Solomon Islands
Cocoa Livelihoods Improvement Project (CLIP)

Monitoring/ Impact Assessment Annual Report

July 2010 to June 2011

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.

Authors:	Monitoring and Evaluation Advisors—Tony Jansen and Phyllis Maike
Design/editing:	Russ Grayson—TerraCircle consultant
Photographs:	Tony Jansen

Participating organisations

Positive Developments (SI) Ltd
Sustainable development consultancy in the Solomon Islands.

Cocoa Livelihoods Improvement Project (CLIP)
CLIP is part of AusAID's response to the SIG-Australia partnership for development initiative

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.

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

GRM
Managing contractor for the project.

Contents

Abbreviations

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
M&E	Monitoring and Evaluation
MT	Metric Tonnes
MMW	Making Markets Work
PSD	Private Sector Development
RLP	Rural Livelihoods Program
RDP	Rural Development Program
SI	Solomon Islands
SL	Sustainable Livelihoods

1. Summary

Annual Impact Estimates

Clip Objectives

- 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

This report is based on the Donor Committee for Enterprise Development (DCED) guidelines.

> **DCED:** *Because it takes time for activities to have an impact on enterprises and poverty reduction, projects should make upfront projections about expected impacts when starting activities. These predictions give staff targets to aim for, and provide staff with feedback on the extent to which an intervention is on track.*
>
> *Projections should be made for the all key indicators as well as the 3 universal impact indicators, wherever possible, predicting the change that will result from the programme intervention EITHER the end of the programme OR two years after the end of the programme*
>
> *Each projection should be based on well thought out assumptions and findings from market research, field observations or other credible sources (see Box 3 below). The assumptions and findings supporting each projection, as well as any calculations made, should be clear.*
>
> *Projections of impact should be periodically updated to reflect new data collected on indicators of change. Programmes may find it easiest to discuss and agree these updates according to the same review process used to monitor changes to the results chain itself.*
>
> **DCED**: *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.*

Scale

Table: More than 2674 farm and other enterprises reached against target of 2300

SCALE	Cocoa farmers practice change				
Farm Enterprises	*2011*	*2012*	*2013*	*2014*	*TOTAL cumulative*
IPDM adopters (trained by CLIP directly)	1345	1345	1345	1345	6725
IPDM adopters (Trained by farmers - 0.5 farmers per adopter per year)	673	673	673	673	3363
Adopters from New IPDM training sites - 4 per year 2012 onwards	0	102	203	305	711
Farmers who receive tools (but not IPDM)-12% adoption	282	564	845	1127	3100
Other Enterprises					
Pruning gangs	NA				
Processors	375 [1]	to be added	to be added	to be added	to be added
Exporters	to be added	to be added	to be added	to be added	to be added
TOTAL	*2674*	*2683*	*3066*	*3449*	*13898*

1 Assume that processors trained in track and trace also received drier equipment inputs

- 18% of cocoa farmers in SI have been trained in IPDM with an adoption rate of 64% leading to 11.5% of cocoa farmer 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
- 1345 farm enterprises applying IPDM out of 12,000 cocoa farm enterprises in SI
- 3357 farm enterprises received tools out of 12,000 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%[2] of existing cocoa tree stock to improved genetic material

2 40% is based on observations in field by Dr. John Konnam and is a target not yet documented in formal CLIP records

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.*

$156 million of income increase achieved against target of $350 million cumulatively up until 2014.

Based on production increases attributable to CLIP (see page 45) the current annual increase in value of IPDM treated trees is $23.8 million in 2011. This will reach a cumulative total of 156.7million by the end of 2014. For list of assumptions please see production estimates.

31% of this income is estimated to benefit women through wet bean sales estimated at $6 per KG

Table: Net additional income of 156 million resulting from IPDM application projections

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

Both men and women sell wet bean to local processors (wet bean buyers) here assumed to be at $6kg. Women are assumed to take half of wet bean sales and it is assumed two kg of wet bean = 1kg dry bean. Therefore the gender breakdown is estimated at 69% of income going to men through the margin on sale of dry beans and half of sale of wet beans and 31% to women. 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 yet to be determined tonnage at a premium of at least 20% over current prices. This additional income will accrue to exporters. This is not included in the figures above.

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.*

By 2014, 651 full time equivalent new jobs per annum are estimated to be created against target of 3900 (17% of target).

By 2014, 651 full time equivalent new jobs per annum are estimated to be created against target of 3900 (17% of target).

This figure is based on employment generated through increased labour from IPDM adoption. It does not include employment generated by: pruning gangs, processors or exporters as employment models were not yet well developed at time of report preparation nor does it include employment from expanded production as figures are not available.

Therefore the 17% figure should be treated as very conservative and likelt to increase substantially as new measurement tools are developed.

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*

2. Recommendations

Building on the success of CLIP to date:

- Given the outstanding prospects of this project – the realistic potential to at least double earning from the main income source of about 20% of Solomon Islands rural households – CLIP requires certainty and commitment by AusAID on the period of implementation. In order to achieve expected impacts CLIP must be allowed to run for the full five year period - i.e. another three years from July 2011 – July 2014. Impacts will not reach the current (and possibly growing) projections if the project does not run for at least the intended period. The achievable challenges of up-scaling outlined in this report cannot be met within a twelve month period (the current extension).
- Assuming CLIP continues, the results chain (or strategic framework) should be reviewed in a participatory manner on an annual basis to ensure it remains relevant and that staff and partners understand the logic of CLIP and its different components. CLIP should use information from monitoring and results assessment to justify changes or lack of changes made to results chain(s). The current results chain needs to strengthen its understanding of the role of other service providers and how to facilitate sustainability for current roles implemented directly by CLIP.
- We agree with the AusAID review: There is a need to carry out more detailed and credible value chain research on cocoa to better determine and inform the overall strategy and areas for future intervention. (see box)

Typically, value chain research examines:

- The End Market: The consumer trends and market opportunities in final markets, including product competitiveness along a range of factors including quality and price.
- Enabling Environment: The Business Environment: The policies, institutions and operating context for businesses in that industry.
- Socio-Economic Context: The broader context of the programme including socio-economic, political, gender, physical or environmental issues.
- Value Chain Relationships: The structure, business relationships and linkages in the value chain, including transfer of information, product designs, credit, technology or other support products and services, through value chain relationships.
- Support Product and Service Markets: The critical support products and services purchased by the businesses in the value chain.
- Businesses Performance: How the various businesses upgrade at the enterprise level.

Farmer equity tools and processing equipment inputs

- 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 well received by farmers. It has led to important changes in attitude by farmers and extension services. It has been abruptly cut before it really had time to be properly assessed. Given the scale of investment involved, follow up monitoring should continue on the impacts of the farmer equity tools and equipment so that lessons learned are well documented.
- There is a need for more follow up of recipients of drier equipment inputs. and and analysis of drier market equipment supply systems to better understand how CLIP could intervene in future. Key questions are: Why is drier equipment slow to be installed? What will be alternatives in absence of ongoing CLIP support?
- CLIP should explore a direct role for private sector in improving cocoa tools provision for farmers -e.g. working with hardware suppliers/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.

Marketing

- Continue market research and capacity building/ results dissemination to relevant players. New knowledge gained has been very important to inform CLIP focus areas. The changes in attitude (e.g negotiation positions and skills) are also important results being generated at the exporter level.
- We support the recommendations in the CLIP CLIP Cocoa Market Development Mission, Singapore, Malaysia, Australia, Netherlands April/May 2011

Cocoa market development mission recommendations:

- Facilitate the registration of limited liability community companies under the Companies Act.
- Continue to develop and refine the cash book and bean book concepts with selected exporters.
- Continue to develop and refine the PGS system between select exporters and their producers.
- Provide exporters with appropriate marketing skills.
- Develop, and promulgate a cocoa market information system.
- Explore the development of a periodic volume contract with importers. Explore the possibility of using the periodic volume contract as security for commercial pre-financing.
- Facilitate the establishment of a Solomon Islands Cocoa Bean Standards.
- Facilitate the equipping and training of CEMA personnel to regulate the Solomon Islands Cocoa Bean Standards with internationally accepted testing regimes.
- Facilitate the equipping and training of CEMA personnel to undertake the full array of the Cut Test standards, internal testing for the likes of fat and pH, and conduct sensory evaluation.
- Facilitate the equipping and training of MAL field officers in the cocoa producing areas to undertake moisture testing as part of on-going quality assurance activities.
- Investigate the causes of the different levels of moisture between production and importing, and the develop and implement appropriate interventions to address the issues.
- Conduct trials using laboratory established pH levels as to the best fermentation period for different beans in different parts of the country.
- Develop plans for the handling of an anticipated production of at least 15,000 tonnes in the near future.
- Facilitate the examination of the Mars fermentation process.

Further to this:

- Incentives for quality improvements do not currently exist in the value chain. This is a key challenge and something CLIP needs to continue to work on and perhaps invest more priority into in its negotiation skills training with exporters and through the track and trace process currently being established. In order to achieve the overall objective of CLIP any price premiums from new markets for exporters need to be passed on (to some extent) to farmers.
- A key challenge that CLIP needs to address is how to scale up track n trace and other financial literacy training and support. Track n trace, being the initial step towards establishing PGS for certification needs to be institutionalized. It may also provide a more reliable source of data for measuring benefits flowing to households during CLIP timeframe.
- 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 and given the scale of work required, institutionalized within local actors in the market system.
- •At some point Holland Commodities needs to be brought into the equation as a partner in CLIP – perhaps once SI Commodities is established and completed their first export. Holland has an important perspective as a long term player extending valuable services to the sector – albeit for a commercial advantage. We are concerned that they may perceive donor funds are being used to undermine their commercial position.

Training and cocoa production

- IPDM demo sites are achieving impressive results. Scaling up IPDM training is the key challenge facing CLIP in order to reach its production increase targets – 92% of cocoa farmers are yet to be trained or adopt IPDM. Follow up – second training etc – to existing sites must be maintained. The gap of farmers who have received tools for IPDM but not IPDM training needs to be bridged.
- In the uptake phase IPDM needs to move from a directly CLIP implemented model to one that can be sustained by other players. This needs careful planning and resources in order to ensure the models used by other extension providers are effective. The current one-year extension is not enough time to take IPDM to scale as each cycle of new IPDM Farmer Field Schools takes 2 years.
- CEMA quality training is useful but could be better targeted to different user groups for different aspects of quality management. The training focus needs to be based on evidence from cocoa market requirements (and regularly updated based on that evidence). CLIP has already added substantially to this evidence base. More support/mentoring/advice is needed for CEMA to take on this role on their own.
- Pruning gang results appear promising from the small number completed to date. The opportunity of supporting pruning gangs to operate in a business model should be piloted. This could be combined with information to help farmers to better understand the potential return on their investment by hiring labour gangs to prune their farms rapidly rather than slowly with family based labour. There may be opportunities to integrate this model with processors or exporters.
- Distribution of improved seed / planting material and long term genetic improvement needs a strategy to ensure this long term work will continue beyond CLIP. To date only 1.3% of cocoa holdings have potentially been replaced with improved material. At the farmer level, training farmers on selection and grafting should commence and M&E can provide feedback on results. At the institutional level selected farmers should be encouraged and trained in required skills to develop business models for sale of amelonado seeds and seedlings.

Gender

- 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 by CLIP. In addition CLIP 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. CLIP should publicize the successful women cocoa farmers it has identified and trained on occasions as role models.
- CLIP should 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). CLIP should investigate if there is a way it can support the expansion of wet bean buying coverage.

Isolated areas

- As a poverty targeting measure, we suggest a stronger sub-focus by CLIP on isolated areas services and consider including smaller cocoa holders. Experience suggests that specific resources need to be allocated for services to reach these areas. We believe there is a strong argument to continue some type of farmer equity arrangement for needed inputs of cocoa farmers in very isolated areas – e.g. Guadalcanal weather coast, inland areas of Malaita, Guadalcanal, Makira and far Western and Choiseul areas.
- The mini drier has not yet reached the isolated cocoa farmers it was intended for. We suggest work continue to revise the min-drier design to make it lower cost and therefore more suited to lower income/smaller scale cocoa farmers in locations where it may need to be carried in. Look at new partnerships for delivery using welding enterprises and possibly exporters or processors. There may be a need for testing of pilot models – this could be done through similar partnerships – e.g. by a group such as GRED with a cooperative structure, existing training of members and with some farmers in inland areas.

Knowledge gaps:

We have identified a number of areas where mini studies would help to better inform CLIP:

- Mini study of labour inputs in cocoa – to allow for a better understanding of constraints and opportunities and how cocoa industry generates employment at village level / gender implications etc
- In general increased income is leading to multiple positive changes in rural livelihoods. However, increased alcohol consumption from income derived from sale of dry cocoa, mostly in town centres, remains a concern raised in numerous farmer and other stakeholder (e.g. extension officer) interviews. While this should not be a major focus, we suggest this could be the subject of a mini study to understand the issue more and what, if anything, CLIP could do to minimize negative impacts of increased income from cocoa in rural communities.
- We suggest a mini-study of drier support services and tools for cocoa to define where future interventions could best be targeted.
- IPDM records, monitoring reports, cocoa pod distributions and all other trainings should be integrated with the CLIP database. Database should also be enhanced to make it a useful and interactive tool for management decisions making. The key issue is to develop easy ways for management to access the information contained in useful formats.

3. Report Overview

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
- removal of a basket of monitored agriculture projects under ALP to a stand along program.

Despite all of these, CLIP is progressing and so is impact assessment (IA) and monitoring of CLIP.

Initially CLIP's impact was being assessed as part of a basket of diverse, mostly crop targeted projects under the AusAID Agriculture Livelihoods Program (ALP). Starting in February 2009 the impact assessment approach used a Sustainable Livelihoods (SL) framework and this continued until early 2010.

SL was considered well suited to assessing a range of projects that varied from income generating market interventions to strengthening food security and nutrition.

During our period inputs in June, and July-August, 2010 the focus shifted to transitioning monitoring and evaluation (M&E) arrangements to make it compatible with the planned AusAID Rural Livelihoods Program (RLP) that ALPs existing projects were expected to transform into. The ALP, with the exception of the CLIP component, was subsequently closed down at short notice in October 2010.

Many planned IA activities, including a final IA report, were never brought to completion along with many ALP projects that we were monitoring. IA efforts were thus concentrated on CLIP only from 1 February 2011 up until 30 June 2011.

Following AusAID requests, the original CLIP project design document was to be updated to Making Markets Work (MMW) type of results chains. The aim in monitoring of MMW interventions was 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 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 busy workload of staff, and perhaps more importantly, a lack of ownership of the process.

A results chain for CLIP was finally developed only in February 2011. It still does not have a high degree of ownership or understanding by the CLIP team. Numerous versions are in circulation.

During this fluid process the M&E team continued with field-work. The result is that some indicators that were defined late in the process do not have much data or results against them and that some data collected based on earlier frameworks is no longer relevant or as important.

This situation, and the quality of information and learning coming out of M&E, is improving and will continue to do so if CLIP continues and if there is consistency with the current approach.

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.

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.

Various meetings and interviews were held with other stakeholders including exporters, CEPA, MAL officers, CEMA, CLIP staff and consultants. This was to be complimentary to other CLIP monitoring activities underway.

Field work completed for CLIP

A total of two hundred and thirteen farmers [77% male (164) and 23% female (48)]; 18 processor enterprises and 5 other enterprises were interviewed and visited in 31 villages as well as Honiara. This covered fourteen wards in four provinces: Guadalcanal, Malaita, Western, and Makira (see Attachment 1 for details).

Tools

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

- informal interview
- 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)

Data analysis

Data from 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 [3]), with one case study on farmers who were not involved in IPDM (2 villages[4]).

Meta analysis (coding) was used on qualitative data according to the topics contained in each of the results chain boxes (see page 19).

Quantitative data, including the CLIP baseline survey, 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
- some of our own analysis of the CLIP baseline survey data
- consultant reports—particularly on marketing issues.

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

4 Ward 11 in Makira and Kofiloko area in North Malaita

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.

The DCED standard aims to quantify achievements in a way that is credible and can be added up and benchmarked across interventions. This adding of impacts was a challenge for ALPs diverse program and its ability to market and sum up its numerous achievements.

The approach used for CLIP includes a mix of methods to estimate changes and attribution at each step of the program's logic. The focus is more on outcomes and impact than on outputs.

We have attempted to comply with the DCED standard—although there are still gaps for the many reasons mentioned above.

We suggest this model be continued and that CLIP or its successor, consider having its M&E system audited under the DCED guidelines.

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.

CLIP and Economic Livelihoods

SIG-Australia Economic Livelihoods goal

CLIP is part of AusAID's response to the SIG-Australia partnership for development initiative[5] which contains four priority areas. Priority Outcome 2 is 'Improved Economic Livelihoods'.

Specific objectives of the Improved Economic Livelihoods include:

1. Increasing the contribution of sustainable agriculture and agro-forestry to GDP growth;
2. Increasing levels of employment in rural areas;
3. Increasing the proportion of people, especially from rural communities, reporting year-on-year improvements in their economic circumstances; and
4. 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.

5 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:

1. 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.
2. 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 February 2011 by Mihaela Balan from GRM in a group meeting with CLIP staff.

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 (above).

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

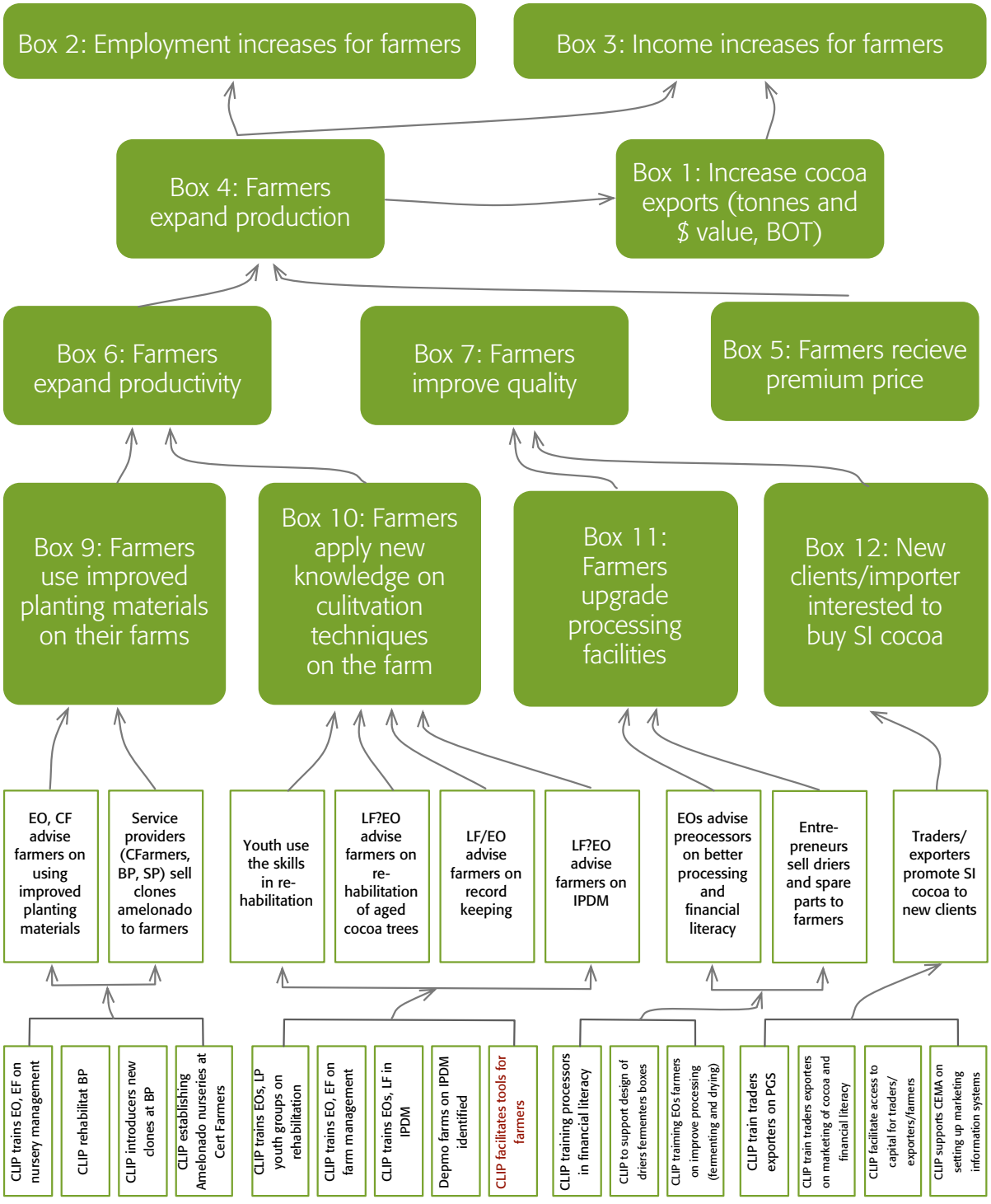
It could be strengthened eg., there could be more 'systemic' boxes that reflect some of the changes CLIP is facilitating among different market players including exporters, extension services and others (see Figure 1 over page) but it is a good starting point for monitoring of CLIP.

Staff familiarity

> **DCED**: *At a minimum, all staff should have a working knowledge of the programme results chain and how it relates to their work. They should all be able to readily access an up-to-date copy of the model, whenever necessary.*

The model has been circulated with staff. At present many staff do not have a strong working knowledge of the chain and this could be improved.

Figure 1: 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.

Table 1: Cocoa Exports[6]

Year	*Weight (metric tonnes*	*Percentage change in exports*	*Revenue SBD$*
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	49,793,151.16
2008	4548.966	7.0	71,871,717.00
2009	4803.296	5.6	84,708,002.00
2010	5481.001	14.1	115,835,604.00
April 2011	1210.00		

The Solomon Islands cocoa industry has been on steady increase for the last four 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. A dramatic decline of 22.3% experienced in 2006 put total export volume back to the peak domestic crisis years.

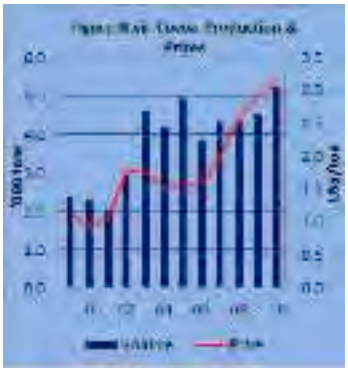
Poor weather conditions experienced during the year, impact of the April 2006 rioting, stagnant world prices and the ongoing logistical difficulties of moving produce in Solomon Islands were some of the reasons for the decline [7].

By 2008, however, export has returned to pre-crisis peak volumes.

In 2010, export volume increased by 14.1% surpassed only by the 57.8% in 2003 and 17.6% growth in 2005.

It is important to note however, that both of those increases were basically recovery from dramatic decreases in the previous years.

Fig. 2: Cocoa production and prices[8]



Source: 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.

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[9].

There are estimated to be 11,919 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, this would cover an estimated 14,439 hectares of land. Based on survey data, the average size of cocoa holding is 1331 trees. However, field observations seem to suggest that most farmers have holdings ranging between 500—1500 trees.

6 CEMA Information Unit

7 CBSI Annual Report, 2006

8 CBSI Annual Report, 2010

9 CEMA Information Unit

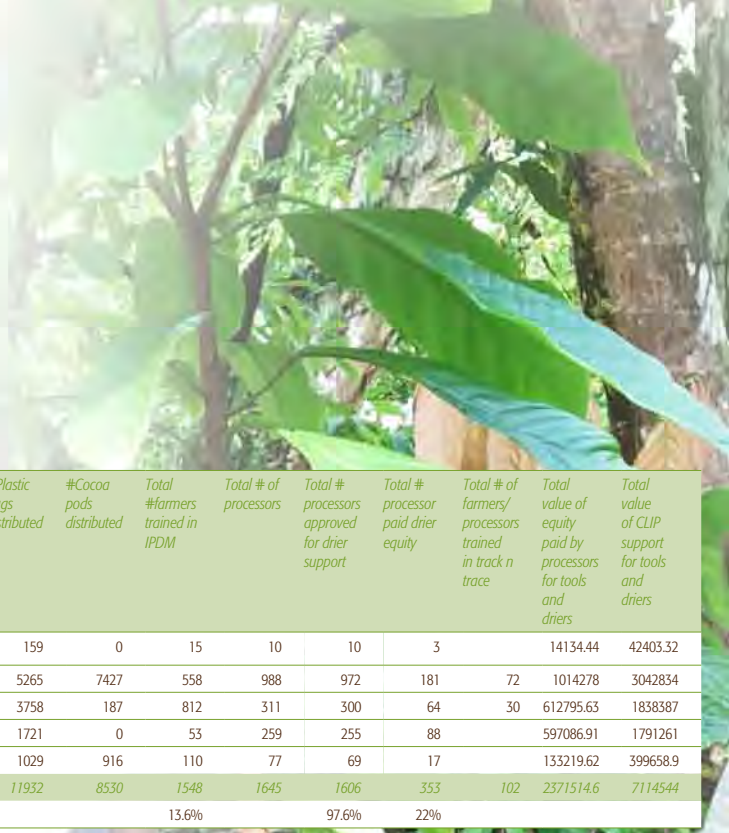


TABLE 2: Summary of CLIP baseline data [10]

Province	Total # of house-holds	Total # cocoa farmers	Total # of trees	Ave. # of trees per farm	Total # of old trees	Total # of young trees	#Trees with status not known	Total # farmers approved for tools	#Farmers paid tools equity	#Plastic bags distributed	#Cocoa pods distributed	Total #farmers trained in IPDM	Total # of processors	Total # processors approved for drier support	Total # processor paid drier equity	Total # of farmers/ processors trained in track n trace	Total value of equity paid by processors for tools and driers	Total value of CLIP support for tools and driers
Choiseul	4712	159	72999	459	45136	27863		122	22	159	0	15	10	10	3		14134.44	42403.32
Guadal.	17163	5247	7797100	1481	5330109	2432299	34692	5109	1120	5265	7427	558	988	972	181	72	1014278	3042834
Malaita	24421	3759	4959079	1319	3429778	1482166	47135	3713	1062	3758	187	812	311	300	64	30	612795.63	1838387
Makira	7173	1726	2395108	1391	1612709	779995	2404	1717	949	1721	0	53	259	255	88		597086.91	1791261
Western	13762	1028	658990	640	463259	156399	39332	762	206	1029	916	110	77	69	17		133219.62	399658.9
Totals	*67231*	*11919*	*15883276*	*1331*	*10880991*	*4878722*	*123563*	*11323*	*3357*	*11932*	*8530*	*1548*	*1645*	*1606*	*353*	*102*	*2371514.6*	*7114544*
%		18%			68.5%	30.7%	0.8%	95.8%	29.4%			13.6%		97.6%	22%			

Production

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

For an average farmer (1331 trees) this translates into a typical yield of 332.75kg 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[11]. There are approximately 14,000[12] households who are farming cocoa—ie about 17% of all rural households.

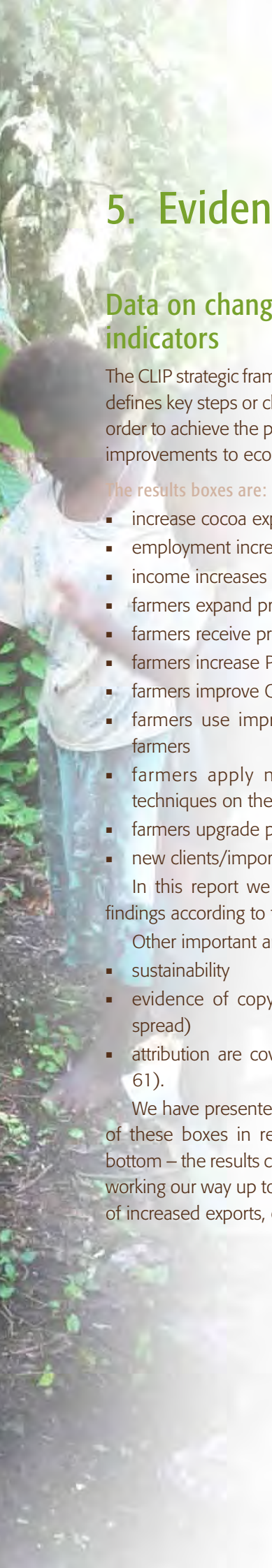
Our observations in the field suggest there may be significantly more cocoa farmers than those surveyed (11,919), particularly if including households with smaller cocoa holdings of under 500 trees who were excluded from the CLIP baseline survey.

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 is clearly very strong alignment of CLIP with the AusAID/SIG Economic Livelihoods goals (page 17).

10 Information from CLIP database, updates up to May 31st

11 2009 Census SIG Statistical Bulletin 06/2011

12 The CLIP baseline survey identifies just under 12,000 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 14022 households



5. Evidence of change

Data on changes using key indicators

The CLIP strategic framework (page 19), 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 farmers
- 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 (page 61).

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 [13])

'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	A contract has been established with a new buyer in Singapore after the CLIP Cocoa Market Development Mission in May 2011. First shipment of cocoa is due to leave June 20th 2011.
% change in price for Solomon Islands cocoa	Change in export price from all CIF to FOB with new buyer
# tonnes of cocoa exported at changed price	15MT to go in June 20th 2011. New buyer is ready to take any volume Solomon Commodities puts together. 2% of processors trained in recently introduced track n trace are keepingt records, a start in setting up PGS towards UTZ certification
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, Chale) of 16 (13%) licensed exporters

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.
- There are 16 licenced exporters. 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 [14]. Important to note however, that Hollands Commodities has played a very important role in cocoa industry in Solomon Islands through provision of advances or credit.
- A recent CLIP supported Cocoa Market Development Mission trip to Singapore, Malaysia and Australia has resulted in a relationship being brokered with new buyer in Singapore external to the single largest buyer of Solomon cocoa, Hollands Commodities. The price being offered is significantly higher than current prices with Holland Commodities. This marketing opportunity is being taken up a new company being established by a consortium of local SI exporters - a concept and the new entity being nurtured and advised by CLIP.

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

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

Box 11: Farmers upgrade processing facilities

Indicator	*Results*
Farmers/processor enterprises who paid for drier equity contribution	375 processors paid their equity contribution and have received upgraded drier equipment (296 drier repair & 79 mini driers).
Processors installed the processing facilities	27% have been installed and are using the equipment to date. Given delay in distribution, mostly mini driers are in operation. 603 farmers and processors have been trained by CEMA in improved processing and handling methods
Farmers in remote locations with access to driers (mini-driers)	Mini driers have been sold to 79 farmers

Indicators for this box need refining by the CLIP team. What is the CLIP target for the number of processors it wishes to assist, in what way (ie equipment versus training in quality and track and trace methods) and why?

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

CLIP Target enterprises:

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

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, 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 pick up and 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.

Wet bean sales to local or road-side purchasing processors is 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. In more isolated areas and areas more distant from roads and transport points wet bean buyers are fewer and hence income is more concentrated in men's hands.

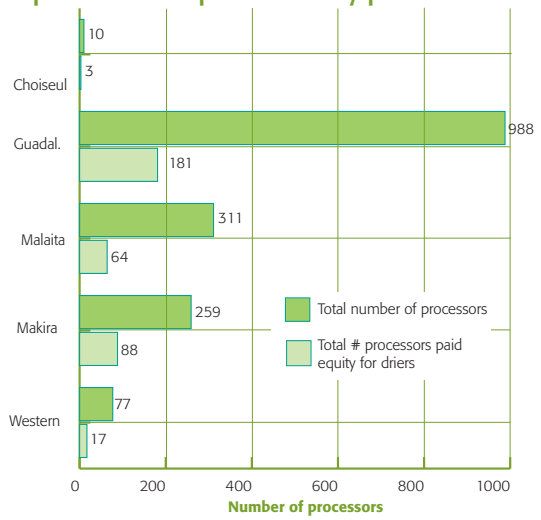
Men will travel from these isolated areas, often at great expense and time involved, with dried cocoa to urban centres to sell it. Transaction costs are very high for smaller farmers and in some cases much of the 'profit' earned is lost on the journey or in the time spent in urban centres.

Cocoa processor in Malaita

Drier equipment

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. 375 (or 23%) of the processors subsequently paid their equity contribution. The 'uptake' of processor equipment purchasing through CLIP ranged from 18% of processors on Guadalcanal to 34% in Makira. In total processors invested $767,155 dollars in the new drier equipment with a CLIP contribution of $2.3 million dollars.

Figure 3: uptake of processor equipment purchases compared to total processors by province



It is difficult to explain the lower than expected take up of reduced price drier equipment by processors. Our observations showed many well functioning driers without CLIP inputs so perhaps the need for replacement equipment was over estimated.

In numerous instances we observed CLIP supplied drier equipment sitting unused with the processor enterprise (not yet installed). We estimate that less than half of drier equipment delivered to processors has been installed to date although this is based on a small sample. This is expected to improve given more time. (Current CLIP records indicate 27% installation and use)

CLIP attempted to build a level of sustainability into the fabrication of drier equipment through the use of private welding enterprises. This is discussed more in the sustainability chapter.

Cocoa drier

Drier equipment In Suagi not used

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.

To date 102 processors have been trained – all in Guadalcanal and Malaita – this represents 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.

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..

This is discussed further in the Sustainability section.

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

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

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. They are reported to be more efficient in use of firewood than larger conventional driers.

In general take up of mini driers has been disappointing.

Only 34% of mini driers appear to be being used for remote or isolated farmers. Instead mini driers seem to generally be 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.

Table: take up of mini driers in the provinces

Province	*No. mini driers*	*Driers in remote wards*	*Wards*
Malaita	12	2	719,722
Guadalcanal	12	3	606,610,612
Makira	46	20	818,819,820
Western	8	1	202
Choiseul	1	1	111
Totals	*79*	*27*	

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

'We really like getting first hand information from the experts (like we have during IPDM training). We have new knowledge. We actually did it with our hands and not just talking about it. We are excited about the future of cocoa now.' *Marau Farmer group, Guadalcanal*

Box 9-11:

By 2014, 6950 farmers and small businesses 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

Indicator:	Results
# farmers apply IPDM	2120 farmers trained (134 female and 1866 male) 53 farmer operated demonstration sites established. 64% of those farmer enterprises (1345 farm enterprises) have begun to apply IPDM
# farmers bought tools for cocoa farms	3357 farming enterprises received tools
# other farmers apply rehabilitation	12% of farmers 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	26941 trees pruned so far by pruning gangs

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 methods[15] 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 53 IPDM demo sites have been established to date in five provinces with an average of 40 farmers per site (estimate[16] at 2120). On average only 7% of training participants were female.

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 42.

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

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

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

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

FFS approach

Steps involved:

- lead farmers selected in cocoa producing areas
- group of farmers come together for training with CLIP experts[17]—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 (Yet to be done at most IPDM sites but is planned)
- follow up visits should occur with monitoring and record keeping.

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.

About 18% of total CLIP surveyed cocoa farmers in the country have been trained in IPDM. However IPDM training involves a two stage process: many of the IPDM sites have only had the first stage of a two stage training process so far.

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.

Figure 4: IPDM demo sites by province

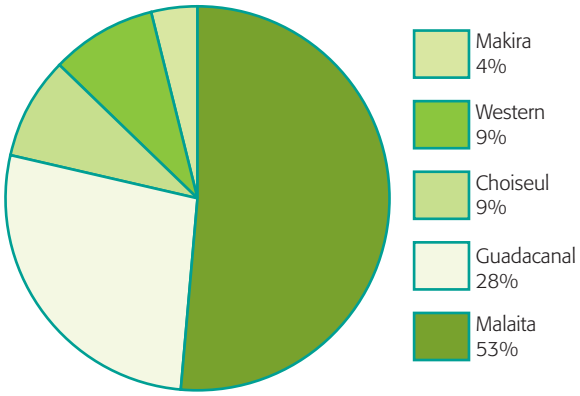
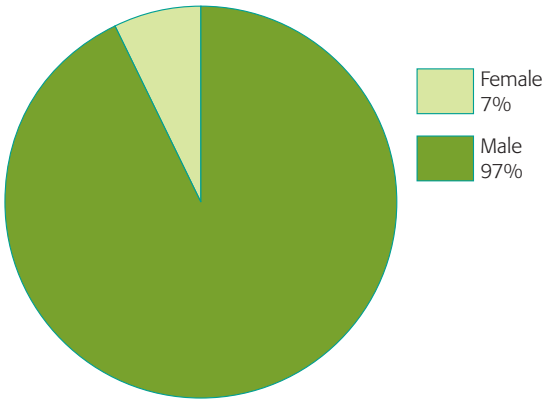


Figure 5: Gender of IPDM participants



17 Most IPDM have been running directly by Dr John Konnam

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.

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

There were cases of copying, often done poorly, and where it has been done well with advice from a trained farmer. Most farmers are only assisting 1-2 other farmers, usually within their family group.

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 2,3 and 4.

There is a big challenge for CLIP of developing an uptake strategy for reaching the almost ten thousand cocoa farmers overall who have not yet been trained in IPDM.

High yielding regenerated tree post IPDM

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

Tools for cocoa farmers

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

Table: Tools for cocoa farmers

Positive	Negative
1. Wheelbarrows have been put to immediate use in collecting pods and materials. 2. Farmers who have been trained in IPDM are able to use pruning tools to speed up application of IPDM. 3. Farmers are supportive of equity in cash concept – a significant change in attitudes. 4. For many farmers, particularly in remote areas, the tools are the first tangible sign of government and donor support to agriculture for many years.	1. Wheelbarrows, mini chainsaws are reported to be breaking quickly and spare parts are not easily available. 2. Many farmers, especially in more remote areas missed out on initial tool opportunity and would like the chance again. 3. Tools are not essential for IPDM application – IPDM can be done with bush knife and axe (for shade reduction) if careful. 4. Some farmers were confused over their tool applications and seeming inconsistency in prices charged. 5. Some farmers did not know what they had paid for – extension officer had made decision for them. 6. At least 1200 farmers have tools but lack the knowledge how to use them.

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

96% of 12,000 farmers surveyed by CLIP were approved for tools that they could then purchase using farmer equity of 25% of the cost of the tools they wished to purchase. 30% (3357) of those farmers took up the opportunity and paid their equity. Tool distribution to those farmers has been ongoing and is due to be completed by June 2011. By April 2011 most farmers had received at least part of their tools. Some had received tools during 2010.

Farmers are appreciative of the tools and are supportive of the farmer equity (in cash) concept. In most cases it is still to early to properly assess the impact of tool use. A key challenge is to ensure that all farmers who receive tools are also trained in IPDM as without this knowledge they will not be likely to put the tools to use for increasing their cocoa production. There are at least 1237 farmers with tools for IPDM application who are yet to be trained in IPDM.

Pruning gangs

Pruning gangs were promoted as a means to enable rapid uptake of cocoa rehabilitation. Applications for pruning gangs and implementation has generally been lower than expected.

In Guadalcanal and Malaita 2.2% of cocoa farmers have had pruning gangs work on their farms, with the trees pruned representing 3.1% of total SI cocoa trees. There is some contradiction between national records and those of provincial staff that we were not able to resolve at the time of writing.

The table above covers pruning gang work in Guadalcanal and Malaita[18]. Data for Western Province was not assessed.

In Makira only one pruning gang has been established and has pruned 3 farms in ward 11.

Pruning gangs in Malaita were the first ones trained and their work is reflected in the number of trees pruned so far. 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. But no further applications are being invited so this activity may have been terminated before it had a chance to be well demonstrated to farmers.

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 the sustainability chapter (page 55).

Table: Pruning gangs – national records

	Malaita	*Western*	*Makira*	*Guadalcanal*	*Choiseul*	*Totals*
No. of Pruning gangs trained	10	10	2	2	0	24
Pruning Gangs Active in 2011	4	5	1	0	0	11
Number of trees pruned by April 2011	23541	2479	921	0	0	26941

Table: Pruning gangs – provincial records

Results	*Guadalcanal*	*Malaita*	*Total*	*% of total Cocoa farmers*
# farms where pruning gangs worked	215	77	292	2.2%
Number of trees	390,025	105,927	495,952	3.1%
Average trees per farm	1814	1376	1595	

18 Sourced from provincial records of CLIP Provincial staff

Box 9: Farmers use improved planting material on their farmers

Indicator: 40% of SI cocoa is replaced with improved genetic material by 2014 (our estimate)	*Results*
# farmers with improved planting material	At least 215-530 farmers[19] (1.8 – 4.5% of SI cocoa farmers)
# of seeds/pods/seedlings distributed to farmers	8630 pods estimated to be equal to 205,000 trees[20] which is 1.3% of a target of 6.3 million trees (40% of SI cocoa trees);
Accessibility of germplasm	Public access at Black Post but not well known outside of CLIP and Guadalcanal plains area
# of farmers with skills to do their own selection, grafting for on farm genetic improvement	Very few. Most IPDM sites are yet to receive training in this area (comes in second course)

The use of improved planting materials is considered important for the long term growth of the SI cocoa industry. Forty percent of existing cocoa trees are considered to be well below optimum yields and in need of replacement in the medium to long term[21]. 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.

The following strategies are being employed by CLIP:

1. seed nurseries as enterprises to sell seed from existing stands of pure Amelonado trees
2. teaching farmers to select their own best seed, and teaching farmers grafting skills to create clones of naturally high yielding individual trees within their farms
3. long term breeding program on farm with MAL using former MAL Agriculture Research documented collections and varieties.

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 is being 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 which have not proven very successful in Bougainville, PNG.

To date 8630 cocoa pods have been purchased from farmer run seed nurseries and distributed to farmers by CLIP. This is estimated to be equal to 205,000 trees (at 25 seedlings per pod allowing for some loss at time of germination). Assuming all seedlings survive, this represents a 1.3% increase compared to current total cocoa trees in the country.

19 8630 pods distributed. Assumed that if a farmer wanted to plant 500-1000 trees he/she would take 40 pods based on an expected 25 trees per pod

20 Actual number of seeds recommended from each cocoa pod to plant is about 25 Therefore estimated number of seedlings from the 8,630 pods will be 215,750. Estimated mortality rate one would expect from a single nursery is about 5% (Robert Waisu – CLIP)

21 40% is a very high target and may need to be revised based on further study of the % requiring replacement and potential yield increases

Blackpost as an enterprise

Established by MAL as part of the Dodo Creek Agriculture Research Station in the pre tension period, Blackpost is now reclaimed by landowners. The farmer sells pure amelonado cocoa pods at $5/pod and seedlings at $6 each. Every 2-3weeks, he sells around 1,000 pods while seedling sales are slower. While CLIP has been the major buyer of seeds in the past year, other cocoa exporters in Guadalcanal and individual farmers have also bought pods. Exporter, John Saki, has bought more than 4,000 pods since 2010 for his farmers, while exporters C Corps and Tapalia have been the main clients for seedlings.

According to the operator, pod sales is more profitable than dry cocoa beans. But the enterprise is hardly known beyond Guadalcanal Plains, except thru indirect means such as CLIP. With increasing interest in cocoa throughout the country, such enterprises can easily be established in varying scales, particularly in areas where processors/exporters are actively working with their farmers.

Black Post on the Guadalcanal plains, the former agriculture research cocoa plots now taken over by landowners, is being supported to become an enterprise selling seed of high yielding varieties

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 55).

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 changes in quality	603 farmers (11% female/89% male) and processors have been trained by CEMA in general improved processing and handling methods
# of farmers with improved knowledge on wet bean quality from farm to point of sale	16% of 66 women trained by CEMA have better knowledge and change in harvesting/transportation practices
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
# of Processors with improved quality of their cocoa	Not able to be assessed as yet. CEMA data will provide an indicator on national level.
Overall improvement in SI cocoa quality	Better analysis of market definitions of quality can help CEMA to better target training and support to the specific quality changes required by the market (informed learned by CLIP)

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. E.g.:

'…marketing and quality deficiencies for cocoa, are holding back growth.'

(World Bank)[22]

CLIP has enabled new learning on the quality and market situation for SI cocoa. This information has been shared through debriefing sessions with CEMA 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.[23]

CEMA quality training

CEMA was supported by CLIP to train over 600 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.

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

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

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

The training has been dominated by male participants (89%). 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 be targeted to women for future training. The gender analysis 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.

Market incentives

Incentives for quality do not currently exist in the value chain. This is a key challenge and something CLIP needs to work on in its negotiation skills training with exporters and through the track and trace process currently being established. In fact this may be the key change that CLIP needs to create for the rest of the market to respond to the other services being provided to improve quality.

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

Box 6: Farmers increase productivity

Indicator: Box 4- 6: 2300 farmers and small businesses exhibit changes in production, productivity or price of the cocoa	*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 yield change from 0.35 KG to 1.08KG of dry cocoa per tree[24].
Adoption rates of IPDM applied to all IPDM sites * number of trees applied to	1345 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. The expected increase in production is 714 tonnes.
% change in volume of wet bean bought by processors	102 processors (6.4% of all processors) trained in track and trace / financial literacy. 6% of trained processors starting to keep records which can be used to monitor this indicator. Records yet to be assessed.

IPDM is proving to provide large gains in yield per tree – an average of 309% based on our field work. It needs to be noted that this is based on a rather rough indicator – counting of pods per tree before and after IPDM or on trees with IPDM applied and adjacent trees without IPDM of similar age. This measure is used in the absence of other farmer or extension officer records. 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.

One farmer who did keep consistent and detailed production records provides the only case study of yield by KG and their farm achieved similar results as that indicated by pod counts on other farms.

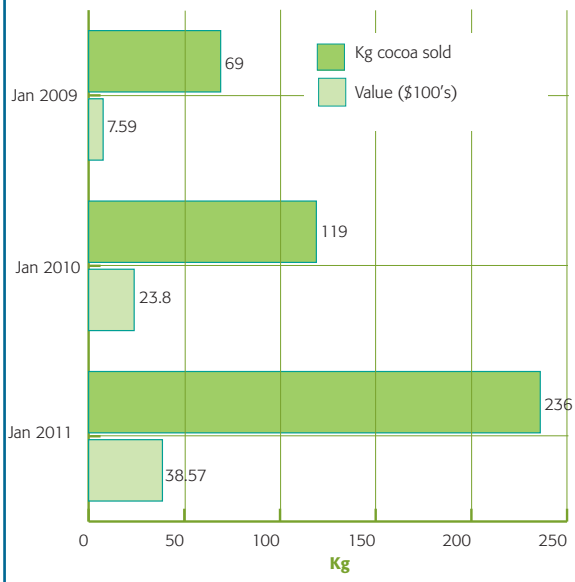
24 this is considered conservative. In the David Gembu case study yields of 2.14KG per tree were achieved in 2010 based on detailed farmer records following IPDM application.

Guadalcanal plains farm of David Gembu

Full year records were kept for 2009 and 2010. Based on these records the total yield increased by 25% over the year following IPDM application in early 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 during the months Jan 2009, January 2010 and January 2011 a picture emerges of growing yields with yield increasing by 349% over the period. Yield per tree was 2.14KG per tree in 2010 – post IPDM. Note this is almost double the yield figure used in our estimates of IPDM yields which shows they are conservative.

Figure 6:



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

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

Table: 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.

2011 production increase estimates

Table: 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)	1345	714,602
New IPDM adopters (Trained by farmers - 0.5 farmers per adopter per year)	673	357,301
Farmers who receive tools (but not IPDM training under CLIP)-12% adoption	2348	149,704
Total	*4366*	*1,221,607*

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 future years on page 7 in the Summary.

Assumptions:

- 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 (1491 trees) as actual is not available.
- 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. This model and the assumptions involved will need to be updated every year based on new learning from actual results in the field and increased amount of data collection.

Box 5: Farmers receive premium price

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	New buyer offers FOB price within 10% of current London market price – expected to be equal to about 20% above current prices. Licensed exporters have opportunity to negotiate per metric ton with overseas buyers
% change in price received by farmers	While yet to be quantified, competition between exporters may provide farmers with room to negotiate price between processors linked to different export markets
New knowledge on quality constraints and opportunities for SI cocoa	2 out of 16 (13.3%) licensed exporters have improved understanding of cocoa market
# of new export markets 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 due to world market fluctuations and are not attributable to CLIP. Farmers have not yet received a premium price attributable to CLIP. However some 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: Solomon Commodities Ltd is incubated

Solomon Commodities Ltd is in process of being incorporated. Four licensed cocoa exporters: JEMS, Chale, Haurasi and Central Baelelea Farmers Association, will have equal shares in the company. The need for such a legal entity is in direct response to the new overseas buyers interest.

It is envisaged that Solomon Commodities will play an administrative role in facilitating consolidation and will operate on commission basis.

Solomon Commodities first export (15 metric tons) to newly established Singaporean buyer left Honiara on June 20th 2011. While not providing advances for capital, the new buyer will send half the payment for the exports when paperwork is sent in and the balance upon arrival of cocoa in Singapore. Buying prices negotiated is also FOB, a change from predominantly CIF export prices.

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.

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

Indicator	*Results*
# of new trees planted / area of land	8630 pods estimated to be equal to 205,000 trees[25]
	12,000 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.

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.

Based on current data it is difficult to measure the extent of new plantings. 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 occurred prior to CLIP but is continuing. The interest in expanding of land under cocoa by farmers does provide CLIP with an opportunity for the genetic improvement aims through making improved seed and seedlings more available.

As mentioned earlier, to date 8530 cocoa pods (amomelando) have been purchased and distributed to farmers by CLIP. estimated to be equal to 213,000 trees. This represents a 1.3% 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.

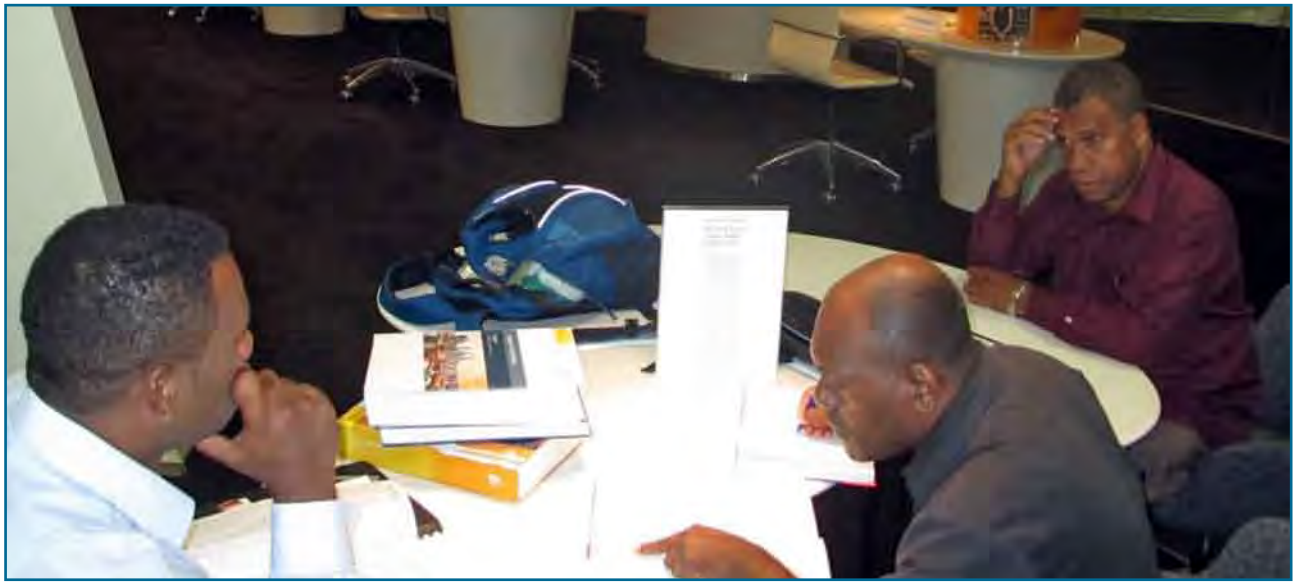
Farmers are also being encouraged to take up their own replanting efforts.

11932 plastic bags were paid for under farmer equity arrangements the same as the tools. 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.

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

25 Actual number of seeds recommended from each cocoa pod to plant is about 25 Therefore estimated number of seedlings from the 8,630 pods will be 215,750. Estimated mortality rate one would expect from a single nursery is about 5% (Robert Waisu – CLIP)

SI cocoa exporters and CLIP learning from the Malaysia Cocoa Board (MCB), a federal statutory research and development agency



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

Indicator 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	*Results*
	By the end of 2011, 2300 farmers are expected to be enjoying an increased income of $10,360 per farm enterprise on average or 23 million in total

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:

- 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 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. We suggest this should be the subject of a mini study to understand the issue more and what, if anything CLIP could do to minimize negative impacts.

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.

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, Summary.

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*	

At present we are not able to put a value on increased production—resulting from new plantings attributable to CLIP. 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.

In Waimea village on the weather coast of Guadalcanal, a majority of families are engaged in new plantings of cocoa in recent years. Training from CLIP in their area has accelerated their interest in this cash crop

Box2: 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, Toroni village, Guadalcanal.

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: 434 FTE additional jobs were created from IPDM application. Job increases from increased production at processor and exporter level to be added in future as data and models are developed this should cumulatively lead to a conservative increase of 2170 full time equivalent jobs by 2014..

Possible additional indicators

- increase in labour in cocoa for farmers applying IPDM
- increase labour in processor enterprises
- increase labour in exporter enterprise
- labour involved in pruning gangs

What is the baseline?

Based on interviews and weekly timelines we have estimated a cocoa farming enterprise of 1000 trees (1HA) to require 4 person days of labour per week. Typically this might involve 2 people working 2 days a week. Based on this scenario, cocoa farming (excluding processing, transporting, exporting) currently employs 12,640 people. This may be an over estimate. For example in copra the World Bank made the following estimate:

> *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 one area. Rural livelihoods are complex.

We have made an intial start on estimating Net additional jobs created. But the model needs further development both in terms of input from stakeholders and improved assumptions.

Table: Net Additional jobs created per year

FULL TIME EQUIVALENT JOBS CREATED	*2011*	*2012*	*2013*	*2014*	*TOTAL (cumulative)*
IPDM application	434	506	578	651	2,170
New plantings of cocoa	To be added	To be added	To be added	To be added	To be added
Pruning Gangs	To be added	To be added	To be added	To be added	To be added
Processors increased dry cocoa bean production	To be added	To be added	To be added	To be added	To be added
Exporters increased shipment of containers	To be added	To be added	To be added	To be added	To be added
Total					

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

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 2010.

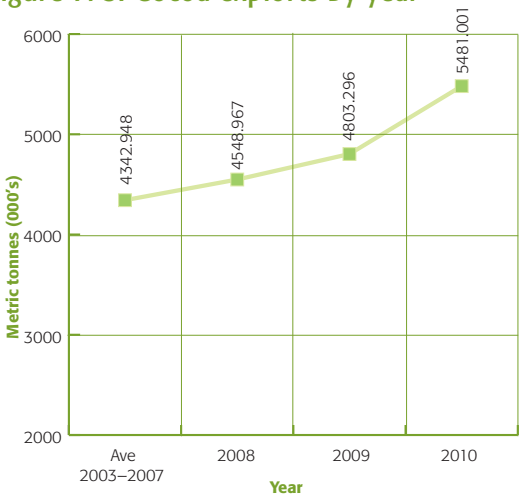
The 300 metric tonnes figure is based on an estimate of 25% of the 2011 IPDM related increased production figure could be attributed to CLIP in 2010. This is because IPDM was in a phase up period during this year.

General growth in SI exports

Our projections (see table below) indicate that CLIP can expect to contribute approximately 2900 additional tonnes of cocoa exports per annum by 2014. This would lead to a figure of about 7800 thousand tonnes for total exports (78% 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 300% 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.

Figure 7: SI Cocoa explorts by year



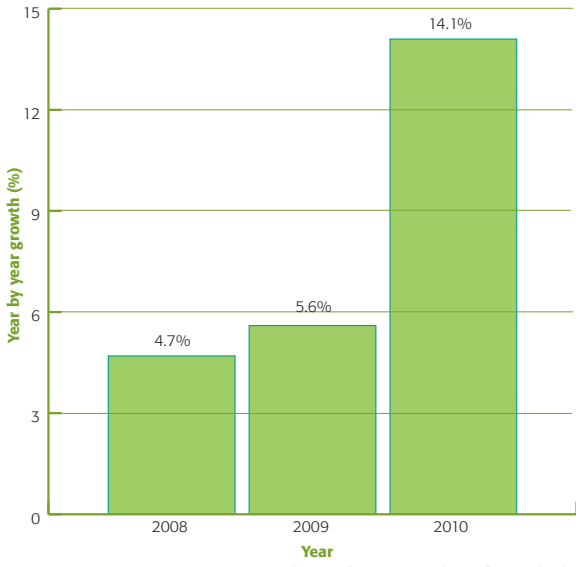
Source: CEMA Cocoa Domestic and International Statistics

Cocoa exports recovered dramatically from near collapse during the 2000 to 2002 period at the height of the ethnic tensions. From 2003 to 2007 exports ranged from 3,828,000 to 4,927,000 tonnes with an average of 4,342,948 tonnes. We have taken this average to be the pre CLIP baseline.

In the period 2008 to 2010 (and continuing into 2011), cocoa exports have grown at an increasing rate. By 2010 there had been an increase of 1100 MT compared to the 2003-2007 average.

In 2010 cocoa exports were 26% higher in volume than the 2003-2007 average. Percentage growth on a year by year basis compared to the previous year (shown in the graph below) is increasing with a large jump in 2009-2010.

Figure 8: Annual growth in cocoa production (exports)



Source: CEMA Cocoa Domestic and International Statistics

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 undoubtably contributed to this growth but growth was already underway prior to the CLIP start up.

- IPDM adoption rate at existing sites stays the same as current ..... same
- new IPDM sites per year 4
- farms with pruning gangs are assumed to be part of IPDM sites .....
- number of sites 53
- average number of farmers per site 40
- total no of farmers trained 2094
- number who apply IPDM 1345

TABLE: Additional Production Increases Attributable to CLIP

Future Impact Model - Production increase		*Tonnes of dry bean*				
	# Cocoa farmers practice change	*2011*	*2012*	*2013*	*2014*	*TOTAL (cumulative increase in production)*
IPDM adopters (trained by CLIP directly)	1345	714	857	1,000	1,143	3,715
IPDM adopters (Trained by farmers - 0.5 farmers per adopter per year)	673	357	428	500	571	1,857
Adopters from New IPDM training sites - 4 per year 2012 onwards	102	0	53	118	194	366
Farmers who receive tools (but not IPDM)-12% adoption per year	2348	149	359	628	958	2,095
Total (tonnes)	*4467*	*1221*	*1699*	*2248*	*2867*	*8036*

Assumptions:

- IPDM training adoption rate 64%
- percent of IPDM adopters who also buy CLIP tools 75%
- number of farmers who are assisted to adopt IPDM per IPDM trained farmer who adopts him/herself (spread) per year 0.5
- application rate (no of additional trees with IPDM) increase per year 20%
- IPDM Adoption rate for farmers with tools but no direct IPDM training 12%
- IPDM adoption rate for farmers with tools but no direct IPDM training increase in adoption per year from first year target 12%

Estimating how many trees IPDM is applied to by adopting farmers:

- average farm size 1491
- IPDM application (% of farmers trees with treatment) by June 2011 ..... 49%
- number of trees IPDM per farmer 725
- total trees with IPDM applied 975,177
- total pod yield prior to IPDM 9,420,904
- total Pod yield aftern IPDM 29,072,458
- pod yield increase attributable to CLIP .. 19,651,554
- pod yield increase converted to dry cocoa bean (kg) 714602
- convert yield increase in pods to kg dry bean 714602
- dry bean purchase price $19.50

6. Sustainability–assessing the likelihood of lasting impact

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.*

Table: 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

The table above 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 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 and genetic improvement of cocoa over the long term. There are also challenges with farmers making investments and handing the business decisions involved in managing expanded production.

There will continue to be some handout mentality present and there is a risk that other players and donors could interfere with gains made by CLIP – eg political subsidies distorting the market. An example is the current subsidies to plant oil palm on Guadalcanal plains and what impact this may have on cocoa rehabilitation.

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 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 sustainable market environment.

Establishment of SI Commodities is promising breakthrough but unproven business model requiring new skills and there are risks involved. Ongoing advice, mentoring and information provision will be critical in the early stages.

Changing SI exporters from price takers to negotiation e.g .Jems. This appears to have already begun and marks a significant change in the market system.

At some point Holland Commodities needs to be brought into the equation as a partner in CLIP – perhaps once SI Commodities is established and completed their first export. Holland has an important perspective as a long term player extending valuable services to the sector – albeit for a commercial advantage.

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.

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.

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. From this CLIP can identify how to help to make reasonable priced, appropriate tools and their spare parts available for cocoa farmers – particularly for IPDM. Various players such as hardware stores and their agents, exporters and MAL have potential roles to play.

Changing roles of MAL

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.

How can CLIP step back from its hands on role within MAL? What is the exit strategy and what are the long terms roles of MAL in the market system?

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 extension services to farmers that CLIP may be crowding them out of: credit to wet bean buyers/ processors, poly bags, net, tools, training.

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? More analysis, dialogue and piloting of new approaches is needed.

Gender

Key finding is that women benefit from sale of wet beans and availability of wet bean buyers close to farm is key to improving impacts for women. Tailoring training in this area has been suggested.

But what else can CLIP do to empower women to be more involved in different parts of the market system beyond wet beans?

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.

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 (e.g. "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.

Our interviews highlighted that exporters and some processors are providing tools and services – already occurring and not direct impact of CLIP. How could CLIP facilitate more of this?

Future access to tools and spare parts

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 needs to better analyse the tool market system and see how more sustainable changes can be facilitated.

Pruning gangs as business models

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 CLIP promote this, now that result of farms receiving IPDM treatment are starting to be seen, but the support for pruning gangs is ending?

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.

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.

Provision of Capital

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

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.

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, co-financed by Australia, the European Union and the World Bank, is implemented through the Ministry of Development Planning and Aid Coordination (MDPAC) and the Ministry of Agriculture and Livestock (MAL).

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

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

RDP's total program budget of approximately USD 22 million includes the equivalent of USD 2 million in SIG and community contributions, and AUD 8.5 million in Australian contributions over 5 years.

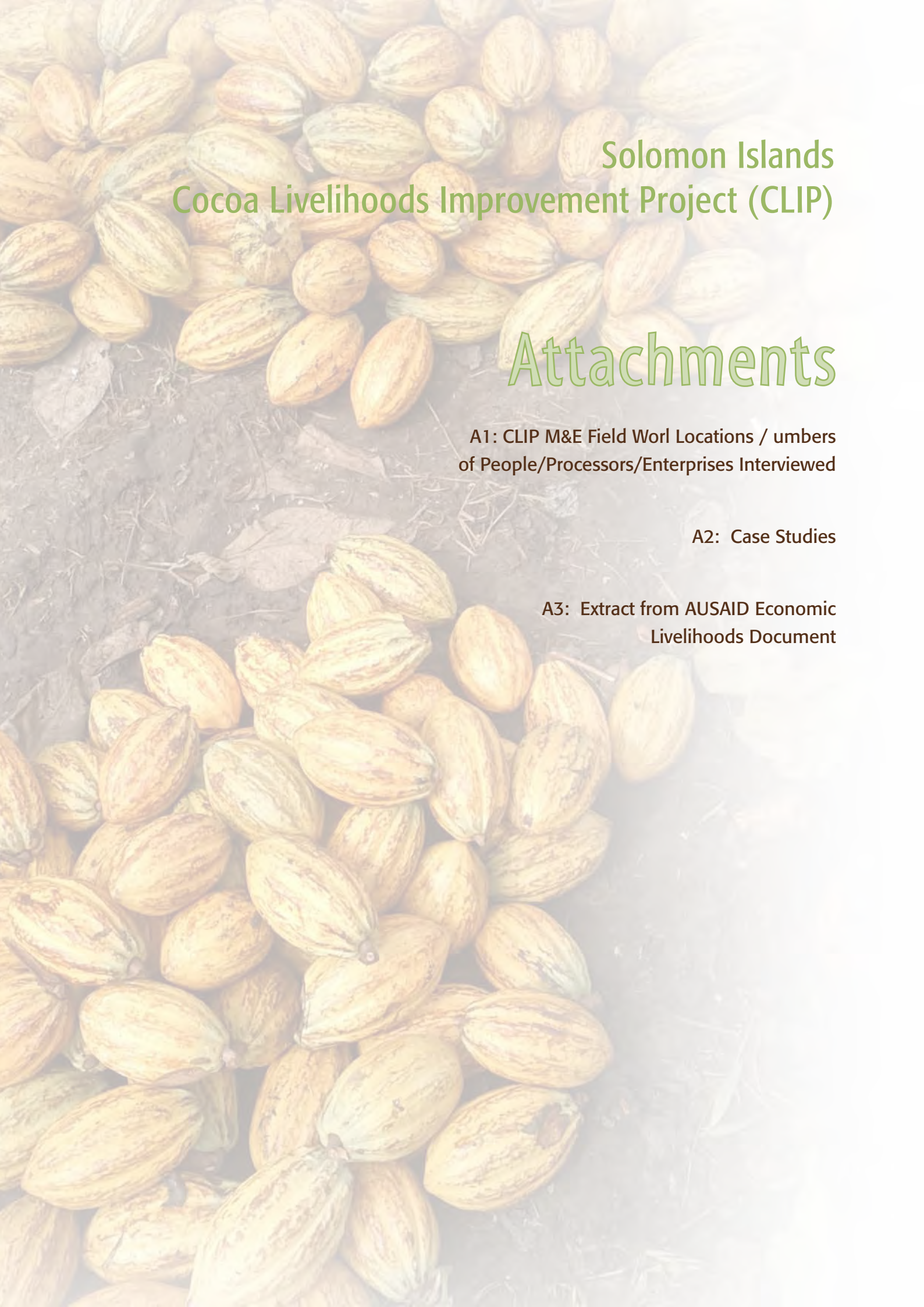
This program represents the main platform for delivery of Australian support to community infrastructure and to services delivered by the national and provincial operations of the Ministry of Agriculture and Livestock. *(Source: AusAID)*

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



Solomon Islands
Cocoa Livelihoods Improvement Project (CLIP)

Attachments

A1: CLIP M&E Field Worl Locations / umbers of People/Processors/Enterprises Interviewed

A2: Case Studies

A3: Extract from AUSAID Economic Livelihoods Document

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

Date	Villages	Village tally	Province	Ward	Processors	Insitutions / ENTERPRISE (excl. processors)	Male	Female	Total M/F
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	2	4
1-Mar-11	Gevala	1	Western	223	1		3	0	3
3-Mar-11	Iriqila	1	Western	210			1	0	1
3-Mar-11	Kazo	1	Western	210	1		5	0	5
4-Mar-11	Uzamba	1	Western	207	1		4	1	5
10-Mar-11	Chale	1	Western	222	1	1	2	6	8
16-Apr-11	Kofiloko	1	Malaita	711		1	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
18-Apr-11	Heo / Hauhui	2	Malaita	725	1		9	3	12
19-Apr-11	Bona	1	Malaita	726			6	4	10
	Taumaihare	1			1		1		1
14-Apr-11	Afufu	1	Malaita	708	0	0	11	2	13
1-Apr-11	Pitukoli	1	Guadalcanal		1	1	1		1
19-May-11	Suagi	1	Guadalcanal						
22-May-11	Maneuhu / Bagohane/ Nara	3	Makira	811	4	1	22	3	25
TOTALS		*31*	*0*	*14*	*18*	*5*	*165*	*48*	*213*

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[26]. 7669 of these farmers were assessed under clip surveys. There are 14 IPDM[27] sites in the province (including 5 'awareness sites).

Table: Guadalcanal cocoa farmer Aassessments 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%*

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.

26 Source – CEMA data Jan 2010-Dec 2010

27 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[28] 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.

28 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[29] conducted an IPDM specific training for Makina area with 30farmers attending from four surrounding villages[30].
- MAL extension officer Mike Tuhuna has at his own initiative conducted two 'mini' one day IPDM farmer trainings and demo plots in Waimaea[31] and Oa[32] 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[33] 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.

29 Robert Wasu and Dr. John Konam

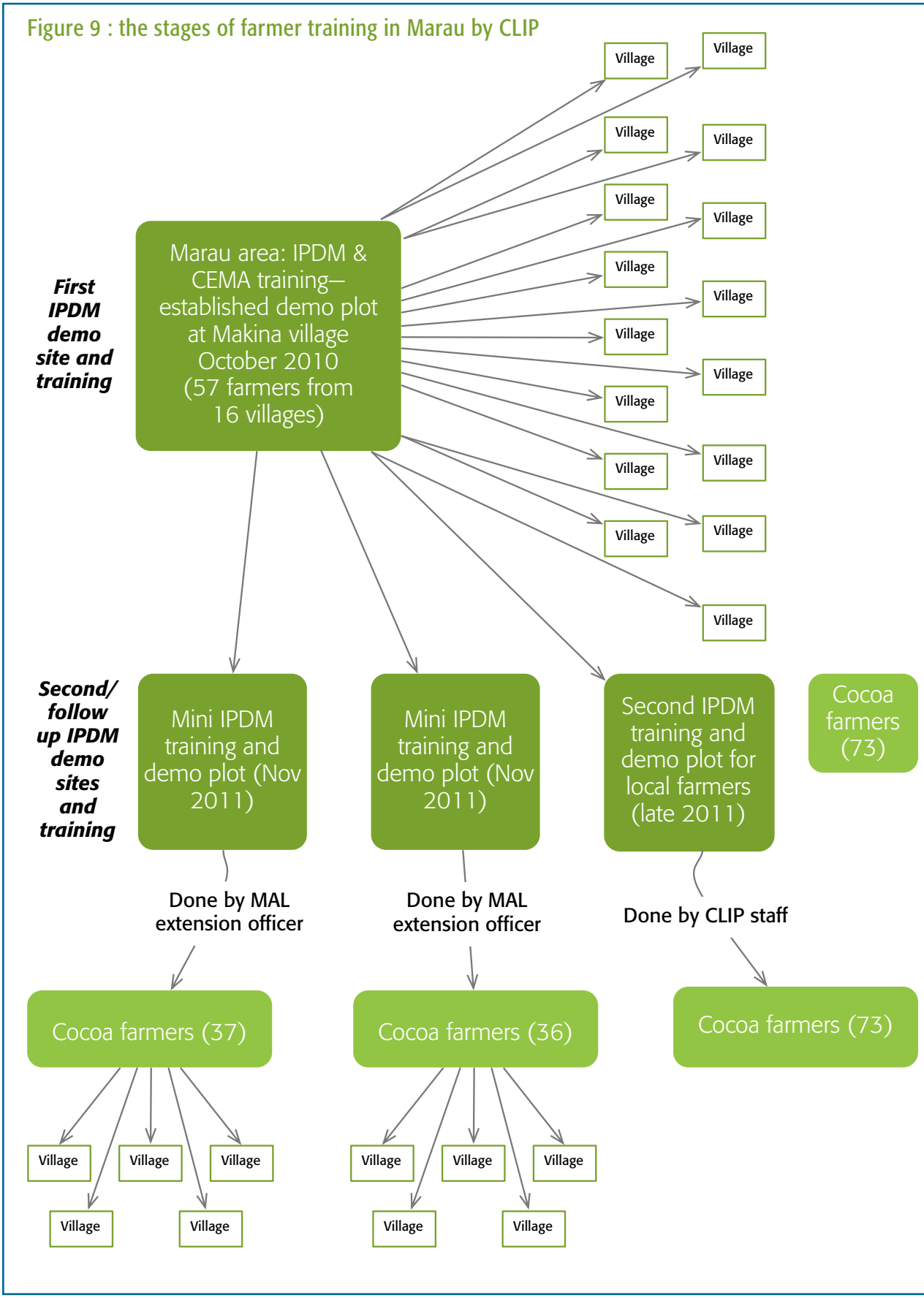
30 Porokokore, Piapia, Nunura and Kakaru

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

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

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

Figure 9 : 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[34] were made for 5 of the 6 farmers applying IPDM.

Figure 10: Pod count of trees with / without IPDM applied in Makina area

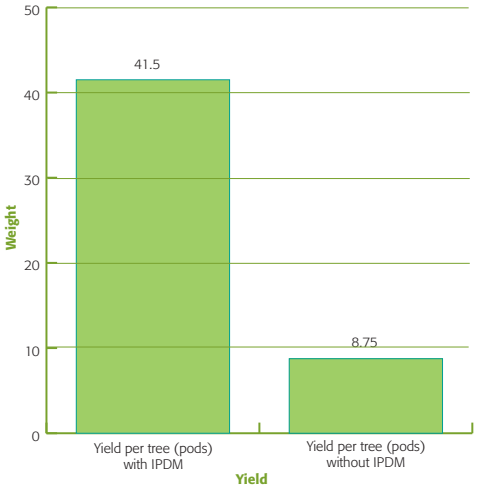


Table: Marau summary results on farmers with mature cocoa stand requiring rehabilitation

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.

34 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

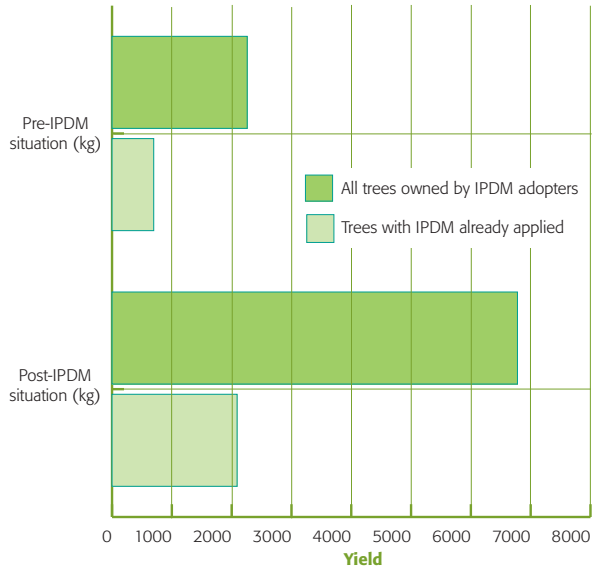
Advantages of applying IPDM	*Disadvantages of applying IPDM*
1. Have increased knowledge and understanding of health of trees and cocoa. 2. Significantly increased number of pods (i.e. expected production). 3. Less black pod / healthier pods. 4. Healthy foliage. 5. Trees that were considered close to 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[35]. 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 11: 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.

35 Personal communication Dr. John Konnam

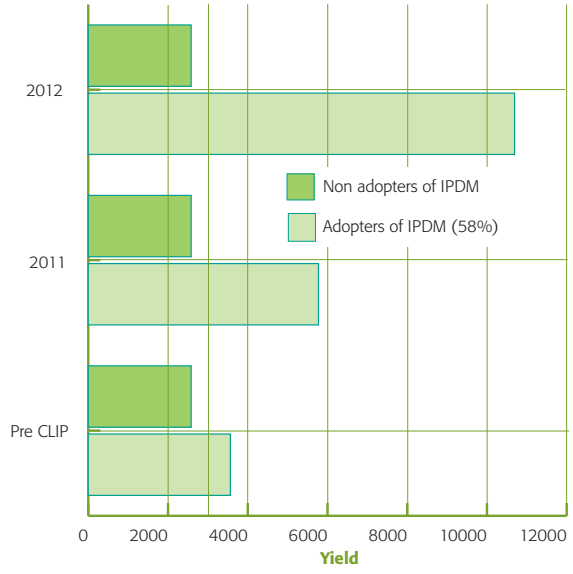
Expected Future Impact

'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[36]. 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 12: 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.

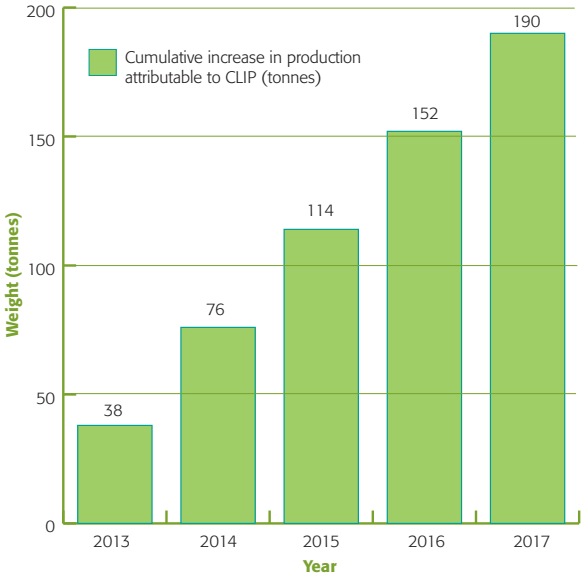
The findings demonstrate that the IPDM training, combined with tools inputs and appropriate follow up visit and training is generating results. A key challenge for CLIP is how to scale up IPDM knowledge to those who have not already been trained in its application and how to encourage adoption to those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

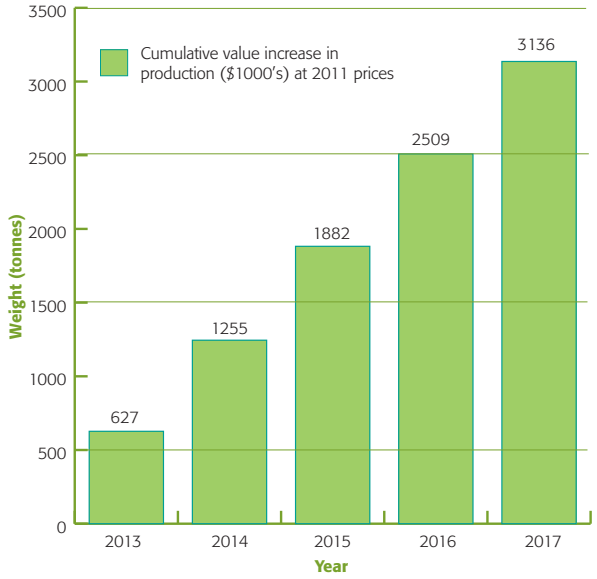
Figure 13: Projected increase in cocoa production in Marau area as a result of CLIP 2013-2017



36 According to training records and EO assesments

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 14: 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[37] 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.

Table: 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.

37 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."

38 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

39 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.

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.

Table: 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%[40] 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[41].

According to the information in the database, majority of the farmers are located in the central Malaita region (wards 702 – 711; 727 – 729)[42].

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

41 CEMA Data, 2010

42 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

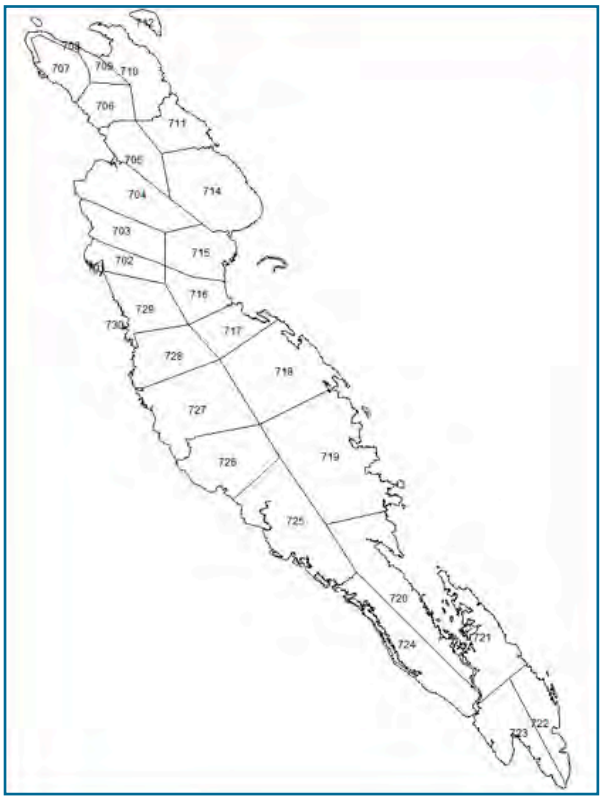
Table 1: Summary results on farmers visited in Malaita Province

						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 prunng 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.

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[43]. 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[44].

Table: 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%[45] 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[46]. 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 – followup training at Gevala, Marovo

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

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

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

44 Verbal commun. Rex Sebala, APC Western Province

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

46 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.

Table: 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 commited to applying IPDM. Both farms are also using hired labor.

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[47].

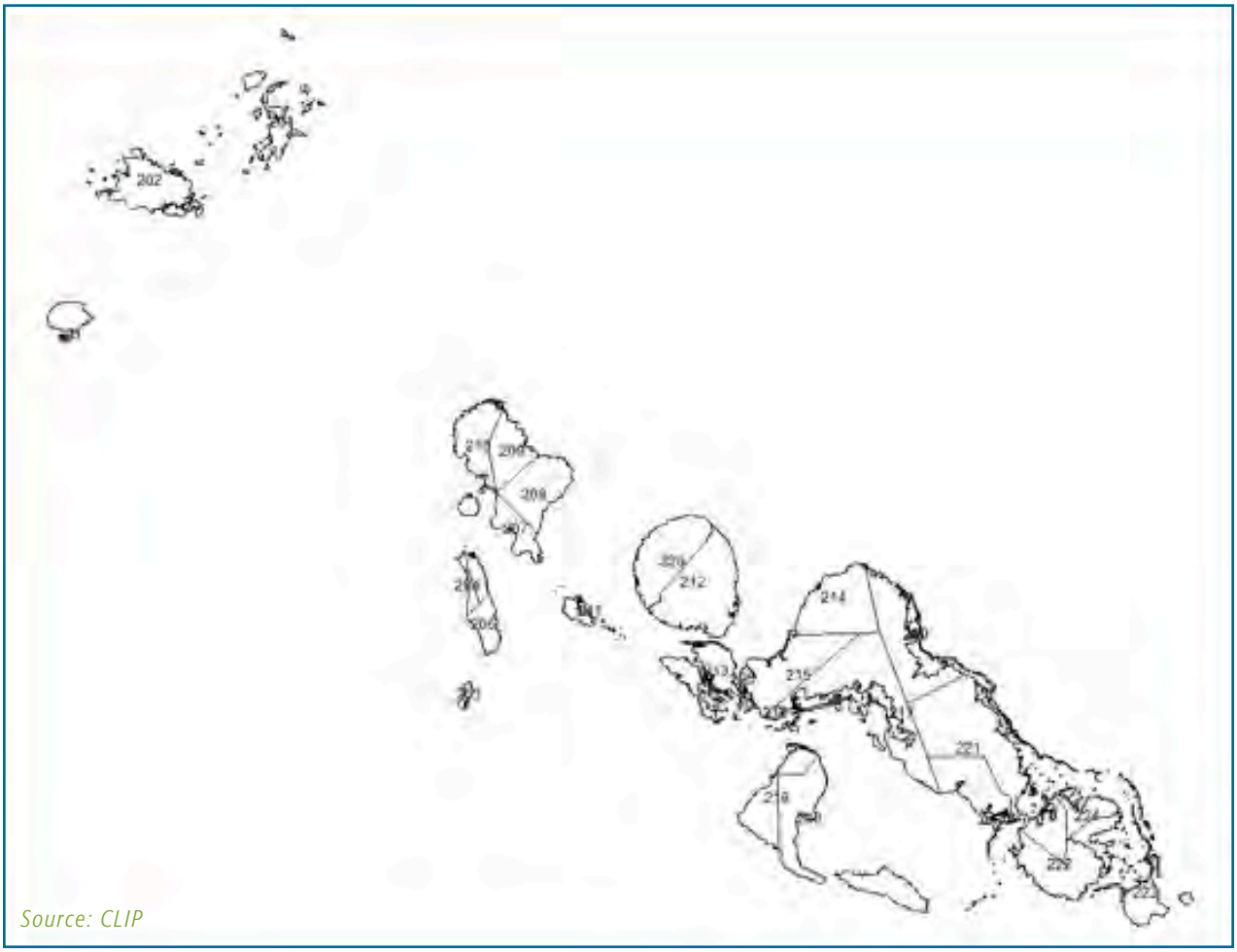
Using royalty funds from the logging operation on Choe forests, CIDL re-assumed supervision and operation of Chale cocoa farm operation in March 2010, with rehabilitation work (radical pruning and replanting of dead trees) in June and July 2010. All trees in the surviving eight of the original ten hectares 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 longterm plan is to plant up to 50 hectares of cocoa.

47 Approx. 1090 trees per hectare if planted at 3 sq. meter. 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 fulltime 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 labor 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

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 (e.g. 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[48]
- 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 (e.g 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.

48 Currently recorded in annual RAMSI People's Surveys


COCOA LIVELIHOODS
IMPROVEMENT PROJECT


Positive
Developments
Australian Government
AusAID


terraCircLe
people-centred development


GRM
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