to be investigated how this is impacting on available labour, especially that of women and children. Is the increase in income resulting from increases in cocoa productivity offsetting the labour needs for food and other production by women? Who is in control of income?
- A mini study on profitability of wet bean selling in isolated areas needs to be conducted. What price farmers are getting, proximity of wet bean buyers, the total cost of getting cocoa to exporters etc. Is there higher need for mini-driers or similar technology in these areas? Is there scope for support to remote communities to ensure income earned from cocoa is not all wasted in urban centres while waiting for transport to return home again?

3. Report Overview

This report updates and builds on the findings presented in the July 2010-June 2011 Monitoring / Impact Assessment Annual Report. This is also the final impact assessment report for the three year project which began in 2009 and ends in June 2012.

Methods

Monitoring of the Cocoa Livelihoods Improvement Project (CLIP) has been challenged by:

- short-term project extensions and planning horizons; changing contractor management
- Introduction of new strategic frameworks and methodologies mid-way through
- a shift from sustainable livelihoods approach for impact assessment to M4P and finally adoption of DCED standard
- removal of a basket of monitored agriculture projects under ALP to a stand along program
- many planned IA activities, including a final IA report on the Agriculture Livelihood Program[4], were never brought to completion
- a late change in project period from planned five years to only 3

IA efforts were thus concentrated on CLIP only from 1 February 2011 up until June 2012.

Following AusAID requests, the original CLIP project design document centred on a logical framework was updated to Making Markets Work (MMW) type of results chains. The aim in monitoring of MMW interventions has been to use a 'flexible results chain' to better define the intervention within the market system and then to develop indicators for monitoring the 'Boxes' or steps along the chain. The M&E advisers helped facilitate discussion on the results chain and develop indicators. A GRM consultant refined the results chain and developed sub result chains.

The results chain is then the basis for monitoring with questions asked of each box on the chain and the proof of links between them. This proved challenging due to a lack of ownership of the process but over time the results chain proved a good tool for analysis and ownership. A results chain for CLIP was developed in February 2011 and updated by GRM consultant in August 2011—rather late for a project ending in June 2012.

Sampling

The approach to sampling has been to visit a reasonable cross section of CLIP beneficiaries with reasonable geographic (ie. provincial) coverage. For IPDM demonstration sites three each were chosen in Malaita, Guadalcanal and Western provinces and to visit cocoa farmers in Makira where there were no official IPDM demo sites. Follow up visits were made to these sites and others. In total 2.5% of cocoa farmers were sampled along with 2% for the survey .

The aim in each province was to select one site considered to be progressing well, one with problems, and one randomly. In addition two visits were made to areas where no IPDM training was done but tools were distributed. Follow up visits were made to some of these sites during 2011 and 2012.

Various meetings and interviews (semi structured) were held with other stakeholders including exporters, CEPA, MAL officers, MAL-RDP, CEMA, CLIP staff and consultants. This was to be complimentary to other CLIP monitoring activities underway—the main one of which was the CLIP baseline household survey and a follow up monitoring survey that was developed in 2011 and based on the new results chain framework.

Field work completed for CLIP

A total of three hundred and fifty four farmers [75% male (266) and 15% female (84)]; 25 processor enterprises and 13 other enterprises or institutions were interviewed and visited in 52 villages as well as Honiara. This covered more than fourteen wards in four provinces: Guadalcanal, Malaita, Western, and Makira (see page 100, Attachment 6 for details).

4 The ALP, with the exception of the CLIP component, was subsequently closed down at short notice in October 2010.

Tools

During field-work a range of qualitative and quantitative tools were used to facilitate the collection of information.

- informal interviews
- group discussion—focus groups and semi structured interviews
- garden/farm visits
- transect walks
- weekly and daily routines
- crop cycle calendar
- analysis of secondary sources of data (referenced in this report)
- income and expenditure ranking exercises and scoring matrix
- stakeholder meetings
- observation of CLIP supported training and other activities.

The tools were used to collect data against each of the results chain 'boxes'. Triangulation of results was achieved through the use of multiple tools and cross references the mostly qualitative data collected by the M&E advisers with the quantitative data from the baseline and follow up CLIP survey.

Data analysis

Data from some field work was compiled into a portfolio of case studies from the four different provinces (see Attachment A2, A3, A4). The main focus of the case studies was on IPDM sites (10 villages [5]), with one case study on farmers who were not involved in IPDM (2 villages [6]).

Meta analysis (coding) was used on qualitative data according to the topics contained in each of the results chain boxes (see page 23, Figure 2: CLIP strategic framework) and other themes that emerged from qualitative data analysis

Quantitative data, including the CLIP baseline survey, farmer/processor and CLIP records, was summarized in tables and analyzed in Excel spreadsheets.

Other sources of data were also assessed:

- CEMA reports on cocoa exports
- SIG Census data
- CBSI Annual Reports
- the CLIP baseline survey data and follow up surveys done in 2011-2012
- consultant reports—particularly on marketing issues
- CLIP internal reports and records.

Presentation of results

The format of this report is loosely based on that suggested by the Donor Committee for Enterprise Development (DCED) Implementation Guidelines for Measuring Achievement in Private Sector Development (2010) which is considered current best practice for monitoring of market based interventions.

A mock audit on the use of this standard was carried out by GRM in March 2012 following our recommendation that this be done in our June 2011 report. Summary findings included in an Attachment 6.

The DCED standard aims to quantify achievements in a way that is credible and can be added up and benchmarked across interventions. The approach used for CLIP includes a mix of methods to estimate changes and attribution at each step of the program's logic. We have attempted to comply with the DCED standard—although there are still gaps. The early end to the project prevented further efforts at full compliance with the standard. GRM posted a case study on CLIP on the DCED website. *http://www.enterprise-development.org/page/library-item?id=1729*

We have included extracts from the DCED guidelines in boxes to help explain the format and some of the content and wording present in this report.

The main sections of this report are:

- results according to the main indicators related to each box in results chain
- sustainability
- uptake / crowding in / copying
- projections and attribution
- attachments:
  - case studies
  - various tables of data referred to in the report.

5 Marau, Suagi/Rarata, Heo/Hauhui, Afufu/Ofu, Chale/Marovo/Vella

6 Ward 11 in Makira and Kofiloko area in North Malaita

CLIP and economic livelihoods

SIG-Australia economic livelihoods goal

CLIP is part of AusAID's response to the SIG-Australia partnership for development initiative[7] which contains four priority areas. Priority Outcome 2 is 'Improved Economic Livelihoods' and is the section that CLIP falls under.

Specific objectives of the Improved Economic Livelihoods include:

- increasing the contribution of sustainable agriculture and agro-forestry to GDP growth
- increasing levels of employment in rural areas
- increasing the proportion of people, especially from rural communities, reporting year-on-year improvements in their economic circumstances
- increasing numbers of people accessing financial services, including microfinance opportunities in both rural and urban areas.

AusAID suggested indicators for Outcome 2 are included in Attachment 5. CLIP contributes to objectives 1, 2 and 3. The aggregated or added up results on page 7 should help to demonstrate this.

7 Formalised by Prime Minister Dr Derek Sikua and Australian Prime Minister Kevin Rudd in Port Moresby on 27 January 2009

CLIP objectives

Clip has its own objectives and outcomes according to the original design:

Increase cocoa exports from 4,000 tonnes per annum to 10,000 tonnes in 5 years, and potentially 15,000 tonnes within 10 years time.

Reduce the FOB price differentials between Solomon Islands and Papua New Guinean cocoa.

CLIP outcomes

- **Outcome 1**: a better organised, trained and committed cocoa extension service for farmers
- **Outcome 2**: farmers using improved planting material
- **Outcome 3**: aged cocoa stands rehabilitated
- **Outcome 4**: piloted integrated pest and disease management (IPDM) strategy
- **Outcome 5**: improved market access and smallholder terms of trade
  - **Output 1**: improved quality of Solomon Islands cocoa
  - **Output 2**: improved efficiency of the cocoa marketing system
  - **Output 3**: differentiated cocoa exports facilitated
- **Outcome 6**: effective and efficient project coordination, monitoring and evaluation.

Articulating the CLIP results chain

DCED: *In order to establish the basis for measuring impact, program results chains must show how changes at each level lead to changes at the next level, ultimately impacting on poverty and/or other development goals among defined target group(s). Modeling is a useful tool to enable program staff to be explicit and deliberate about the system(s) they are working with and how system changes will lead to enterprise changes and poverty reduction and/or other specific development goals. The program results chain(s) will need regular review, because of changing circumstances and unintended outcomes.*

The results chain below was developed in August 2011 by GRM consultant in a group meeting with CLIP staff. This was a refinement of earlier versions developed by Agriculture Livelihoods Program (ALP) and CLIP staff following MMW trainings in 2010.

This framework is seen as a more up to date and evolving description of the project compared to the pre-defined objectives and outcomes in the project design document (see previous page).

We have used the framework as a basis for presenting our data on project progress.

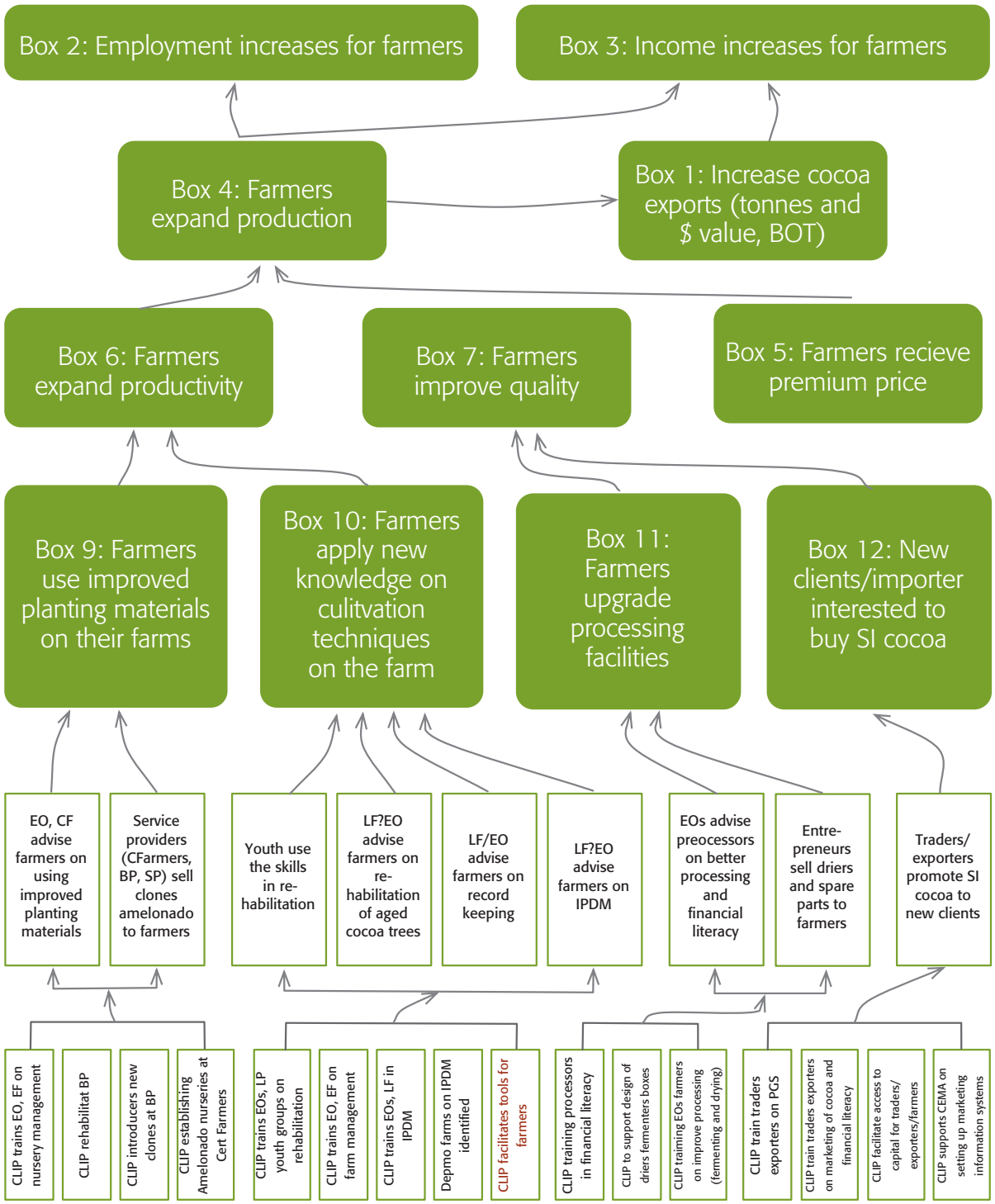
It could have been strengthened eg.., there could be more 'systemic' boxes that reflect some of the changes CLIP is facilitating among different market players including exporters, extension services and others (see page 2, Figure 2: CLIP strategic framework) but it has been effective for monitoring of CLIP.

The role of the IA team has been to concentrate on assessing impacts on the higher level results Boxes (from Box 12 to Box 1)—shaded on the chart on the next page.

Seven sub results chain were developed by a consultant. It was felt that given the late stage of implementation of the project this was not workable for M&E. An overall results chain for the program was seen as enough to track and attribute changes.

The mock audit found that the results chain should have been reviewed in a participatory manner. This would have been ideal, however DCED methods propose annual reviews. As the result chain was only finalised in August 2011—itself a review of the February 2011 version—there was little point in reviewing it again prior to the project end in June 2012.

Figure 2: CLIP strategic framework



Source: Mihaela Balan, GRM

4. Baseline situation

CLIP has potential to transform the income levels of almost 20% of rural households in Solomon Islands.

Cocoa exports[8]

Year	*Weight (metric tonnes*	*Percentage change in exports*	*Revenue SBD$ (Millions)*
2002	2906.578		
2003	4587.13	57.8	
2004	4188.205	-8.7	
2005	4927.096	17.6	
2006	3828.309	-22.3	
2007	4249.686	11.0	50,
2008	4548.966	7.0	72
2009	**4803.296**	**5.6**	**85**
2010	**5481.001**	**14.1**	**116**
2011	**6136.00**	**12**	**119**
Jan - Mar 2012	**835**	**28% increase on same period from 2011**	
2009-2012: CLIP implementation period			

8 CEMA Information Unit

Prior to CLIP (2009) the Solomon Islands cocoa industry has been on steady increase for two years. CEMA export data shows that volume and total revenue has been on the rise but the actual percentage of change in production has been fluctuating. High growth rates in 2003 and 2005 followed dramatic decreases in the previous years and relate to the recovery of the industry from near collapse during the ethnic tensions.

A dramatic decline of 22.3% experienced in 2006 put total export volume back to the peak domestic crisis years. Poor weather conditions experienced during the year, impact of the April 2006 rioting, stagnant world prices and the ongoing logistical difficulties of moving produce in Solomon Islands were some of the reasons for the decline[9]. By 2008, however, export has returned to pre-crisis peak volumes.

CLIP began in 2009. In 2010, total export volume increased by 14.1% from previous year. Growth continued into 2011 at 12% and indications are that 2012 may experience even stronger growth. First quarter exports for 2012 has already shown a 28% increase during the same period in 2011.

9 CBSI Annual Report, 2006

Fig. 3: Cocoa production and prices[10]

Source: CEMA, Information Unit

10 CEMA Information Unit

Steady increases in world market prices, availability of external capital to local buyers or agents, well established local buyer to buyer/farmer networks, competition among local buyers to fulfill contractual obligations, MAL's replanting and extension of cocoa farms are among some of the leading reasons for the steady increase in production volumes. World prices did fall in the latter part of 2011 but to date this does not seem to have effected the continued growth in exports.

The main cocoa producing provinces are:

- Guadalcanal (59%)
- Malaita (21%)
- Makira (15%)
- Central (3%)
- Temotu (1%), and
- Western (1%).

Main export markets for Solomon Islands are:

- Malaysia
- Singapore
- New Zealand
- Indonesia
- China and
- Germany[11].

The CLIP survey documented 13,921 households involved in cocoa farming in the 5 Provinces that CLIP is working, with a total holding of 15.8 million trees. At 3m x 3m spacing (approx. 1000 trees/hectare), this would cover an estimated 15,800 hectares of land. The average size of cocoa holding from baseline survey is 1118 trees. However, field observations seem to suggest that most farmers have holdings ranging between 500—1500 trees. The survey may have distorted this through farmers grouping together and presenting larger farm sizes in order to meet the minimum requirements for CLIP assistance.

Production

The average Solomon Islands cocoa tree is estimated to produce 250 grams of dry cocoa per year.

For an average farmer (1118 trees) this translates into a typical yield of 280kg of dry beans per year.

At current prices this would be worth $3500–$5000 as wet bean and $4,500–$6000 as dry bean, depending on location and the number of competing buyers.

This is considered well below the proven potential production of cocoa trees.

Relevance

There are 82,000 rural households in Solomon Islands[12]. There are approximately 16377[13] households who are farming cocoa—ie. about 20% of all rural households.

Our observations in the field suggest there may be significantly more cocoa farmers than those surveyed (13,921), particularly if including households with smaller cocoa holdings of under 500 trees who were excluded from the CLIP baseline survey.

For a majority of these households cocoa is the first or second most important source of income and hence cocoa makes a very important contribution to rural livelihoods in terms of income, employment and contribution to GDP.

There was clearly a very strong alignment of CLIP with the AusAID/SIG economic livelihoods goals (see page 21).

A with and without effect of CLIP on overall cocoa exports is included in the attribution chapter.

11 CEMA Information Unit

12 2009 Census SIG Statistical Bulletin 06/2011

13 The CLIP baseline survey identifies just under 13,921 households involved who are cocoa farmers. The survey is estimated to have reached 85% of all cocoa farming households – leading to an assumed total of 16377 households

5. Evidence of change

Data on changes using key indicators

The CLIP strategic framework (page 23), or 'results chain', defines key steps or changes and links between them in order to achieve the project objectives and the expected improvements to economic livelihoods.

The results boxes are:

- increase cocoa exports (tonnes and $ value)
- employment increases for farmers
- income increases for farmers
- farmers expand production
- farmers receive premium price
- farmers increase Productivity
- farmers improve Quality
- farmers use improved planting material on their farms
- farmers apply new knowledge on cultivation techniques on the farm
- farmers upgrade processing facilities
- new clients/importers interested to buy SI Cocoa
- In this report we present the impact assessment findings according to these 'Box' headings.

Other important areas:

- sustainability
- evidence of copying/crowding-in and uptake (or spread)
- attribution are covered in the later chapters (see table on page 70).

We have presented the evidence of impact for each of these boxes in reverse order – starting from the bottom – the results closest to the activities of CLIP - and working our way up to the Boxes closer to the goal level of increased exports, employment and income.

Box 12: New clients/importers interested to buy SI cocoa

'…cocoa in particular has a highly concentrated marketing structure. Although there are 6 licensed exporters, most exports are through one Australian trader—Holland Commodities. This concentrated buying power may be limiting returns to growers and dryers, especially in more remote locations.' (SIC—currently there are 16 exporters)

(World Bank [14])

'Solomon Islands has exported cocoa beans to Malaysia since the early 1980s. Whilst Solomon Islands' export volumes have been erratic over the four years to 2009, there has been a steady increase in the CIF price. The price that Solomon Island cocoa beans receive from Malaysia compare very favourably with the those of Papua New Guinea.'

Grant Vinning, CLIP Marketing Adviser, following CLIP Cocoa Market Development Mission Singapore, Malaysia, Australia, Netherlands, 22 April - 9 May, 2011

Indicator	*Results*
Changed # of overseas importers buying SI cocoa	6 bulk buyers are interested with 2 already buying (from Solkom). A third buyer facilitated by CLIP will start buying end of June 2012. With speciality/niche markets 5 buyers have expressed interest in buying Solomon cocoa. Discussions with a New Zealand cocoa butter buyer has reached advanced stages. Discussions with and visits by two Australian high end chocolate manufacturers were in progress at the time of report writing
Changed # of licensed exporters accessing independent markets overseas	4 licensed exporters now export cocoa independently, increasing number of independent exporters from 2 to 6. (JEMS, Hauura, New Dawn, GRED)
Change in price arrangements for SI cocoa exporters	Solkom (owned by 4 buyers/exporters) can set its own price at least 10 days prior to shipment. Solkam has in general negotiated a 20% increase on prices
# tonnes of cocoa exported at changed price	Solkom signed an yearlong contract for 600metric tonnes with its overseas partners
New knowledge of export market by key enterprises	It is established that SI cocoa beans are well fermented with excellent taste. Improved understanding of UTZ certification within CLIP and 3 (JEMS, DML, Hauura) of 16 (13%) licensed exporters

14 Solomon Islands Sources of Growth Roundtable Meetings: Background Materials, March 2009. World Bank

CLIP market analysis has found:

- Research conducted by CLIP has shown that objective two of the project has been effectively achieved by dispelling (with evidence) the commonly held perception that the quality of SI cocoa is inferior to PNG. The price differential is a result of the current market chain relationships - a lack of competition and lack of negotiation capacity of local SI exporters. SI cocoa is of high quality and is in demand by grinders.
- There are 16 licensed exporter—10 exporting to Holland Commodities and 6 to independent markets. An extremely high number of small contracts are used to export cocoa which is inefficient in administration and possibly storage costs. Small contracts do not allow exporters to operate on economies of scale[15]. Important to note that Holland Commodities has played a very important role in cocoa industry in Solomon Islands through provision of prefinancing.
- Solkom, a consortium of 4 local buyers signed a one year contract with a grinder to supply 600 metric tonnes of Solomon cocoa, with built in flexibility of monthly export tonnage. The contract allow Solkom to lock their export price at least ten days prior to shipping, within agreed parameters with their overseas buyer.
- Exiting from continuous prefinancing and small volume contract arrangements by up to 6 exporters shows growth and maturity of exporters enterprises and the cocoa industry in general.

15 Vinning and Sale. Solomon Islands Cocoa Exporters Contracts: Some observations on 2008. CLIP Occasional note, February 2011

Boxes 9-11:

By 2014, 7845 farmers and small businesses are expected to show changes in business practices (skills, technology, attitude), ie. use improved planting material, better cultivation techniques, improved processing equipment such as driers and fermenting boxes.

Cocoa is a family based enterprise important to at least 20% of rural households. Husband and wife team working in cocoa farm, Guadalcanal plains.

Box 11: Farmers upgrade processing facilities

Indicator	*Results*
Farmers/processor enterprises who paid for drier equity contribution	384 processors paid their equity contribution and have received upgraded drier equipment (301 drier repair & 83 mini driers)[16]
Processors installed the processing facilities	An estimated 50% have been installed and are using the equipment to date. 1230 farmers and processors (92 % Male / 8% female) have been trained by CEMA in improved processing and handling methods 102 processors trained in track and trace 60 farmers trained in household budgeting. 20% of participants were women
Farmers in remote locations with access to driers (mini-driers)	Mini driers have been sold to 83 farmers with 34% in remote wards

CLIP Target enterprises:

- cocoa processors
- remote farmers
- metal sheet fabricators manufacturing cocoa drier equipment

Processors were provided equity to purchase drier equipment. In addition training was provided for processors carried out by CEMA and followed up my MAL officers (discussed under BOX 7 – farmers improve quality).

16 Full details are provided in the CLIP Exception report 12 April 2012 – Moses Pelomo

Cocoa processor in Malaita

Cocoa processors

Processors are key players on the cocoa value chain. Processors are rural based enterprises, usually operated at family level, who buy wet (and sometimes dry) cocoa beans, ferment and then dry the beans in specially constructed wood fueled driers.

They then on-sell the dried and bagged cocoa beans to 'exporters' who consolidate the cargo and ship in containers.

Processors require cash flow to purchase wet beans, hire casual labour, buy firewood, knowledge of quality issues in grading of beans, fermenting and drying process, storage and a reasonably high level of management skills.

Most, if not all processors, are also farmers and take a portion of their cocoa from their own farms as well as purchasing from others. Larger processors operate trucks for freighting cocoa and for road-side buying of wet beans.

Our interviews show there is strong link between the number of processors operating in an area and the ease with which farmers can sell wet bean. Presumably this competition leads to better prices. Areas with a number of processors tend to have informal networks of farmers who are fairly loyal to a given processor—often on 'wantok' or extended family relationship basis.

Wet bean sales to local or road-side purchasing processors are particularly beneficial to women as they provide the means for women to access direct income in their local area. Very few women are involved in sale of dry cocoa beans—ie. women very rarely operate driers. For this reason a larger share of cocoa income at the farm level tends to be concentrated in men's hands. This is discussed more under Box 3.

In more isolated areas and areas more distant from roads and transport points wet bean buyers are fewer, or in some cases none at all. If there is no drier in the vicinity then some isolated cocoa farmers cannot earn any income and their trees remain idle.

Men will travel from these isolated areas, often at great expense and time involved, with dried cocoa to urban centres to sell it. Transaction costs are very high for smaller farmers, and in some cases much of the 'profit' earned is lost on the journey or in the time spent in urban centres. Our interviews show that men travelling to urban centres to sell dry beans often (but not always) results in wastage of income through consumption of alcohol or other non essential consumption. By contrast women use the income from wet bean sales that they earn in the rural areas mostly to meet basic needs.

Cocoa drier

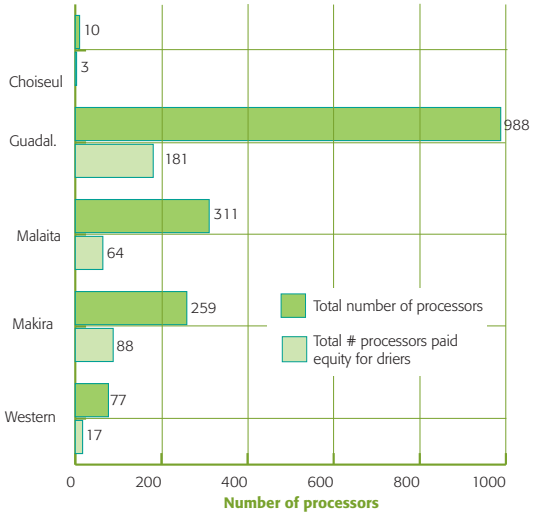
Drier equipment In Suagi not used

Drier equipment

The current drying technology used in Solomon Islands required fairly large drier units composed of timber and metal parts. Cocoa driers use welded sheet metal tubes and chutes to contain the fire used to heat and dry the cocoa.

1645 processors were identified in the baseline survey. 97% of processors were approved for support from CLIP in the form of drier equipment or mini driers. 379 (or 28%) of the processors subsequently paid their equity contribution. In 2011 the 'uptake' of processor equipment purchasing through CLIP ranged from 18% of processors on Guadalcanal to 34% in Makira. This is now estimated to have increased to 50% of drier equipment installed by 2012. In total processors invested $767,155 dollars in the new drier equipment with a CLIP contribution of $2.3 million dollars.

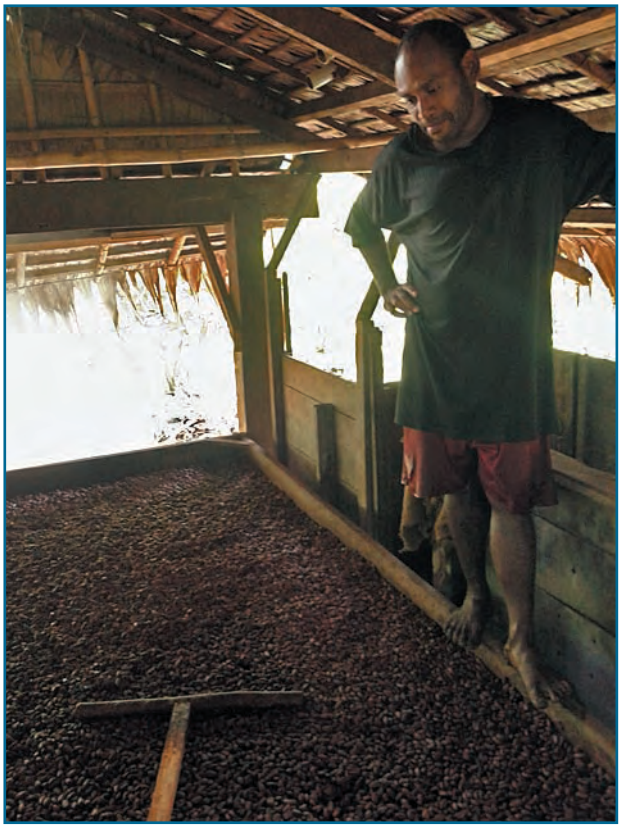
Figure 4: uptake of processor equipment purchases compared to total processors by province



Fabrication of mini driers for CLIP by welding enterprise in Auki, Malaita

Collection of firewood for processor operation

Sale of wet beans on the road side provides an easy source of income for women and children (Malaita)



Cocoa processor in makira province - drying cocoa beans purchased as wet beans from local farmers ready for on sale to exporters

Slow, but growing response

It is difficult to explain the lower than expected take up of reduced price drier equipment by processors – only 28% of processors elected to purchase new equipment and only 50% of those who purchased equipment have installed it to date. When questioned processors generally said they planned to build a new drier or repair the existing drier in the near future. The survey found the main problem has been farmers are generally building new driers, instead of repairing old ones, and obtaining roofing, walls for fermentation boxes etc has taken time and requires additional capital that they don't find easy to accumulate.

Our observations showed many well functioning driers without CLIP inputs (and confirmed by the CLIP baseline survey) so perhaps the need for replacement equipment was over estimated. Similarly the CLIP survey found 46% had installed pipes and were using the drier. This is expected to improve given more time.

CLIP attempted to build a level of sustainability into the fabrication of drier equipment through the use of private welding enterprises. The intention being that, some of these enterprises might have continued to supply drier parts on a commercial basis. This is discussed more in the sustainability chapter.

Financial literacy

Processors need improved financial literacy and business skills in order to be successful and to expand.

Indeed the need for improved financial literacy and basic business and record keeping skills for farmers has been a consistent theme across all our IA work on CLIP and earlier ALP projects.

Processors are considered important players in the potential changes in the market toward certification being explored by CLIP (see page 46). As such 'Track and Trace' workshops were commenced to lay the foundation for a Participatory Guarantee System (PGS) type approach to cocoa marketing along with building basic financial literacy and record keeping skills of processors. More work will be needed post CLIP if PGS is to develop beyond the awareness level.

102 processors were trained—all in Guadalcanal and Malaita—this represents only 6.4% of all processors. Farmers/processors interviewed are positive about the training and its relevance for them. It is too early to assess further impacts of these new skills on their drier businesses. Processors do report that they have a new understanding of the importance of records both for their own business as well as in being able to 'track and trace' cocoa supplied back through the chain. Some processors interviewed found the record keeping suggested in training to be too complex. When asked to show examples of changes in record keeping some had adopted simplified 'bean' and 'cash' books as promoted in the training or kept both in the same record book.

A key challenge is how to scale up 'track and trace' and other effective financial literacy training and institutionalize it so it continues beyond CLIP as the need is great. An incentive is needed in the value chain that puts a premium on maintaining detailed farmer records.

This is discussed further in the Sustainability section.

Namobaula Community Drier

Before we found it really hard to meet the financial needs of the community but we will soon be able to do that. Now money is circulating a lot more in our community with our own drier'. Namobaula farmer group, Malaita province

Namobaula, in Central Kwara'ae is a community of 70 families close to Auki in Malaita province. It is the site of an IPDM demo for the numerous cocoa farmers in the area.

The community purchased drier equipment from CLIP and completed the drier in April 2011. It is an interesting model. Farmers from the community sell their wet bean to the community processor business. Labour for the drier is provided for free in rotation.

Sales of dry bean go into a fund that is used to make further purchases of wet bean, with the surplus used for investment in community needs. They plan to make contributions to community fundraising targets and have identified high priority projects: community rest house; community hall and knowledge centre; water supply repairs; church building repairs; assisting individual members. So far the drier business has had sales of about $170,000 per year.

Based on four months of records we estimate $50,000 per year has been paid to up to 70 farmer suppliers in the form of wet bean purchases—38% of those suppliers were women. Average weekly income per farmer is $18 and the average number of farmers supplying per week is 54. A surplus of an estimated $120,000 per year is accumulating for community aims.

There are interesting incentives for the farmers – for example there is an optional saving scheme where part of the wet bean sales income (20%) is held back for savings. They plan to provide a bonus to farmers based on volume of cocoa sold at the end of each season.

Namobaula community drier

Prior to the drier being established no one in the community had a drier. So the income from dry bean sales was lost to the community members. Farmers report many changes since being involved with CLIP:

- increased production
- increased consistency of production—more regular income for households all year
- labour for IPDM is a challenge—it takes a lot of time as is access to bags which are expensive for them to buy and are no longer provided by buyers in Auki
- has helped families increase their weekly income –'women bring fish from the market after every sale of wet bean'

The body that manages the drier is independent from the community governing body. The treasurer and another record keeper have attended the CLIP financial literacy training. The drier keeps good records. The records provide evidence of the growing production from their area following IPDM.

Examples of changes from Track and Trace training:

'We learned to record bean and cash in separate record books. Since the training we are keeping better record of our expenses such as buying wet bean, casual labour, trucks and fuel, firewood for the drier, fermentary workers. Sometimes we hire a second drier for use at peak production times. During buying times we travel along the main road in the morning buying wet beans and in the afternoon we travel on the smaller roads to accessible bush villages.

Now I know my total production and it (the training) made me more aware of my business situation.'

Mostyn Mufo'oa & Macelan from Cocoa drying enterprise in Gwaubaleo, Malaita

IPDM includes 'stumping' or cutting off cocoa trees at the stump, to encourage new, healthy regrowth. Extension officer John Faleka explains the method to visiting farmers in an IPDM demo site at Afufu in North Malaita

Mini driers

Mini driers were included as a CLIP input with the intention that they would help farmers in isolated areas who did not have the volume to support a conventional drier enterprise. Typically mini driers would be used on a farm level. At present isolated cocoa farmers cannot sell their product as fermentation and drying is required soon after harvest and a certain volume of cocoa beans is needed for effective fermentation.'

Mini drier technology (ie. the design) was imported from PNG experiences. The technology itself is effective in producing quality cocoa. But there are concerns over cost of $15,000 each and transportability without subsidy. Farmers report they are more efficient in use of firewood than larger conventional driers. Farmers are attracted to the mini driers as they are a sound investment with CLIP equity but if they had to purchase at the full price most farmers would establish a larger drier unit instead.

In general take up of mini driers has been disappointing.

Only 32% of mini driers appear to be being used for remote or isolated farmers (see table below). Instead mini driers have generally been purchased by established processor enterprise who see a benefit in having a smaller drier unit for certain times of year. Makira has the most number of mini driers reaching remote locations. The main reason isolated and smaller scale farmers gave for not purchasing the driers was the cost.

An RDP consultant has highlighted promising, more affordable small scale processing options based on experienced in Vietnam and elsewhere that may be applicable to more remote farmers and to women who want to do their own processing. A program draft has been developed.

Take up of mini driers in the provinces

Province	*No. mini driers*	*Driers in remote wards*	*Wards*
Malaita	13	2	719,722
Guadalcanal	12	3	606,610,612
Makira	47	20	818,819,820
Western	13	1	202
Choiseul	2	2	111
Totals	*87*	*28*	

Box 10: Farmers apply new knowledge on cultivation techniques on the farm

'I am really happy with what I have achieved so far in my cocoa farm. I think only death will stop me from working with cocoa' Cornelius, female farmer, Tarou Village Guadalcanal

'Before we were just told what to do by extension staff. But now we have new knowledge (on cocoa trees and their management). We are specialists now and we are very excited about this. It makes us want to do more with our cocoa.' – farmer from Marau area, Guadalcanal.

Indicator:	*Results*
# trained farmers apply IPDM	3343 farmers trained (234 female and 3109 male) 50 farmer operated demonstration sites established.64% of those farmer enterprises (2140 farm enterprises) have begun to apply IPDM on 49% of their trees
# farmers bought tools for farm rehabilitation	3823 farming enterprises received tools
# other farmers apply rehabilitation	14% of farmers (480) who received tools (but did not get IPDM training) are estimated to have done some rehabilitation (the same rate of application as found for IPDM trainees is used—49% of trees)
# farmers which used pruning gangs to apply rehabilitation	95% of farms (480 out of 507 farms) who paid equity contribution for pruning gangs, with 419221 trees, have been pruned by pruning gangs.
# farmer to farmer spread of IPDM	each trained farmer (who adopted IPDM either on their own or through pruning gangs) is estimated to train another 0.5 person per year (1-2 persons in 3 years)

IPDM demo sites are lead by a lead farmer called a 'bishop'. Almost all bishops have been men but one exception is Everista,at Afufu in North Malaita, who has actively embraced IPDM in her cocoa farm and achieved large increases in production

Integrated Pest and Disease Management Technology

A key component of CLIP is the introduction (initially through a pilot activity) of Integrated Pest and Disease Management (IPDM) in order to increase production from existing cocoa stands.

This package of method[17] for improved management for cocoa trees has been shown to lead to dramatic yield increases and this has been confirmed by our field work. This is particularly so for older stands of cocoa trees (aged cocoa stands), estimated to make up about 70% of cocoa trees surveyed by CLIP.

A total of 50 IPDM demo sites have been established in five provinces with an average of 40 farmers per site (estimate[18] at 2000). On average only 7% of training participants were female. In addition extension staff of MAL have conducted further training for farmers, look and learn visits have been organised and has proven to be a very effective in influencing "doubting thomases" especially in Guadalcanal.

Farmers have been very appreciative of the training and the way it was done. Production changes resulting from farmers applying IPDM is discussed under the BOX 6—Farmers Increase Production on page 53.

High yielding regenerated tree post IPDM

17 Introduced to CLIP by Dr. John Konnam. See CLIP publications for details

18 Estimate is based on detailed records of a limited number of IPDM sites

The late David Gembu farm on Guadalcanal after IPDM–note the high level of sunlight, healthy foliage and well shaped trees.

The late David Gembu farm on Guadalcanal cocoa trees without IPDM applied - over grown, very low yielding, highly shaded and with high infestation of black pod on the the few fruits

FFS approach

Steps involved:

- lead farmers selected in cocoa producing areas
- group of farmers come together for training with CLIP experts[19]—stage one training on radical pruning, shade reduction, ring weeding, etc. 16 plus trees are pruned in the demo plot farm—all participants prune at least one tree themselves under supervision
- participant farmers should prune 16 trees of their own – in same cases group travel around and assist other farmers
- follow up visits should occur (unfortunately this has often not happened). Some monitoring and record keeping should occur (has almost never happened)
- second training takes place on stage two pruning, grafting and selection (done at very few demo sites close to Honiara)
- follow up visits should occur with monitoring and record keeping. (not happened)

Farmer field school approaches have proven very successful in other countries and this is their first wide scale application in Solomon Islands. The skills for facilitation of FFS are being transferred to MAL officers. The key change is that the farmers become the experts and the extension officer the facilitator of farmer to farmer learning.

CLIP has training materials and simple handouts to support the training process and the new Cocoa management calendar.

19 Most IPDM trainings have been run directly by Dr John Konam

Continued support of IPDM

The demo sites for IPDM should continue to be supported for training of farmers. There are parts of Malaita that have not been reached by CLIP. But we will continue—we now know how to do it and we have resources from RDP to keep running training. The work of CLIP will continue'. Agriculture extension officer focus group, Auki, Malaita April 2012.

'Other farmers have asked me and I have shown them how to do IPDM. They are doing well now. They have been to my farm and they can see how to do it.' Malaita cocoa farmer

Figure 5: IPDM demo sites by province

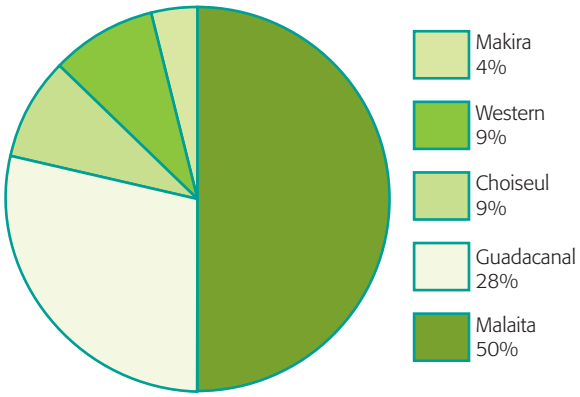
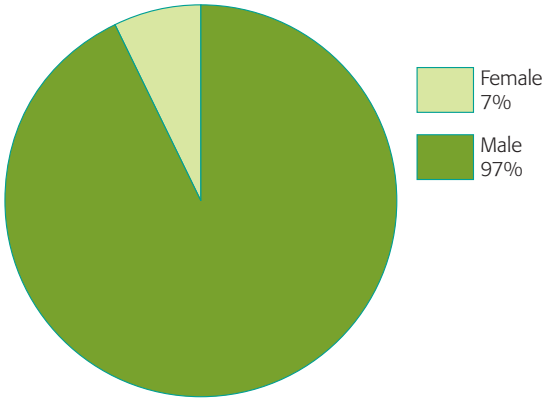


Figure 6: Gender of IPDM participants



About 24% of total CLIP baseline surveyed cocoa farmers (13,921) in the country have been trained in IPDM directly and by the end of 2012 almost 49% of surveyed farmers will have adopted IPDM to some extent. Information collected through the CLIP monitoring survey claims that

"47% of respondents have had their trees pruned", and 89% of tool recipients have used their tools[20]. Reliability of such data is questionable and we would err on the side of caution when using such data.

However IPDM training involves a three stage process: many of the IPDM sites have only had the first stage of a three stage training process. It is unclear what the impact will be of this. Follow up by other agencies to advice farmers on further application of IPDM will be important.

With current CLIP records it is difficult to cross reference farmers who are trained in IPDM with those who purchased tools. If it is assumed that most IPDM farmers were also purchasers of tools then we can assume up to 50% of those farmers who have received CLIP tools have also been trained in IPDM.

IPDM is transferred using a farmer field school model where a farmers plot is used as a demo site to train farmers in that area. Hands on knowledge and techniques of care for cocoa farms, with evidence of increase in per tree productivity already taking place is proving to be an effective means of spread of the IPDM technology

We asked and looked for examples where IPDM is spreading from farmer to farmer.

There were cases of copying, sometimes done poorly, and where it has been done well with advice from a IPDM trained farmer. Most farmers are only assisting 1-2 other farmers, usually within their family group. In our modelling of spread of IPDM we have erred on the conservative side and suggested each IPDM adopter will on average assist 0.5 farmers per year (or a farmer every two years) to actually take on IPDM.

There were a couple of other examples of pay for service or other contribution arrangements for IPDM that are discussed further in the Uptake section on page 55. IPDM uptake summary based on case study field work can be found in the attachments A2, A3 and A4.

20 Clark, T. March 2012 CLIP Monitoring survey report

Tools for cocoa farmers

"We can see big change in the cocoa farms with IPDM already applied. Healthy trees and per tree production has increased very much. Now we regret not getting the right tools" Lambi non-IPDM farmers

Provision of farmer equity contribution tools for cocoa farmers has been a major focus of CLIP resources in the first two years.

Tools for cocoa farmers

Positive	Negative
Wheelbarrows have been put to immediate use in collecting pods and materials.	Wheelbarrows, mini chainsaws are reported to be breaking quickly and spare parts are not easily available.
Farmers who have been trained in IPDM are able to use pruning tools to speed up application of IPDM.	Many farmers, especially in more remote areas missed out on initial tool opportunity and would like the chance again.
Farmers are supportive of equity in cash concept—a significant change in attitudes.	Tools are not essential for IPDM application—IPDM can be done with bush knife and axe (for shade reduction) if careful.
For many farmers, particularly in remote areas, the tools are the first tangible sign of government and donor support to agriculture for many years.	Some farmers were confused over their tool applications and seeming inconsistency in prices charged.
	Some farmers did not know what they had paid for—extension officer had made decision for them.
	Around 500 farmers have tools but lack the knowledge how to use them.

93% of 13921 farmers surveyed by CLIP were approved for tools that they could then purchase using farmer equity of 25 percent of the cost of the tools they wished to purchase. More than 33% of approved cocoa farmers took up the opportunity and paid their equity. Tool distribution to those farmers has been has been completed by April 2012.

Farmers are appreciative of the tools and are supportive of the farmer equity (in cash) concept. With CLIP ending earlier than initially anticipated it means that not all farmers who received tools would have been trained in IPDM. Without proper IPDM knowledge proper use of tools to increase their cocoa production will be limited.

Distribution of farmer equity tools has been an enormous logistical achievement by CLIP and MAL

Pruning gangs

Pruning gangs were promoted as a means to enable rapid uptake of cocoa rehabilitation. Application of pruning by pruning gangs started off slow but picked up during the last six months of 2011 and the first quarter of 2012.

By April 2012, 95% of farmers have had pruning gangs work on their farms, with 419221trees pruned representing 3% of total SI cocoa trees.

Pruning gangs in Malaita were the first ones trained and completed their work in early 2011. In Guadalcanal and Makira provinces, pruning only picked up towards end of 2011 and completed in early 2012. Most pruning teams comprised of farmers within an area themselves. During field-work we spoke with farmers who had pruning gangs operate. They were pleased with the results and with their equity investment in the labour cost to have the pruning work done.

Other farmers, after seeing the pruning gang in operation and the often dramatic effects expressed increased interest in having pruning gangs work on their farms. Pruning gangs in Malaita and Guadalcanal have received requests from farmers outside of CLIP arrangements to prune their trees. Sustainability of pruning gangs as an enterprise providing pruning services and a vehicle to transfer IPDM technology is promising. Linking pruning gangs with buyers who want to work with farmers, (Solkom, GRED, etc) to increase productivity is an idea worth looking into. For many farmers calculating the return on their investment by hiring pruning gangs, or by hiring labour themselves to speed up their own IPDM work, is beyond their skill level.

Basic discussions about the return on spending $1-$3 per tree raised eyebrows in the field.

Helping farmers to make decisions on investing into their farm through IPDM is an area where there is much need. This is an area where more training and awareness should be done—perhaps linked to track and trace.

Options for tools and pruning gangs as an enterprise for sustainability is discussed more in chapter 6, sustainability (page 71).

Pruning gangs

	Malaita	*Western*	*Makira*	*Guadalcanal*	*Choiseul*	*Totals*
No. of Pruning gangs trained	10	9	5	5	0	29
Number of farms pruned	114	68	75	223	0	480
Number of trees pruned by April 2012	152833	37216	40788	188384	0	437149
Average trees per farm	1340	548	544	845	0	911

The table above covers pruning gang work in the Provinces that CLIP trained pruning gangs[21].

21 Pitakia Pelomo, April 12 2012 Exception Report

Box 9: Farmers use improved planting material on their farms

By 2014, 40% of SI cocoa is replaced with improved genetic material (our estimate)

Indicator:	*Results*
# farmers with improved planting material	At least 400 farmers (2.4% of SI cocoa farmers)
# of seeds/pods/seedlings distributed to farmers	15,904 pods estimated to be equal to 378,000 trees. This is 6% of a target of 6.3 million trees (40% of SI cocoa trees); Estimated to be equal to 400 hectares of cocoa. An estimated 90% of pod recipients were male
Accessibility of germplasm	Public access at Black Post but not well known outside of CLIP and Guadalcanal plains area. Other lead farmers are also distributing their best varieties.
# of farmers with skills to do their own selection, grafting for on farm genetic improvement	Most IPDM sites are yet to receive training in this area (was intended to come in second IPDM course that was part of five year project design) 16 farmers (selected by exporters) and 24 extension officers were trained in grafting and selection methods at least 12 lead farmers have selection and grafting skills and have established grafted tree nurseries at 5-6 locations[22] (4 female / 8 male)

The use of improved planting materials is considered important for the long term growth of the SI cocoa industry. CLIP estimated that eighty percent of existing cocoa trees are below optimum yields and in need of replacement in the medium to long term with the top 20% phenotypes[22]. This is a result of their genetics as opposed to tree management promoted in IPDM. Therefore long term genetic improvement of cocoa farms is envisioned as the next step for further yield gains. See Box: A plan for breeding by farmers.

The following strategies have been employed by CLIP:

- seed nurseries as enterprises to sell seed from existing stands of pure Amelonado trees – largely from Black Post
- teaching farmers to select their own seed , and teaching farmers grafting skills to create clones of and the observation skills to select naturally high yielding individual trees within their farms
- laying the foundation for a long term breeding program on farm with MAL using former MAL Agriculture Research documented collections and varieties—centred around Black Post farm.
- establishing a network of farmer cocoa breeders and duplication of farmer selected best phenotypes

CLIP has identified and assisted a few selected farmers to rehabilitate sources of pure Amelonado genetic material. This variety is considered superior and is the basis for current efforts for genetic improvement. This was achieved by support to the Black Post farm on Guadalcanal plains and to a lesser extent other seed nurseries to become seed supply enterprises. This is an important feature of CLIP in that it seeks to make use of historically proven varieties in SI rather than higher risk hybrids.

Almost 16,000 cocoa pods have been purchased from farmer run seed nurseries (mostly black post) and distributed to farmers by CLIP. This is estimated to be equal to 378,000 trees (at 25 seedlings per pod allowing for some loss at time of germination). Assuming all seedlings survive, this represents a 6% increase (or replacement) compared to current total cocoa trees in the country.

Demand for Amelonado seed has been high.

Farmers are also being encouraged to take up their own replanting efforts.

Cocoa tree nurseries as an enterprise and means of genetic improvement is discussed more in the Uptake section (page 72).

22 40% is a very high target and may need to be revised based on further study of the % requiring replacement and potential yield increases

23 1 at Kembu farm; 1 at Doma; 1 at Chale,;1 at Rendova from Moka Association; GRED in Malaita; Balasuna ladies all

Grafting and selection at Doma and Kembu farms

Farmers from the Kembu family were trained in grafting and quickly selected their highest performing trees and established nurseries for grafting of clones of these best performing trees. They have selected about 20 trees which are being multiplied through small grafting nurseries located below each of the mother trees. The nurseries are getting very good striking rights. The family is proud of their achievement and excited at the prospect of improving the yield of their trees and replacing unproductive ones.

A look and learn visit organised by CLIP brought farmers from Aruligo to see the selection and grafting process on the Kembu farm. Cornelius from Doma then proceeded to start her own nursery. She has selected 12 high performing trees and is now cloning them using the same grafting skills she observed and learned at the kembu Farm.

Both farmers now plan to establish blocks where their carefully labelled clones will be planted out in 16 tree blocks each. They will then be observed in the field. The best of the selection will then go into mass propagation for replacing their lower performing trees. Both have plans to establish micro enterprises to see grafted clones and budwood.

It's a unique example of farmer run research, led by the farmers and backed by scientists. Dr. John Konnam is proposing a network of such farmers. Ultimately the best farmer selected clones can be exchanged between the farmer breeding sites—allow for the best interaction of environmental and genetic factors for each location to find the best performing phenotypes.

Cornelius Nursery

A Plan for future breeding by farmers

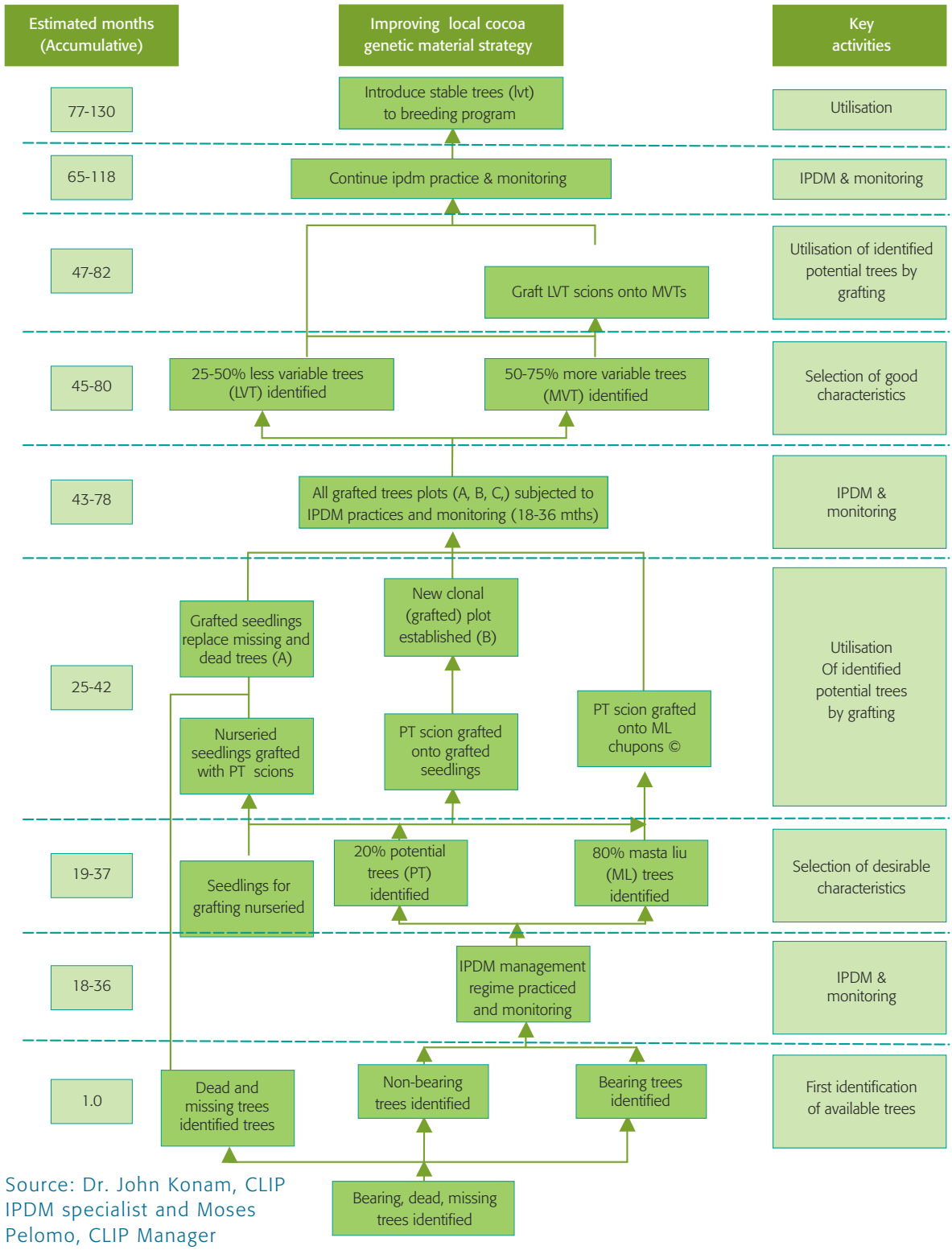
'When farmer selected clones are producing in the ground, it will take off like wildfire' John Konnam on the excitement from the farmer established breeding sites…

Strategy for selecting on farm materials to improve own farm in Solomon Islands

According to Dr Konam, about 80% of trees in the farms are 'master lius' and are under performing due to interactions of different factors including, poor farm management, environmental, nutrients deficiencies, soil etc.

- after the initial identification of dead, non-bearing and bearing trees, IPDM is applied for 18-36 months. It takes between 18—24 months for IPDM trees to return to full production. Application of IPDM should double the productivity of high yielding trees. Allowing for 36 months provides sufficient time for observation and identification of preferred characteristics to be used for selection of budwood for grafting. During this period, seedlings for grafting are also nurseried
- period up to 42 months, seedlings are grafted from selected budwood and planted out in the field in the clonal plot and replacement of dead and missing trees
- up to 82 months, further identification of less variable trees (LVT) from more variable trees (MVT) and grafting of LVT scions onto MVT
- by 130 months, stable trees (LVT) should be introduced by the breeding program
- IPDM needs to be applied throughout the breeding program.

Figure 7: A plan for future breeding by farmers



Source: Dr. John Konam, CLIP IPDM specialist and Moses Pelomo, CLIP Manager

Box 7: Farmers Improve Quality

'Before I used to dry my cocoa for 4-5 days, but now I know to only dry for 1.5 days. Before I harvested seeds from fruit with black pod but I now I know this is no good for quality. (after attending CEMA training)'

Farmers and processor meeting, Ward 11, Makira

Indicator	*Results*
# farmers/processors with improved knowledge of wet bean quality from farm to point of sale, and good quality processing techniques	1230 farmers (8% female) and processors have been trained by CEMA in general improved processing and handling methods
Improved quality of beans	Direct relationship with grinders by Solkom is providing incentive to put in place a self-regulating system whereby higher price per kg is offered to farmers for quality beans A discounting price system (50% payment at receipt of export documents &50% post arrival quality checks by grinders) provides incentive for quality beans for receipt of premium price CEMA is now equipped with 5 new and 2 replacement equipment to measure moisture, pH and bean size count for quality control at the point of export
New knowledge on quality constraints and opportunities for SI cocoa	
	Exporters and CEMA have improved knowledge of market definitions of quality. Including: 14 aspects of quality from the market perspective have been defined and described. 80% of SI crop from 2008 and 2009 would meet the Malaysia cocoa standard. 102 processors trained in track and trace / financial literacy. Representing 6.4% of all processors and approximately 10% were women
# of Processors with improved quality of their cocoa	296 drier parts for rehabilitation and 83 mini driers have been provided to farmers. An estimated 50% of these are installed and in use Solcom members will require to buy only from CEMA approved driers

The rationale for the second objective of CLIP is that SI cocoa has a reduced value due to poor quality compared to PNG cocoa. There is a widespread perception existing since before CLIP started that there are serious quality constraints for Solomon Islands cocoa. eg.:

'…marketing and quality deficiencies for cocoa, are holding back growth.'
(World Bank)[24]

CLIP has enabled new learning on the quality and market situation for SI cocoa. This information has been shared through debriefing sessions with CEMA, MAL and exporters. Overall the quality of SI cocoa was found to be very good and is in high demand on world market. Any reduction in prices at present is not due to quality issues but instead due to other factors related to the current marketing arrangements.

Moisture content was found to have increased in 2009 but still under the required level for most of the crop. Moisture issues may be related to problems in storage or shipping rather than drying at the processor level but more research is needed. Most of the SI crop meets or exceeds the Malaysia Cocoa Standard—Malaysia is the main destination market for SI cocoa. [25]

24 Solomon Islands Sources of Growth Roundtable Meetings: Background Materials, March 2009. World Bank

25 See reports: Quality of Solomons Islands Cocoa Beans: a rapid Appraisal for 2009 and 2008; Solomon Islands Cocoa Exporters Contracts: some observations 2008 – Grant Vinning (Cocoa Marketing Specialist) and Andrew Sale (Management Skills Adviser)

CEMA quality training

"Quality processing training is very useful and all farmers throughout the country should be trained" Jessica, processor in Uzamba

CEMA was supported by CLIP to train about 1230 farmers and processors in quality issues. Generally participants have responded positively to the training, saying it was useful to them. Examples of what they learned include: the correct length of time to ferment cocoa; how to handle wet bean; how to select ripe cocoa pods. IPDM is also covered in the training.

The training has been dominated by male participants (92%). CLIP gender analysis shows that women play an important role in:

- selecting pods
- collecting them
- removal of wet beans
- transporting wet beans to the drier.

All these areas should have been targeted to women for future training. The gender analysis undertaken by CLIP indicates that training on: fermentation; drying; and transporting dry beans to market should be targeted to men. Business operations, record keeping and track and trace systems should include men and women. Shorter training course would be more accessible for women. Five day model should be focussed on those actually doing fermentation and drying.

The CEMA Quality Assurance training has no doubt contributed towards maintaining cocoa quality as proven by CLIP facilitated tests overseas. In the absence of price incentive for quality, equipping farmers with proper fermentation and drying techniques is very important.

Women are often responsible for much of the harvesting work in cocoa yet few have been trained in the CEMA training. Women ready to harvest who had not heard about training conducted in their area by CLIP, Guadalcanal plains

Key Change:

IPDM and Cocoa quality knowledge

I cannot really read and write, but am always interested to know more. Even though women were not invited for IPDM training held, I attended. Women take the lead in work for cocoa here. Men see the interest women have in their farms and they also start getting involved.

I learnt a lot from the cocoa quality training. Before, I did not know that what I do with the cocoa in my farm and the wet bean has an effect on the dried bean. "Mifala faetim kilo nomoa", putting in all sorts of beans and putting it in the river to make it heavier. Now I am also careful with the bag I use and I am teaching my children too. I realized that if the quality of our dried beans are bad then we spoil our main source of income.

Daisy; Gwaubaleo village

CEMA in quality control

CEMA being the export authority is responsible for conducting final checks on cocoa beans at the point of export. In support of CEMA to effectively implement its responsibilities, CLIP has helped to replace some old and introduced new equipment to CEMA. The Regulatory and Quality Assurance Division of CEMA have received some testing equipment (3 new and 2 replacements) to enable the division to carry out its relevant tasks efficiently and effectively.

Month/Year	*Equipment*	*Function*	*Usefulness*
May 2010	Aqua-Boy Moisture MeterKAM 111	Measure Moisture of dried cocoa beans	▪ replaces the old grain master protimeter ▪ with probe for measuring beans in bags (during storage)
May 2010	HOBO U12 Data Logger	Measure temperature profiles	▪ record temperature during fermentation ▪ check the effectiveness of small boxes in fermentation ▪ CEMA staff trained in how to use. Equipment yet to be delivered to CEMA
Nov 2011	PFEUFFER HE 50Grain Moisture Meter	Measure Moisture of dried cocoa beans and temperature	▪ measure wide range of agricultural commodities ▪ portable-high precision-easy handling & fast measurement ▪ 14 calibrations
Nov 2011	OAKTON pH Spear	Measure pH (Acidity)	▪ measure pH of wide range of food products-portable ▪ use to measure acidity levels in fermentation and acidity of dry beans, an important factor in cocoa quality.
April 2012	OAKTON pH Spear	Measure pH (Acidity)	▪ measure pH of wide range of food products-portable ▪ use to measure acidity levels in fermentation and acidity of dry beans, an important factor in cocoa quality
April 2012	Triple Beam Balance	Measure Bean Count/ Size	▪ to replace the old one which is more than 30yrs old-Measure cocoa bean count ▪ precise and accurate ▪ note: bought but awaiting delivery

Market incentives

'Our minds have been opened on marketing and the importance of quality being able to be traced from the manufacturer back to the farmer… we realize we need to invest in quality production by our farmers.' Solkom director following visits to Singapore and Malaysian grinders.

Incentives for quality do not currently exist in the value chain. This is a key challenge for the future. Negotiation skills training with exporters and through the track and trace pilot may lay foundations for this change provided they are followed up on. In fact this may be the key change the industry needs for the rest of the market to respond to the other services being provided to improve quality.

CEMA is considering registering of all processors and is currently carrying out legal preparatory work. Many farmers are worried about this as another level of burden on their small business. It may be that it is better to purse incentives delivered through the private sector and track and trace models than government regulation. Regulation would add another barrier to smaller farmers and women entering the processing business which is currently where much of the value from cocoa production is gained.

Box 6: Farmers increase productivity

'Some of my trees have more than 200 pods now. IPDM works. We are getting more than double what we used to produce. And now our trees are producing all the time'.

Lambi farmer group.

'We use to harvest every two weeks but now we do not rest, we harvest our cocoa every week'.

Tarou women, Guadalcanal

Boxes 4-6: 2300 farmers and small businesses exhibit changes in production, productivity or price of the cocoa

Indicator:	*Results*
Change in # Pods per tree	Where IPDM has been applied average yield per tree has gone from 10 to 30 pods—309% increase. This equates to a an estimated yield change from 0.35 KG to 1.08KG of dry cocoa per tree. 2.26 KG per tree post IPDM over 3 years at the Kembu Farm, Guadalcanal plains (estimated at 250% increase)[26] Detailed observations by CLIP at two sites show yield increases of 195% and a reduction of black pod incidence from 50% of pods to 0% damage. For our projections we have used the more conservative 195% increase.
Adoption rates of IPDM applied to all IPDM sites * number of trees applied to	6000 farmers are estimated to have applied IPDM to an average of 49% of their cocoa trees. Based on an average farm holding of 1491 trees: 724 trees have IPDM applied per farmer = 1.4 million trees For production figures see Box 1
% change in volume of wet bean bought by processors	102 processors (6.4% of processors) trained in track and trace / financial literacy. Up to 6% of trained processors may be starting to keep better records. .

IPDM is proving to provide large gains in yield per tree – we have used the more conservative figure of 195% based on the most reliable data to date but for some farmers visited results are over 300% increases.

Most farmers do not keep production records and so CLIP has had to find other ways to measure growth in yields.

Counting of pods per tree before and after IPDM or on trees with IPDM applied and adjacent trees without IPDM of similar age is subject to a number of variables that are difficult to quantify.

It can be influenced by numerous factors: the time counting is done (eg. are trees flowering or fruiting). The size of pods and number of seeds inside is variable.

Other evidence that backs these observations include a mini study conducted by Dr. John Konnam and two farmer case studies presented below.

This is confirmed by farmers own observations at multiple sites who report at least a doubling and often a tripling of yield from their trees post IPDM.

Farmers report the following changes in interviews post IPDM:

- trees are healthier
- more pods
- fruit more consistently all the time
- less or no black pod
- less or no damage by rats.

26 this is considered conservative. In the David Gembu case study yields of 2.26KG per tree were achieved in 2011 based on detailed farmer records following IPDM application

In this section we present the more quantitative evidence of increased production on cocoa farmers:

Increased production	*Results*
Pod count observations at different times at nine sites	Pre Clip: 10 pods per tree, post clip 30 pods per tree = from 0.35 KG to 1.08KG of dry cocoa per tree
Kembu Farm	Yield increase from 0.8 to 2.26Kg per tree (280% yield increase)
CLIP supervised controlled pod observations at 3 sites	Without IPDM: 18 pods, with IPDM 35 pods per tree. (195% yield increase)

A further example is given of the Namobaula drier in Malaita, which was started with CLIP support and post IPDM in an area where most farmers were practicing IPDM. The drier records record indicate a dramatic increase in production from a the farmers in that community.

Summary of IPDM case study observations–application of IPDM

IPDM site	*Rate of adoption*	*Pod count before IPDM*	*Pod count now*	*Pod yield change (%)*	*% of trees with IPDM applied by end June 2011*
Marau	58%	12.3	41.5	337.8%	31%
Rarata	To be added				
Afuafu, Ward 7, Malaita	64%	7	22	314.3%	71%
Ofu, Ward 7, Malaita	32%	7	23	328.6%	11%
Chale, Western Province	100%	12	53	441.7%	80%
Uzamba, Vella, Western Province	53%	9	19	211.1%	19%
Iriqila and Kazo, Western province	55%	11	26	236.4%	58%
Heo / Hauhui, Malaita	82%	6	21	350.0%	72%
Namobaula, Malaita	70%	13	33	253.8%	47%
Average	64%	9.66	29.81	309.20%	49%

Refer to Attachment 2,3,4 for full case studies.

IPDM Demonstration plot recordings

At two sites on the Guadalcanal plains–Suagi and Rarata, CLIP staff carried out a series of yield observations (number of ripe pods and number of black pods) on the 16 IPDM demo plot trees and 16 trees with no application of IPDM.

Data is presented below on five of these observations.

The results show an average ripe pod yield increase of 195% and a decline from 51% of pods with black pod (unusable) to zero block pod damage in the IPDM plots. Further some of the non IPDM plots showed significant damage by rats while none of the IPDM plots had any rat damage.

Yield observations on 16 IPDM trees

	IPDM	*IPDM*	*NON IPDM*	*NON IPDM*	*Date*
Location	Ripe Pods	Black pods	Ripe Pods	Black pods	
Suagi	35	0	12	18	28/12/11
Suagi	78	0	27	13	24/03/12
Rarata	18	0	16	42	23/01/12
Rarata	9	0	8	14	22/02/12
Rarata	36	0	27	11	23/03/12
Average	35.2	0	18	19.6	

Guadalcanal plains farm of David Kembu

Full year records were kept for 2009,2010 and 2011. Based on these records the total yield of dry cocoa beans increased by 180% following IPDM application in March 2009. It needs to be noted that IPDM radical pruning causes an initial reduction in yield followed by a gradual return to higher yields.

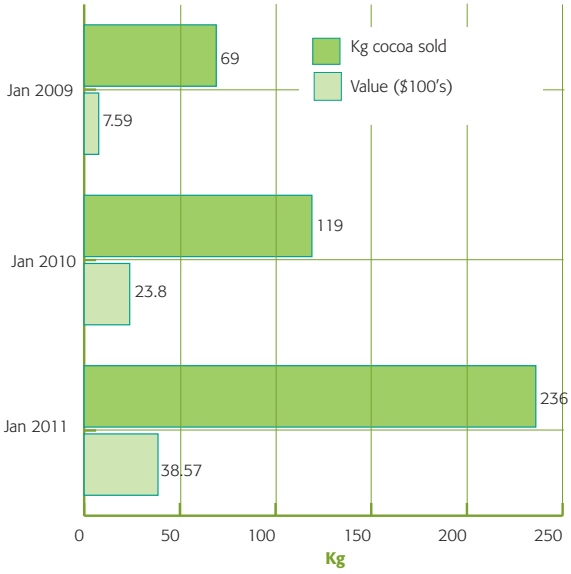
By looking at 3 years of data for the plot of 1800 cocoa trees 2009, 2010 and 2011 yields have increased by 25% over the period.

Yield per tree was 2.26KG per tree in 2011—post IPDM starting from as high as 1.3 in 2009. Pre IPDM yield per tree may have been as low as 0.8KG per tree.

Data started to be recorded from January 2009 so by comparing January yields over three years we can see a pre and post IPDM situation—a yield increase of 349%.

A more conservative approach is to use a baseline yield of 0.9KG per tree compared to the current consistent yield of 2.26KG per tree—an increase of 250%.

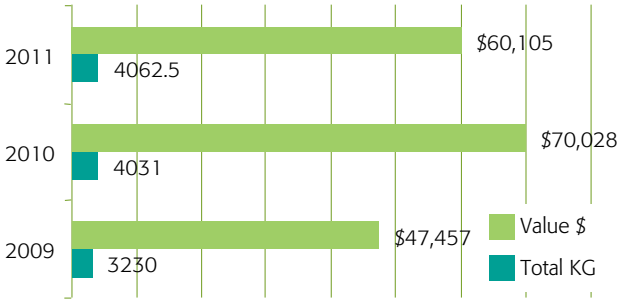
Figure 8:



The late David Gembu and his record book. David kept meticulous records of his cocoa production pre and post IPDM - a very rare occurrence among SI cocoa farmers. David was considered one of the best cocoa farmers in the country

Figure 9:

The chart below shows overall production and income and over 3 years.



	2009	2010	2011
Value $	$47,457	$70,028	$60,105
Total KG	3230	4031	4062.5

Overall production has increased by 25%. Income declined in 2011 due to the drop in world prices. It appears the IPDM plot has stabilised in yield with 2010 and 2011 largely the same.

The income change is more dramatic between 2009 and 2010 - growing by 148% but only 25% of this can be attributed to yield change – the rest was due to increasing cocoa prices.

Case study: Namobaula Drier

'Every Monday our women bring back fish' (from the market or roadside)—men commenting on how they have more regular income from increased cocoa production, Namobaula, Malaita

The Namobaula community drier (Central Kwara'ae in Malaita) buys cocoa from 70 farming families in the community. Many of these farmers have applied IPDM and in interviews report yield increases of between two and three times what they experienced in the past following the application of IPDM.

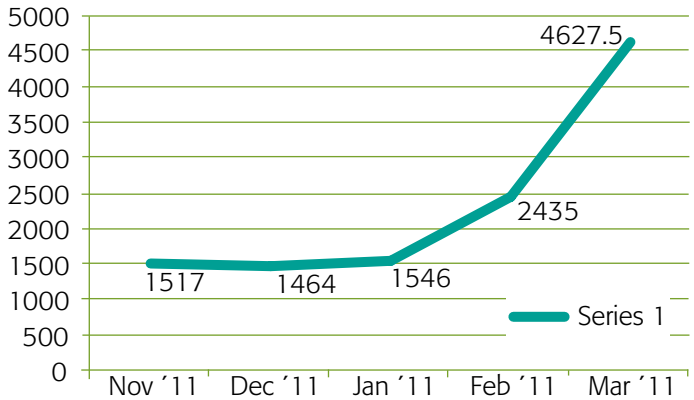
While few farmers keep records, we were able to observe the records of the community drier which records total purchases of wet beans from community farmer members.

Data from November to April shows a 305% increase in total production from the farmers. Earlier field observations and pod counts suggested a potential 253% increase in yields.

The growing volume being processed in the community driers confirms significant growth in overall cocoa yields for the community post IPDM.

Discussions with the farmers confirmed that they consider their farms to be producing triple what they were prior to IPDM.

Figure 10: Quantity (kilogram) of wet bean cocoa purchased per month



	Nov '11	Dec '11	Jan '11	Feb '11	Mar '11
Series 1	1517	1464	1546	2435	4627.5

2011-2012 production increase estimates

Based on field observations (pod counts) in farmers fields visited, the Kembu case study and the more controlled measurements at the Rarata and Suagi sites we have estimated a more conservative yield average increase of 190% for trees with IPDM applied. This figure has been revised from earlier estimates in last years annual report where evidence was showing a 300% yield increase.

Based on these projections, CLIP can expect production increases of 1200 tonnes in 2011 as a direct result of inputs carried at the production end of the market chain.

These production estimates are expanded into two years into future, see page 7, income estimates in the Summary for projections to 2014.

Model of IPDM adoption across all IPDM sites based on case studies:

Where is production increase occurring (kg of dry bean):	*# of Cocoa farmers who practice the change*	*2011*
IPDM adopters (trained by CLIP directly)	1357	594,759
New IPDM adopters (Trained by farmers - 0.5 farmers per adopter per year)	1148	503,134
Farmers who receive tools (but not IPDM training under CLIP)-12% adoption	459	201,099
Farmers who have IPDM applied by pruning gangs	480	210,410
Total	*3443*	*1,509,402*

Farmer in Waimea, Guadalcanal weather coast, just beginning to apply IPDM after attending training run by an extension officer

Assumptions used for Scale calculations

Assumptions used for scale calculations	*No.*	*Source*
IPDM farmers trained - adoption rate of IPDM	64%	Sample of IPDM sites visited in IA
% of trees with IPDM applied by adopting farmers	49%	Sample of IPDM sites visited in IA
Average number of cocoa trees per farmer (total)	1118	Average farm size (trees) according to CLIP survey data was 1491 - reduced to 1118 (25%) as observations seems to indicate many farmers have slightly smaller plots
Spread of IPDM is 1-2 farmers per IPDM trainee over 3 years (0.5 farmers per year) starting from 2011	0.5	Sample of IPDM sites visited in IA
Spread does not continue beyond 2013 - 2014 due to lack of continued CLIP inputs in sector		
Application of IPDM by farmers who receive CLIP tools but not IPDM training	12%	Sample of IPDM sites visited in IA
Total number of farmers with tools from CLIP	3823	CLIP records - includes farmers who have received or partly received their tools (93 still to receive not included)
Number of IPDM farmers who also received tools	10%	Estimate based on field visits - records of IPDM training are not linked to tools distribution database
Total number of farmers trained in IPDM (end 2010)	2120	CLIP RECORDS
Total number of farmers trained in IPDM (end 2011)	3343	CLIP Records
Number of farmer operated IPDM demonstration sites established by CLIP	50	CLIP RECORDS
Farmers with pruning gangs who have completed work	480	CLIP RECORDS
Farmers who adopt IPDM apply it to an additional 20% of their trees each year	10%	Estimate by IA team confirmed with CLIP team meeting Nov 2011
Adoption by farmers with tools - assumes that an additional 12% adopt each year as they have tools / access to information		
Number of farmers joining look and learn up to Nov 2011	214	Field estimates from CLIP provincial staff
look and learn participants planned for early 2012	510	Field estimates from CLIP provincial staff
Adoption rate by look and learn participants	80%	Field estimates from CLIP provincial staff [plus small sample in Lambi area by CLIP IA

The rate of farmers who adopt IPDM after training is 64%. Those farmers apply IPDM to 49% of their trees. An average number of total cocoa trees is used per farmer (1118 trees) as actual is not available. See table above.

We have not factored in a difference between young and old trees and impact of IPDM. Spread of IPDM farmer to farmer is assumed at 1-2 farmers per IPDM trainee spread over 3 years (ie. 0.5 farmers per year per IPDM adopting farmer).

Some farmers access IPDM or parts of it through other means than those recorded here: informal training by extension officers, previous knowledge prior to CLIP, other means. This is estimated at 12% of those who receive tools.

Actual production figures in the first year of IPDM application may be up to 75% lower per farmer. As we don't know when they actually apply IPDM this is difficult to model. By the second year of IPDM application yields should have caught up.

Pods to KG is based on average of 27.5 pods = 1 kg dry cocoa. Pre IPDM yield was 10 pods and post IPDM 30 pods per tree.

Farmers who adopt IPDM sustain that adoption and continue to apply it on a further 20% of their trees each year.

All the assumptions above are considered conservative. The current export figures correlate well with export figures to date see summary indicators section.

Box 5: Farmers receive premium price

'Our farmers are happy with the price increases we have given them and we are looking forward to being able to offer better prices to them in the future' Solkom director

Indicator Box 4- 6: 2300 farmers and small businesses exhibit changes in production, productivity or price of the cocoa	*Results*
% change in price received by buyers	▪ Solkom at export level has gained a 20% increase in income / sale price per tonne ▪ Solkom members can set their preferred price within given parameters (daily world market price less discount), at least 10 days before shipment ▪ 50% document cash advance and 50% payment post quality checks by grinders is providing incentive for Solkom members to maintain quality beans
% change in price received by farmers	▪ Around 700 farmers (30% of target) who are selling their beans to Solkom buyers are subjected to price differential based on quality of beans at the moment 20cents more per KG dry bean ▪ At least 3 farmers so far, members of JEMS network have participated in direct export of their beans, receiving the same price that Solkom exporters received. Farmers from New Dawn's network will participate in upcoming exports ▪ Establishment of Solkom may have contributed to a major buyer/exporter introducing price differential for farmers who become members of its network
New knowledge on quality constraints and opportunities for SI cocoa	5 out of 16 (31%) licensed exporters have improved understanding of cocoa market 14% (2 out of 14) of stakeholders (exporters, CEMA etc) who went on overseas missions were female
# of new export market types established	3 out of 15 (20%) of licensed exporters are engaged in expanding export market options for Solomon Islands
New market opportunities	Local SI exporters shift from price takers to negotiation with Holland Commodities

Prices have increased early in CLIP and then decreased due to world market fluctuations and are not attributable to CLIP. Farmers have so far received a small premium price attributable to CLIP. However other important ground work is being done (described in results above). A key change that has been recently achieved is introduction of a second SI based player into the final exporter category—see below.

Key change: Solkom

Solkom Ltd, a consortium of exporters (shareholder) has been operational since mid 2011. In late 2011, Solkom negotiated a one year contract with its partner for a minimum volume of 600metric tons, a significant change from small volumes and per shipment contracts.

50% is paid when documents for the export are received. Remainder is paid after tests and discounting (if any) is done by the buyer, providing an incentive for exporters to strive for the full price through maintenance of quality. Solkom members buy from their suppliers at 20% more per kilo, but also allow major suppliers to export part of their beans through Solkom, receiving the same price as the exporters themselves.

A key change for Guadalcanal and Marovo farmers is that Solkom buyers are picking up beans without additional freight charges and competitive prices. Conversations with farmers highlight that slight difference in price is a significant factor in their decisions on where to sell.

The cocoa market is moving in the direction of increasing certification driven by consumer demand and changes by key chocolate producers. These changes are leading to increasing need for better documentation at all levels of the chain. This may eventually lead to price increases for farmers.

CLIP market research has identified UTZ certification as a suitable system suited to Solomon Islands situation and without the excessive demands of some other alternatives. Discussions have commenced with UTZ. At the other end of the market systems track and trace training is seen as laying the foundation for a PGS system which could evolve to meet the need of UTZ or other standards. The impact of this early research is still evolving as is the impact of early steps toward a track and trace system. This work will need to be picked up by others if it is to generate lasting impacts.

Box 4: Farmers expand production

'There is no space for more cocoa—all our land is already taken up' farmer group, Namobaola, Malaita

'We want to be involved in cocoa as we see it as a promising source of income. That is why there are so many new farmers in our area planting cocoa for the first time'

Waimea village farmer group, Marau area, Guadalcanal

'Cocoa is not hard work for women. We harvest today and see money same day for daily family needs"

Tarou women, Lambi women, Guadalcanal

No of trees planted

Indicator	*Results*
# of new trees planted / area of land	15904 pods estimated to be equal to 377,000 trees[27] 400 hectares of cocoa / 2.6% increase on 14 million trees
	600000+ poly bags through farmer equity for on farm nurseries.
	No data is available on wider farmer planting. 30% of 15.8 million trees recorded as new planting in the CLIP baseline survey

CLIP's main approach is to improve productivity rather than promote expansion of planting. This is seen as more compatible with food security.

Farmers were already expanding production at the time of the baseline survey—most likely in response to increasing prices. According to the CLIP baseline survey, 30% of farmers trees were 'young' plantings. . These trees are estimated to begin producing significant yields in 2015 and will making projecting CLIP impacts beyond 2014 more complex.

Based on current data it is difficult to measure the extent of new plantings during CLIP implementation period.

During field work we have observed large numbers of farmers who have already made or are making new plantings of cocoa. Much of this planting started prior to CLIP but is continuing.

Many farmers report having much stronger interest and enthusiasm in cocoa following their increased knowledge and understanding gained through involvement with CLIP. This has contributed to their decision to plant more cocoa trees.

As mentioned earlier, to date 15,904 cocoa pods (amomelando) have been purchased and distributed to farmers by CLIP, estimated to be equal to 377,000 trees. This represents a 2.6% increase compared to current total cocoa trees in the country.

In addition local seed nurseries have also been sharing planting material – numbers are not available.

Farmers are also being encouraged to take up their own replanting efforts.

Over 600,000 plastic bags were paid for under farmer equity arrangements or given away the same as the tools. 60% (360,000) of these are estimated to end up as trees planted in the field. But farmers have other methods of growing seedlings—for example using certain types of leaves as substitute for poly bags.

Exporters also supply poly bags for farmers and have long established programs to promote expansion.

Generally cocoa farms are family owned. But in some cases women have their own cocoa farms. This was the case in Bona village in West Kwaio.

27 Actual number of seeds recommended from each cocoa pod to plant is about 25 Therefore estimated number of seedlings from the 15904 pods will be 377,000. Estimated mortality rate one would expect from a single nursery is about 5% (Robert Waisu – CLIP)

Medium scale cocoa plantations

Cocoa, like coconut in Solomon Islands has always been small holder and family owned cash crop.

Average farm sizes around 1118 trees, with most farmers having less. Chale, a shareholder of Solkom, presents an interesting contrast with a medium scale plantation, now reaching 50 hectares of cocoa.

10 hectares of old rehabilitated trees, while the remainder is new plantings. The plantation is owned by Choe Integrated Development Ltd (CIDL), a community company with shareholders from Nazareth village, Marovo.

CIDL runs an almost industrial operation with sawmilling, cocoa, and other smaller projects such as honey and poultry, operating alongside a contracted logging company.

Full-time employees for Chale, approximately 50 women and men, live in and around the plantation. CIDL pays for the operation from logging royalties, with the plan that in 3-4 years, sale from cocoa will pay for itself.

Chale is not on its own with such plantation size cocoa holdings. In Western Province, there are other examples such as Moka in Rendova, and few in Roviana Lagoon, recently planted under the Agro-forestry scheme through MAL and Ministry of Forests. Under this scheme, land owners are granted milling licence and some form of tax exemption.

Fund from the exemption is supposed to be used for agricultural development. In practice landowners contract Asian logging companies to 'mill' and export "sawn" timber.

With decline of forests for logging, the scheme has presented an opportunity for logging companies to access areas and forest types that may have been previously restricted for full blown logging operations.

The drawback of the scheme is that most of the plantations are owned by tribal communities.

Can they be maintained over long term?

Signs of neglect are already visible in some of these plantations. Tribal endeavours have not had a good history in Solomon Islands, regardless of how well meaning and visionary initiators were.

Could Chale be different?

Owned by a registered company (CIDL) instead of tribe(s) of individual families, with an early start into agricultural development, can they make it work? There seems to be mixed results in productivity from the rehabilitated old cocoa trees. Chale is currently, the only wet bean buyer in Marovo. Workers go about their work with high spirits, without any signs of distress from major change in lifestyle.

Box 3: Income increases for farmers

'Before we only had money occasionally and we struggled to meet our needs. Now we have cash available when we need it most of the time. This is a big change. We are managing our money well – life is expensive these days so we have to make decisions together.'

Husband and wife cocoa farmers with IPDM applied trees producing well, Afufu, Malaita

When we sell our cocoa many farmers use it for replace their blood' – (drink alcohol)

Namobaula farmer group

Boxes 2-3: By end of 2014 CLIP has contributed to an accumulated income increase of over SI$ 350 million for over 2300 farmers and small businesses, providing full time labour equivalents in employment for over 3900 people

Indicator	*Results*
Amount of increase in total income	In 2011, 3827 farmers enjoyed an income increase of $20.6million. By the end of 2014, 7845 farmers are expected to be enjoying an increased income of $209million (60% of the target)

Qualitative interviews show farmers have had large increase in income following IPDM and better management of their cocoa. Most farmers estimated they had double or triple the income. In addition income is more regular than the up and down nature of cocoa production in the past.

Increased income from cocoa is commonly being used to meet basic needs and make incremental improvements in living standards. For many households increased cocoa income has moved them from a very vulnerable situation where they struggled to meet even basic needs to a situation where they have some free cash available to spend when required.

Examples of use of cocoa income:

'we eat noodle all the way now'

(Bona women)

' food tastes good now.'

- meeting basic family needs—food, clothing etc
- school fees—particularly for those sending children to high school and tertiary education
- more money available for community obligations such as churches
- increased purchase and use of household solar systems replacing kerosene lamps, building permanent or better housing
- more cash flow in local produce markets leading to spin off effects for fresh produce marketers
- increased consumption of alcohol.

Alcohol consumption from income derived from sale of dry cocoa, mostly in town centres, remains a concern raised in numerous farmer interviews. Future interventions need to understand the issue more and what could be done to minimize negative impacts.

Income and expenditure from cocoa

Item	*Tally*
Food – rice, fish and noodle	XXXX (Namobaula, Tarou women, Uzamba, Bona women)
Increased church and community contribution	XXXX (Bona men, bona women, Uzamba, Chale women,)
For replacing blood (drink alcohol) and smoke	XXX (Namobaula, Tarou women, Uzamba men)
School fees and family needs	XXXXXX (Bona women, Tarou women, Lambi women, Uzamba men, Namobaula, Gwaubaleo women)

Production value

Production increases resulting from application of IPDM are resulting in real increases to income of cocoa farming households. Most farmers do not keep any type of financial or income records.

Asking for recall of income data is notoriously unreliable and also raises issues of invasion of privacy. For this reason we are using estimates of increased production as a proxy for increased incomes.

Farm Enterprises	*2011*	*2012*	*2013*	*2014*	*TOTAL (cumulative)*	*%*
Men	$16,491,694	$22,943,322	$30,348,970	$38,708,636	$108,492,622	69.2%
Women	$7,329,642	$10,197,032	$13,488,431	$17,203,838	$48,218,943	30.8%
Total Value	$23,821,335	$33,140,355	$43,837,401	$55,912,474	$156,711,566	

The table above includes the value of production based on expected yield increases of existing cocoa farms. It is based on the current sale price of dry cocoa beans to exporters and does not include the additional income accruing to exporters from this increased production. At present we are not able to put a value on increased production—resulting from new plantings attributable to CLIP.

Markets

New market arrangements has the potential to deliver increased income for exporters but at this stage it is unclear how much of this will be passed on to farmers versus being used to set up more sustainable financing arrangements for future shipments. For projections on expected future increase in incomes please refer to page 7, production estimates in the summary section of this report.

Box 2: Employment increases for farmers

'I feel I wasted many years working at GPPOL. I resigned to work on my cocoa farm. Now I earn more from cocoa than I did in full time employment.'

John Sau, Roroni village, Guadalcanal.

' I divide my farm into 4 blocks and pay women $200 per block to clean it up'

Anesuia, Weathercoast Guadalacanal

'I am a sick person so I do not do heavy work. I use the money from my farm to support my family and hire labour to clean my farm'.

Ezekiel, farmer Aruligo area

Indicator	*Results*
By end of 2014 CLIP has contributed to an accumulated income increase of over SI$ 350 million for over 2300 farmers and small businesses, providing full time labour equivalents in employment for over 3900 people	
Full time equivalent (FTE) jobs created	In 2011, 472 FTE additional jobs were created from IPDM application, 503 from increased harvest and processing and 25 fte for export preparation, a total of 1000 fte. It is projected that by 2014, a cumulative total of 3493 FTEs (90% of target) should be created, increasing the total FTE in cocoa to 8920.

'Now we are always busy with cocoa and do not have much time for any other work'.

Tarou women, Guadalcanal

What is the baseline?

No reliable employment estimates are available for growing and harvesting of either copra or cocoa. However, based on an estimated 23.5 person days per tonne of dried copra5 and 240 working days per job, current levels of copra production would imply more than 2,700 jobs in copra drying activity.

(World Bank report)

It is important to understand that FTE is a proxy for improved rural livelihoods which do not involve full time employment in any one area. Rural livelihoods are complex. It should also be noted that, while the use of full-time employment equivalent is logical, it is generally felt that working in the farm is a way of life and not an employment as such, unless you are hired. Self employment would probably be a more acceptable term.

Net Additional jobs created per year

Full time equivalent jobs created	*2011*	*2012*	*2013*	*2014*
IPDM application	472	970	1439	1647
Harvesting & Processing	503	1035	1535	1757
Exporters increased shipment of containers	25	52	77	88
Total	*1000*	*2057*	*3050*	*3493*

'Brushing is hard work now (post IPDM). A lot of us farmers are hiring groups to do brushing. In the past we did not need to do this. Manpower is a challenge for IPDM. '

Namobaula farmer group discussion, Malaita

Baseline equivalent full-time employment of 5428 is calculated using CLIP survey data on number of farmers (13921) and average number of trees (1118) for the farm maintenance (see table below). Average of total exports (2003-2010) is used to calculate labour needed for harvesting, processing and loading bags of dry beans into containers for export. Due to lack of information, labour involved in transportation (between farm gate and storage, and between storage and container loading) is not included in this modelling.

With increases in productivity, the equivalent full time employment will increase to 8920 in total, with 3493 of the increase attributed to IPDM adoption leading to farm productivity.

A study on whether this increased FTE in cocoa is translating into better income, and overall improving the rural livelihoods is required. Or are women becoming worse off now that they have to put more time and effort in their cocoa farms, and while income maybe increased, does their livelihood improve. Who controls the money?

Assumptions used in EFT calculations

Assumptions used for EFT calculations	*No.*	*Source*
Est. # trees per hectare 1 hectare (3m x 3m spacing)	1000	
Mandays for IPDM maintenance per hectare (1000 trees)	60	ADB estimate + additional days allocated 4 ringweeding (IPDM)
Mandays for harvesting processing per ton	80	ADB estimates
Mandays for export loading per 15 ton container	4	
Number of work days in a year (less weekends & holidays)	240	
EFT (Tree maintenance)	0.25	
EFT (Processing)	0.33	
EFT Export Loading	0.02	
Number of farms documented by CLIP	13,921	
Average # trees per farm	1118	
Total number of existing cocoa trees	15,563,678	
Pre-CLIP national average exports (2003 - 2010)	4391	

Box 1: Improve performance of cocoa sector: increase cocoa exports

'Olgeta, another record year for cocoa industry according to provisional figures from CEMA. I am sticking my neck out for 8,000 mt in 2012!',

Pitakia Pelomo, referring to 2011 export figures

Indicator	*Results*
Solomon Islands Cocoa exports (metric tonnes)	In 2010 there was a 25% increase of 1,100 MT compared to the 2003-2007 yearly average. We estimate that 300 MT can be attributed to CLIP. In 2011, there was a 41% increase from the 2003-2007 average. Increases attributed to CLIP is estimated at 1220 metric tonnes. In 2012, it is estimated that there will be a 69% increase on production from base year, with 2510mt attributed to impact of IPDM.

The 300 metric tonnes figure is based on an estimate of 25% of the 2011 IPDM related increased production figure could be attributed to CLIP in 2010. This is because IPDM was in a phase up period during this year. It takes 18-24 months for IPDM trees to reach peak production again. Production in 2012 is estimated to increase to 7359 metric tonnes with 2510metric tonnes attributable to increases resulting from IPDM.

General growth in SI exports

Our projections (see table below) indicate that CLIP can expect to contribute approximately 4300 additional tonnes of cocoa exports per annum by 2014. This would lead to a figure of about 11,500 thousand tonnes for total exports (15% of the target of 10,000 tonnes). This figure is considered conservative and is based on modest expansion of CLIP activities and farmer and tree responses over coming years that could easily be exceeded.

Therefore, it appears that CLIP is on target for achieving the expected production increases. The assumptions and the model will need to be continually refined in coming years and it could not be expected that all IPDM applied trees were as yet achieving the estimated 194% increase in yields. 25% was the overall resulting increase in production in 12 months post IPDM from the David Gembu case study. After that production climbed rapidly and we would expect significant increases attributable to CLIP over the coming 12 months.

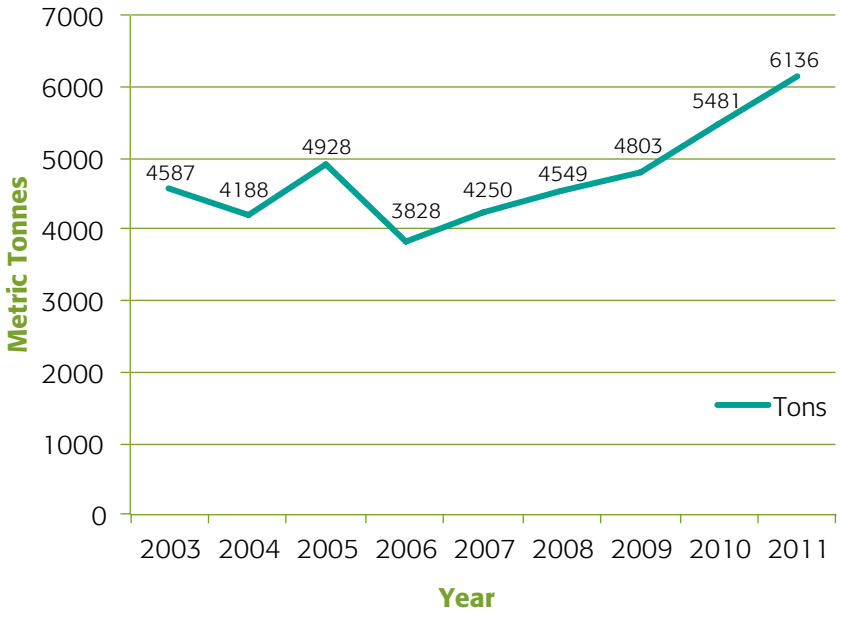
Cocoa exports recovered dramatically from near collapse during the 2000 to 2002 period at the height of the ethnic tensions. From 2003 to 2009 exports ranged from 3,828,000 to 4,927,000 tonnes with an average of 4,255 tonnes. We have taken this average to be the pre CLIP baseline.

Cocoa exports have grown at an increasing rate. By 2010 there had been an increase of 1226 MT compared to the 2003-2009 average. This was 29% higher in volume than the 2003-2009 average, increasing to 44% in 2011. Percentage growth on a year by year basis compared to the previous year shown in the graph below.

However, this growth coincided with significant growth in cocoa prices providing a strong incentive for farmers to harvest more, and a number of other donor interventions in the sector also occurred at the same time. Therefore the task of impact assessment is to make a reasonable estimate of to what extent this growth (and expected future growth) can be attributed to CLIP.

CLIP has undoubtedly contributed to this growth but growth was already underway prior to the CLIP start up. Data to estimate CLIP attributed production increases has been gathered through two different methods, giving us a higher and lower estimate. Production estimates are presented below.

Figure 11: SI Cocoa exports by year update



Source: CEMA Cocoa Domestic and International Statistics

Additional production increases attributable to CLIP

High scenario - based on pod count evidence					
Production	*2011*	*2012*	*2013*	*2014*	*Cumulative total*
Total number of farmers practicing IPDM	3443	5881	7459	7459	
Average number of trees with IPDM applied per farmer	548	660	772	883	
Total number of trees with IPDM	1,886,752	3,880,420	5,755,619	6,589,767	
Increased production (metric tonnes)	1509	3104	4604	5272	14490
Expected national production total	5764	7359	8859	9527	0
Low scenario - based on case study yield records					
Production	2011	2012	2013	2014	cumulative total
Total number of farmers practicing IPDM	3443	5881	7459	7459	
Average number of trees with IPDM applied per farmer	548	660	772	883	
Total number of trees with IPDM	1,886,752	3,880,420	5,755,619	6,589,767	
Increase in yield per tree (post IPDM yield per tree minus pre IPDM yield per tree per year (kg))	0	0	0	0	
Increased production (metric tonnes)	931	1915	2840	3252	8939
Expected total annual production	5186	6170	7095	7507	0

We have used the average of two scenarios for our production estimate – one based on wide range of pod count observations and the other based on yield increased from more reliable records at a smaller number of sites.

Clip attributable production increases

	2011	*2012*	*2013*	*2014*	*Total*
Production increase - high scenario	1509	3104	4604	5272	14,490
Production increase - low scenario	931	1915	2840	3252	8939
Average increase in production (tonnes)	1220	2510	3722	4262	11,714

Assumptions used for production calculations

Number of cocoa pods (fruits) to produce 1 kg dry bean	27.5
Number of Pods per tree post IPDM	30
national average cocoa production for 2002-2009 (tonnes)	4255
Yield per tree pre IPDM - per annum dry cocoa (KG)	0.525
Yield per tree Post IPDM - per annum dry cocoa (KG)	1.0185
Yield increase	194%

6. Sustainability—assessing the likelihood of lasting impact

'We support the kind of integrated, industry-wide approach that CLIP has taken. It's a good focus and a good model to take forward. We are disappointed it ended early. But MAL will do its best to lead the follow up. We are looking at the National Cocoa Steering Committee being formally recognised by policy of government. We are developing a strategy with wide industry consultation.' Frank Wickam, Permanent Secretary, Ministry of Agriculture, Cocoa Stakeholder meeting April 2012

The aim of this section is to pose the question: How likely is it that the market changes will continue facilitated by CLIP?

DCED: *For each key change, programmes should include qualitative and/or quantitative intermediate indicators which should be sufficient for assessing whether impact is likely to be sustainable. These intermediate indicators would be used to determine whether even after the end of programme activities, a system exists through which enterprises would continue to benefit; for example, whether enterprises are able to develop new products or services, whether businesses are earning more profit as a result of becoming more entrepreneurial, etc.*

The table below contains scoring on key criteria concerning the sustainability of services critical to the CLIP model of cocoa livelihood and market improvement. These are subjective scores made by the IA team. The reasons for the scores is explained in the text below.

Cocoa farm enterprise

The strength of CLIP is the sustainability of small holder enterprises. Increased profitability from higher yield per tree, expanded production and potentially increasing prices in the long term offered by buyers is highly likely to ensure continued commitment by farmers to the crop.

There is some uncertainty over the level of skill transfer and the ability of farmers to sustain IPDM. There are also challenges with farmers making investments and handing the business decisions involved in managing expanded production. There are promising indications that a network of lead farmers will be able to lead the process of long term genetic improvement through farmer selection of best trees and reproduction through grafted clones.

There will continue to be some handout mentality present and there is a risk that other players and donors as well as SIG funds administered through Constituency Development Officers could interfere with gains made by CLIP—eg.. political subsidies and handouts distorting the market. An example is the current plan to provide SBD $9 million for cocoa farmer incentives handled through politicians rather than the MAL.

Summary sustainability score: 1=LOW, 2=MEDIUM, 3=HIGH

Intermediate indicators	*Cocoa Farm Enterprise*	*International Market*	*Track and Trace*	*IPDM*	*FFS*	*Farmer Equity Tools*	*MAL*
Profitability	3	3	1	1	1	2	3
Sustainability of sources of income	3	2	1	1	2	1	3
Satisfaction among market players at all levels	3	3	3	2	3	1	3
Capabilities to carry out new functions	2	2	2	2	1	2	2
Attitudes of stakeholders	2	3	2	3	3	2	2

International market level:

Main outcome of CLIP work to date is taking steps to diversify buyers with promising recent results in facilitating the development of a new company – SolKom - with new external buyers and contract commitments. The aim of this is not to undermine the current main Buyer/Exporter but to create a more diverse market environment.

In the long term SolKom plans to introduce price incentives into the value chain by rewarding farmers for quality production. The Cocoa export situation is more competitive thanks to CLIP and other interventions that have occurred at the same time. There are now a number of players who are making direct exports to cocoa grinders.

Establishment of SolKom is a promising breakthrough but an unproven business model requiring new skills and there are risks involved. Ongoing advice, mentoring and information provision will be critical in the early stages. Cash flow will remain a challenge for SolKom expansion and as yet there is not a clear path to overcoming this.

Changing SI exporters from price takers to negotiation eg. .Jems. This appears to have already begun and marks a significant change in the market system with all players now more competitive.

Positive steps have been taken with identifying and making initial negotiations for niche market opportunities such as single origin cocoa and specialised chocolate producers with specific requirements.

Scale up 'track and trace' model

This model has a number of contributions to sustainability. Building financial literacy and basic business skills for processors to make their business more sustainable appears to be a basic requirement for many of the market changes to succeed.

The aim being strengthened business models of processors and eventually farm enterprises as well. While pilot efforts have been worked well to date they are implemented directly by CLIP. There is a need to develop institutional arrangements so that these services become more sustainable.

PGS is seen as laying a foundation for certified cocoa schemes—such as UTZ. But there is a need to institutionalize the track and trace capacity building currently underway as well as continued inputs to ensure that exporters are able to take up the UTZ or other certification opportunities.

Track and trace will have to move to a larger scale to achieve this as during CLIP it can really only consider to have been a pilot of its potential. Links have been made with UTZ and there is more understanding of how and why the industry is moving to increased documentation along the chain.

Helping farmers to make better decisions about farming as a business is a need that is not currently being addressed at any level—eg.. investing in labour for IPDM or future replacement tools purchases. Farmers also need better financial literacy and this only started toward the end of CLIP with well received household budgeting training. Unfortunately there were no institutional partners and little prospect that this work will continue.

Scale up IPDM training to reach 10,000 more farmers.

At the farmer enterprise level IPDM is sustainable on its own for those farmers who have taken it on. Experience has shown that some level of follow up will probably be needed to encourage farmers to sustain the approach over time.

Increased application and spread of IPDM, and increasing rates of adoption by those farmers who have been trained in IPDM is critical to reaching the increased production targets of CLIP. The current model is largely directly implemented by CLIP and has clear limits to its scalability. There is need to explore models to institutionalize IPDM and the FFS approach. MAL has a role to play but so do others.

Farmer to farmer sharing needs to be increased to add more value to those farmers who are trained. —CLIP should look at incentives for farmers to teach other farmers beyond their close relatives and what is the facilitation and management role for MAL or others. Farmers are sharing already so lessons need to be learned about why it works in some cases and not in others.

Example: Ofu, Malaita—'we could show farmers how to do it. If they came to my farm and helped prune some trees for me and I teach them how to do it at the same time' – group of Cocoa farmers

Tools

Current model is not sustainable. However it has facilitated an attitude change by farmers and filled an important gap. It may have been dropped too suddenly.

There is a need to better understand the tool supply chain for cocoa farmers and identify the best options to make the right tools more available for farmers at reasonable prices.

Hardware stores and cocoa exporters have potential roles to play that unfortunately were not explored by CLIP. Various players such as hardware stores and their agents, exporters and MAL have potential roles to play.

Changing roles of MAL

A key challenge for CLIP was the failure of MAL to agree to sign an MOU for the duration of the project. This hampered closer co-operation with MAL and ultimately effected sustainability. There was good partnership with provincial MAL but at the national level there were high level obstacles that were only resolved at the end of the project. Farmers identify regular visits and the provision of information and practical hands on training by specialists as key reasons for them adopting IPDM and for it spreading.

There is potential to support MAL to move to more of a facilitator of service delivery and management/ measurement of performance of different players in the cocoa market systems.

The issue of petrol for mobilizing extension staff needs to be resolved. MAL extension staff most likely have critical roles to play in scaling up at least IPDM and possibly other areas such as track and trace. The constraints and opportunities for MAL to put more effort into recurrent budgets to support such high priority work needs to be explored. The Farmer Field school model may have application for other crops and sectors.

Role of exporters

Exporters are key players in the market system. Some discussions have been held, exporters are involved with CLIP in export market learning. But they are already providing some 'embedded' extension services to farmers that CLIP may be crowding them out of: credit to wet bean buyers/processors, poly bags, net, tools, training. CLIP had planned to explore contract provision of extension services through exporters but ran out of time to implement.

What is potential for them to take on larger role? What would be the incentives? Could contracting model work? What is the role for CEPA and or the National Cocoa Steering Committee? More analysis, dialogue and piloting of new approaches is needed.

Use of local genetic material

Use of amomelando as basis for genetic improvement —compared to hybrids which short productive lives—is a very sound strategy and should be continued. The four farmer run nurseries established to date to graft improved phenotypes is a very positive step.

With trial plots established, this will provide a long term and decentralised resource, owned by farmers, for genetic improvement of cocoa stands. These nurseries should be encouraged to develop commercial models where they sell grafted clones to farmers or others on the cocoa value chain.

7. Capturing wider changes in the system or market (crowding in or copying)

DCED: *The results of expected systemic or market-wide changes should be included in each results chain in the early stages of activities, to achieve scale for that intervention*

1. Consider at what levels and how you expect systemic changes (eg.. 'crowding in,' 'copying,' etc.) to contribute to your goals. Show this in your diagram by linking systemic change boxes to changes at the appropriate levels.

Description of what is 'crowding in'

Because many PSD programmes aim to affect entire systems or markets, benefits are likely to be wider than just among the direct recipients or partners; this may be, for example, because the overall environment has improved or because other enterprises or organizations (at various levels of the results chain) copy the innovators and early adopters.

This effect is sometimes called 'crowding in' or 'copying' or 'spontaneous replication'; the results achieved in this way are often not measured, thereby under-stating achievements by a substantial margin and reducing the incentive to sustainably change systems to benefit target beneficiaries.

Farmer to farmer spread

There is evidence that IPDM is entering the uptake phase. There are enough proven models on the ground that farmers are starting to teach other farmers.

Most farmers suggested that they had helped 2-3 other farmers since their success in IPDM, usually close relatives. Some farmers were more on their own and said that others were not interested in what their doing but this type of response seems to be declining with time. With evidence on increasing productivity of trees with IPDM, those who were not initially interested are changing their tone. There is a growing body of excited farmers with new skills and knowledge and this is spreading.

A similar trend is evident on a smaller scale with farmer grafting and selection of superior cocoa trees for multiplication. This started with a CLIP training event and led to a nursery being established at the Kembu farm. The Kembu family have now assisted women at Balasuna to start their own grafting nursery—with no assistance from CLIP.

A look n learn trip to Kembu farm also resulted in Cornelius at Tarou village setting up one of the best grafting nurseries. The excitement being generated by farmers selecting their own superior production cocoa trees means this trend is likely to continue.

Future access to tools and spare parts

Our interviews highlighted that exporters and some processors are providing tools and services—already occurring and not direct impact of CLIP.

Some exporters already support farmers to purchase tools through them—eg.. El Shadai offers subsidized high quality wheel barrows purchased from Tongs. Some trade stores—eg. in Kirakira—are stocking spare wheels for wheelbarrows.

CLIP did not analyse the tool supply market system and see how more sustainable changes could have been facilitated. There are multiple players—hardware stores, rural stores, transport suppliers and cocoa exporters and processors who could all have a role to play in making the right tools available at the right price for farmers. Unfortunately there is no crowding in evidenced in this area as yet.

Pruning gangs as business models

'We hire the local boys (who were trained by CLIP) to do pruning on our trees for $1 per tree' Women from Bona village in West Kwaio, malaita.

It appears that the shift from $1-$3 per tree makes pruning a viable business. A few examples of this growing – eg. Bona in West Kwaio, Heo and Hauhui in West Are'are. This may also partly address labour constraint for rapid uptake of IPDM. This is a financial decision and some farmers have difficulty realizing the benefit. How can this be promoted, now that result of farms receiving IPDM treatment are starting to be seen? With support the pruning teams could become successful small enterprises and this approach may be copied by other IPDM trained farmers.

Fabricators of drier parts

At least three workshops (Honiara, Auki, Kirakira) have been fabricating drier parts and mini driers for farmers.

The increasing production of cocoa throughout the country, and market driven awareness on benefit of high quality dry beans, such services have the potential to increase. Costs ($15,000 for mini driers & $8,000 for drier parts) remain to be the main challenge. There is little evidence that fabricators will continue to sell drier parts on a commercial basis – largely because they were supplied with all the materials and were only paid for welding/construction services. But there are enhanced skills and knowledge of designs.

Provision of planting materials

Black Post as business model for provision of planting materials is looking sustainable on the local level although it is unclear how farmers outside of Guadalcanal plains would access seed from black post beyond CLIP. There is evidence that others with pure Amelonado stands are following same model—eg. Gemuel in Makira, Junior Pelomo in Baeroko etc

There is also evidence of exporters and processors providing such services—eg. seedlings, seed providers to their dedicated farmers.

FFS as a model

There is evidence of the spread from farmer to farmer and is the most likely means of the technique being widely adopted and maintained over time.

Setting up of IPDM plots have definitely helped adoption with surrounding farmers. There is also very strong evidence that follow-up trainings and general extension visits are highly valued by farmers for example look and learn visits for groups of farmers organised by extension officers to see successful IPDM sites seem to result in a direct increase in uptake results for that IPDM site.

Some processors and buyers/exporters, such as GRED and New Dawn enterprises in North Malaita, Tapalia, JEMS in Guadalcanal, have already been providing training and extension services, of varying degrees, to their dedicated suppliers. Potential for such enterprises to be influenced into adopting FFS model of IPDM should be explored and enhanced by CLIP, as an exit strategy.

Price negotiation

There is evidence that opening up of new export markets offering higher FOB price, has made it necessary that Holland Commodities enter into negotiation with exporters—who were once exporting solely to Holland Commodities—for the first time. This option is probably only available to exporters with no other debt obligations to Holland Commodities.

Exporters report that Holland Commodities is now building up Arania as a key partner. Arania is in the process of registering farmers with incentives, including an attractive price, provided. This type of system could lay the ground for PGS type of approach for Holland suppliers and may be evidence of crowding in although it is difficult to estimate to what extent CLIP is responsible for this change.

Provision of capital

Accessibility of capital has been a major issue for exporters. The four separate enterprises who are shareholders of SolKom, initially developed a solution with two enterprises with funds providing the start up capital and agreeing on 60-40% profit sharing, until their partners build up sufficient funds.

While this has its limits, it allows for departure from prefinancing. Annual contract for SolKom is also making it possible for the entity to source capital from the banks, if necessary.

Impact of CLIP attributed changes on other areas of the system

Farmers are experiencing significant increases in income as a result of CLIP. There is little doubt that this has wider impacts on rural economies.

While this is difficult to measure it does represent a kind of 'goal displacement' from CLIP Some of the comments from farmer interviews included:

> *'when cocoa farmer are earning more money, there is more cash in the local markets and we can sell more fresh produce.' Women vendor in north Malaita.*
>
> *'We eat noodle and rice every day'. Women and men cocoa farmers in South Malaita.*
>
> *Many farmers report that they are spending a lot of their incomes on store food. While this is a concern for nutrition, it would be having a financial benefit for village canteens and supply stores.*

There is also evidence that increasing numbers of farmers are beginning to hire labour and treat their cocoa farms more as a business. This has benefits for rural employment and income earning opportunities for those who are not cocoa farmers themselves.

Changes

Positive changes

Change	*Tally*
Increased income	XXXX (namobaula, Bona men, bona women, Tarou women
Increased production	XXXX (namobaula, Bona men, bona women, Tarou women, Uzamba men)
Meet household needs more easily	XXXXX (Bona men, Uzamba men, Uzamba women, Lambi women, Kembu sisters)
More encouraged to improve cocoa	XXXXX (Bona men, Uzamba men, Chale men, Lambi men, Lambi women)
Less black pod / less rats	XX (Bona men, Bona women)
Improved meal flavour	X (Bona men)
More participation – farmers are learning from each other	XX (Bona women, Kembu sisters)
Cocoa is easy way to earn income	XXXXX (bona women, Lambi women, Lambi men, Uzamba women, Tarou women, Kembu sisters)
More drier owners now therefore easier to sell wet bean	X (Uzamba men, Uzamba women)
Competition between wet/dry bean buyers	XXX (Uzamba men, Uzamba women, Lambi women, Kembu sisters)

Negative changes

Change	*Tally*
More labour required for IPDM - increased weeds and hard work for pruning	XXX (Namobaula, Kembu sisters, Tarou women)
Weather and increased black pod from rain	X (Namobaula)
No standard tools / tools break / no spare parts	XXX (Bona men, Uzamba men, Tarou men,)
Concerned about end of CLIP and where they will get advice and information	XXXXXX (Bona men, Uzamba men, Lambi men, Tarou men, Tarou women, Chale)
Women need driers	X (bona women)
CLIP only reached coastal areas – inland areas not yet	X (Bona women)
Stealing	XXXX (Bona men, bona women, Uzamba men, Uzamba women)
CLIP only implement one round of IPDM training	X (Uzamba men)

8. Attribution

DCED: *In addition to measuring changes in the indicators, it is also necessary to show what part of those changes resulted from the activities of the programme, and would not have happened otherwise.*

Every programme must have a clear and reasonable approach to establishing this attribution at every step in the results chain, and therefore in all indicators, particularly the short list of indicators to be applied in all programmes (as listed in Section 2, above); this approach will probably use a variety of tools, rather than a single one. No one method is infallible—including randomised controlled trials.

Many programmes cooperate with or complement other programmes (including government programmes) which may also be contributing to change that would not have happened without the programme. In other words, the programme may not deserve exclusive credit for producing the changes calculated even if those changes would not have happened without the programme.

In this case, the programme must report the other contributors to the change and outline, as accurately as possible, the total financial value of each programmes' contribution to the change.

At this point, this standard does not require parsing out the attributable impact to each individual programme that contributed to the change. Current practice does not attribute impacts according to the contribution from the private sector, even though these may also be substantial.

Our projections in the executive summary have aimed to show the CLIP attributable gains.

Other contributors of donor (publicly) funded programs to change in the cocoa sector:

Cocoa SIG funding

SIG has introduced a Smallholder Commercial Tree Crops Program with allocated funding of SBD$35.8m in 2009 and SBD$10.9m in 2010.

We have not been able to find out much details besides one farmer in Western Province who received an OBM and canoe, rainwater tank, building materials for a house in the farm and polybags for nursery in 2011.

Enterprise Challenge Fund for the Pacific and South East Asia (ECF) funding to C-Corp

(AusAID) Project is funded by AusAID 48% and C-Corp –52%

- **Project name**: Horokiki Cocoa Plantation. C-Corp was awarded an ECF grant to rehabilitate and redevelop 280 hectares of Horokiki cocoa and 60 hectares of new cocoa plantations in collaboration with local landowners on the main island of Guadalcanal. The grant will support the growing of cocoa beans on the plantations, the purchase of a cocoa processing unit and the marketing of Guadalcanal origin premium grade cocoa to export markets.
- **Project start date**: 1 January 2009
- **Project end date:** 31 December 2011
- **Total grant funds approved:** A$1,155,000

The Solomon Islands Rural Development Program (RDP)

Commenced in 2008, The Rural Development Program (RDP) is a six-year US$30 million program funded by the World Bank as lead donor, plus Australia, the EU and the International Fund for Agricultural Development.

Australia's contribution is A$8.5m over the first 5 years. Managed by the Ministry of Development Planning and Aid Coordination (MDPAC), RDP has three components which:

1. Build small-scale village infrastructure
2. Build capacity in the Ministry of Agriculture and Livestock (MAL)
3. Assist rural businesses with finance and training.

Its objective is to raise the living standards of rural households by establishing improved mechanisms for the delivery of priority economic and social infrastructure and services and as such, supports the achievement of objectives 1, 3 and 4 of this Priority Outcome.

This will be achieved through

- increased, cost-effective and sustained provision of community infrastructure determined through participatory planning
- increased capacity of agriculture institutions to provide demand-driven agriculture services at local level, and
- improved access to finance for rural small and medium enterprises through equity financing in partnership with commercial banks.

This program represents the main platform for delivery of Australian support to community infrastructure and to services delivered by the national and provincial operations of the Ministry of Agriculture and Livestock. *(Source: AusAID)*

RDP's contribution towards improvements in cocoa livelihoods has been through its support to MAL Extension under Component 2. After training in IPDM, some Extension officers have sought support from RDP to provide trainings and some field support to farmers. RDP is also supporting MAL and Quarantine in some surveillance work for cocoa pod borer throughout the country.

Pacific Agribusiness Research and Development Initiative (PARDI),

Managed by the Australian Centre for International Agricultural Research (ACIAR) and aims to link agricultural research to scalable market opportunities

PHAMA

Supports the establishment of a market access working group to assist the Solomon Islands Government to assess and prioritise market access issues.

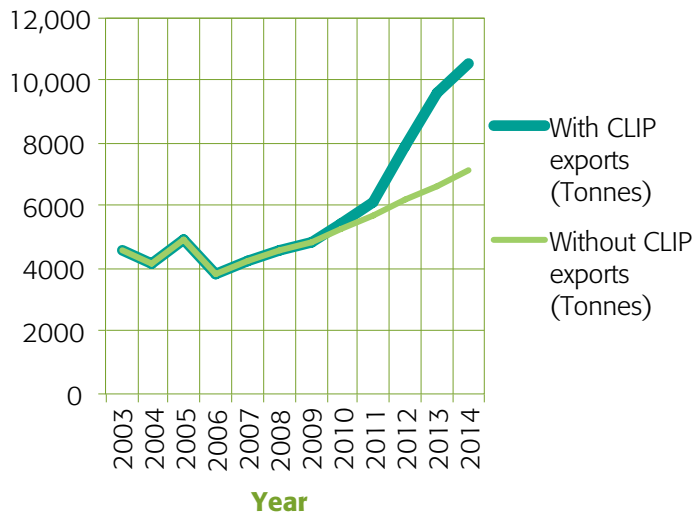
The $16.4 million Pacific Horticultural and Market Access Program (PHAMA) has been operating in Solomon Islands since April 2011.

With and without analysis

The table below presents expected exports of cocoa from 2011-2014. In one column is shown the projected exports with CLIPs contribution to the sector.

The second column shows an estimate of exports had CLIP not occurred. In the presentation of the 'without CLIP' scenario we project exports to have been growing at the average of the 2008-2010 period which was 467 tonnes per year. This growth rate is then continued up until 2014.

Figure 12: exports of cocoa from 2011-2014



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Solomon Islands
Cocoa Livelihoods Improvement Project (CLIP)

Attachments

A1: CLIP M&E field work locations / numbers of people/ processors/enterprises Interviewed

A2: Case study: Marau, Guadalcanal, February 2011

A3: Case study: Malaita Province, April 2011

A4: Case study: Western Province, March 2011

A5: Extract from AUSAID economic livelihoods document

A6: Introduction to the report

A7: Gender in agriculture

A1 CLIP M&E field work locations/numbers of people/processors/enterprises interviewed

Date	Villages	village tally	Province	Ward	Processors	Institutions / Entrepreneurs (w'out processors)	Tally of institutions	Male	Female	Total
17-Feb-11	Rarata	1	Guadalcanal	22	1			2	1	3
18-Feb-11	Suagi	1	Guadalcanal	22	1			3	3	6
18-Feb-11	Bethsaida	1	Guadalcanal	21	1			2	4	6
21-Feb-11	Piapia & Porokokore	3	Guadalcanal	12	2			13	1	14
22-Feb-11	Waimaea	1	Guadalcanal	12	0			11	1	12
25-Feb-11	Rarata area	4	Guadalcanal	22	1			10	1	11
26-Feb-11	Doma	1	Guadalcanal					2	1	3
16-Apr-11	Kofiloko	1	Malaita	711				6	5	11
15-Apr-11	Ofu	1	Malaita	707				26	7	33
20-Apr-11	Namobaola	1	Malaita	702				20	0	20
21-Apr-11	Gwaubaleo	1	Malaita	702	1	1		5	4	9
22-Apr-11	Heo / Hauhui	1	Malaita	725	1			8	5	13
22-Apr-11	Bona	1	Malaita	726				3	2	5
22-Apr-11	Tawaimare	1	Malaita		1			0	1	1
14-Apr-11	Afufu	1	Malaita	708	0	0		11	2	13
01-Apr-11	Pitukoli	1	Guadalcanal		1	1				1
22-May-11	Maneuhu area		Makira	811	3					3
23-May-11	Bagohane/ Nara area		Makira	811	1					1
23-Nov-11	Drier Fabricator		Honiara			1	1	1	0	1
23-Nov-11	Honiara Hardware		Honiara			1	1	1	0	1
24-Nov-11	Pitukoli	1	Guadalcanal					0	3	3

Date	Villages	village tally	Province	Ward	Processors	Institutions / Entrepreneurs (w'out processors)	Tally of institutions	Male	Female	Total
24-Nov-11	David Kembu	1	Guadalcanal					1	0	1
24-Nov-11	New Dawn		Honiara			1	1	1	0	1
25-Nov-11	MAL-RDP	1	National			1	1	1	0	1
25-Nov-11	MAL Extension	1	National			1	1	1	0	1
28-Nov-11	Elshaddai	1	Honiara			1	1	1	0	1
28-Nov-11	DML	1	Honiara			1	1	1	0	1
24-Apr-12	Solkom directors	4	National			1		5	0	5
25-Apr-12	SINSA - Gizo		Western			1		1	0	1
25-Apr-12	SICEL - Gizo		Western			1		1	0	1
25-Apr-12	Uzamba	4	Western		4			24	2	25
14-Apr-12	AUKi - MAL officers		Malaita			1		4	4	8
01-Apr-12	Namobaula	1	Malaita	2				12	6	18
01-Apr-12	Bona	2	Malaita	26				18	10	28
14-Apr-12	Tarou village	1	Guadalcanal		2			12	5	17
15-Apr-12	Gevala		Western					0	2	2
16-Apr-12	Chale	6	Western		1			34	1	35
29-Apr-12	Flora Kembu	1	Guadalcanal					1	3	4
17-Apr-12	LAMBI	5	Guadalcanal		3			30	10	40
TOTALS		*51*	*0*		*24*	*13*	*7*	*272*	*84*	*360*

A2 Case study: Marau, Guadalcanal, February 2011

The Cocoa Livelihood Improvement Project (CLIP) started in June 2009 supported by AusAID and is implemented in partnership with MAL and CEMA.

The key aims of the project are to increase the volume of quality cocoa beans exported from current annual 4,500 tonnes to 10,000 tonnes within five years and to increase sustainable rural income for cocoa farmers through improved productivity, product quality and access and improved competitiveness in markets.

To achieve this the project focuses on rehabilitation of existing farms mostly through farmer equity in tools and dryer equipment, processing units and supporting extension services to provide training for farmers, traders, exporters as well as extension officers.

A key focus is on IPDM technology—an improved management approach to existing trees with potential to dramatically increase production.

Abbreviations

CLIP	Cocoa Livelihoods Improvement Project
IPDM	Integrated Pest and Disease Management
PGS	Participatory Guarantee Scheme
CEMA	Commodities Export Marketing Authority
CEPA	Cocoa Exporters Producers Association
MAL	Ministry of Agriculture and Livestock
FFS	Farmer Field School

Province overview under CLIP

Guadalcanal province has at least 8000 cocoa farmers with approximately 6.6 million cocoa trees producing 3236 tonnes of cocoa[28]. 7669 of these farmers were assessed under clip surveys. There are 14 IPDM[29] sites in the province (including 5 'awareness sites).

74% of cocoa farmers assessed applied for and were approved for assistance with tools for cocoa production – particularly for improved management of cocoa trees. Only 13% of those approved paid their 25% cash equity contribution and therefore received tools. This figure will increase as there has been a rush on payments early in 2011 but this information is not yet in the CLIP database.

7% of the assessed processors received assistance with cocoa drier repair and rehabilitation.

Only 9 farmers (3% of those approved) have paid their contributions for mini driers.

Table: Guadalcanal cocoa farmer assessments and approvals

	Assessments	*Approvals*	*Paid & delivered*	*Paid and Delivered (%)*
Drier Repair	842	1681	119	7.1%
Mini Drier	360	274	9	3.3%
Cocoa Rehabilitation	6767	5020	669	13.3%
Total	*7969*	*6975*	*797*	*24%*

28 Source – CEMA data Jan 2010-Dec 2010

29 IPDM sites follow a farmer field school model with demo plots established in a farmers field and then a network of farmers encouraged to put it into practice.

Marau area

'Before we were lazy (not really interested) about cocoa and just came to harvest and sometimes brush. But now we look in bright hope at cocoa —the new approach is labour intensive but we are hoping the money earned will be well worth the effort.'

(Cocoa farmer applying IPDM, Marata)

For the purpose of this case study Marau area is the three wards[30] where farmers were drawn from for the CLIP training activities. This is not a major cocoa producing area but cocoa is an important secondary source of income.

The area includes parts of the weather coast and remote bush communities that are very isolated and may have very low cash incomes. Lack of transport infrastructure in this region combined with a very difficult and rugged topography makes marketing into Honiara difficult.

According to the CLIP baseline survey of 2009 there are 230 cocoa farmers in this area. Among these farmers there are at least 32,000 mature trees and 33,000 trees under 4 years in the three wards.

Our observations showed a lot of new cocoa planting going on in the area. Note that a large number of CLIP survey respondents from these wards have no data recorded against their records so these figures on trees are likely to be significantly higher.

30 Moli- ward 610, Tetekanji – ward 611 & Birao – ward 612

CLIP work in Marau

'This is the first time for us to receive real advice (on agriculture) since the tensions. Before they (extension officers) came and told us to prune cocoa trees but now we know why we should do it and how to do it. '

(Makina area farmer)

The CLIP 'investment' in Marau has been:

- A five-day processor training course conducted by CEMA which included two days of IPDM training by CLIP specialists. Held in Makina area of Marau in October 2010. Fifty-seven farmers attended from sixteen villages in three wards around Marau.
- On 6-8th September 2010 CLIP staff[31] conducted an IPDM specific training for Makina area with 30farmers attending from four surrounding villages[32].
- MAL extension officer Mike Tuhuna has at his own initiative conducted two 'mini' one day IPDM farmer trainings and demo plots in Waimaea[33] and Oa[34] villages in November 2010 where 73 farmers from a further ten villages participated. He has made follow up visits to some of these farmers.
- An investment in tools and drier rehabilitation of $179,174, This investment has been shared by CLIP $135,331and farmers $43,483.
- 48 cocoa farmers have requested and paid for assistance for pruning of 60,240 trees. Noting that no pruning gangs have been mobilized on Guadalcanal to date [35] although a pruning group has been organized and is ready to start work in Marau.

In all the training activities listed, selection of farmers was made by the extension officer in Marau. It is commendable how wide an area the Marau IPDM site was able to cover (3 wards) including part of the weather coast. This is described in the diagram below.

31 Robert Wasu and Dr. John Konam

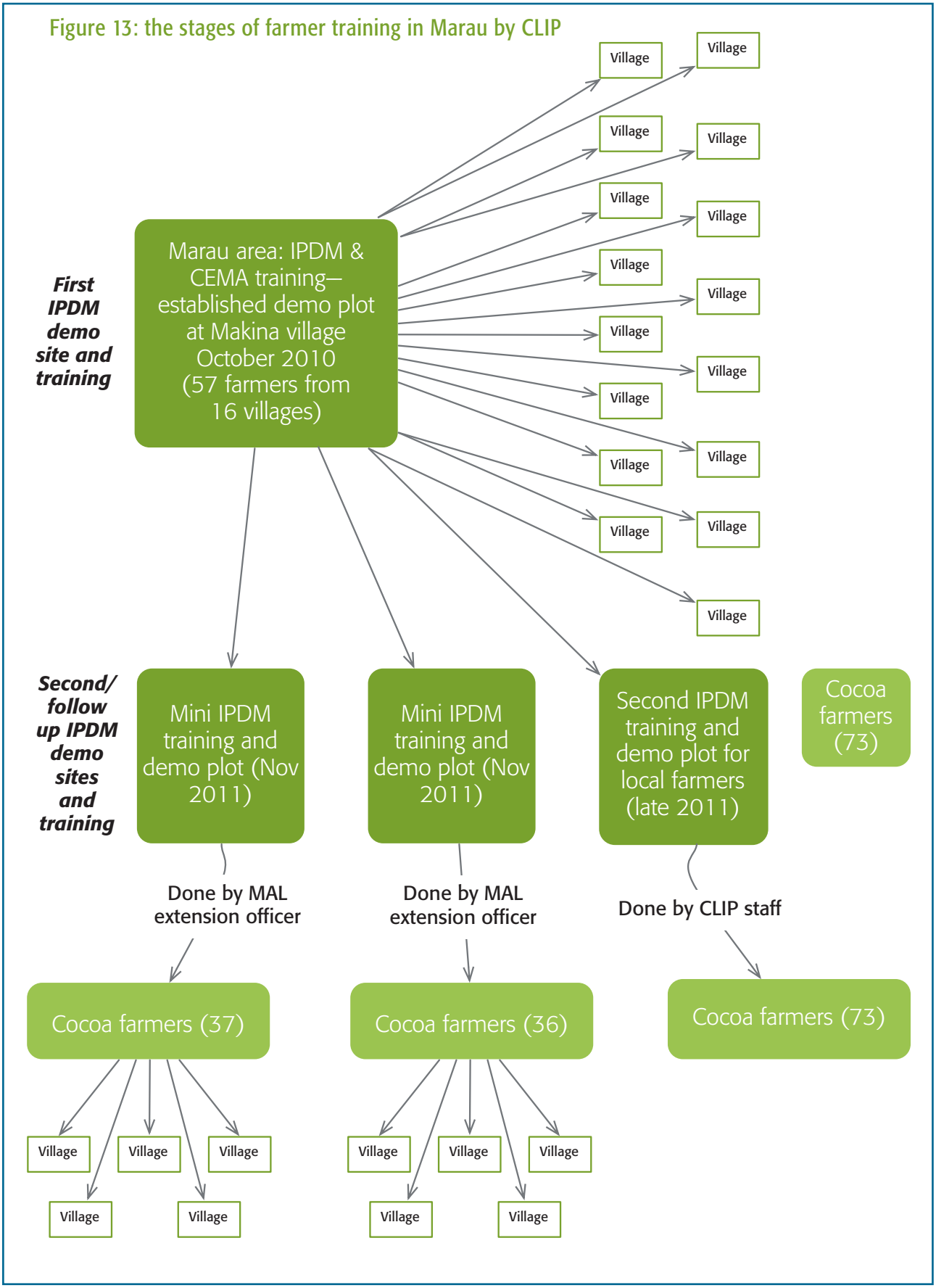
32 Porokokore, Piapia, Nunura and Kakaru

33 with farmers attending from Komuhaoru, Poinaho, Vunivatu, Waimaea and Purakiki villages

34 with farmers attending from Sangasere, Vatulava, Haimabulu, Oa and Ngalidova villages

35 CLIP is awaiting results from pruning gang operation in Malaita before commencing in Guadalcanal.

Figure 13: the stages of farmer training in Marau by CLIP



Results to date

M&E field work focused on impact assessment was carried out in Waimaea and Makina villages.

Thirteen farmers who had attended IPDM training and who had mature cocoa plantations were visited. Visits included observation of changes in their cocoa plantations and interviews with the farmers.

Pod/fruit count on IPDM and non-IPDM applied trees in the same plantation at the same time was used as a rough indicator of production if farmers had no other records (generally the case).

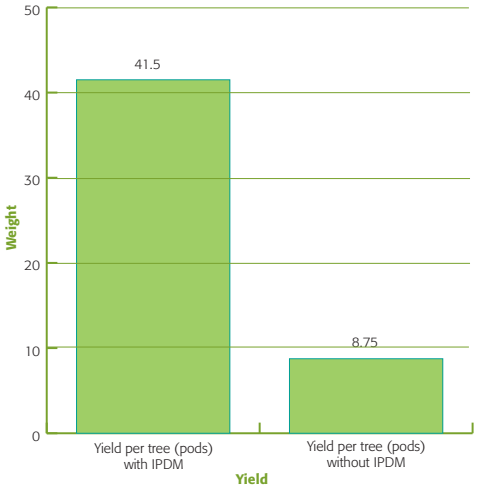
Other factors such as presence of cocoa black pod, vigour and health of foliage, general compliance with different aspects of the IPDM management recommendations, were observed but not quantified. Results are presented in the table below.

In addition a further nine farmers were visited who had only new plantings of cocoa but had attended CLIP training and some had received tools.

The thirteen farmers and CLIP made cash investments of $9981 and $26,194 respectively.

In Waimaea no yield estimates could be made as farmers had only just begun radical pruning. In Makina village yield estimates based on pod count per tree[36] were made for 5 of the 6 farmers applying IPDM.

Figure 14: Pod count of trees with / without IPDM applied in Makina area



Marau summary results on farmers with mature cocoa stand requiring rehabilitation

Village	*Number of farmers visited*	*Value of tools /drier provided*	*Farmer Equity paid*	*Farmers who received tools*	*Farmers who Applied IPDM*	*Total Number of trees*
Makina	8	$24,130	$6,970	50%	75%	13338
Waimaea	5	$12,045	$3,011	60%	40%	2000
Total/Average	7	$36,175	$9,981	55%	58%	15,338

There is a 58% average adoption rate for IPDM practices among those farmers who have attended IPDM training and farmer demonstration plots in the latter half of 2010.

In Makina village more farmers had applied IPDM than had received tool or drier inputs. We were not able to interview the two farmers who's plantations were observed and who had applied IPDM but had not received (or applied for) any tools.

In Waimaea more farmers had received tools than had (as-yet) applied IPDM.

Farmers in Makina who had applied IPDM were more advanced in their application than in Waimea.

For most, but not all, there appears to be a strong link between having the right tools and applying IPDM following training.

Makina 'adopters' had applied IPDM to an estimated 31% of their combined 9038 mature cocoa trees. All talked of their intention to continue applying IPDM to the rest of their plantations with most intending to complete pruning within the next 12 months if not sooner. We observed farmers actively working on radical pruning in their plantations at the time of our visit - although no notice had been given of our arrival. Reasons expressed by farmers for applying or not applying IPDM and for the scale of work completed to date are shown in the table overleaf.

36 a rough indicator of production due to variation in pod size, seed size and count within the pods, and also variation in when the most recent harvest of pods had been done. But given lack of farmer records and lack of Extension Officer records we used this as a quantifiable measure of current tree production within a farmers plantation

Table: Farmers feedback on IPDM in practice

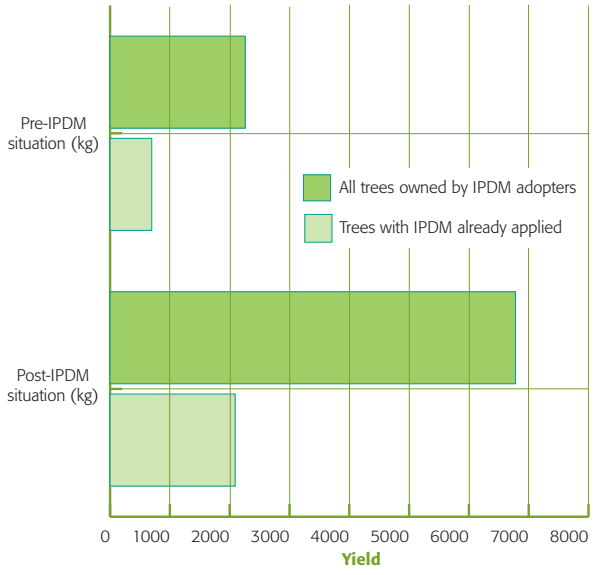
Advantages of applying IPDM	*Disadvantages of applying IPDM*
1. Have increased knowledge and understanding of health of trees and cocoa. 2. Significantly increased number of pods (ie. expected production). 3. Less black pod / healthier pods. 4. Healthy foliage. 5. Trees that were considered close to death came back into production. 6. Easier to harvest with lower canopy.	1. Difficult to apply without the right tools. 2. Requires a lot of time and labour. Can be difficult at time for households to provide this labour. 3. Do not trust hired labour to do pruning of trees unless trained in IPDM.

Production changes

Current production of cocoa in Solomon Islands is estimated by CLIP at 250grams per tree[37]. CLIP expects production, when IPDM is applied, to increase to 750grams of dried cocoa per tree.

These estimates appear validated (and possibly are conservative) based on our rough pod counts - which showed an average 462% increase in pod production. Given the variables involved it is better to err on the conservative side.

Figure 15: Production changes–Makina village IPDM adopters



Using these estimates we can project the expected production increase of the trees already 'radical pruned' and those expected to be 'radical pruned' by the sample of farmers – shown in the table above.

IPDM work completed by these farmers should increase total production from those trees from about 700kg per year to over 2000kg per year. If the farmers complete their plans to apply IPDM on all their cocoa trees this will further increase production from a total of 2259kg before CLIP to 6778kg per year post CLIP. Using a Honiara dry cocoa bean price of $16.50 (Feb.2011) this would translate into an average increase in value of $4600 per household in annual income. This figure is based on the radical pruning and management work already completed. This would rise to $14,900 per household per annum later in 2011-2012 assuming IPDM is completed on all their mature trees.

The actual increases in income may be less than this in the first year after initial radical pruning. IPDM effects appear to take time for the trees to realize the full production benefits of better management and there are two stages in the crop calendar where pruning inputs are required to achieve best results – some farmers had only completed the first stage. Evidence from a single case on Guadalcanal plains where the farmer kept very detailed records over two years indicates production post IPDM will increase by at least 25% and possibly as high as 75% over the first year and then continue to increase into the second year.

37 Personal communication Dr. John Konnam

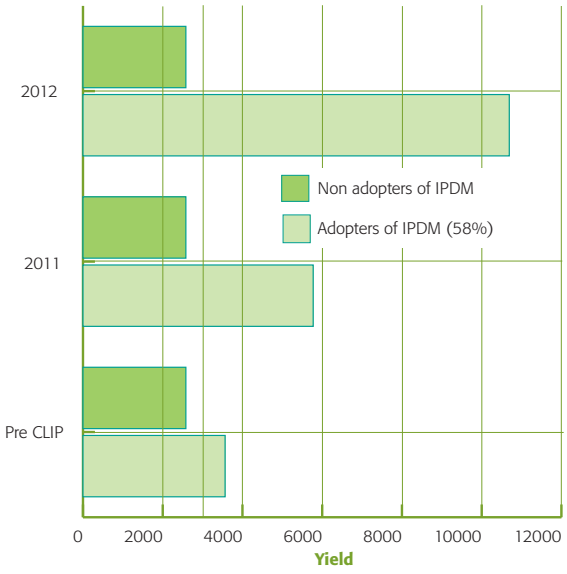
Expected Future Impact

'Mi fala move nau… we understand what is happening with each tree now and we want to reach 200 or even 300 pods per tree'

Farmer, Makina area, Marau

Thirty farmers attended the IPDM training for Makina area with combined cocoa holdings of 24,579 trees[38]. Our sample of two villages indicates that 58% of farmers will apply IPDM to 31% of their trees within twelve months. We then have assumed they will complete application of IPDM to their remaining trees during 2011.

Figure 16: Thirty farmers in Makina and likely future growth in production (in kgs)



The total expected increase in production for the village is 2.2 tonnes in 2011 and 7.1 tonnes in 2012. This would have a Feb. 2011 Honiara value of $154,000 for the two years (2011-2012) and then continue to add $117,611 per year to the farmer's incomes. This is an average of $3900 per household per year although in reality there are considerable variations in cocoa holdings (from less than 100 to 5000 plus trees) and thus in income.

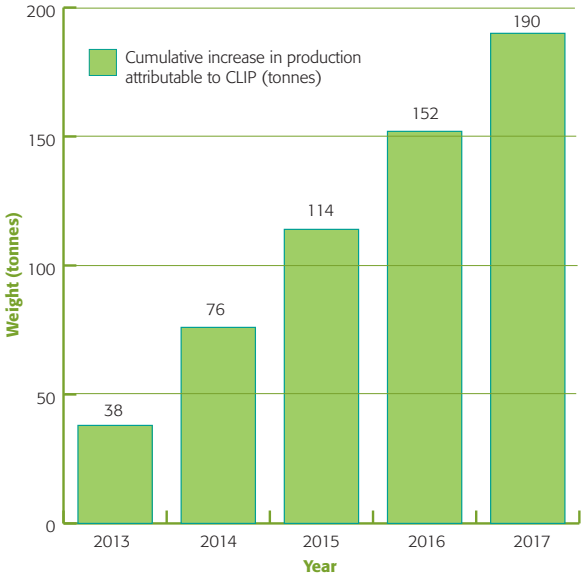
The findings demonstrate that the IPDM training, combined with tools inputs and appropriate follow up visit and training is generating results. A key challenge for CLIP is how to scale up IPDM knowledge to those who have not already been trained in its application and how to encourage adoption to those who have not taken it on, but have attended training.

Table: Farmers reasons for or against adopting IPDM

Reasons for Adoption	*Reasons for not adopting*
▪ have new knowledge ▪ here trained by the experts themselves and farmers appreciated this direct access to expertise ▪ have tools	▪ new technology – takes time for some farmers to be convinced ▪ lack of follow up visits and encouragement ▪ no tools

To date 160 farmers have been trained by CLIP in IPDM in Marau area—72% of cocoa farmers surveyed. Our observations suggestion a reasonably high number of these farmers are new farmers with new plantings—eg.. in Waimae. In their case it will take some years before the full benefit of IPDM knowledge can be applied as young cocoa trees come into production—probably by 2013. If we assume a similar rate of application of IPDM as experienced in Makina to all 160 farmers and assume that their plots are the same as the average of the Makina farmers (819 trees) we can construct a scenario that is presented below.

Figure 17: Projected increase in cocoa production in Marau area as a result of CLIP 2013-2017



38 According to training records and EO assessments

Pre CLIP production for the Marau area is estimated at 45 tonnes. Based on current adoption rates this would increase to 83 tonnes per year with the increase of 38 tonnes attributable to CLIP interventions. The increase in cocoa production among IPDM practitioners would reach 38 tonnes per year by 2013 and continue at this rate until 2017 leading to a total increase of 190 tonnes over five years.

Figure 18: Net Additional Income in Marau area as a result of CLIP 2013-2017

Based on the increased production estimates made above, the net additional income of CLIP attributable to increases in production would be $3.1 million dollars over five years from 2013-2017 ($627,000 per year). Five years is a reasonable period for 'attribution' of these increases to CLIP.

Assumptions are:

- a similar adoption rate as observed in our field work continues
- that ongoing training is provided in the two stage crop calendar—ie. training beyond June 2011
- these figures on production and income change for the Marau area do not allow for any further uptake of IPDM - although if CLIP continues a widening sphere of adoption is likely
- nor does it factor in any declining application of IPDM over time – a possibility if extension inputs or other farmer support systems are not developed in the interim
- both growth and decline of IPDM over time are difficult to model based on current data
- basing these projections on a stable cocoa price is also risky as cocoa has a history or reasonably large up and down movements over time based on factors external to Solomon Islands.

Net equivalent full time[39] jobs created

This indictor acts as a sometimes useful proxy for improvements to complex livelihoods as rural livelihoods rarely specialize in one activity full time and indeed diversity of livelihood strategies is a key component of resilience.

Equivalent Full Time (EFT) new jobs created per year:

Location	*UNDP Poverty Line*[38]	*Minimum Agriculture Wage*
Marau Area	195	102

Note that it is useful to compare projected EFT with actual numbers of households involved in the cocoa sector – in this case estimated at 220 households.

Drier rehabilitation

In Marau area there is limited development of wet bean buyers—mostly likely due to lack of roads. There has also been no rehabilitation of driers in this area by CLIP so we were not able to assess the impact on cocoa quality etc.

Tony Keramarau, in Makina area of Marau, is one of 9 mini drier recipients on Guadalcanal to date. By comparison 114 processors have received drier flutes in the three wards.

39 DCED definition: "Net additional, full time equivalent jobs created in target enterprises as a result of the program, per year and cumulatively. 'Additional' means jobs created minus jobs lost. 'Per year' comprises 240 working days. The program must explain why these jobs are likely to be sustainable. Jobs saved or sustained may be reported separately."

40 UNDP minimum wage is $ 67.07 per week, Minimum agriculture wage is $128 per week

Benefits of mini drier:

- very easy to use and produce quality cocoa
- uses less fuel
- cost (25% equity) is comparable to cost of repairing conventional drier and felt this is a better technology.

We have not been able to assess the relevance of mini driers for more isolated and small cocoa producers.

Gender

The table below compares gender issues identified by a gender in agriculture PRA conducted on CLIP in 2010 with the situation in Marau.

Gender participation

Gender issues[39]	*Comments on situation in Marau*
1. Participation of women in project activities; ensure that women's voice is heard 2. There may be times during the week and day more suited for women to be involved in training and meetings.	· No women have attended training.
3. Provide awareness on importance of women, responsibility for men to give money to help women for meeting basic household needs	· Not yet integrated into CLIP program
4. Introduce husband wife team into programs. Be careful about not over burdening women's time commitments through project activities or changes to cocoa management.	· In general CLIP claims to target husband and wife teams although in practice men are the majority trained.
5. Introduce financial management training for both men and women, suggest that church facilitate	· Underway for processors – need to find out if women household members are also being trained.
6. Promote local buyers of wet beans to ensure that women have access to cocoa 'ATM'.	· Very few buyers of wet bean in Marau
7. More research on gender benefits and impacts of mini driers would be useful.	· Only one mini drier sold so not able to assess

41 identified in Cocoa gender PRA June 2010

Isolated areas

Farmers from the weather coast have been involved in the Marau IPDM training activities—an isolated area.

Implications for CLIP

1. Importance of continued encouragement being provided to cocoa growers—IPDM needs to be applied through the full crop calendar (12-18months to see results) and so farmers should be reminded of these stages in the calendar by an extension staff or lead farmer during the learning phase.
2. Farmer to farmer visits—mini field days at ward level may be key to success of wider spread of technology.
3. Knowledge goes first—not just instruction—is a key learning.
4. Financial literacy/record keeping/cash flow management/how to do/farm management/time management are all required to translate increased income into real gains for quality of life and to support farmers to make investment decisions.

Limitations:

Baseline surveys for Marau area were generally incomplete. While all the farmers visited were on the database most had no data recorded other than the farmers name and location. As a result we were not able to cross reference CLIP records against what we observed in the field and farmers told us.

A3 Case study: Malaita Province. April 2011

Abbreviations

CLIP	Cocoa Livelihoods Improvement Project
IPDM	Integrated Pest and Disease Management
CEMA	Commodities Export Marketing Authority

Province overview

In Malaita province, there are at least 3759 cocoa farmers who were reached for assessment under clip surveys, totaling approximately 4,959,079 trees. By early March 2011 there are 20 IPDM sites and 12 outreach sites in the province.

Malaita Province Cocoa Farmer Assessments and Approvals

	Assessments	*Approvals*	*Paid & delivered*	*Paid and Delivered (%)*
Drier Repair	311	300	64	21.3%
Mini Drier				
Cocoa Rehabilitation	3757	3713	1062	28.6%
Total	*4068*	*4013*	*1126*	*28.1%*

Approximately, 99% of cocoa farmers assessed applied for and were approved for assistance with tools for cocoa production—particularly for rehabilitation of cocoa trees. Only 29%[42] of those approved paid their 25% cash equity contribution and therefore received tools.

21% of the assessed processors received assistance with mini driers, cocoa drier repair and rehabilitation.

The total value of equity contribution (tools, drier parts and mini driers) by farmers in Malaita Province reached $612,795 while CLIP's contributions totaled $1,838,386

Malaita Province is the second major cocoa producer in Solomon Islands and accounted for 21% of the total production in 2010[43].

According to the information in the database, majority of the farmers are located in the central Malaita region (wards 702 – 711; 727 – 729)[44].

No information are available on some wards including 712, 713 and 723. Naturally, these are wards furthest from Auki, where CLIP and MAL Extension offices are located.

The average number of trees per farm approximates around 1319 trees per farmer, with higher averages in ward 718 at 3200 trees.

The number of young trees for Malaita was recorded at 1,482,166 during the survey in 2009.

Malaita and Guadalcanal, being major cocoa producing Provinces have received primary support from CLIP over the last two years.

42 CLIP Database has yet to be updated for all Provinces after equity contribution closing date of April 30th 2011

43 CEMA Data, 2010

44 Data needs verification as more information in these regions may simply mean that they are accessible from Auki town

IPDM sites in Malaita Province up to April 2011 include:

Location	*Ward*
Central Malaita	
Arabala	729
Boboilangi	704
Bona	726
Dala	704
Fulisango	702
Gwaibaleo	703
Gwale	727
Gwaunaano	710
Namobaulo	702
Rufoki	705
North Malaita	
Afufu	708
Bita'amma	18
Diula	708
Fa'alau	718
Ngaliabu	707
Rameai	710
Taba'a	709
Takwa	709
South Malaita	
Hauhui	725
Heo	725

IPDM outreach site = Malaita

Location	*Ward*
Bubitolo	Central Malaita
Feranogono	East Malaita
Lolo	North Malaita
Folotana	North Malaita
Nafinua	715
Fatafata	716
Eliote	721
Haunasi	721
Ro'one	S.Malaita
Anopou	19
Baunani	26
Walo	8

The M&E team visited farmers in several villages in April 2011including Kofiloko, Afufu, Ofu in North Malaita, Namobaula and Gwaibaleo in Central region, and Heo, Hauhui and Bona in Southern region. Summary of findings are presented in the table overleaf.

Summary results on farmers visited in Malaita Province

						Findings on sites visited									
Wards	*Village*	*Total # of farmers in Wards*	*Total # of trees in Ward*	*Ave. # of trees per farm*	*% of total # farmers paide equity*	*# farmers visited*	*Value of tools/ driers provided*	*Farmer equity paid*	*Farmers who recievied tools*	*%farmers trained in IPDM*	*% applied IPDM*	*Total # of trees*	*% of trees with IPDM*	*Ave. # pods per IPDM tree*	*Ave # pods withoutt IPDM*
702	Namobaola	244	302842	1241	38%	20	33780	8445	55%	50%	70%	15563	47%	33	13
708.	Afufu	149	245883	1650	41%	14	26253	6563.25	57%	100%	64%	9000	71%	28	7
707	Ofu	164	245559	1497	37%	26	109091	27272.68	38%	96%	31%	33838	9%	23	7
725	Heo/ Hauhui	55	67037	1219	100%	11	208057	52014.15	73%	55%	82%	13238	72%	21	6
Totals/ Average		*612*	*861321*	*1407*	*54%*	*71*	*377180*	*94295.08*	*56%*	*75%*	*62%*	*71639*	*50%*	*26*	*8*

On average:

- Ownership of tools generally seem to provide a stronger incentive towards implementing IPDM. In ward 725, all farmers surveyed paid for their equity contributions and had their farms pruned by pruning gangs. Maintenance however, seems to be an ongoing issue for all wards
- 50% of IPDM adoption rate, widely ranging from 9% in Ofu to 82% in ward Heo and Hauhui. It was noted, however, that very high rate of adoption at ward 725 was due to masina pruning gang going ahead and pruning all farms whose owners received tools. This was partly a misunderstanding on the masina pruning gang's part but the farmers who couldn't pay cash for the work paid in kind with pigs and food.
- An average of 218% increase in pods per tree in Malaita. Per tree production on trees that were radically pruned varies depending on the recovery stage of the trees. However, IPDM treated trees generally look very healthy.
- While not unexpected, it is still important to note that wards furthest from Auki (712, 713, 718 – 724) have the least number of farmers who paid equity contribution for tools. Trainings, extension visits and accessibility to information and the right tools generally act as catalyst to change of farmer attitude and practices.

Figure 19: Ward map: Malaita Province

Source: CLIP

A4 Case study: Western Province, March 2011

Abbreviations

CLIP	Cocoa Livelihoods Improvement Project
CIDL	Choe Integrated Development Ltd
EO	Extension Officer
DBSI	Development Bank of Solomon Islands
IPDM	Integrated Pest and Disease Management
TOT	Training of Trainers

Province overview

Western Province has an average population of 76,649 and 13,762 households. 40% of the population are under 15 years of age.

The cocoa baseline survey conducted by CLIP in late 2009 reached at least 1112 cocoa farmers owning 660,000 trees. If we assume that a farmer equates a household, as most farms in Solomon Islands are owned by families, then approximately 8% of the Western Province households own cocoa farms[45]. Vella (wards 206-210) have the highest number of farmers with number trees averaging between 270-850. Areas around Rendova to Marovo Lagoon have far fewer number of farmers but bigger farms with the average number of trees between 800-3400. Some of these farms were planted through DBSI loans in the 1980s and are either community or extended family owned and have laid in neglect for extended length of time[46].

Western Province Cocoa Farmer Assessments and Approvals

	Assessments	*Approvals*	*Paid & delivered*	*Paid and Delivered (%)*
Drier Repair	35	34	10	29.4%
Mini Drier	42	36	7	19.4%
Cocoa Rehabilitation	1023	762	206	27%
Total	*1100*	*822*	*223*	*27.1%*

74% of cocoa farmers assessed applied for and were approved for assistance with tools for cocoa production – particularly for rehabilitation of cocoa trees. Only 27%[47] of those approved paid their 25% cash equity contribution and therefore received tools.

29% of the assessed processors received assistance with cocoa drier repair and rehabilitation.

19% of those approved for mini driers have paid their contributions.

The total value of equity contribution (tools, drier parts and mini driers) by farmers in Western Province reached $133,219.62.

In relative terms, Western Province is not a major cocoa producer and accounted for only 1% of the total production in 2010[48]. Major cocoa farms previously planted in Marovo, Rendova and New Georgia tended to be community or extended family owned, and maybe one of the reasons for neglect. However, the high rate of new plantings observed during field observations in three villages in Vella and two villages in Marovo indicate that there will be major production increases within 2-3 years.

CLIP investments in Western Province up to April 2011 has been:

- Oct 09 - TOT in Vonunu, Vella for Extension Officers on field assessments for CLIP
- April 2010 – training for Enumerators and some Extension Officers (Mile Six FES, Gizo)
- May 2010—IPDM training in Gevala, Marovo
- Aug 2010—IPDM training in Maravari, Vella Vella
- Aug 2010 —IPDM training at Ughele, Rendova
- Sept 2010—radical pruning demonstration for Enumerators (?) in Uzamba
- April 2011—follow up training at Gevala, Marovo

Established IPDM sites in the Province up to April 2011 include:

- Maravari IPDM, Vella
- Gevala IPDM, Marovo
- Ughele IPDM, Rendova

45 Survey data incomplete as some wards were not reached by the team

46 Verbal commun. Rex Sebala, APC Western Province

47 CLIP Database has yet to be updated for all Provinces after equity contribution closing date of April 30th 2010

48 CEMA Data, 2010

In April 2011, a member of the M&E team visited 3 villages in Vella (Iriqila, Kazo, Uzamba) in Wards 207 and 210 and two villages in Marovo Lagoon (Chale, Gevala) in Wards 222 and 223. Due to logistical and weather related difficulties, only 4.4% of the farmers in the four wards were visited including 2 IPDM sites. Summary of findings are presented in the table below.

Summary Results on Farmers Visited in Western Province

						Findings on sites visited									
Wards	*Village*	*Total # of farmers in Wards*	*Total # of trees in Ward*	*Ave. # of trees per farm*	*% of total # farmers paide equity*	*# farmers visited*	*Value of tools/ driers provided*	*Farmer equity paid*	*Farmers who recievied tools*	*%farmers trained in IPDM*	*% applied IPDM*	*Total # of trees*	*% of trees with IPDM*	*Ave. # pods per IPDM tree*	*Ave # pods withoutt IPDM*
207	Uzamba	295	140906	478	24%	7	169742.4	42435.59	29%	29%	57%	9751	19%	19	9
210.	Iriqila & Kazo	205	85162	415	37%	11	175458	43864.49	91%	59%	55%	8960	58%	26	11
222 & 223	Sobiro & Chale	42	45098	1074	21%	6	28159.4	7039.85	50%	100%	50%	18782	80%	34	10
Totals/ Average		*542*	*861321*	*1407*	*27%*	*24*	*373359.7*	*93339.93*	*57%*	*63%*	*54%*	*37493*	*52%*	*26*	*10*

While 63% of the farmers visited have attended IPDM training, only 54% of them have applied IPDM on their farms on 52% of their trees.

There is a 54% average rate of adoption for IPDM practices among the farmers (in the 4 wards) who have attended IPDM training in the latter half of 2010, with 52% of their trees receiving IPDM treatment

The average rate of increase in pods per tree production is 163%. Care needs to be taken in interpreting such numbers as the farmer sample sizes are small.

Wards furthest from Gizo where the CLIP and MAL Extension offices are located, naturally have either no information, which implies they were not reached and very low rates of equity payments due to information and logistical difficulties.

Vella

There are about 500 farmers in wards 207 and 210, of which 18 (3.6%) were visited, and only 28% of all approved farmers have paid for equity contribution. Of those visited, 47% have attended IPDM, but 56% are applying IPDM to some degree.

This highlights the potential spread of the technique once farmers see the benefit. More farmers visited have received tools (67%) than apply IPDM techniques (56%), partly a result of one of their MPs paying for tools equity for some farmers. Other farmers cited IPDM calendar as the reason for delaying IPDM. Important to note, however that the villages visited in Vella have not had IPDM trainings carried out by CLIP. They have however, observed and learnt from IPDM TOTs and radical pruning demonstrations for extension officers and enumerators, hosted in their villages, an indication of the potential for the technique to spread.

There was also evidence of farmers doing radical pruning without pruning tools An old man who has increased productivity of one his trees from less than 10 pods at any one time to more than 56 matured pods and an equal number pods in development was found pruning another of his old trees with a knife. When asked, he responded that "I cut the first tree with just my knife and the result so far has been very convincing. I would like to use the right pruning tools but I cannot afford it right now. My income from cocoa is still very small and goes to basic needs".

A processor, Banian Ozapitu, in Uzamba village hires 2-3 laborers working 3 days a week either in his farm of 4600 trees or help with drying beans.

Chale, Marovo Lagoon

Marovo Lagoon, which covers five wards (220-224). Within these five wards, one hundred and six (106) farmers accounting for 96, 676 trees were reached for CLIP baseline assessment in 2009. Eighty four (84) farmers got approval for CLIP support but only fourteen (14) farmers paid for 25% equity and received their tools.

In Marovo, approximately 80% of the total number of trees have had IPDM application, owing largely to Gevala and Chale cocoa farms, which are bigger farms with owners/managers committed to applying IPDM. Both farms are also using hired labour.

Chale, a 10 hectare cocoa farm is owned by Choe Integrated Development Ltd (CIDL), a community company owned by the people from Nazareth Village. The farm was started in the 1980s with a DBSI loan. Failure to repay loan led to the farm being "leased" to an individual for number of years to repay the loan. Initially, the farm covered 10 hectares with an estimated 13,333 trees[49].

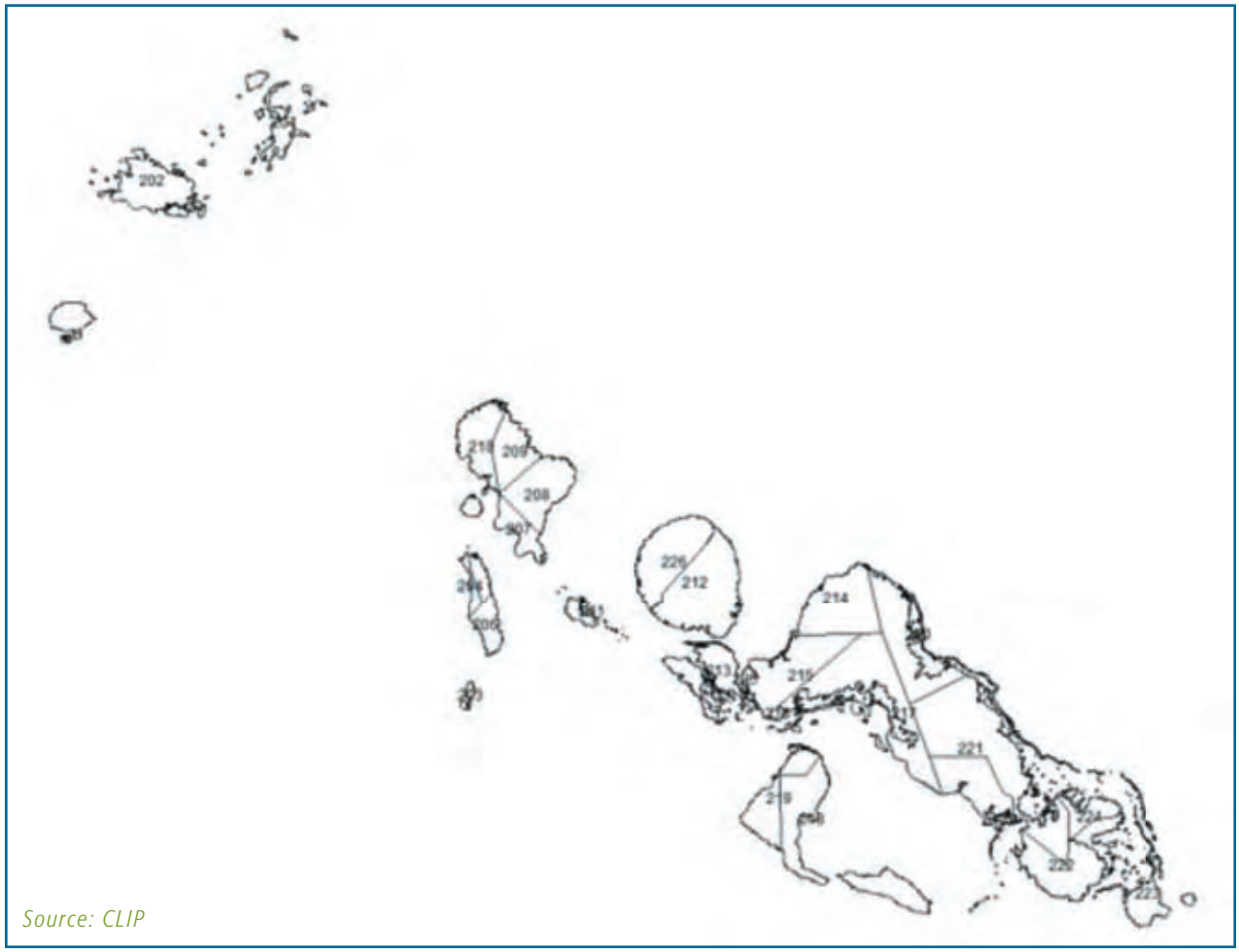
Using royalty funds from the logging operation on Choe forests, CIDL re-assumed supervision and operation of Chale cocoa farm operation in March 2010, with rehabilitation work (radical pruning and replanting of dead trees) in June and July 2010. All trees in the surviving eight of the original ten hectares were all rehabilitated, a 100% adoption of IPDM technique. Almost all flowers that sprouted in November 2010, after radical pruning, dropped leaving farm management concerned. At the time of visit during the first week of April 2011, radically pruned trees have fully recovered and lots of flowering observed on all trees with hope that harvesting will start in May – July 2011 period. Another 9.96 hectares have been cleared and planted with new trees, which should be productive in 24 – 36 months. The long term plan is to plant up to 50 hectares of cocoa.

49 Approx. 1090 trees per hectare if planted at 3 sq. metre 10 hectares = 10,890 trees approx.

Few interesting points about Chale:

- radical pruning was supervised by Marovo Extension officer who was trained by CLIP in April 2010—according to the EO, he had some prior knowledge on pruning, but the IPDM technique is new and added more to his knowledge
- 100% adoption of IPDM and the best one observed in Western Province
- paid and received one set of pruning tools
- paid and received one set of drier parts, which were yet to be installed at the time of the visit
- Chale (through royalty money) employs 30 full time workers at $40/day, 6 of which are women—this cost will be absorbed by the cocoa plantation as it starts to generate its own income as of June 2011—there was also a mention of more labour to be hired as the production starts
- most of the trees were in recovery and flowering stage at the time of the visit, with one tree observed to have 53 developed pods.

Figure 20: Ward map: Western Province



Source: CLIP

A5 Extract from AusAid economic livelihoods document

Increasing the contribution of sustainable agriculture and agro-forestry to GDP growth:

- percentage increase in value of production of key food crops, cash crops and forestry products, including value added from downstream processing
- percentage increase in exports of agriculture and agro-forestry products
- percentage increase in the turnover of domestic food markets
- increased public expenditure on agriculture as a percentage of agricultural value added.

Progress against these targets will include changes in the value of production of key food crops, cash crops and plantation forestry products, including value-added products, as well as changes in the value of exports of raw and processed agricultural produce and plantation timber. Some of this data is available from the Central Bank of Solomon Islands.

The Household Income and Expenditure Survey and sample surveys will provide estimates of the change in value of domestically marketed food. Additional indicators may be established to reflect specific sectors targeted by programs under this Priority Outcome (eg.. tourism).

Increasing levels of employment in rural areas:

- increase in percentage of rural incomes of women and men derived from self-employment, salaries and wages
- increase in the number of women and men engaged in paid work
- number of rural small and medium enterprises (SMEs) created or expanded.

The results of the 2009 Census will provide the baseline from which to measure changes in rural incomes of women and men derived from self-employment, salaries, wages and employment of women and men in rural areas.

Increasing the proportion of people, especially from rural communities, reporting year-on-year improvements in their economic circumstances:

- percentage increase in value of rural household consumption
- percentage of people reporting that their economic circumstances have improved from two years previously[50]
- number of people reporting improvements in quality of life as a result of community infrastructure projects completed and maintained in rural areas
- number of men, women and SMEs receiving and acting on improved information to improve livelihood choices.

Household Income and Expenditure Surveys should provide indictors of changes in the value of rural household consumption, while the RAMSI People's Survey contains data on survey respondents reporting improved economic circumstances. Further work is required to collect measures (eg. the number of men, women and SMEs receiving and acting on improved information to improve livelihood choices).

Increasing numbers of people accessing financial services, including microfinance opportunities in both rural and urban areas the target:

- increase in the amount and percentage of private credit directed to agriculture and/or rural individuals, households and enterprises
- increase in number of rural bank account holders.

Partners commit to establish a cohesive, evidence-based national policy agenda for rural advancement that is built on broad consensus amongst stakeholders, including the private sector, and responds to priorities resulting from this process.

Partners will strengthen the capacity of the private sector and public agencies to deliver appropriate economic, social and information services relevant to rural economic livelihoods.

50 Currently recorded in annual RAMSI People's Surveys

A6 DCED mock audit summary

Mock Audit Report

(For programmes with Results Measurement System established more than one year ago)

This is a mock audit conducted for CLIP by Mihaela Balan.

The report represents her conclusions and recommendations.

Note: *This form has been developed for use with the DCED Methodology for Measuring Achievements in Private Sector Development: Control Points and Compliance Criteria, Version VI (13thJanuary 2012).*

Programme: CLIP

Programme Manager: Moses Pelomo

Signature: _____

Auditor: Mihaela Balan [51]

Signature: _____

Audit Dates: 19-23 March, 2012

Reporting Guidelines

For each control point, the auditor will:

- note each compliance criteria checked by making a ✓ mark in the 'checked?' column. (This indicates that compliance has been checked not if it has been achieved.)
- mark each compliance criteria in the 'compliant?' column as
  - Y for compliant
  - N for not compliant
  - P for partially compliant
- summarize compliance for the control point by marking the control point as
  - Fully compliant: If all compliance criteria are rated Y
  - Partially compliant but some improvements needed: If at least half the compliance criteria are rated Y or P
  - Not compliant: If more than half the compliance criteria are rated N

For each section of the standard:

- In the 'Comments on Compliance' section, the auditor will explain all N and P marks for the compliance criteria and note any necessary improvements needed to achieve full compliance for each control point. Any other comments on compliance are also encouraged. Feel free to add space.

  In the final section of the report, the auditor will list all the sources used for audit.

51 Referred to as 'the Consultant' in this report

Introduction to the report

The CLIP is an AusAID funded, value chain development Program in Solomon Islands that works in the cocoa sector. The Program has started in 2009 and will continue until June 2012.

The Program enables small cocoa farmers and traders to become more productive and profitable by improving access to enhanced services (knowledge, information, skills,) and/or essential inputs and equipment (good quality planting materials, tools, driers etc.).

The CLIP works in five intervention areas:

1. Better organized and committed cocoa extension service for cocoa farmers
2. Enable farmers to use improved planting materials
3. Aged cocoa stands and cocoa processing units rehabilitated
4. Piloting of Integrated Pest and Disease Management (IPDM) practices
5. Improvement in market access and smallholders terms of trade and market efficiency.

The CLIP has been working to install a comprehensive M&E system using DCED Standard for approximately one and a half year, since it started in 2009. Several changes in the management of the program[52], and no full time M&E person dedicated to this activity, made this process slow.

It was only in June 2011 that CLIP has finalized its M&E system, with an operational manual 'M&E Framework – August 2011 (the Manual)' coming soon after that[53]. Projections for key impact indicators up to two years after Program ends have also been included in the Manual, with clear targets to 2012 and beyond (2013, 2014) set.

Generally some data collection is done in-house by the CLIP staff and its Program partners (MAL[54]), though a thorough data collection happens only annually when a comprehensive survey coordinated by the Chief Technical Officer takes place. This data is then validated six-monthly by the two M&E Advisers [55], when more detailed information on key changes and their respective indicators is collected.

Seven interventions have been developed in CLIP. The Consultant checked 3 interventions: Increased IPDM practices, Improved processing of cocoa, and Improved planting materials (grafting).

In addition, the Consultant checked overall Program documents including the Program's 'CLIP M&E Framework (the Manual),' and overall Program reports. The Consultant interviewed program manager, technical advisors and partner organization involved in implementing interventions. This audit report provides an overall assessment of the Program as a whole and the three interventions.

Summary findings

This document presents the mock audit for CLIP and sets priorities for planning a pathway for the CLIP and its M&E system to become compliant with the DCED Standard, if time and resources will allow. Three interventions have been reviewed to support the findings; documents and discussions with various members of CLIP and a workshop with MAL Chief provincial officers have also informed the report.

The review took place from the 19th to the 23rd of March, in Honiara. The findings are presented in the next sections (1 to 8) of this report. Highlights and key findings from the analysis for each control point in the Standard are presented below.

1. Overall, CLIP has a system in place that is partially compliant with the DCED Standard for results measurement.

47% of the 'Must' control points are fully compliant, and 47% partially compliant. Only 5%, one control point 1.3 staff familiarity is non compliant.

52 Change of Managing Contractor happened at the end of 2010.

53 A consultant experienced with DCED Standard has facilitated the development of the Manual

54 MAL extension officers are involved in data collection for the annual survey

55 the two M&E advisors have short term inputs in the Program; 25 days in total for each of the advisors over two inputs for the last 12 months.

Summary of CLIP compliance with the DCED Standard

	Total control points in the Standard [56]	of which in CLIP: Fully compliant control points	Partially compliant control points	Not compliant control points
Control points in the Standard (Must and Re-commended)	31	10	18	3
Control points (only Must)	19	9	9	1

2. More guidance and mentoring was felt necessary

The above results with CLIP being partially complaint are not unexpected, considering that this system was set up quite recent2011, by the CLIP staff with support from the Consultant; but then left with the team that was dealing mainly with operational matters, and the CLIP two short-term M&E Advisors to implement it; and not all that was set in the Manual was properly implemented or not implemented at all.

Continuous or longer guidance and mentoring on DCED would have helped the staff with measuring results, and probably gaps would have been addressed that would have meant CLIP would have had more chances to become compliant by June 2012.

Key Findings on DCED Standard control points:

3. Articulating the results chains

CLIP has developed result chains for all its interventions and they are logical with good cause-effect relationship between changes and small intermediate steps wherever necessary.

The Manual developed in August 2011 included a documented system for testing and reviewing the results chains during the monitoring visits or during staff quarterly or six-monthly meetings. However his process has not been fully followed through. The system was set up in August 2011 by the Consultant. After that input, the Consultant has not had any more inputs in the Program. The system was left with the CLIP staff and its two short-term M&E Advisors to implement it. It was implemented very well on some points, but not on all of them. "Reviewing result chains" was one left out, and therefore this control point is not compliant. Staff would have needed more guidance on this process. More explanation on why it is important to, for example, "test" and then review result chains and how to change the chains based on findings from the field was felt needed; more mentoring done by an experienced DCED Consultant, would have proved beneficial.

4. Defining indicators of change

Result Measurement Plans have been developed for interventions and they contain Indicators for key changes in the result chains, including universal indicators.

Indicators that measure likelihood of lasting impact exist for almost all interventions; they have been included in the Result Measurement Plans.

However they do not cover all the aspects of 'lasting impact' and this is one factor that makes this section of the Standard partially compliant. For example CLIP does not collect data on behavioural changes amongst farmers or traders. This behaviour change analysis is needed as it will not only help with gaining knowledge on what drives a farmer or trader or other stakeholder in Solomon Islands to change behaviour, but also help CLIP or MAL later 'act', address or build on the 'driver' to ensure the end result of poverty reduction: productivity, income, profit, is long lasting.

5. Measuring change in indicators

The Program has detailed Result Measurement Plan for each intervention. It collects data on indicators and triangulates it using three sources:

1. Program staff through their periodic (monthly) field visits with
2. A considerable study (survey of a sample of farmers) done annually; the study is coordinated by the Chief Technical Officer (the result of the study is the annual M&E report)

56 One control point was rated NA , 6.2. Allocating costs (recommended), as the Consultant did not check it.

3. M&E advisers on their six-monthly visits (six-monthly rapid reports, annual impact assessments).

However it is recommended for the studies to report confidence intervals and standard errors. The Consultant did review the above surveys (which are quite large), which, arguably, should have reported confidence intervals and standard errors, but they didn't. This is one of the factors that made the control point only partially complaint.

6. Estimating attributable change

The Program is clear in attributing its impact on farmers and there is reasonable justification to prove how the farmers wouldn't have realized their benefits within this timeframe without CLIP assistance.

However the only method used is "before and after" which is okay as long as there are no other similar interventions in place, which is not the case and it is acknowledged by CLIP. 'With and without' analysis shall also be considered to complement the 'before and after'.

There is also a lack of documented qualitative research to support attribution of benefits to the program.

These issues have made this section partially compliant.

7. Capturing wider changes in the system or market

Copying is considered in CLIP annual assessments. However the Program is not very clear in the Manual or during the implementation on what methods are used to measure systemic change, including crowding-in and copying.

In many cases farmers level copying is estimated based on observation, which is questionable, and it is better if mixed-methods are used.

As this Program is unique in that it is among a few funded by AusAID that used a value chain/ M4P approach it is recommended that a study is conducted to measure farmers level copying and service providers crowding-in circumstances more thoroughly, not only to validate the current estimates but also for future learning on this type of behaviour that could be used in the design and implementation of existing (RDP, MDF) or future similar programs. This could be part of the two CLIP M&E Advisors TORs for their next and last input [57], or could be separately funded by AusAID, after June.

8. Reporting results

CLIP prepares M&E Reports annually with thorough impact assessments on a summary of key impact indicators. They are based on surveys, observations or secondary data sources conducted by the M&E advisers.

However there is little qualitative information collected and included in these reports. CLIP will benefit more from learning on why and how things have happened or have not. This could also inform MAL or AusAID work in the further.

This is one of the factors that made the control point only partially complaint.

9. Managing the system for results measurement

CLIP has an M&E manual to guide its work and help with setting up the Program M&E system.

Overall CLIP staff finds the system manageable as they become more used to it. The staff took up responsibilities on measuring results in the last 12 months alongside their usual operational tasks[58], but most of the impact assessment work is still done by the two (short-term) M&E advisers.

The staff has recognized they would have needed more time, guidance and mentoring on the implementation of the system in order to use it as it was originally planned in the Manual. More mentoring from a consultant experienced with DCED would have helped. However no budget was allocated for this.

MAL staff has limited involvement [59] or not at all involvement in the M&E activities. This raises the question as to who will conduct the necessary data collection after CLIP is completed, when full impact is going to be seen. MAL and its Planning Department is a possible answer. However there is a need for additional training for MAL on aspects of the system. Some training has

57 If time and resources allow

58 The Program does not have a person fully dedicated to M&E

59 MAL was involved in setting up the M&E system back in June-August 2011; with training conducted then; another training was conducted in March 2012 for Chief Provincial officers. More training will come up in May June for them.

already been done, including the most recent one done in March 2012.

One of the recommendations of the March training was to organize another M&E workshop before Program ends. CLIP and MAL have then planned a series of workshops for May-June. More importantly, at the end of the March training, MAL Chief provincial officers have developed a plan on their M&E activities for July 2012-June 2013 period. But in order for the plan to be implemented, more training and mentoring will be needed (more in #10, 11 below).

10. Move towards CLIP compliance is unlikely.

With only 3 more months until the Program ends, the possibility for CLIP to take actions and address the gaps identified by the audit is grim.

One of CLIP's objectives was that key activities would be gradually embedded within MAL, contributing to CLIP sustainability. This seems to have started to happen with more high-level commitment made recently by MAL.

With MAL taking up some of CLIP key activities, in which, due to the most recent developments, M&E activities will be included, the work towards becoming compliant might not be impossible.

AusAID could maybe explore the possibility for continuing to support (if more resources are needed) MAL M&E activities in the cocoa sector to become compliant with the Standard. This could help not only MAL with data collection and reporting but also similar programs funded by the donor, such as RDP or MDF - if the MDF moves to Solomon Islands.

11. M&E skills and CLIP M&E system passed on to MAL

- MAL worked alongside CLIP staff during Program implementation on all technical issues (IPDM, quality planting materials, processing, marketing etc); they have been through various training, on-the job training and mentoring done by CLIP staff or the Advisors; MAL staff were included in a couple M&E system development and capacity building workshops, the most recent one in March 2012.

Increased interest in building staff skills in M&E becomes more evident now with the new Permanent Secretary of MAL being recently appointed.

CLIP has planned a series of more workshops and training for MAL in the next couple of months. And the PS agreed to them. A TOT will take place in May-June for key MAL staff from the provinces, with subsequent trainings done by the (newly) trainers to other MAL provincial staff. As stated above, a plan for MAL to continue to collect data, analyse and report was also prepared by MAL chief provincial officers at the March M&E workshop. (see page 100—for key findings from #1-8). Resources, including training will need to be in place for this plan to be implemented.

The momentum created by CLIP and interest of MAL to build on it and continue should not be lost.

12. Stakeholders, MAL, to continue to monitor systemic changes in the cocoa sector

CLIP will end in June. However it is only after June when scale of impact at (1) the service provider level will be observed, with consistent and more benefits being passed onto (2) cocoa farmers; more farmers will then enter the sector or for those in the cocoa sector, change practices. Early signs have already been observed.

Crowding-in new players or functions (services) does not happen over night, nor after two or three cocoa seasons of CLIP. Service providers, for example, have to consolidate their profits before they can consider taking on any additional services ('expenses'), such as, providing advice, financial options to their suppliers of beans, or other services.

Big scale will only occur from this year onwards, with increased benefits to provider and farmer levels.

It is recommended that these changes are monitored and captured, and lessons learnt. M&E activities shall continue after CLIP finishes its work.

In general, programs shall allow proper time for systemic changes to occur and also have in place a mechanism to capture these changes, not only during the programs life, but also if programs end before that, which is the case with CLIP. MAL could take on some of the M&E activities.

The possibility to see, learn and document how scale is happening in a value chain/M4P project shall not be lost.



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