

September 2012

Vanuatu TVET Sector Strengthening Program Phase II

Final Evaluation Report



Acronyms and Abbreviations

AusAID	Australian Agency for International Development
BDS	Business Development Services
CGA	Cocoa Growers Association
DPO	Disabled People's Organisation
ETF	Employment and Training Fund
FSA	Farm Support Association
GDP	Gross Domestic Product
GoV	Government of Vanuatu
HIES	Household Income and Expenditure Survey
M&E	Monitoring and Evaluation
MOE	Ministry of Education
MYDST	Ministry of Youth Development, Sport and Training
NGO	Non Governmental Organisation
NSO	National Statistics Office
Policy	Vanuatu Technical Vocation Education and Training [TVET] Policy 2011-2020
PTB	Provincial Training Board
PWD	People with disabilities
RTC	Rural Training Centre
SAG	Strategic Advisory Group
SDP	Skills Development Plan 2010-2014 (Sanma, Malampa)
TPSS	Training Provider Support Services
TTT	Train the Trainer
TVET	Technical and Vocational Education and Training
VAC	Vanuatu Agricultural College
VANWODS	Vanuatu Women's Development Scheme
VARTC	Vanuatu Agriculture Research and Technical Centre
VCCI	Vanuatu Chamber of Commerce and Industry
VIT	Vanuatu Institute of Technology
VMC	Vanuatu Maritime College
VNTC	Vanuatu National Training Council
VRDTCA	Vanuatu Rural Development Training Centre Association

Executive Summary

Evaluation Report

This report presents findings of the final evaluation of the AusAID funded-Vanuatu TVET Sector Strengthening Program Phase II, conducted May 2012, and focuses on the Program's contribution to its intended long term outcomes as specified in the Program Monitoring and Evaluation Framework¹:

1. TVET Centres functioning as a replicable model for delivering a range of TVET services
2. An integrated and articulated TVET system reflecting national policy implemented at provincial level
3. Increased economic activity in Program provinces
4. Greater social inclusion within the TVET sector.

The evaluation used a range of methods and data sources, including quantitative baseline, output and follow-up survey data (6 months and 12 months), semi-structured case studies, interviews and group discussions with stakeholders, and an impact analysis comparing the Household Income and Expenditure Surveys of 2006 and 2010.

The new national TVET Policy, adopted March 2011, and informed by the models established in the initial stages of the Program, provides a framework and direction for the TVET sector and on-going Program implementation. The Policy emanated from broad consultation led by the CEO, Vanuatu National Training Council (VNTC) and Director, Ministry for Youth Development, Sports and Training (MYDST), actively supported by the Program's TVET Systems Advisor and Team Leader. It emphasises a new model for TVET in Vanuatu which:

- is demand driven and flexible in its delivery;
- operates within a coordinated national qualifications framework;
- has contribution from a range of training, government, non-government, and private sector stakeholders; and
- leads to economic outcomes.

Key Evaluation Findings

The Vanuatu TVET Sector Strengthening Program Phase II has an overall objective to improve economic development in two provinces (Sanma and Malampa) through targeted training and business support services that are aligned specifically to provincial economic priorities.

¹ Vanuatu TVET Sector Strengthening Program Phase II: Revised Monitoring and Evaluation Framework, April 2010.

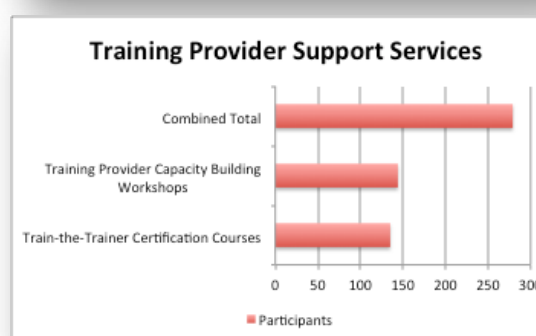
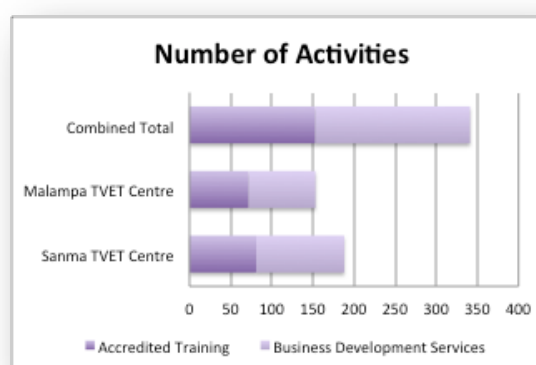
Training Support Activities

The Program has established TVET Centres in each province to coordinate and facilitate decentralised TVET service delivery in response to identified skill demand.

Since commencement in 2009, the TVET Centres have conducted a combined total of almost 350 accredited training courses and business development services (BDS) that have attracted the involvement of just under 5000 participants.

In addition, the TVET Centres provide Training Provider Support Services (TPSS), including train the trainer programs and trainer provider capacity building workshops.

Under the TPSS nearly 150 trainers have acquired an accredited trainer qualification. Support has also been given to assist training providers to comply with VNTC requirements for registration, resulting in an additional 19 training providers becoming registered.



Direct and Indirect Economic Impacts

Evaluation data from all sources strongly suggests that the Program has achieved the long-term outcome, *increased economic activity in Sanma and Malampa provinces*.

Two follow-up studies were conducted to measure the economic impact of accredited training and BDS at intervals of 6 and 12 months post-training. An overwhelming majority of participants in both studies reported improved economic circumstances largely attributed to training.

In the 6-month Tracer Study (among a sample of 678 accredited trainees and BDS clients) about 70% reported increased income and production. In the Tracer Study, 'change' was more likely for those in accredited training than BDS, and from more accessible locations, possibly reflecting different baseline capacity. However, BDS clients were more likely to report new skills being used by family and the community.

The 12-month follow-up survey was administered to a sample of 200 mainly self-employed accredited trainees. Among the self-employed group, 90% made a profit last

year, 80% reported increased income and 82% had 'some' or 'large' business improvements. Median incomes and hiring of workers had both doubled, and the change was highly significant ($p < 0.001$). It is notable that overall increases in incomes is probably an underestimate given the overrepresentation in the cluster sample of women, whose average incomes before and after training were lower than men's.

These are key findings in light of very low rates of formal employment in Vanuatu, where self-employment is the primary source of cash income. Employed trainees had positive outcomes at 12 months, including new jobs, duties, promotions, and salary increases. There is similar positive evidence of flow-on effects for family and community. Around half reported more money for the family (Tracer) and half had increased their household expenditure (12-month). Among self-employed (12-month), 71% had created new local jobs or opportunities.

Secondary analysis of comparative outcomes between the 2006 and 2010 Household Income and Expenditure Surveys (HIES)² also found aggregate household-level improvements in Sanma/Malampa communities participating in the Program. Applying a *Difference-In-Differences Estimate of Net Program Impacts* household incomes in communities that participated in the TVET program increased an average of 26 per cent relative to communities that did not participate both within the same two provinces, and in other provinces (see Appendix 10).

Access and Equity

The Program prioritises equity of access. Women comprised a minority of accredited training participants (Sanma 36%, Malampa 42%) and BDS clients in Malampa (32%). (Sanma's 62% female BDS proportion reflects a specific training aimed at women.) However, these figures represent important new opportunities (many in non-traditional livelihood areas) if set against women's lower labour force participation rate (61.4% vs 80.4% for males), higher rates of non-schooling (19% vs 15.4% for males among those aged 15+) and lower completion rates of secondary, tertiary and vocational/professional qualifications (Vanuatu 2009 National Population & Housing Census). Residents from remote areas comprised about one-quarter of both types of trainees, which also indicates unprecedented training access for some of Vanuatu's most disadvantaged communities. People of all educational backgrounds and most age groups were included. The Program worked with Disabled People's Organisations (DPOs) to improve access for persons with disability. Of the reported sample, around 10% reported some form of disability. Many courses were delivered in rural/remote localities, facilitating access while stimulating local economies. Given the difficult terrain, this is a logistical triumph for Centres and providers.

Analysis of impacts by sub-group demonstrates considerable – if slightly uneven – success in achieving another long-term outcome, *greater social inclusion in the TVET sector*. Disadvantaged groups tended to experience smaller absolute, but greater relative, change in circumstances. Those from remote locations were likelier to report 'more money' in the family, increased household expenditure, donations to the community and local livelihood opportunities. Malampa residents reported increased

² Tan, Hong W. Did TVET Improve Household Incomes in Rural Vanuatu? An Assessment of the Vanuatu TVET Sector Strengthening Program, June 2012.

expenditure more often, but the Tracer Study found Sanma residents experienced greater income and production improvements.

Men were significantly more likely to report increased incomes and more money in the family and greater livelihood opportunities for family/ community after 6 months, probably reflecting their greater economic engagement. Median incomes both before and after training among women were lower than among men, thus indicating a sex-based income differential had persisted. However, the proportional change in median income was greater for women. The secondary financial impact analysis of HIES data also found disproportionately greater improvements in (some types of) income for women-headed households. The fact that more disadvantaged sub-groups (remote residents, women and female-headed households) report greater relative change, while non-remote residents and men generally report greater absolute change, may be traceable to the critical role of training among disadvantaged sub-groups. Certainly, the relative impacts found reinforce the importance of the Program's focus on equity, but should not obscure the fact that inequities still exist.

TVET System and National Policy

The evaluation found compelling evidence of achievement of the first two (and interconnected) long-term Program outcomes, *TVET Centres functioning as a replicable model of service delivery*, and an *integrated, articulated TVET system reflecting the new Policy, implemented at provincial level*.

The Program aims through the work of the TVET Centres and national level engagement to strengthen the TVET system in accordance with the new National TVET Policy. This required a major shift in the conventional approaches to TVET delivery, with adjustments to: relationships between private, government and non-government stakeholders; decentralised and flexible models of training delivery; and a new framework for standardisation of qualifications and education pathways. Both output and qualitative data indicate healthy development and consolidation of the system, which is remarkable progress given the timeframe, number of stakeholders and complexities of collaboration. As stakeholders noted repeatedly, the Program is an exemplar of collaboration and decentralisation in action, with lessons for national and provincial authorities. The TVET Centre model is considered an effective mechanism for decentralising training to provincial level and fostering stakeholder cooperation and engagement in training. The Program was also lauded for being situated within – and thus strengthening – existing structures, eg. VNTEC, MYDST, and the Provincial Training Boards (PTBs), which appear to be executing their stipulated Policy roles in accordance with GoV and provincial development objectives.

Targeted training in response to skills demand is intended as the primary mechanism to build capacity and growth in priority productive sectors. Review of provincial Skills Development Plans (SDPs), developed with the support of the Program, shows close alignment of priorities with TVET Centre training delivery. The TVET Program uses the SDPs as a primary reference for assessing and approving training proposals, and it is making a major contribution to the achievement of provincial skills training targets.

Sustainability

Flexible and localised 'workplace' delivery of training was seen as sustainable and

critical to local economic and social development, as well as discouraging urban drift. Broader questions of provincial-based authority and funding for longer term sustainability of TVET Centres and training were raised, as was the need to improve communication and engagement with national level stakeholders. It is innovative that many trainers and BDS providers are specialists from productive sector government departments and industry, thus enabling use of their expertise while strengthening collaboration with TVET Centres and other training providers. There has been good engagement with productive sectors, notably tourism, commerce, fisheries and forestry, in identifying demand, linking with training opportunities and providing follow-up support. Some sectors have been less engaged and have not taken up the opportunities offered through the Centres.

There are also challenges in ensuring consistent training quality standards and sufficiency of providers. Registration of providers from zero in 2009 to 41 in 2012 is a major achievement. However, stakeholders reported concerns with training provider availability, stemming from the limited number of providers and difficulties for some in accommodating a demand-driven, provincial-based system alongside their full-time student load. The introduction of new provinces in the Program in Phase III will create further demand.

The Program's Strategic Advisory Group (SAG) evaluation workshop assessed progress towards system sustainability, agreeing on high-level achievements in policy formulation, procedures, TVET Centre capacity building, ownership, appropriate cost structures and skill transfers. The SAG also perceived sustainability threats to include trainer sufficiency, funding and a holistic approach to development, which rely on national-level commitment from departments and sectors.

Other Observations

The Program has overseen the development and implementation of standardised processes for identifying demand and managing training delivery to ensure transparency and quality. While such processes are a major achievement, some might benefit from review before aiming to standardise at national level. For example, the key training monitoring tool, training observation, was not consistently implemented, and uniformly high results suggest it may not be sufficiently sensitive to discern training quality. As is to be expected in competency based training, successful completion rates are high, but there remains the need to monitor delivery and ensure assessments are rigorous. While TVET Centre staff work closely with sectoral focal people and community leaders in the trainee selection process, some trainers felt trainee selection was not always optimal due primarily to low literacy levels and uneven abilities in a single course.

BDS Case Studies, while qualitative and anecdotal in method, pointed to impressive achievements based on careful trainee selection and repeated, practical workshops and coaching and other support by sectoral experts. BDS offered livelihood options for people with a range of formal education backgrounds, thus supporting viability of existing communities. The cases demonstrate remarkable increases in income directly linked to new skills, such as grading timber quality, and improving bungalow and guided tour businesses. They also highlight the Program's attention to ecological sustainability. Mini-mill training supports sustainable forestry; using local, organic food

sources for freshwater prawn farming is a model of environmental sustainability; and tourism sustains remote villages while strengthening indigenous customs and crafts.

Actual or potential obstacles to business improvements cited in surveys were echoed in stakeholder interviews and the SAG evaluation meeting. Capacity to invest in businesses, move goods and expand markets requires access to capital, better roads and communication, and support from sectors. Such obstacles impede the potential economic impacts of training, and require multi-sectoral action. Stakeholders also alluded to foreign investment in small businesses, hotels and resorts that is not always integrated into the local economy, and poses competition for ni-Vanuatu entrepreneurs, including shopkeepers and bungalow owners. Concerns about climate change – particularly increased rainfall – were also widely noted.

Conclusion

Phase II of the AusAID TVET Sector Strengthening Program has seen the successful implementation of ambitious reforms to a system that previously had not matched its potential.

The emerging system modelled and strengthened by the Program sits within a new National Policy that is built upon unprecedented collaboration of disparate stakeholders and decentralisation to provinces as drivers for economic progress. It departs from the rigidity of conventional, institution-based education, demonstrating a flexible service delivery model, one that is responsive to training demands reflecting provincial economic priorities.

The TVET Centre and its range of integrated and inter-related services is the mechanism through which the Program has experimented in the development of the TVET system in two pilot provinces. Though creative and adaptive as need requires, the Program utilises existing structures, simultaneously building capacity while engendering ownership and collaboration. A key arm of this collaboration has been the utilisation and accreditation of sectoral experts as trainers, supporting the development of an expanded pool of training providers able to meet contemporary expectations of accountability and quality.

Another has been the literal shifting of training to the villages and communities where most people live, beyond the urban fringe. For the first time, residents in many parts of the two provinces have been able to undertake training that addresses their economic development needs and leads to an accredited qualification, enhancing their access to educational pathways and job opportunities. At the same time, the Program's BDS activities permit rapid and context-specific responses to discrete business development needs for communities and individuals.

In conclusion, the Program has achieved measureable and impressive success in meeting its nominated long-term outcomes. Its focal areas cover critical productive sectors while emphasising environmental sustainability and social inclusion. Fuller engagement of some departments and sectors, processes and trainer capacity to better meet demand, infrastructure improvements, and funding certainty are challenges for the next phase (and for the sector overall). However, Program staff at all levels, and its key national and provincial stakeholders, should be gratified with the effectiveness of their hard work over this timeframe.

Table of Contents

Acronyms and Abbreviations	2
Executive Summary	3
Evaluation Report	3
Key Evaluation Findings	3
Other Observations	7
Conclusion	8
1. Background to the Final Evaluation	11
1.1 Purpose of the Final Evaluation	11
1.2 Program Design	11
1.3 Program Monitoring and Evaluation	12
1.4 Final Evaluation Methodology	12
1.5 Structure of the Report	13
2 New National TVET Policy: Setting the Context	14
3 Outcome 1: TVET Centres Functioning as a Replicable Model for Delivering a Range of TVET Services	16
3.1 TVET Centre Service Delivery	16
3.1.1 Accredited training	16
3.1.2 Business Development Services	17
3.1.3 Training Provider Support Services (TPSS)	18
3.1.4 Other services	19
3.2 Training Targets Specific Needs Identified in Provincial Plans	19
3.3 Quality of Training and Trainee Competencies	20
3.3.1 Competency assessment of trainees	21
3.3.2 Training observation for quality assessment	21
3.3.3 Participant feedback on quality	21
3.4 Stakeholder feedback on TVET Centre performance	22
4 Outcome 2: An Integrated and Articulated TVET System Reflecting National Policy Implemented at Provincial Level	23
4.1 Evidence of TVET System Implementation and Alignment to Policy	23
4.1.1 Decentralisation	23
4.1.2 Challenges of a ‘demand-driven’ system	24
4.1.3 TVET modules connect formally to qualification pathways	26
4.2 PTB Functioning as a Decentralised Arm of VNTC	26
4.3 Evidence of Coordination and Collaboration of Stakeholders at Provincial Level, with PTB in Key Role	27
4.3.1 The Program’s design utilises and strengthens existing structures and fosters a sense of ownership	27
4.3.2 The TVET Program as a model of successful collaboration	28
4.4 Sustainability: Progress and Challenges	29
5 Outcome 3: Increased Economic Activity in Program Provinces	31
5.1 Economic and Livelihoods Outcomes at Individual Level	31
5.1.1 Outcomes after 6 months (Tracer Study) among BDS and accredited training clients	31
5.1.2 Outcomes after 12 months for self-employed accredited training participants	32
5.1.3 Outcomes after 12 months for employed accredited training participants	34
5.1.4 Outcomes reported in BDS Case Studies (self-employed clients)	34
5.2 Outcomes for Family and Community	35

5.3	Barriers to Economic and Livelihoods Improvements.....	38
5.4	Future Business Plans for Self-Employed Participants.....	40
5.5	Provincial-Level Change in Household Income and Expenditure.....	40
6	Outcome 4: Greater Social Inclusion within the TVET Sector	41
6.1	Training Access and Impacts for Women	41
6.2	Training Access and Impacts for People in Remote Areas	42
6.3	Training Access for People of All Educational Backgrounds.....	43
6.4	Training Access for People of All Ages.....	44
6.5	Training Access and Impact for People with a Disability.....	45
7	Findings: BDS Case Studies	47
7.1	BDS Case Study – Prawn Farming, Sanma Province	48
7.2	BDS Case Study – Vanilla Farming in Sanma Province	52
7.3	BDS Case Study – Mini-Milling, Malampa Province.....	56
7.4	BDS Case Study – Tourism, Malampa Province	60
8	Limitations of Evaluation Findings	65
9	Conclusion	66
10	Acknowledgements.....	68

List of Appendices

1. Detailed methodology
2. Samples and fieldwork summary
3. Tracer Study English tool
4. Bi-lingual BDS client interview tool
5. Bi-lingual 12-month survey tool
6. Interview schedule
7. Stakeholder Advisory Group workshop participant list
8. Tracer Study results
9. 12-month follow-up survey results
10. Hong Tan assessment of 2006-10 HIES

1. Background to the Final Evaluation

1.1 Purpose of the Final Evaluation

The Final Evaluation of the AusAID-funded Vanuatu Technical and Vocational Education and Training (TVET) Sector Strengthening Program was conducted in May 2012. Its aim was to evaluate the contribution of the Program to its intended long-term outcomes (outlined in 1.2) from commencement (2009) to April 2012. The purpose of the evaluation was to provide the Governments of Vanuatu and Australia, and other interested stakeholders, evidence of the major outcomes and lessons learned from the Program design and implementation to inform the continuation of TVET sector reform into Phase III of the Program.

1.2 Program Design

The Vanuatu TVET Sector Strengthening Program Phase II implemented a model for improving TVET service delivery at the provincial level within a quality-based national training system as expressed through the new National TVET Policy.

TVET Centres were piloted in two provinces, Sanma and Malampa, following a competitive selection process of pilot provinces by the Government of Vanuatu (GoV). Following a start-up phase, TVET Centres effectively began operations in June 2009 delivering a range of training, business development, employment assistance services for provincial clients and support services for local training providers. Working within existing local processes, the Centres aimed to develop new approaches to identifying training needs and priorities and to better link training provision to economic outcomes for trainees.

Through the TVET Centres and engagement at national level, the Program aimed to strengthen the TVET system by: introducing new thinking about coordination and cooperation between a broad range of private, government and non-government stakeholders; implementing decentralised and flexible models of training delivery; and operating within Vanuatu's new qualifications framework for standardising training quality and education pathways.

The long term Program outcomes as specified in the Program Monitoring and Evaluation Framework are³:

1. TVET Centres functioning as a replicable model for delivering a range of TVET services
2. An integrated and articulated TVET system reflecting national policy implemented at provincial level
3. Increased economic activity in Program provinces
4. Greater social inclusion within the TVET sector

³ Please note that the outcomes have been articulated with slightly different wording from the April 2010 M&E Framework. Two have been combined to capture the interchange between policy and system implementation (ie. they cannot be easily separated). The outcome relating to economic activity no longer refers to change in 'priority productive sectors' overall as this requires a macro-assessment for which there is a lack of ability to derive evidence. Rather, the focus is on the economic impact for Program beneficiaries and their communities.

1.3 Program Monitoring and Evaluation

The Program was designed to be experimental and adaptive, with rolling Annual Plans to allow Program modification in response to lessons learned. Thus, monitoring and evaluation (M&E) played a vital role in refinement, where necessary, of TVET Centre service delivery and Program implementation.

The Program's M&E system, revised in March 2010, was designed to:

- Systematically collect data and report six-monthly on TVET Centre and Program outputs and intermediate outcomes;
- Periodically monitor outcomes through an annual evaluation to identify lessons and inform development of the Program's Annual Plan; and
- Provide a practical means for provincial and national levels to engage in Program learning and decision-making through six-monthly Provincial Training Board (PTB) and Strategic Advisory Group (SAG) meetings and Annual Evaluation workshops involving key national and provincial TVET stakeholders.

1.4 Final Evaluation Methodology

The design for the final evaluation was derived from the Program M&E Framework. The M&E Advisors prepared a draft methodology identifying potential data sources and tools to measure specific indicators; this was refined through discussion with the Technical Director (TD) and Team Leader (TL) focusing on rigour, logistics, access, timing and resources. Specific samples/ sources and methods were enumerated against indicators.

The evaluation utilised a variety of methods including collation of output (process) data, structured questionnaires with trainees and clients at 6-month (Tracer Study) and 12-month points (12-month follow up survey), semi-structured interviews and group discussions, and review of secondary data (see summary of samples, **Table 1**). This approach offers the benefits of increased rigour through triangulation of multiple data sets, spanning the more objective reporting of surveys with random samples, and the deeper reflections and insights of selected individuals. A virtually identical fieldwork plan was used in each province, with additional data collected at national level. See Appendices for: detailed methodology (1), samples and fieldwork summary (2); Tracer Study English tool.(3); bi-lingual BDS client interview tool (4); bi-lingual 12-month survey tool (5); Interview schedule (6); Stakeholder Advisory Group workshop participant list (7).

Table 1. Overview of final evaluation data sources, number of respondents

Sample / method	Sanma (n)	Malampa (n)	Port Vila/ national (n)	TOTAL
Trainees & clients 6-month Tracer Study	328	350	-	678
Trainees 12-month survey	100	100	-	200
BDS clients / Case Study interviews	10	11	1	22
People with disability / interviews	2	3	-	5
Disabled people's organisations rep/ discussion	2	-	-	2
Training providers / group discussion	7	1	3	11
TVET Centre managers and BDS manager/ interviews	2	1		3
PTB members, productive sector & govt dept representatives/ group discussions	11	13		24
National level stakeholders and donor/ interviews	-	-	3	3
Senior Program staff (Port Vila)	-	-	2	2
Stakeholder Advisory Group workshop participants	-	-	21*	21*

* Does not include TVET Program staff; includes 8 individuals interviewed separately

It should be noted, inter alia, that the long-term outcomes in the Program's logic model are not achievable by the Program alone; they are also determined by the actions of other TVET stakeholders and broader economic influences. This is particularly the case for a Program that explicitly aims to be fully embedded into local structures, rather than as a parallel system. Thus, this evaluation has focused on the contribution of the Program to these outcomes, while acknowledging that achievements and weaknesses found are not necessarily fully attributable to the Program.

1.5 Structure of the Report

The previous annual evaluations focused on output data and intermediate outcomes, organised by Program component, ie TVET Centre, Provincial Coordination, and TVET System. This final evaluation brings together data from sources pertaining to each long-term outcome; these are summarised in successive chapters. Evaluative conclusions on the overall impact of the Program are drawn together in a Conclusion section and highlighted in the Executive Summary. Appendices include more detailed results.

2 New National TVET Policy: Setting the Context

For a fuller understanding of the context of the evaluation, a short summary of key components of the Policy that are expressed through the Program is provided here.

In March 2011, the GoV formally endorsed the Vanuatu Technical Vocational Education and Training [TVET] Policy 2011 – 2020. It was officially launched in August 2011. Its Foreword highlights the country's high expectations for the sector:

[TVET] can make important contributions to poverty alleviation, sustainable development, and a life of peace, prosperity and freedom (TVET Policy 2011:1).

The Policy emerged following stakeholder consultations and the key decision to shift TVET management from the Ministry of Education (MoE) to the Ministry of Youth Development, Sports and Training (MYDST). It lays out historical sectoral weaknesses, including 'isolation from the private sector, lack of coordination within the centralised management systems, limited financial support and limited institutional autonomy', leading to 'acute skill shortages and diminishing private sector confidence in the TVET system ... compounded by [perceptions of low status and quality and] little accountability ...' (p. 1). It adds that previous training in industry and business was not recognised or articulated, and failed to deliver qualifications and better remuneration.

Sector transformation anticipated under the new Policy includes:

- better access for all types of students and workers;
- greater range of course types and delivery modes;
- competency-based training;
- providers from public/private/industry 'competing and collaborating';
- diverse funding streams;
- professional quality standards; and
- liaison between partners in policy and management through the Vanuatu National Training Council (VNTC).

The Policy's stated **Mission** is: *A well-resourced and accessible TVET System which*

- *is demand driven;*
- *is quality assured, providing pathways to national and international systems;*
- *is within a coordinated national framework;*
- *has contribution from a range of stakeholders;*
- *is flexible in its delivery;*
- *and leads to a productive, inclusive sustainable society and economy (p. 4).*

The Policy includes national training objectives and indicators and emphasises: coherence with GoV objectives; decentralisation to provinces; equity and social inclusion; consistency and quality assurances; and roles and responsibilities for all stakeholders. The Policy was endorsed in the third year of Program's Phase II, referenced in a figure illustrating the interface between PTBs and TVET Centres (p. 8).

The Policy development process was actively supported by the Program's TVET Systems Advisor and Team Leader. In the words of the CEO, VNTC, 'We drafted the

Policy ourselves; we didn't get outside technical assistance, but Peter Morris, Joe Iautim [MYDST Director] and I did it together'. The Policy alludes repeatedly to the realities of Vanuatu, and reflects normative values, including delineated roles and responsibilities. Also notable are its outcomes, indicators, procedures and quality systems. The Policy was carried by MYDST through the Council of Ministers, and has generated interest from Pacific nations including Fiji, Tonga and Kiribati.

3 Outcome 1: TVET Centres Functioning as a Replicable Model for Delivering a Range of TVET Services

This first chapter of evaluation findings pertains to the long-term outcome that focuses on the two TVET Centres, which have led the delivery of demand-driven, decentralised training outlined within the new Policy. The Centres have not just delivered training, however, but have developed and implemented processes and systems for coordination, transparency and quality, which are key features of the Policy. Evidence on this outcome is drawn from routine TVET Centre output (process) data as well as stakeholder interviews and discussions. Stakeholder views both complement and help to interpret output achievements and limitations.

3.1 TVET Centre Service Delivery

This section reports on the reach and coverage of the key services delivered through the TVET Centres during the Program period (July 2009 to end April 2012) as follows:

- Facilitating and funding **accredited training** by training providers;
- Facilitating and funding **business development services (BDS)**; and
- Providing **training provider support services (TPSS)**;

3.1.1 Accredited training

In facilitating accredited training, the TVET Centre implements a series of quality processes to ensure that training is demand-driven, aimed at priority areas, transparently funded, and quality assured as per the standards stipulated by the VNTC. These include training needs assessments and visits to many parts of each province to raise awareness of training opportunities; assessments and approval of training requests in liaison with provincial productive sector focal persons; determining appropriate course modules; competitively seeking proposals from training providers; and funding approval through the Employment and Training Fund (ETF) committee comprising PTB representatives. The Centre also manages the final selection of training participants, handles the logistics for training delivery, and oversees data collection and reporting.

Based on the nature of request to the TVET Centre, staff determine the more appropriate response, accredited training or Business Development Services (BDS) (discussed in the next section).

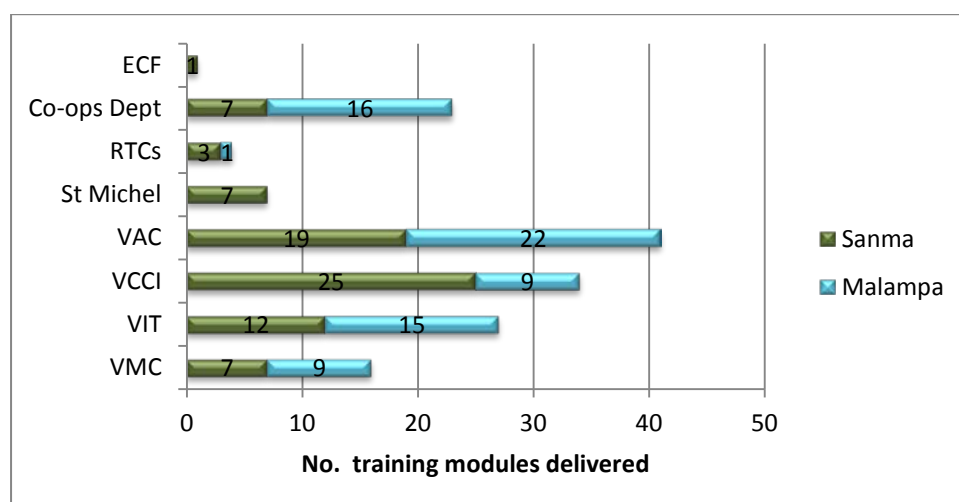
From July 2009 to April 2012, the Sanma TVET Centre facilitated delivery of **81** accredited training modules; the number for the Malampa Centre was **72** modules. Over 3 years, this is an average of approximately 24-27 trainings per year. Over a 10-month annual training calendar, this equates to over 2 trainings per month in each province, with each module running 1-2 weeks. Given that relatively fewer modules were delivered in 2009, the concentration actually exceeded this in 2010 – 2012.

Overall, **2905 participants** completed accredited training modules, **1578** in Sanma and **1327** in Malampa. An analysis of equity of access to training by characteristics including sex, age and disability is reported in **Chapter 6**.

TVET Centres call for proposals from registered training providers in Vanuatu to deliver specific modules. **Figure 1** outlines the number of modules delivered by each provider

in the two provinces. The Vanuatu Agriculture College (VAC) was the major provider, followed by the Vanuatu Chamber of Commerce and Industry (VCCI) and the Vanuatu Institute of Technology (VIT). Rural Training Centres (RTCs) supported to become registered providers by the TVET Centres have delivered four modules (as at April 2012). Ongoing capacity constraints for RTCs to meet demands of the new system are discussed in **Chapter 4**. RTC trainers have been used as assistant trainers as a means to build capacity with the aim to increase their training contribution throughout 2012.

Figure 1. Number of accredited training modules delivered by providers in each province



Legend: ECF (Edwards Computer Foundation), Coops Dept (Cooperatives Department), RTC (Rural Training Centre), St Michel College, VAC (Vanuatu Agriculture College), VCCI (Vanuatu Chamber of Commerce and Industry), VIT (Vanuatu Institute of Technology); VMC (Vanuatu Maritime College).

3.1.2 Business Development Services

BDS is a flexible service based on coaching/mentoring, business advice, and/or workshop style assistance. BDS is often utilised when requests are in a new skill demand area that has no accredited module and further identification of the nature of the demand and appropriate supply is required. In this case, workshops may be run to trial the demand and technical competency requirements, sometimes leading to the development of an accredited module. Conversely, BDS activities also emerge from accredited training where the need for follow-on workshops/coaching in a specific area is conducted with a client group. BDS providers include expert government or non-governmental organisations (NGOs) and individuals with sectoral expertise. The process for identification, prioritisation and ETF Committee funding approval is largely the same as for accredited training.

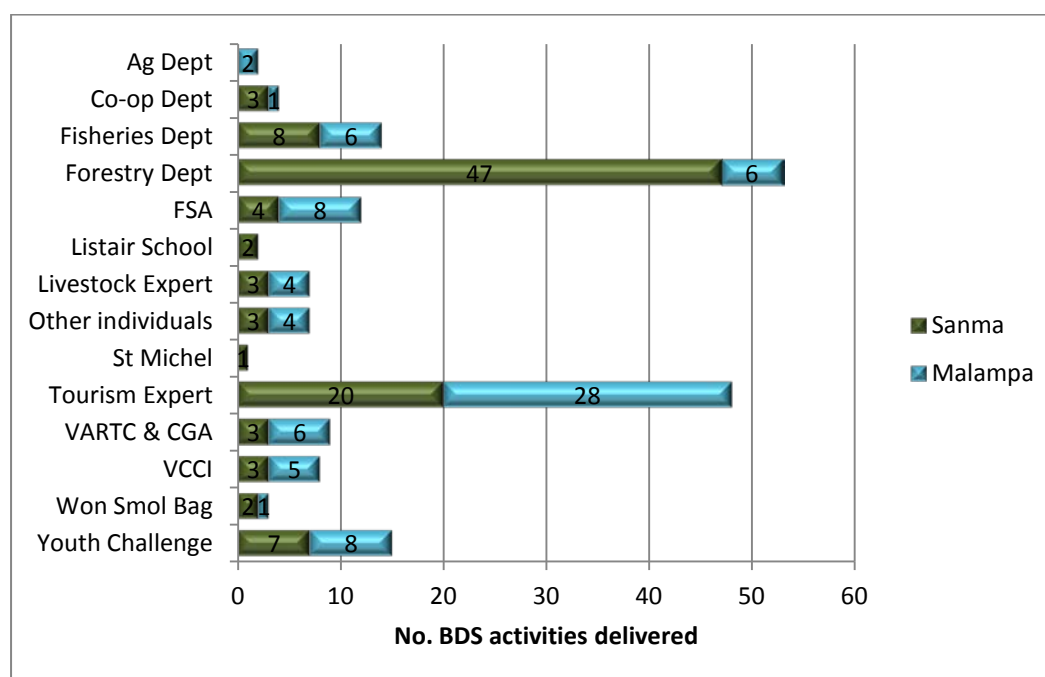
From BDS commencement in April 2010 to April 2012 the TVET Centres facilitated **188 BDS activities, 107** in Sanma and **81** in Malampa.

A total of **1957 BDS** clients participated in BDS activities from April 2010 to end April 2012, **1281** in Sanma and **676** in Malampa. As described above, clients may participate in a series of BDS activities over time. An analysis of equity of access to training by characteristics including sex, age and disability is reported in **Chapter 6**.

A range of BDS providers has delivered training in each province (see **Figure 2**). Government Departments (Agriculture, Cooperatives, Fisheries, and Forestry) have

been key contributors. Others include NGOs such as Won Smol Bag and Youth Challenge, industry peak bodies such as VCCI and the Cocoa Growers Association, and individual experts in tourism and livestock.

Figure 2. Number of BDS activities delivered by providers in each Province



Legend: FSA (Farm Support Association), VARTC (Vanuatu Agricultural Research and Technical Centre), CGA (Cocoa Growers Association; VCCI (Vanuatu Chamber of Commerce).

3.1.3 Training Provider Support Services (TPSS)

Under TPSS, TVET Centres support the training sector to improve quality standards as well as broaden and deepen its capacity to meet training needs within the new demand-driven, modular and decentralised model. TPSS has assisted the registration of training providers, accreditation of new courses, and qualification of trainers to meet the national qualifications framework standards. To date TPSS has assisted:

- registration of 19 Training Providers (incl. 16 RTCs) with the VNTC;
- accreditation of 6 new TVET courses (45 modules) with the VNTC; and
- qualification of 14 new provincial-based trainers (including 7 females) and their affiliation with registered providers to expand provincial-level training capacity.

The Program has identified and registered 77 BDS providers on the TVET Centre database, and to date 42 providers from organisations or as individuals have been contracted to provide services.

In order to increase training quality and supply, the Program has also facilitated the delivery of 7 Train the Trainer (TTT) certification courses for 135 participants (24% women) to formally up-skill individual trainers and those within key training organisations, government departments and RTCs. During interviews and discussions, individuals from sectors and providers praised the quality of the TTT course, and its significant impact on their confidence in preparing lesson plans, teaching and assessment using systems and procedures within a competency-based training

framework. *‘Through the course I became able to see the benefit of all the quality requirements’* (sectoral representative and trainer).

A total of 7 Capacity Building Workshops have also been held for 144 participants (20 women) representing training and BDS providers to assist their integration into the TVET system and potential involvement through the TVET Centres.

Although many providers have now been registered, there have been challenges in meeting provincial demand for accredited training. This is discussed in **Chapter 4 section 4.1.2**).

3.1.4 Other services

Under the concept of a ‘one-stop-shop’, the TVET Centres are also charged with providing employee/employer linking and information services. One mechanism is its computer lab for trainees/clients to investigate education or job opportunities, prepare resumes, etc. The lab is also available to consolidate the impact of training and BDS, eg preparation of assessments, teaching and learning materials, and business plans. The linking service has primarily involved posting job vacancy announcements on Centre notice boards and referring clients to job seeker databases on the internet. The Centres have also posted notices when contacted by organisations looking for applicants to higher education (including scholarships). While the concept is a good one, Centre Managers felt to offer employment/information services beyond the current scope was not possible with the current staff complement.

3.2 Training Targets Specific Needs Identified in Provincial Plans

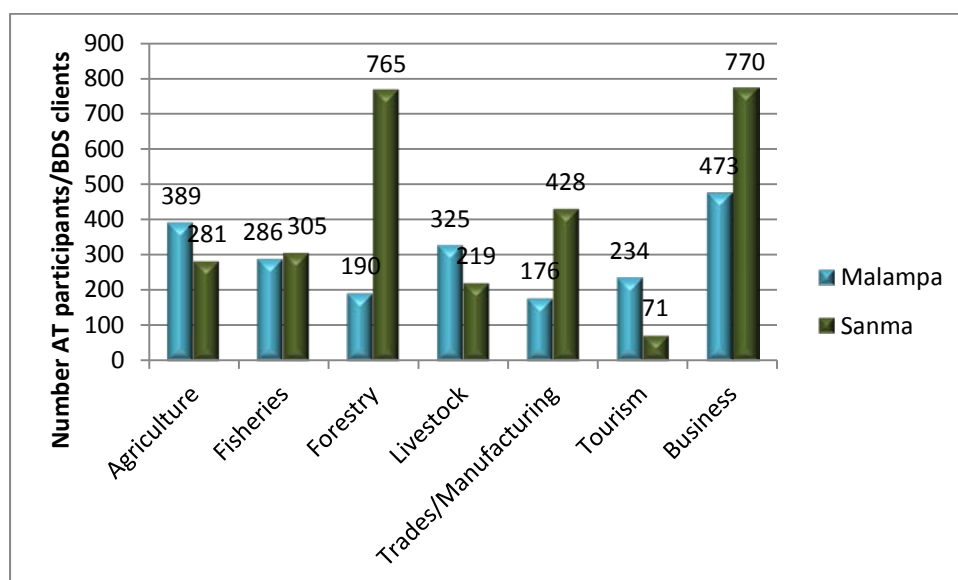
The new Policy describes the intended role of the TVET system in supporting sectoral training priorities for national and provincial development. The Program worked with the two provinces to develop a Skills Development Plan 2010-14 (SDP) for each. The SDPs identify provincial economic development priorities and predict the type and quantity of skills training that would be needed for each province to achieve its development objectives.

The SDPs note that the achievement of these objectives will not only be dependent on skills training but a range of other factors including infrastructure development, access to finance and availability of raw materials. The SDPs also make the point that the delivery of appropriate levels of skills training will be closely linked to the availability of registered training providers and accredited courses.

The TVET Program uses the SDPs as a primary reference for assessing and approving training proposals to ensure all TVET Centre coordinated activity is demand driven and thereby making a major contribution to the achievement of provincial skills training targets.

In addition to 81 (Sanma) and 72 (Malampa) accredited training programs the Program supported delivery of 107 (Sanma) and 81 (Malampa) BDS activities across priority sectors involving in total almost 5,000 participants as evidenced in Figure 3.

Figure 3. Number of Accredited Training Participants and BDS clients by sector in each province



While it is evident that accredited training reflects priority areas, the sectoral distribution of training does not fully mirror that identified in 5-year targets (Sanma SDP p. 59; Malampa SDP p. 58). For example, both SDPs rank agriculture as the first priority for courses and trainee numbers (32% of targets for Sanma, 44% for Malampa), but agriculture ranked 5th (of 7) in trainee numbers in Sanma and 2nd in Malampa (see **Figure 3**). Participation in business (or ‘cross-sector’) training in both provinces, livestock in Sanma and both forestry and tourism in Malampa were better aligned with targeted ranking. It is difficult to determine whether training distribution reflects demand by individuals or availability of registered providers and accredited modules.

In considering the question of meeting quantitative training targets, it would seem unwise in the set-up phase of the new national system to focus on these at the expense of quality. As described in section 3.1.1, the Program has developed and implemented a range of quality processes. These processes entail staff time and resources, but serve as crucial mechanisms in support of the quality outcomes articulated in the Policy. It is also noted that there are plans to review the SDPs later in 2012.

Overall, stakeholders agreed that the quantum of training and BDS activities to date is a remarkable logistical achievement.

3.3 Quality of Training and Trainee Competencies

TVET Centres monitor the quality of accredited training delivery and trainee competency in three ways:

- Review of participant competency assessment pass rates in training provider reports
- Direct observation of training by Centre staff
- Follow up on participant training experiences in tracer surveys. (Participant training evaluation is also conducted at the end of each course and compiled in trainer provider reports.)

3.3.1 Competency assessment of trainees

Competency based assessment of trainee performance is mandated by VNTC, and each individual is assessed by the trainer using a range of assessment tools including observation of practice, trainee portfolios and logbooks, theory tests and completed student workbooks. For the final evaluation competency assessments for 48 training modules in Sanma (59% of total) were reviewed. Among 110 participants trained, 97% were assessed as being competent. In Malampa, 40 (56% of total) modules were reviewed; among the 866 participants, 98% were assessed as competent. As is to be expected in competency based training, successful completion rates are high; however, it is not possible to conclude definitively whether this reflects objective competency assessment or an inflation derived from the assessment process. The VNTC CEO himself expressed some concern over the sensitivity and consistency of competency assessments. There remains the need to monitor delivery and ensure assessments are rigorous. .

3.3.2 Training observation for quality assessment

During every course TVET Centre staff are required to make personal visits to the training venue (often in remote locations) to undertake a training quality assessment. The system currently used is a form listing 12 criteria on which to pass judgement, with four gradations from 'poor' to 'very good'. Criteria are clustered under categories, including: 1. Content: course content and materials, use of training plans, assessment plans and tools; 2. Trainer: teaching methodology, trainer competency and style; 3. Process: Time management, learning process; and 4. Context: venue, resources and equipment. Based on grading of these criteria, an overall rating is given.

While observation records were not available for every training, a review of those obtained yielded the following results. In Sanma, 63 (78% of total) training modules were observed, of which 27% were rated overall as 'good', and 73% rated as 'very good'. Among the 26 (36% of total modules) available in Malampa, all but one (96%) were rated as 'very good'.

Discussions with TVET Centre managers about missing observation records focused on staff turnover, shortfalls and capacity. The apparent lack of discernment in rating quality suggests that some staff may need additional capacity building to execute the task. Additional focus on practical ways to better distinguish quality (or to better employ the currently used procedure) may be helpful. Ideally, Training Observation tools would be reviewed and agreed as part of the national TVET system as a central feature of quality monitoring systems.

3.3.3 Participant feedback on quality

Participant perceptions on the value of training has been captured in both the routine 6-month Tracer Study as well as the 12-month survey conducted for this evaluation.

Participant feedback was overwhelmingly positive. In the Tracer Study, 100% reported that the training/ BDS had met their expectations and 95% were interested in receiving further training. Nearly one-quarter (24%) had already used other TVET Centre services. In the 12-month survey, participant self assessment of skill level since the training was explored. All were satisfied with their skill level and most reported that they had maintained their skills since training 12 months before. The vast majority had mentored or trained others and had changed their work practices as a result of training (see **Table 2**).

Table 2. Participant feedback on skills (12-month survey among accredited trainees)

	Yes		Total	
	n	%	n	%
Maintained skill level since training	168	84%	199	100%
Mentored or trained others since training	178	89%	199	100%
Satisfied with current skill level	197	100%	197*	100%
Changed work practices	184	92%	199	100%
<i>Improved work quality</i>	143	75%	199	100%
<i>New work techniques/ systems</i>	122	64%	199	100%
<i>More productive</i>	16	8%	199	100%

* Note: missing data

3.4 Stakeholder feedback on TVET Centre performance

High opinions were expressed by stakeholders in relation to the performance of TVET Centres in both provinces. Even when asked directly to identify weaknesses, training providers, productive sector representatives and the PTB did not cite those relating directly to the TVET Centres, but aspects such as overly concentrated periods of training due to limited trainer availability, or insufficiency of providers. The only exception was that the Malampa PTB felt some training was delivered without sufficient consultation with sectors to ensure alignment with provincial targets, but this was said to be of minor concern. The enthusiasm expressed by all stakeholders (including at the SAG evaluation workshop) about the Program, its achievements and the strength of relationships is further indirect evidence of high performance of Centres.

4 Outcome 2: An Integrated and Articulated TVET System Reflecting National Policy Implemented at Provincial Level

This chapter explores the extent to which the Program has contributed to the implementation of national policy and strengthening of the TVET system at provincial level. Because this outcome's achievement also relies upon decisions and actions of TVET sector stakeholders more broadly, the chapter includes evidence about and from these actors. Such material also constitutes important contextual data within which Program outcomes may be better interpreted.

4.1 Evidence of TVET System Implementation and Alignment to Policy

Both quantitative (output) and qualitative data indicate healthy development and consolidation of the system as articulated in the Policy. The Program manifestly is congruent with Policy aims, and has played a key role in implementation of policy at the provincial level through its Centres. Achievements and challenges to further roll-out are discussed below.

4.1.1 Decentralisation

A critical Policy feature is decentralisation to provinces through 'strengthening the role and capacity of Provincial Training Boards (PTBs)', consistent with national decentralisation policies (Policy pp. 6, 8). The Provincial TVET Centre 'provides decentralised services related to the implementation of VNTC policies and procedures.' Decentralisation relates not just to processes of authority or responsibility, but to the literal shifting of training delivery to the local level.

Output data on training, as noted in the last chapter, is indisputable evidence that the establishment and growth of TVET opportunities has occurred in a wide variety of areas and locations. This particular achievement was applauded by all key stakeholders in various ways. For example, some emphasised the demographic logic in this shift:

- *[TVET] takes the classroom to where people are* (provincial authority)
- *It makes sense to train locally when ... the majority live in rural areas* (PTB).

Several linked decentralised training to the viability of traditional living patterns, sense of community, and even the local economy, eg:

- *TVET helps keep people sustainably on the land and in communities, rather than drifting to urban centres and becoming jobless* (PTB)
- *Local training brings the community together because they see their own members taking part. When the youth report back on training, it makes the village happy* (Sector representative)
- *Training on site stimulates the local economy because they provide accommodation and food* (Sector representative).

An individual in the construction sector noted that TVET training enabled maximising of opportunities (eg, preparing competitive tenders) through another locally-based AusAID project, the Vanuatu Transport Sector Support Program. A representative from Save the Children (Vanuatu) reported that her NGO was providing small start-up grants with AusAID funding to enable youth trained in business management through the TVET Centre to implement their new livelihoods concepts and plans.

Several stakeholders at the SAG evaluation workshop view the TVET Program model as an exemplar for other public systems, eg:

- *The national government should be supporting decentralisation the way TVET is (provincial authority)*

However, decentralisation carries inherent challenges if the local level lacks authority or funding lines to ensure sustainability. As well, PTB members, providers and TVET Centre staff expressed concern about the pace of VNTC registration and accreditation processes to facilitate local training delivery, and regularity of communication with the national level. Both challenges are discussed later in this chapter.

4.1.2 Challenges of a ‘demand-driven’ system

A hallmark of the TVET Policy written into its Mission statement is that it is ‘demand-driven’. ‘For example, a sector’s production targets may determine its requests for specific training modules and trainees deemed most likely to utilise training. Individual or community requests may rely on awareness of TVET opportunities or links with productive sectors; they may also express need in new training areas, leading to the creation of new modules (and, thus, expanded TVET offerings). Adding substantially to this complexity are two commitments of the Policy: quality standards for trainer and module accreditation, and equity and social inclusion:

- *Fair and equitable access to TVET programs is available for all;*
- *Marginalised groups such as girls and women, the disabled, as well as the rural and urban poor are actively encouraged to develop their skills (p. 7).*

Meeting ‘demand’

Attempting to satisfy economically driven skills training demand in provincial locations is highly ambitious but essential for authentic decentralisation and local ownership. A major challenge for the new system is the sufficiency of registered, available trainers in demand areas. Registration lies mainly under the purview of VNTC, while the issue of availability primarily involves the training providers themselves. A shortage of registered providers was seen by stakeholders as one key constraint to training delivery; another was difficulties such as the conventional semester system used by most large institutions, which struggle to release their trainers for flexible (but typically intensive) module delivery at provincial level. To extend supply of existing providers, the TVET Centres have established a mechanism whereby the lead provider, often based in Port Vila, co-teaches with newly-affiliated local trainers who are assisted in the VNTC registration process by the Centres. The intention is that local trainers will become independent after this period of capacity building. Having lead trainers available only during inter-semester periods places logistical pressures on TVET Centres (and affiliated trainers).

Nonetheless, progress towards the Policy’s vision of public, private and industry providers ‘both competing and cooperating’ (p. 2) is measurable in the involvement of different types of providers in training delivery (see Chapter 3) and a growth in registration rates (from **zero** in 2009 to **41** by mid-2011, closing in on the target of 50 by 2015). This achievement appears attributable partly to the Program’s TPSS in

concert with other actors such as VNTC and VRDTCA to identify training providers and support their registration.

The registration of 19 Rural Training Centres (RTCs) has significantly increased the potential pool of provincial-based training providers. However, as mentioned earlier, these small, often locally-owned organisations may lack sufficient capacity to submit timely, competitive training proposals and deliver according to training standards. RTCs are based in rural and remote areas and have little experience in provision of accredited, articulated training. Several stakeholders thought ongoing capacity building for RTCs is needed alongside further encouragement to take up the opportunities presented through the TVET Centre model.

The limited staff and resources within VNTC (and, previously, in the Program's TPSS) have hampered capacity to ensure adequate training supply. TPSS added another staff member (totalling two) to bolster resources, but VNTC acknowledges it struggles to keep up with registration and quality audits of providers and curriculum.

Some registered providers in Sanma expressed an additional concern that may adversely affect supply in the future. These providers had all been deemed 'non-compliant' through a VNTC audit in Sep 2011; however, as of May 2012 they had received no formal notification of deficiencies, or how to address these.

Along with current challenges in meeting sectoral demand and ensuring consistent training quality standards and sufficient providers, the introduction of new provinces in the Program Phase III will create further demand.

Selection of trainees

The TVET Centre has a number of processes for trainee identification and selection. The first is to elicit demand by raising local awareness of the Program and its economic development objectives, which is a challenge given sparse population settlement across difficult terrain. Various means are employed, including visits by Centre staff to communities in remote parts of the multiple islands comprising each province, meetings with productive sector representatives at national and provincial levels, word-of-mouth, local authorities and NGOs, and print media/ radio. A formal request for training must be completed by the relevant sectoral focal person, provincial planner, Area Secretary or community leader. This request must clearly detail the link between the skills requested and an intended economic outcome, along with a justification of alignment with provincial development priorities. Each individual who is to participate in the training is required to complete an Expression of Interest (EOI) form in which the anticipated use of new skills, including future economic plans, is detailed. The training request along with these EOIs should then be assessed by the Centre's Provincial Training Coordinator in consultation with the relevant sectoral representative. The Centre also liaises with sectoral focal persons, Disabled Persons Organisations and community groups (eg, women, youth) to identify needs, opportunities and potential trainees.

Despite these processes, some members of PTBs, sectors and providers felt trainee selection was not always optimal. The major problems mentioned were: 1) trainees with low levels of formal education, often in the distant past, impairing capacity to comprehend and keep pace with accredited courses in intensive mode that rely on

printed materials, many in English; 2) uneven levels in a single course, retarding faster learners or leaving slower ones behind; and 3) inclusion of trainees who lack either the interest or conditions (eg, capital, location) to utilise training. It is inevitable in any sort of training or education that trainee background and commitment will vary; not every trainee or student will succeed at the highest levels, and even the best selection systems can break down. Nevertheless, stakeholder and trainer feedback highlights the importance of the Program's systematic process for trainee selection and of ensuring that it is implemented consistently.

The TVET Policy and SDPs make clear that training is expected to deliver measureable economic outcomes driven by increased household incomes and productive sector expansion. It is plausible that rapid results are more likely among trainees with higher levels of literacy and education, business experience and good links to markets. However, the Policy and Program are both explicitly committed to equity of access for training, and inclusion of remote, less educated or otherwise disadvantaged populations. As discussed in Chapters 5-7, absolute impacts may have been greater among more 'advantaged' populations. However, the evaluation found that some impacts were relatively greater among the more disadvantaged participants (eg, women, people with disabilities, those from remote areas), which indicates that different types of positive outcomes can be produced through equitable access.

4.1.3 TVET modules connect formally to qualification pathways

Modular training enables students to work towards a qualification progressively, and potentially complete a full qualification, possibly from a range of training institutions. This means, regardless of institution, training will articulate to a recognised qualification.

One example is the articulation of agriculture training between RTCs and the Vanuatu Agriculture College (VAC). RTCs are now able to deliver Level I modules in VAC courses; this enables the VAC to enrol students with advanced standing, and focus its resources on higher level qualifications. It potentially allows greater access to training at community level and clearer opportunities for articulation to an institution offering higher qualifications.

The role of RTCs to potentially bridge communities and education institutions in other training sectors is one way to improve access to training for people who may not have been previously aware of educational opportunities.

Another example, and a hallmark of the flexibility intended for the system, is that clients are able to end up with a qualification without having to commit to completion of all modules at the outset. There are many who have started with one or two modules initially, only later realising they needed additional training to meet their vocational aspirations. Through this incremental process, they have fulfilled the requirements for a nationally recognised qualification. And still others have begun training through the TVET Centre at provincial level (with VIT), and then gone on to enrol at VIT in Port Vila to compete a full course.

4.2 PTB Functioning as a Decentralised Arm of VNTC

Stakeholders generally agreed that the PTB effectively executes its mandate to facilitate the coordination of training at provincial level, with some noting this was not always so.

Formerly PTBs were not working well, but things have changed very much with the TVET Program. They are now very effective. I am convinced they know their role ... and understand the need for decisions on training to reflect provincial priorities (VNTC)

A TVET Centre manager described relations with the PTB as ‘healthy and positive’, with PTB standing ready to meet outside the scheduled times, participating actively in special seminars aimed at encouraging sectoral involvement, and involving the Centre in sharing Program information at Provincial Government Council meetings.

One factor often invoked to explain PTB’s improved effectiveness is its composition (ie, provincial authorities, productive sectors and departments, women’s groups and training providers), which is a result of the Program-supported change to VNTC regulations for PTB restructuring. The composition enables it to canvass sectoral training needs and opportunities in light of provincial targets, and, through its ETF sub-committee, to determine release of training funds. Another factor may be the Program-supported management training through the APTC, delivered to PTB chairs and provincial planners.

However, even the PTB itself acknowledged that not every member attended each meeting and minutes were sometimes forwarded late. There is significant pressure on these unpaid individuals, who must balance their busy professional lives with the PTB TORs articulated in the Policy. Coordination, prioritisation of training needs and funding decisions all require substantial time. That said, it was noted that some sector representatives on PTBs have little engagement with the Program, rarely supporting identification of training needs or offering sectoral follow-up.

4.3 Evidence of Coordination and Collaboration of Stakeholders at Provincial Level, with PTB in Key Role

Respondents overwhelmingly held positive views of the increasing level and strength of provincial stakeholder collaboration and coordination in the TVET system, with the Program pivotal to these changes. The May 2012 SAG evaluation workshop rated TVET success in relation to ‘use of resources and promotion of coordination’ at 80-90%. However, other evaluation meetings revealed more nuanced views. Several relevant observations emerged repeatedly, and are summarised below as evidence of achievements and remaining challenges.

4.3.1 The Program’s design utilises and strengthens existing structures and fosters a sense of ownership

A number of stakeholders expressed deep admiration for the fact that the Program has been embedded within structures that already existed, rather than imposed as a new parallel creation. This is clear in the primary position of the Program working within the processes and policies of the VNTC and MYDST, as well as establishing the TVET Centres as the service delivery arm of the PTB, and strengthening the operations of this latter structure, including the professional roles of members, particularly the Provincial Government Planner. Use of local authorities in trainee selection and follow up monitoring, including Area Secretaries and Area Development Committees, is another example. The involvement of existing agencies in the TVET Program has engendered familiarity and closer relationships between stakeholders, as well as professional development through the assumption of new duties (and, in some cases, training).

[TVET] uses existing systems and connects with community networks ... It strengthens relationships between stakeholders (PTB)

And sectors themselves are involved in decision-making about training (PTB)

Previously, our small grants scheme for business development [had little] scrutiny or evaluation, leading to waste. We hope to use it in future in a targeted way [alongside TVET activities] (PTB)

Similar impacts have been noted for less formal structures. For instance, training has been delivered to women's, youth and church groups. This has built their capacity and fostered links between these groups, leading to development of joint initiatives, such as the piloting of savings and loan associations in villages.

'Ownership' is another achievement attributed to the Program and the way it operates. Local ownership was ranked at 80% at the May 2012 SAG evaluation workshop.

Those who participate feel they own it and are part of it. At the provincial level, if they think it's a good system, they think it is their system (SAG).

Perhaps the most powerful statement of pride and ownership was made by the Sanma PTB Chair, and echoed by the Planner:

If I died tomorrow I would feel very happy about what has been achieved.

4.3.2 The TVET Program as a model of successful collaboration

Where the Program has achieved its most obvious training impacts (described in Chapters 5-7), it has demonstrated the fruits of harmonious, mutually supportive collaboration amongst interested stakeholders. A highly successful mechanism has been formally training individuals with years of sectoral experience, such as government extension workers and departmental officers, to become certified trainers and BDS providers. This allows trainees to be exposed to current knowledge as well as sectoral aims and linkages. It also serves to heighten a sense of TVET ownership within the sector, which augurs well for the TVET system's sustainability. Another example of collaboration through the Program has been the introduction into courses of a post-training Action Plan in Malampa which not only helps trainees set realistic goals, but offers concrete information that is being used by some sectors for post-training support.

Collaboration for successful training has also involved private sector technical experts who work as BDS coaches and mentors alongside those from departments and registered providers. For instance, the measureable impact described in the tourism BDS Case Study (Chapter 7) is largely attributable to the shared involvement of the Tourism Department, the private sector business coach, and a registered training provider (VIT) working in complementary fashion to mentor tourism operators on business improvements and develop provincial-wide marketing tools.

At the SAG evaluation workshop members also endorsed the view that TVET has much to offer others about collaboration, as this remark indicates:

Before, there was little coordination; everything was a [personal] empire. There was a gulf between national and provincial level. TVET shows us an excellent model of collaboration that could be used by others (SAG).

Alongside these positive remarks, many respondents were concerned that trainees too often are left to their own devices post-training. Follow-up may be critical to assist (often inexperienced) trainees to make connections with markets and remedy problems that reside in the setting or arise from inadequate comprehension of training. It can also help identify common impediments that could potentially be addressed in revised training content. If more providers were able to visit trainees or clients in situ, they might be able to offer timely advice or help. The Centres do encourage clients to pursue and build on ongoing training opportunities and interplay between accredited training and the targeted business development support provided through BDS. However, a balance is needed between the demand for first and successive opportunities. Post-training support requires wider engagement and resources from key stakeholders.

Some sectors, in particular Tourism in both provinces, Fisheries in Sanma, and Agriculture in Malampa, have been actively involved in identifying training needs and offering post-course support. They are also active in provision of training, as described above. However, some respondents cited other sectors as showing limited interest in this role, and having uneven attendance at PTB and SAG meetings. Respondents voiced some bewilderment at this non-involvement, given that TVET training stands to improve sectoral outcomes (and is consistent with national and provincial targets). However, it may be that work overload, elimination of extension officers, and a lack of funding (to do follow-up visits, for example) are important reasons for limited engagement. If feasible, a more systematic approach to follow-up by sectors (and, in some cases, providers) would be valuable in identifying and possibly addressing barriers to increasing training impact.

4.4 Sustainability: Progress and Challenges

The TVET Program has served as a pilot that offers clear lessons about the factors that influence positive outcomes, and conditions needed for national success. The aim of the GoV is to expand the TVET Centre model to other provinces, with AusAID support for a Phase III. Thus, sustainability of the TVET System implemented in accordance with national policy was of prime concern to the SAG. As one SAG member expressed it at the final evaluation workshop in May, *'Everyone needs to think about sustaining the system'*; and another, *'We have to think about what happens when TVET [Program] goes; are we ready to take over?'*

The SAG evaluation workshop included an exercise, first used at a SAG meeting in 2010 and subsequently repeated, to monitor perceived progress towards TVET System sustainability. Nine categories were identified by the SAG in 2010, and an additional one was added at the May 2012 workshop. Informal discussion and show of hands was used to agree on achievement percentages. The agreed progress appears in **Table 3**.

Table 3. Outcome of sustainability review, SAG evaluation workshop

Category	Progress (%)
1. Policy framework in place	100%
2. Training providers: human resource capacity	50%
3. Funding for system	10%
4. System to promote coordination and maximise use of resources	80-90%
5. Human resource development at TVET Centres	80%
6. Local ownership, practical empowerment	80%
7. Realistic cost structures	80%
8. Success information shared with politicians	20%
9. Skill transfer to counterparts	80%
10. Holistic ('whole of government') approach to development	20%

SAG members believe there is good reason to be hopeful about TVET system sustainability in terms of Policy formulation, procedures, capacity of TVET Centres, sense of ownership, appropriate cost structures and skill transfer to stakeholders. The major perceived threats to sustainability were training provider capacity, funding, and achieving the intended holistic 'whole-of-government' approach to sector development. Engaging ministerial (political) levels was seen to need much more emphasis to address these constraints as the new system's viability and impact both rely on the engagement, cooperation and long-term commitment of many actors.

5 Outcome 3: Increased Economic Activity in Program Provinces

The Program's M&E logic model posits that cooperation between stakeholders and increased, better targeted training will improve income and livelihoods. Findings relating to this outcome draw primarily on self-reported change among trainees and BDS clients from two quantitative follow-up surveys.

Between 2010 and May 2012, a total of 678 (approx 16% of the total trained) accredited training participants (n=501) and BDS clients (n=177) in similar proportions from both provinces were randomly selected and interviewed through a routine Tracer Study on changes (and barriers to change) 6 months post-training/BDS activity. A 12-month follow-up survey to gather measurable pre- and post-training income, business and economic outcomes (along with anticipated barriers) was conducted as part of the final evaluation amongst a cluster of 200 accredited training participants (100 from each province). As in all field surveys, there was missing data on many items due to respondent reluctance to answer or data collector/entry error. Proportions were calculated according to total responses for each question and where missing data exceed 10% this is indicated. Along with descriptive statistics, differences in selected responses for a limited range of independent variables were analysed using a cut-off value for significance of $p < 0.05$. Key findings appear below. More detailed results tables for each survey appear in Appendices 8 and 9.

Qualitative data from stakeholder interviews and BDS Case Studies are also included, as well as a summary of impact analysis of the Vanuatu Household Income and Expenditure Surveys of 2006 and 2010 (prepared by consultant Hong Tan).

5.1 Economic and Livelihoods Outcomes at Individual Level

Evidence at individual level presented here is drawn from relevant questions from both surveys and the BDS Case Studies. It covers direct and indirect measures of livelihoods growth.

5.1.1 Outcomes after 6 months (Tracer Study) among BDS and accredited training clients

The vast majority of Tracer Study respondents (93%) had experienced changes since attending training/BDS. However, change was significantly more likely to be reported by accredited trainees than by BDS clients, and less likely by participants from remote compared to rural or urban areas (combined). A total of 16% (n=101) had started a business and 32% (n=199) improved an existing business. These outcomes were both reported more frequently by Sanma residents (21% and 35%, respectively) than by Malampa residents (11% and 28%, respectively) ($p < 0.05$).

Of the 628 who reported changes, 70% (n=444) reported increased income since training. This was more likely to be reported in Sanma than Malampa, and amongst men than women. While 69% reported an increase in rates of production, this response was more likely among Sanma than Malampa residents (**Table 4**).

Table 4. Associations with reported changes before, after training/BDS (p<0.05)

	Any changes			Increased income			Increased production		
	n	%	p-value	n	%	p-value	n	%	p-value
Sex						0.018			
Male				258	74%				
Female				184	65%				
Province						0.016			0.013
Sanma				224	74%		222	74%	
Malampa				220	66%		215	64%	
Type of TVET training			0.000						
Accredited training	479	96%							
BDS	150	85%							
Participant location			0.000						
Remote	135	85%							
Non remote (rural/urban)	492	95%							

5.1.2 Outcomes after 12 months for self-employed accredited training participants

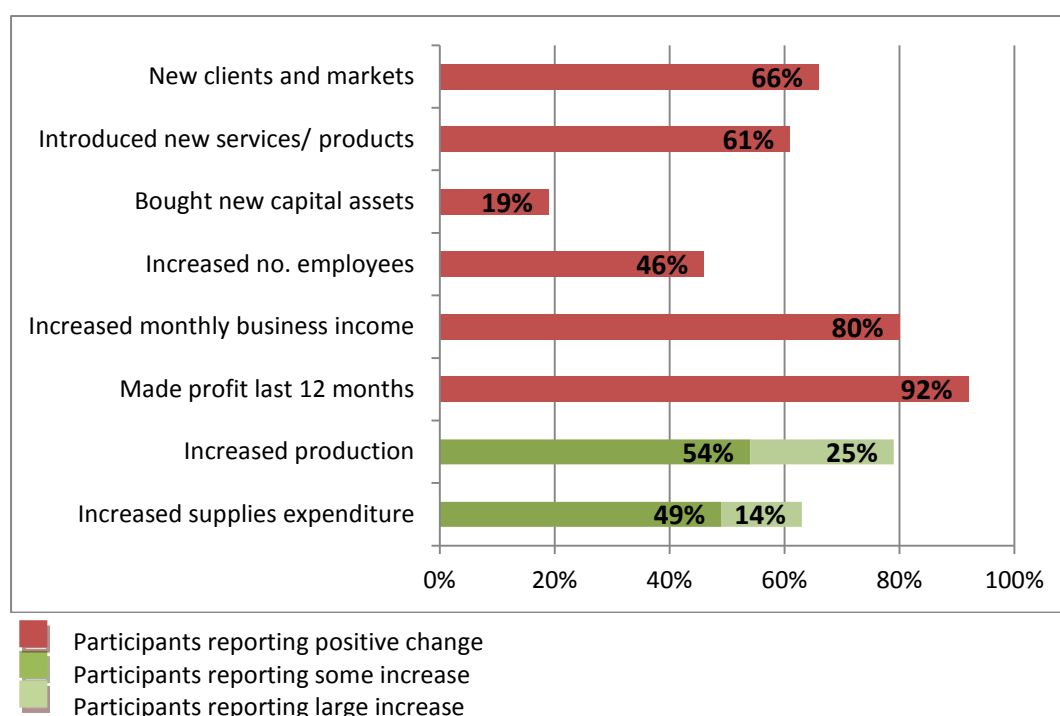
In the 12-month survey, the largest proportion (77%, n=154) of those sampled were self-employed, defined as receiving income from some form of business enterprise (family or more formal). Among this cohort, 53% (n=74) of reported 'some' improvement in their business since the training, and 29% (n=41) reported 'major' improvements; thus 82% had seen improvements. Sixteen percent saw no change and 0.7% reported decline. A further question probed how the training contributed to reported improvements; the main responses were improved skills (82%) new business ideas (58%), and greater confidence in their abilities (25%).

Figure 4 shows responses to questions that captured indirect evidence of improved business activity post-training, including increases in: clients and markets; rate of production; services and products; capital assets; expenditure on supplies; number of employees; profit; and monthly business income. As can be seen, approximately two-thirds reported new clients or markets since training, while a similar proportion had introduced new services or products. Around one-fifth had purchased new assets. These ranged from bigger items such as storage facilities and new machines or boat engines to smaller items such as sewing machines, fencing and wheelbarrows, likely commensurate with the size and type of business. Over half ⁴ reported some increase in

⁴ Answered by just 137 out of a total of 154 possible respondents, possibly because they could not directly assess or calculate production rates.

production levels and one-quarter reported a large increase. Likewise, half saw some increased expenditure on business supplies; a minority reported a large increase.

Figure 4. Business growth at 12 months reported by self-employed participants



An overwhelming majority of respondents reported a profit and increased average monthly business income in the last 12 months. The median estimated monthly income before training was 10,000Vt; 12 months after training it had doubled to 20,000Vt, with the difference being statistically significant ($p < 0.001$). Nearly half of the self-employed reported an increase in the number of employees (including family members) before and after training. The median number of employees was zero before and two after training; again the difference was statistically significant ($p < 0.001$).

Nearly half reported that they belonged to a business collective or association, but 62% felt it had not strengthened their business in the past year. The remainder said it had helped a little (27%) or a lot (11%).

Further analysis found only one significant difference by sex and one by province (**Table 5**). Women reported introducing new services or products more frequently than men, and Malampa respondents reported a profit more often than those from Sanma. However, the proportions are sizeable for both sexes, and it cannot be inferred that profit levels were larger in Malampa. Indeed, while not significant at < 0.05 , the trend suggests differences in monthly income were greater in Sanma ($p = 0.0991$).

Table 5. Associations with reported outcomes 12 months after training

	Profit last 12 months			Introduced new services		
	n	%	p-value	n	%	p-value
Sex			0.323			0.021
Male	59	94%		33	51%	
Female	72	91%		57	70%	
Total	131	92%		90	61%	
Province			0.000			0.435
Sanma	59	84%		47	64%	
Malampa	72	100%		43	58%	

5.1.3 Outcomes after 12 months for employed accredited training participants

In the 12-month survey only 18 (9%) of those surveyed were employed (salaried workers). Over half (n=10) had gained a new job since the training, 6 had a promotion, 6 were given new duties and 4 reported that they had received a salary increase.

5.1.4 Outcomes reported in BDS Case Studies (self-employed clients)

A total of 15 BDS clients were interviewed as part of four Case Studies purposively selected as ‘successful’ based on anecdotal evidence. The Case Studies appear in full in **Chapter 7**. For this chapter, relevant data provided by clients, trainers and sectoral officials has been extracted. Analysis of cases showed that the two from Sanma (vanilla farming and prawn farming) were yet to demonstrate potential quantifiable success, as clients had not reached harvesting stage.

By contrast, the impacts in the Malampa cases (tourism and chainsaw mini-milling) can be described without exaggeration as dramatic. Greatly increased reported income (see **Table 6**) and annual net profit (up to 700,000Vt in each case) were corroborated by indirect evidence. All clients intended to expand their businesses; future plans included building a lumber yard, adding new guestrooms and new tourism options such as bush treks. Everyone also reported having already made major investments. These included buying a truck, new sawmills, water tank, flush toilets, beds, and opening an onsite ‘convenience store’. Attribution to training is unquestionable for these clients. The tourism group had the benefit of repeated, short and intensive workshop sessions and 2-monthly personal mentoring visits from experts who reviewed progress on their Action Plans and offered further advice. The mini-milling group had previously been unable to prosper because they could not fell trees safely, calculate timber volume or estimate its value. With the technical skills acquired through the TVET Centre, they could eliminate the middle-man and heavy-duty sawmill operations that clear-fell and pay little for product. They could no longer be cheated by buyers who lied about timber quality. As the trainer explained,

Before the training, these fellows were paid just 5000Vt per cubic metre by sawmill operators or middle men for timber they fell or cut, but if they do the milling they sell it for 90,000Vt per cubic metre.

Table 6. Average monthly income before and after BDS activities (in Vatu) (n=8)

<i>Tourism clients</i>	Before BDS	After BDS
Helen ⁵	30,000	180-200,000
Claudine	50-70,000	300,000
Betty	<200,000	1,000,000
Marie & François	10,000	92,000
<i>Mini-milling clients</i>		
Jimmy	40 000	48 000*
Nelson	30 000	800 000 – 1 million
Kalkie ⁶	No response	'I don't get cheated'**
Arthur	50 000	100-120 000

*The reported increase seems understated given that Jimmy recently constructed a permanent house.

**Sells shipment to Vila every 2 months for 110-120,000Vt profit.

5.2 Outcomes for Family and Community

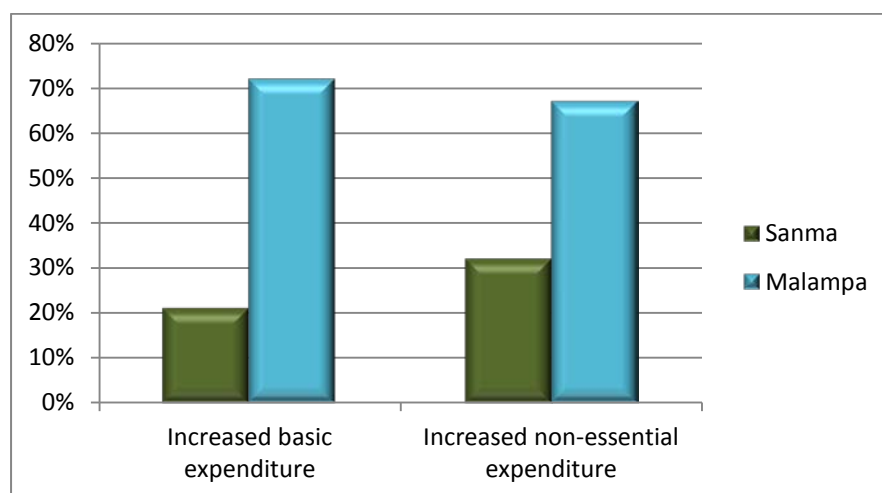
The Program (in accordance with the national TVET Policy) aims to stimulate economic improvements beyond the individual trainee, expecting that effective training will contribute to opportunities for family, village and – ultimately – province and country. The evaluation attempted to assess flow-on impacts through both follow-up surveys.

In the 12-month survey, the situation at household level for all sub-groups was assessed through questions about changes in expenditure. Overall, almost half (46%) had increased their basic household expenditure and 49% had increased spending on non-essentials, eg special foods, entertainment, giving money to family members. Participants from Malampa were more likely than those from Sanma to report an increase in both types of expenditure (both significant at $p < 0.001$) (see **Figure 5**). There were no significant gender differences.

⁵ Not their real names

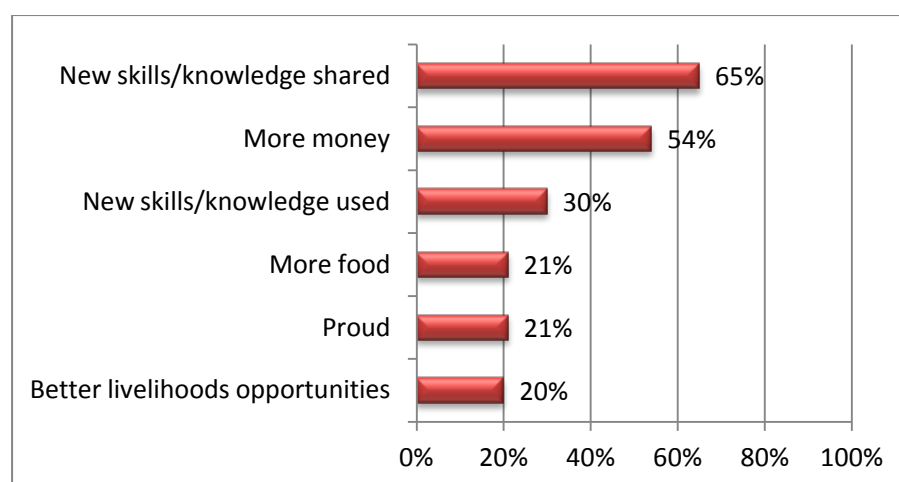
⁶ Kalkie was unable (or unwilling) to estimate monthly income

Figure 5. Trainee reported increases in basic and non-essential household expenditure (12-month survey)



These findings corroborate related findings from the 6-mth Tracer Study as shown in **Figure 6**. Just over half said there was more money in the family. This change was reported significantly more often by men than by women and among those from remote locations than those from rural and urban areas (combined) (see **Table 7**). Other changes included the sharing or use of new skills and knowledge amongst family members, more food in the family, family pride in the trainee's achievements, and better livelihood opportunities for the family unit.

Figure 6. Most reported changes for rest of family after 6 months as a result of the TVET training/BDS (open question; multiple responses permitted)



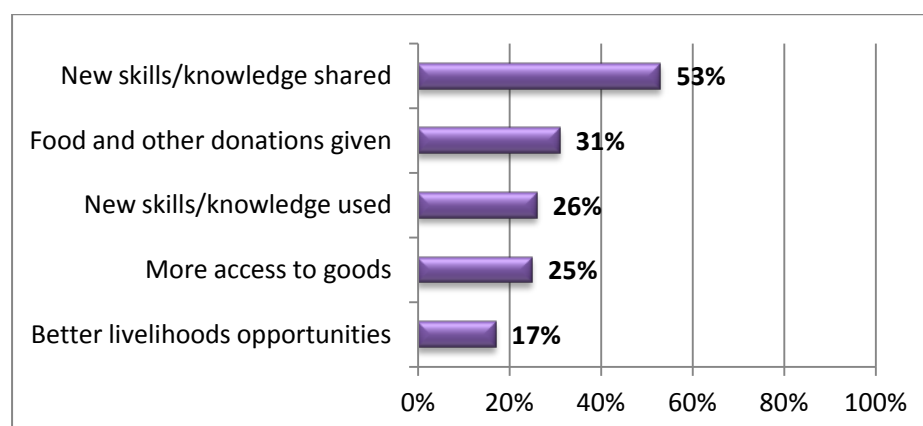
BDS Tracer Study participants more frequently mentioned that training skills were used by other family members than accredited training participants (**Table 7**). While only a minority mentioned the creation of new livelihood opportunities for the family, this was reported more often by men than women.

Table 7. Associations with reported changes for family after training/BDS (p<0.05)

	More money in family			New skills used by family			More livelihood opportunities		
	n	%	p-value	n	%	p-value	n	%	p-value
Sex			0.021						0.049
Male	195	57%					79	23%	
Female	128	48%					45	17%	
Type of TVET training						0.000			
Accredited training				115	25%				
BDS				65	44%				
Participant location			0.021						
Remote	82	62%							
Non remote (rural/urban)	243	51%							

For the 6 month Tracer Study, 82% of participants (trainees/BDS clients) reported community-level changes following training. These included new skills/knowledge shared or used by community members, food and other donations given to the community, more access to goods, and better livelihood opportunities (see **Figure 7**).

Figure 7. Most frequently reported changes for the community after 6 months as a result of the TVET training/BDS (open question; multiple responses permitted)



BDS participants mentioned that new training skills were used by community members significantly more often than accredited training participants. While proportions were relatively small, men were more likely than women to mention increased livelihood opportunities for the community, as were remote participants. Remote participants also mentioned providing food and other donations to the rest of the community significantly more often than their rural/urban counterparts (**Table 8**).

Table 8. Associations with reported changes for community after training/BDS (p<0.05)

	New skills used			More livelihood opportunities			Give more donations		
	n	%	p-value	n	%	p-value	n	%	p-value
Sex						0.004			
Male				63	21%				
Female				27	12%				
Type of TVET training			0.000						
Accredited training	83	21%							
BDS	53	42%							
Participant location						0.003			0.001
Remote				31	26%		52	44%	
Non remote (rural/urban)				59	14%		11 2	27%	

In the 12-month survey, 71% of self-employed respondents reported that their business had created other new business opportunities in their communities, primarily comprising new or improved local businesses (73%) and local jobs (13%).

In the Malampa BDS Case Studies, all the tourism clients reported the creation of new jobs (eg, transport of timber, cooks, labourers) and that supplies (eg, cane furniture, food, fuel) were purchased locally, thus stimulating the economy, and most reported being able to better support their extended family and community through gifts.

5.3 Barriers to Economic and Livelihoods Improvements

The fact that external factors can undermine the economic impacts of training at both individual and community levels is acknowledged in the SDPs (Sanma SDP p. 42, Malampa SDP p. 45). These factors largely reside beyond the control of the Program, and are important not simply for placing evaluation findings in broader context, but to illuminate constraints for stakeholders who may be in a better position to address these, including for the next phase.

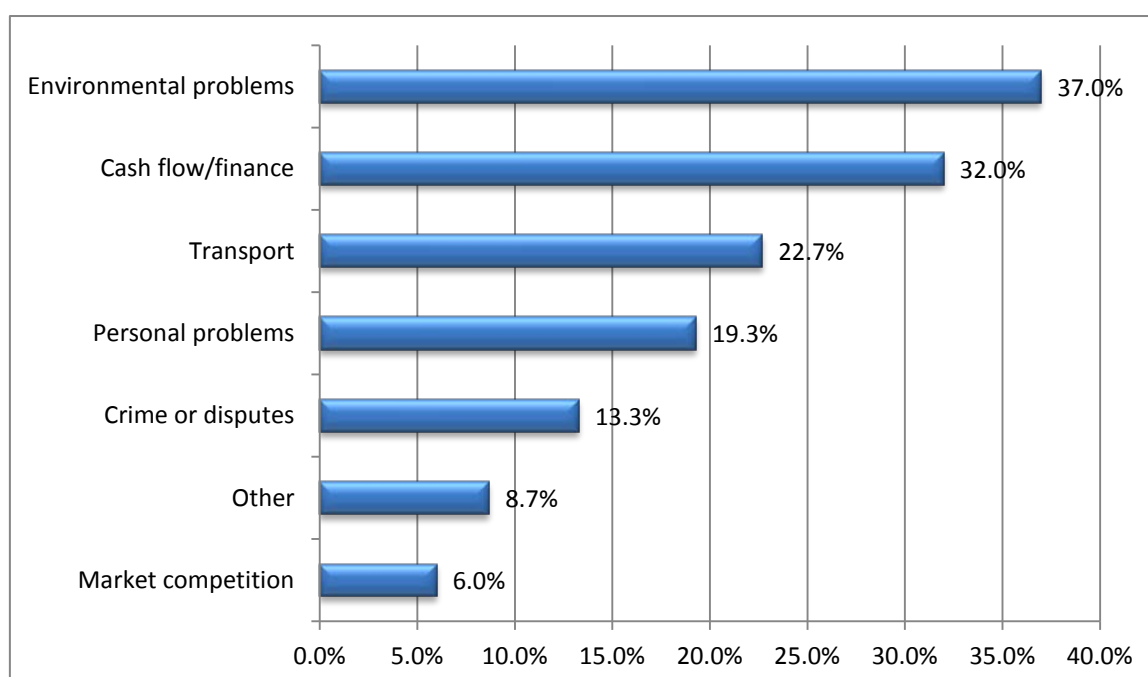
The Tracer Study respondents were asked to identify any obstacles they had experienced since training in establishing their businesses. In the 12-month survey the question pertained to anticipated future obstacles.

Over half (57%) of Tracer Study respondents had experienced obstacles, with the main ones reported as: personal problems/commitments (42%), obtaining finance (28%), infrastructure weaknesses (13%) and environmental problems (pests, weather) (13%).

Obstacles to business success were identified by nearly 95% of self-employed participants from the 12-month survey, but those mentioned were somewhat different in nature and rank order: environmental problems, cash flow, transport, personal problems/commitments, and interpersonal or land disputes (see **Figure 8**). Differences in responses may emanate from the nature of the samples, with the 12-month sample

comprising a predominance of women working in agriculture and the Tracer Study's higher proportion of males and its inclusion of BDS clients setting up varied businesses.

Figure 8. Obstacles to future business success identified after 12 months (%)



During interviews for BDS Case Studies, respondents voiced fears that new businesses and signs of affluence could precipitate damaging expressions of envy, such as destruction of a new prawn pond or stand of vanilla plants, and that ambiguity over land ownership imperilled access to timber stands and tourism destinations. Such reactions in the context of close-knit communities may not be surprising. Another concern raised at the SAG was that cultural expectations that good fortune be shared – a typical coping mechanism for the wider group living at subsistence level – could inhibit the accumulation of capital for investment. The impact of this norm combines with difficulties in obtaining finance and, for some, extracting payment when credit had been given to customers.

Obstacles were also discussed during qualitative interviews and discussion. Poor infrastructure is a feature of normal life outside Vanuatu's main urban centres. Few roads are sealed and many communities are isolated during rainy periods; in both Sanma and Malampa, dense foliage and rugged terrain mean large swathes lack roads accessible even to four-wheel-drives, necessitating lengthy boat journeys to reach many communities. Most villages lack grid electricity and water; it was estimated just 20% of Sanma households have radios. This situation imposes enormous logistical challenges (and expense) for the delivery of TVET training. It also profoundly affects the capacity to acquire timely marketing information and to affordably transport goods to markets.

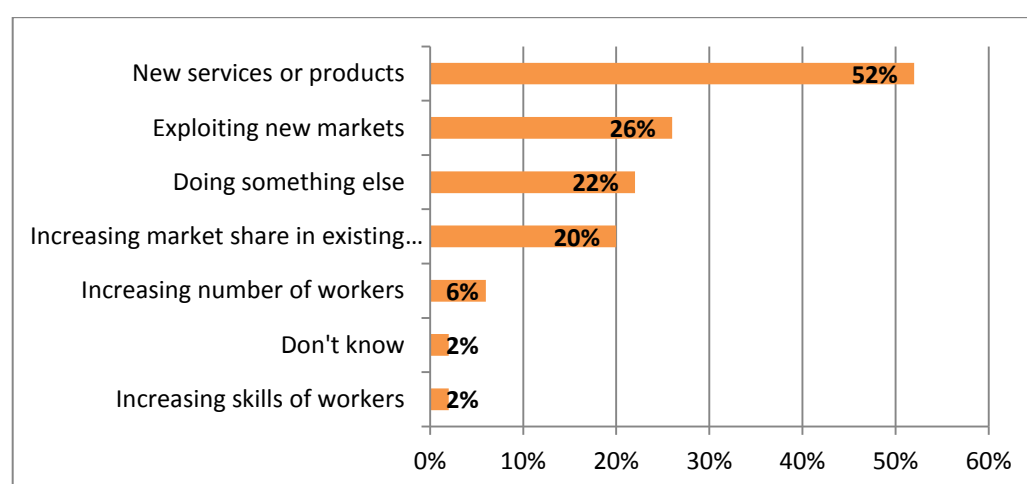
Access to finance is a widespread challenge; stakeholders said there were few local banks that readily offer loans to ni-Vanuatu. Not having capital to invest in, eg. poultry stocks or a portable chainsaw mini-mill clearly limits utilisation of training. Foreign investment from China and elsewhere, including Australia, was seen by some respondents as potentially damaging where local small businesses in various sectors (including tourism) were not equipped to be competitive.

Stakeholders generally felt the national government could and should do more to address these constraints. Some felt departmental SAG members could advocate more robustly with their ministers, especially given that major expenditure is mainly decided at national level. Others faulted inaction at provincial level. In any case, as an official from the Department of Cooperatives remarked, ‘TVET can’t do it all. These barriers are challenges we must consider how to resolve... It’s not up to TVET to build roads.’

5.4 Future Business Plans for Self-Employed Participants

The final set of data that can help illuminate – albeit indirectly – the apparent economic impact of training comes from questions in the 12-month survey on trainees’ future plans and expectations. Despite obstacles mentioned, most participants (82%) aimed to expand their businesses over the next 2-3 years. The main strategies they plan to employ included: developing new services or products, exploiting new markets, and ‘other’, eg. purchasing new assets/ stock and starting new businesses (see **Figure 9**).

Figure 9. Intended plans to expand businesses over the next 2-3 years (12-month survey)



5.5 Provincial-Level Change in Household Income and Expenditure

In an effort to assess Program impacts at provincial level, Hong Tan, an economist and consultant to the Program, conducted a secondary analysis of the 2006 and 2010 Vanuatu Household Income and Expenditure Survey (HIES). His detailed methodology, findings and discussion appear in Appendix 10. His summary conclusion follows:

The analyses of the 2006 and 2010 HIES showed that [accredited] and BDS training was effective in improving household incomes of communities in Sanma and Malampa provinces that participated in the TVET program. This evidence of positive impacts is all the more remarkable given the short period the TVET program was operational as of the end of 2010. The long-term impacts of the TVET program, and extension of coverage to other provinces in Phase III, should be revisited when the next HIES is fielded some time in 2014 or 2015 (Hong Tan June 2012).

Tan also found that although the average income was lower in female-headed households, the proportional improvement was greater for female- than male-headed households.

6 Outcome 4: Greater Social Inclusion within the TVET Sector

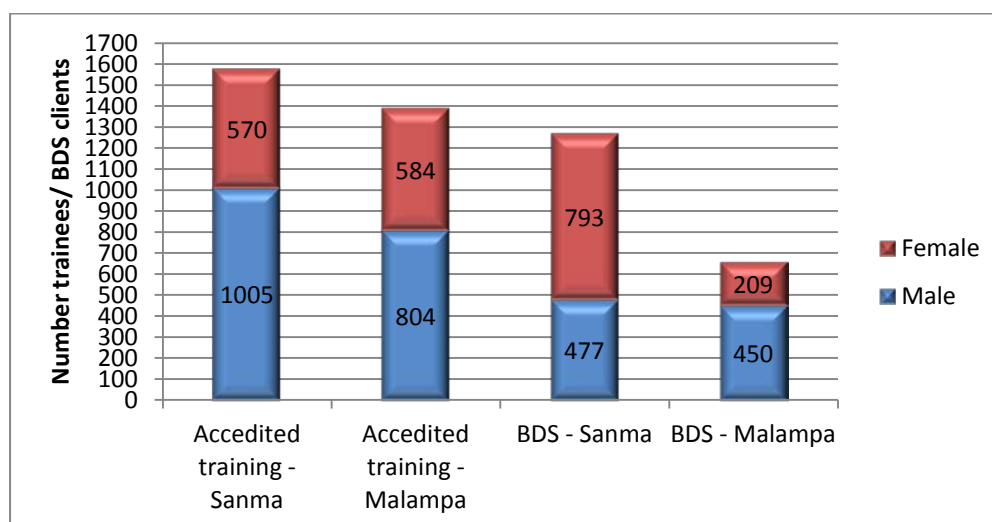
A core aim of the TVET policy, and reflected in Program implementation – modularised, demand-driven, provincial-based training – is to open up training opportunities and education pathways to the broader population, beyond the traditional mode of full-time study in a formal institution (often based in Port Vila). The new model offers a markedly more flexible approach to skills development, as it enables participants to train closer to their homes, undertake short modules even if working full-time, and learn in areas of specific interest to their livelihoods and occupations. The model is crucial to the TVET system's capacity to ensure *'Fair and equitable access to TVET programs ... available for all'* and to ensure that *'Marginalised groups such as girls and women, the disabled, as well as the rural and urban poor are actively encouraged to develop their skills'* (Policy p. 7).

The Program focus for social inclusion was groups deemed likely to be excluded from skills training opportunities in the two provinces. Based on consultation with local staff and stakeholders the following sub-populations were identified: women; people living in remote locations; people with a disability. The Program also sought to ensure training was available to people of all education backgrounds and different ages. This Chapter draws on baseline, output, survey and interview data to assess the extent to which the Program has achieved the social inclusion long-term outcome.

6.1 Training Access and Impacts for Women

Overall, there were one-third more males accessing training opportunities compared to women, although the proportion varied by type of training (see **Figure 10**). For accredited training, 36% of trainees in Sanma and 42% in Malampa were women. For BDS in Sanma, 62% of clients were women, vs just 32% in Malampa. The higher proportion of women in BDS in Sanma is explained by a single one-day training on sandalwood planting techniques provided to over 700 mainly female participants by the Department of Forestry and the Vanuatu Women's Development Scheme (VANWODS).

Figure 10. Trainees and BDS clients by sex



However, these figures represent important opportunities for training if set against women's lower labour force participation rate (61.4% vs 80.4% for males), higher rates of non-schooling (19% vs 15.4% for males among those aged 15+) and lower

completion rates of secondary, tertiary and vocational/professional qualifications (Vanuatu 2009 National Population & Housing Census).

In terms of economic and livelihoods outcomes, the Tracer Study results showed men were significantly more likely than women to report the following:

- An increase in their income ($p=0.018$);
- More money in the family ($p=0.021$); and
- More livelihoods opportunities within the family ($p=0.049$) and the community ($p=0.004$).

The 12 month survey asked about income by seeking average monthly estimates before and after the training (among self-employed accredited training participants). The median reported at both time points among women was lower than among men, thus indicating a gender-based income differential had persisted. However, the change in median income was greater for women, though this did not reach statistical significance (see **Table 9**). Self-employed women were more likely than men to introduce new products or services, and the secondary analysis of 2006-2010 HIES data found disproportionately greater improvements in (some types of) income for women-headed households.

Table 9. Median reported average monthly income (Vatu) before/after training and difference by sex (self-employed, 12-month survey)

Sex	Before training		After training		Difference before-after	
	n	Median income	n	Median income	n	Median income
Female	65	10,000	78	20,000	65	7,000
Male	60	15,000	64	24,750	60	6,625

Another source of evaluation data is the Malampa tourism BDS Case Study, in which four female clients were interviewed (Chapter 7). While the small numbers and non-random sampling prevent generalising the findings, the four women (and father of one) had experienced major rises in income (by a factor of about 5 or greater). Alongside direct financial improvements, their enterprises stimulated the local economy through purchasing of goods and services and job creation, some of this among women. Particularly striking, however, is the substantial increase in confidence among the women, who play the lead role in each enterprise (even where husbands and/or father are co-owners). In a society where men have customary leadership at village and family levels, the training has released talent and potential from a previously untapped source. Given the dominant role of tourism in current and anticipated national GDP, TVET involvement in this sector offers an important model of 'inclusive development' that promises measureable gains in gender equity. At the individual level, it has provided concrete opportunities for women to build and share their innate capacity.

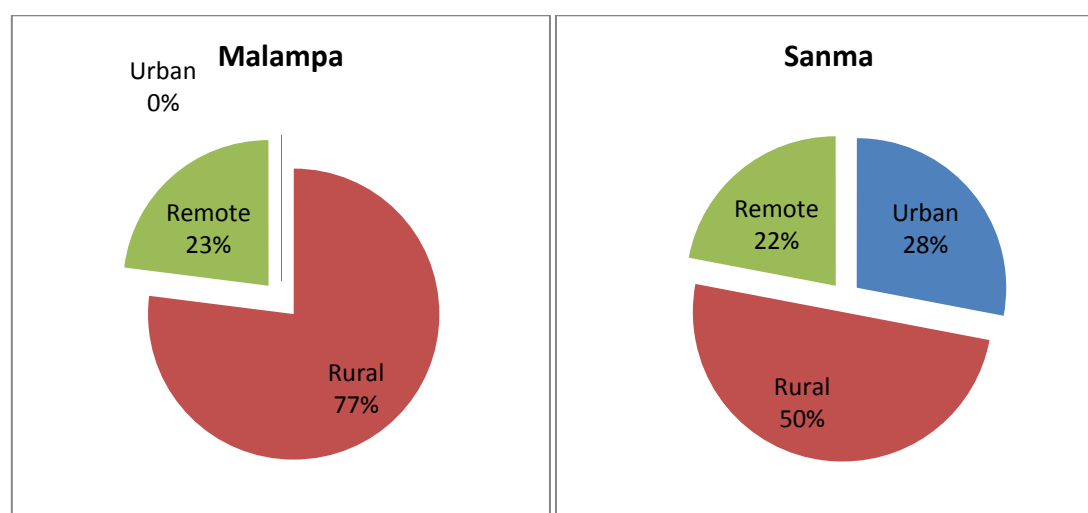
6.2 Training Access and Impacts for People in Remote Areas

As noted in Chapter 3, TVET Centres have deliberately sought to engage with communities in remote areas⁷ to identify training needs, and in many cases, to deliver

⁷ Remote areas were mapped by the PTB based on geographic proximity and road access to the provincial capital

training at local level. **Figure 11** shows that nearly one quarter of all accredited training/BDS activities was undertaken by participants from remote areas. The majority of these were delivered on-site in local areas, as opposed to travelling to training venues in provincial centres. Some remote areas are only accessible by boat, or by walking several hours through bushland. Bringing training to such sites, often for the first time, has been a major logistical achievement for the TVET Centres as well as the training/BDS providers who made these journeys.

Figure 11. Residence of trainees and BDS clients combined

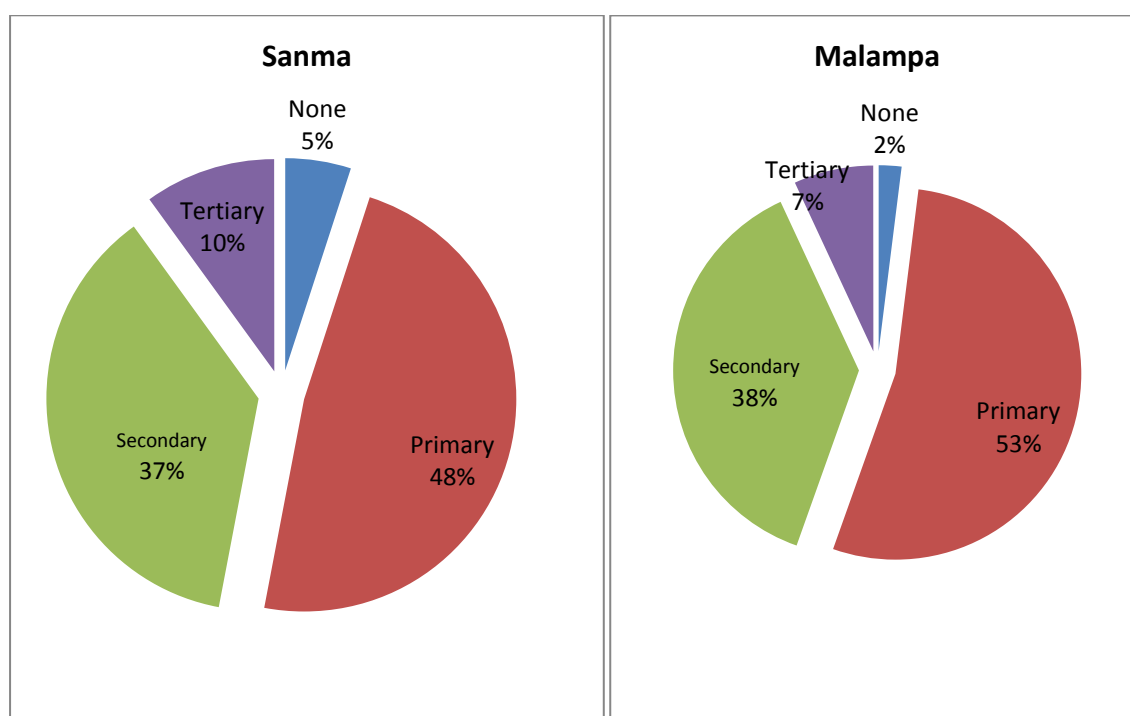


There were few significant differences in economic outcomes between remote and non-remote participants identified in the Tracer Study, suggesting that training in remote areas can produce similar dividends and opportunities. Interestingly, participants from remote areas were significantly more likely to report more money in the family post-training than non-remote areas (62% v 51%, $p=0.021$). They were also more likely to report increased livelihood opportunities in the community (26% v 14%, $p=0.003$) and that they had provided food and other donations to the community (44% v 27%, $p=0.001$). These findings suggest training in remote areas may result in relatively greater flow-on benefits to communities than elsewhere, given the lower base.

6.3 Training Access for People of All Educational Backgrounds

Low education does not appear to have been a major barrier for people accessing training opportunities through the TVET Centres. As shown in **Figure 12** trainees and BDS clients came from a broad range of education backgrounds, with approximately half having only attended or completed primary school. The proportions with no schooling (5% in Sanma and 2% in Malampa) were lower than those from census data (15% in Sanma and 12% in Malampa), suggesting participants themselves recognised a need for basic literacy in order to manage the requirements of training.

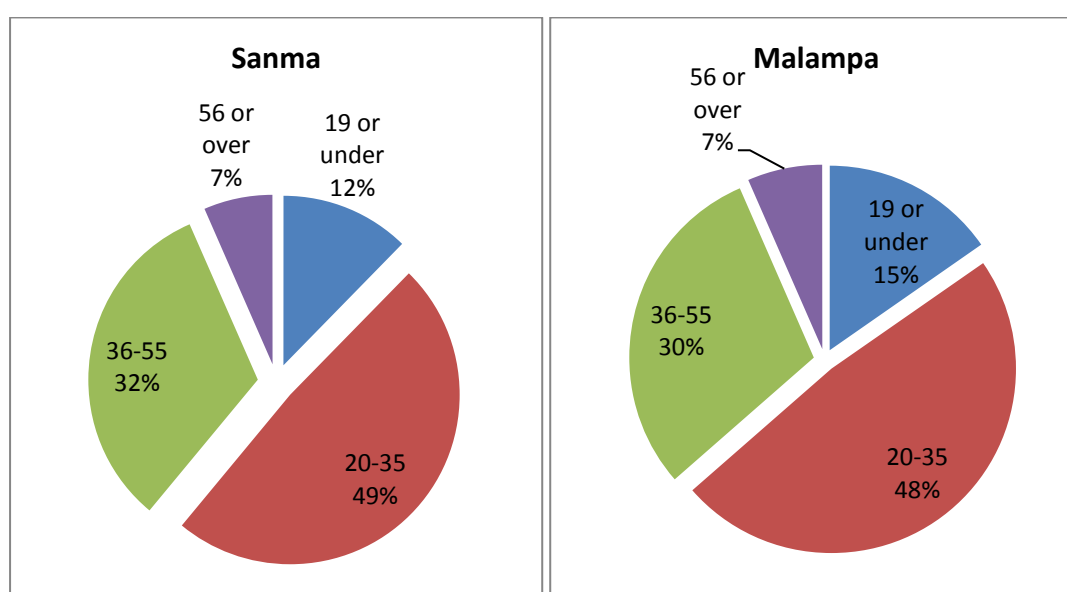
Figure 12. Education background of trainees and BDS clients (combined)



6.4 Training Access for People of All Ages

Like education, age has not been a major barrier to accessing TVET training. All targeted age groups are represented, with the majority aged 20-35 years, followed by those aged 36-55 years, which are generally the most productive working years (see **Figure 13**).

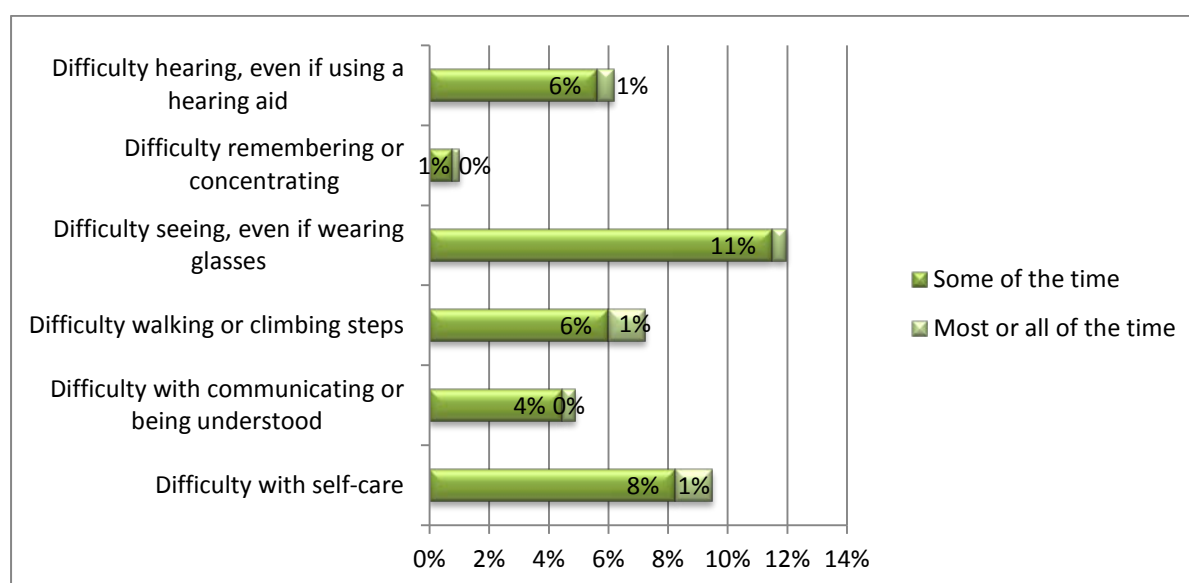
Figure 13. Age distribution of trainees and BDS clients (combined)



6.5 Training Access and Impact for People with a Disability

In mid-2011 baseline data collected from participants was modified to include questions on disability. Participants were asked whether they had functional limitations (some or most/all of the time) in terms of seeing, hearing, walking, concentrating (aimed at intellectual disabilities), self-care and communicating. While responses rely on self-report (and the interpretation of questions), sizeable numbers claimed to have some level of impairment from a total of 1285 trainees/BDS clients who provided this information, with low vision most commonly cited (see **Figure 14**).

Figure 14. Proportion of TVET accredited trainees and BDS clients reporting functional limitation some or most/all of the time by disability type (baseline data)



During the final evaluation interviews were held with two people with disabilities (PWD) in each province who had undergone TVET training, and with two individuals from national disabled people's organisations (DPOs) based in Sanma.

The PWD interviewed uniformly expressed strong appreciation for TVET training. All reported it had changed their lives significantly. Edward⁸ was trained in disability advocacy in New Zealand and worked in this field for a few years in Port Vila. Both he and Louis did small business management training through the TVET Centre. Louis (whose injury prevents heavy physical work) applies new knowledge in his small bakery and hopes to start selling meat and fish in his village. In his mid-50s and in a wheelchair from childhood polio, Edward shares new knowledge with PWD across Malampa's rugged terrain, home to an estimated 880 PWD: *'I'll use it to advise other PWD to achieve independence, to manage money better.'* Both see TVET training as a godsend for PWD.

There is no DPO here, so TVET was the first training offered to PWD since [the country's] independence. No one has taken any interest in us. Only when election time comes around they make promises, but afterwards we are forgotten once again. We are happy to be recognised. Most of us have had a harder time with our projects than others, so this training can really help us (Edward).

⁸ Pseudonyms have been used.

Discrimination is their biggest past and present challenge, *'People don't want to marry a disabled person; they don't believe PWD can do anything'* (Edward). In some cultures, PWD may not enter 'taboo' areas, and some see disability as divine punishment. Louis sees TVET training participation as a real opportunity to challenge prejudice: *'Now when I attend meetings people can see PWD as an asset and even invite them to join associations. Parishes also invite them to take part.'* However, both agreed PWD need literacy and numeracy training, and special funds for business start-ups.

Sanma's respondents echoed these sentiments. Freddy, who is missing part of one arm, is an office bearer in a national DPO and was trained by the Pacific Disability Forum (in Fiji), Vanuatu Disability Promotion and Advocacy (DPA) and under the AusAID Leadership program in Australia. He said PWD are typically excluded from decision-making and everyday activities, and he tries to challenge the stigma-related customs of 'hiding' PWD at home. Freddy did fabric printing training through the TVET Centre in 2010, and now sells his t-shirts and lava-lavas to tourists. He also works part-time as a gardener. His combined fortnightly income is now 14,000Vt, vs a maximum of 8,000Vt before TVET training. *'I'm now independent and can help pay my niece's school fees ... I see that both DPA and TVET help to build skills. PWD need different skills, so I encourage them to help themselves and others through the training'* (Freddy).

Tom said many parents do not send their disabled children to school, but his were different. His Class 5 teacher saw his potential and supported him in a village with a secondary school, but when it closed at Class 8 he had to leave. Tom has a severe mobility impairment, but is gregarious and clearly has business acumen. After training through the TVET Centre in printing, poultry and business management, he now operates a dry goods store and raises poultry. Although unable to estimate his current income, he 'often' deposits sums of 30,000Vt in the bank. Today it seems hard to believe, but Tom formerly stayed close to home. *'Before the training I was ashamed to attend functions and activities, but now I go to every one of them. The trainings and the people who sit in the trainings chased away my shyness.'* Tom now hopes to do training in mechanics.

Karen and Jenny are representatives of DPA and Frangipani (another DPO), which have signed a Memorandum of Understanding with the TVET Program to promote enrolment for PWD. They help publicise TVET and locate trainees via the DPA database, and support participants before, during and after training. Karen estimates that over 35 of the approximately 80 trained PWD now operate businesses. Given prevailing views about PWD, according to Karen, *'sometimes able-bodied people get a shock when they see them in the course'*. Both acknowledged that PWD often have greater literacy and numeracy weaknesses than other trainees, and agreed with Edward and Louis that lack of finance inhibits utilisation of new knowledge for many PWD.

Jenny has undergone the TVET Centre coordinated TTT after having given workshops over many years for health providers and parents caring for disabled children. She was emphatic that the training significantly improved her competence in training. She also believes the TVET Centre should consider supporting the development of a training module akin to what she herself offers on the grounds that it could improve life chances for such children, and reduce unnecessary expenditure of time and resources in families with disabled children.

7 Findings: BDS Case Studies

List of Case Studies:

- Sanma Prawn Farming
- Sanma Vanilla Farming
- Malampa Mini-Milling
- Malampa Tourism

7.1 BDS Case Study – Prawn Farming, Sanma Province

The province of Sanma identifies native prawn farming as a priority growth area. According to the Sanma Skills Development Plan 2010-14 (SDP), its popularity has increased on Espiritu Santo island since a successful pilot project in 2005. Santo had 20 active farms in 2010, and the Fisheries Department aimed to increase this to 100 by 2014 through training and technical support. The SDP has summarised the expected benefits this expansion:

Such results would improve income for 80 more families in remote parts of the island of Santo, as a typical fresh water prawn farm can bring cash income of 100,000 to 200,000 VT per year during ten years, with an investment of no more than 7,000 VT. The workload for the feeding of prawns and the maintenance of the pond is at a few hours every week. Both men and women can run the prawn farm (SDP p. 33).

The World Watch Institute reports that a recent study found nearly half of the seafood eaten globally is farmed, an alternative primarily driven by pressures on wild fish stocks. Fish farming can be far more efficient than factory-farmed meat, and thus promote food security for increasing populations. However, farming using fish meal can be very inefficient.

It generally requires 20 kg of feed to produce just 1 kg of tuna ... So even as we depend more on farmed fish, a growing scarcity of fish feed may jeopardize future expansion of the industry (<http://www.worldwatch.org/node/5883>. Acc 07/06/12).

The study also highlights the significant pollution to surrounding waters from excess fish feed and manure, concluding that more sustainable farming is needed to meet demand while protecting the environment.

The TVET Program in Sanma, where rivers and streams are abundant, has collaborated with the Fisheries Department to support Business Development Services (BDS) workshops on locally-appropriate techniques of freshwater prawn farming that can be sustainable and profitable. In Dec 2010 a five-day workshop was conducted in Jaravaliu village, a remote area of South Santo. For this case study, interviews were held with three men who attended this workshop, along with the lead trainer/coach, who is the provincial Fisheries Department extension officer. Results pertain to those interviewed and should not be generalised.

Before the BDS Activity

None of the respondents, Joel, Jose and Roy⁹, had farmed prawns previously. Joel and Jose, who studied to class 2 and 4, respectively, farmed kava and vegetables. Roy studied mechanics at Vanuatu Institute of Technology in 1997-9, after which he worked in Port Vila

⁹ Not their real names

until his return in 2006 to Santo, Sanma's main island, to do solar wiring (*'I was tired of working for others'*). All three have land and good access to flowing water.



BDS respondents*



Respondent and his children

Content and Approach

The lead trainer has decades of experience as an extension officer. He is passionate about native prawn farming, having spent five years researching the most promising approaches.

I did experiments in pond settings with different feeds, and studied prawn behaviour and habitat, water circulation and flow rate, and the best species for farming.

What he discovered was surprising: native prawns thrive on the staples grown and eaten by ni-Vanuatu, including coconut, fruit and root crops, with little difference between 32 different fruits and vegetables trialled. No fish meal or other protein sources were needed to achieve a body weight of up to 70-80gm in four months, and farms can be stocked intensively (up to 20 prawns/m² vs 5-7 in Fiji, for example). The fact that most local food is grown without chemical additives was another singular advantage for prawn farming. As he put it, *'My intention is to have Vanuatu keep its name for organic'*. Prawns can be farmed in both artificial ponds and natural rivers/ streams, but requires 24-hour moving water and the right soil, features found in much of Vanuatu. Although the trainer taught prawn farming since 2008 in three provinces, resource constraints prevented wider roll-out to the potential range and number of participants. After being trained as a trainer through the TVET Program in 2010 he has offered 10 BDS workshops like the one attended by these respondents, focusing primarily on practical aspects. For example, participants dug a pond under instruction, and learned how to construct and maintain reticulation systems. Additional coaching was available upon request, and was sought by the respondents.

Impacts of the BDS Activity

The trainer strongly agrees with the Sanma SDP on the potential benefits of prawn farming as a livelihood option. Indeed, production of native freshwater prawns has increased markedly in Sanma since BDS workshops were introduced, from 41kg in 2009 to >300kg in 2011.

*Photos taken with permission (M Morrow).

The three respondents were still in the early stages of business development. Just one had reached harvesting stage, but all were expecting good returns after making substantial investments in time and labour. All have high hopes for future earnings, but currently rely upon proceeds of selling other crops or, in the case of Roy, employment doing solar wiring.



Prawn farm using bamboo piping



Prawn food sources near pond under construction

Of special note is the group's decision to form a three-way partnership. This is executed in communal work in rotation to construct ponds and reticulation systems, and to seek out marketing opportunities. The de facto leader, Roy, is a boon to the partnership with his sophisticated business acumen and greater available capital; Joel and Joses, who have little formal education or exposure to systems beyond the village, offer labour and solidarity. Roy has big plans which appear both feasible and appropriate to the setting, a testament to his entrepreneurial qualities. His prawns were nearly ready for harvesting, and at the time of the interview he was readying a second pond for tilapia farming while constructing a third for more prawns. He has fashioned a cage for river farming. His more distant dreams include investing in solar panels to sustain a freezer to store his product, and using local micro-hydro power as another energy source. Roy uses solar panels to power his own house, and is clearly both knowledgeable and skilled in renewable resources that suit his environment.

A further outcome of the BDS workshops has been the approval by the Vanuatu National Training Council of accredited prawn farming training modules based on the content and approach of these workshops. The lead BDS trainer has become affiliated with the Vanuatu Agriculture College, and uses his own manual for this accredited training.

Perceived Challenges

Two of the participants expressed substantial concern about the prospect of vandalism of ponds by neighbours (presumably arising from envy). Roy spoke of building fences, using locks on cages and even relocating his family by constructing a house adjacent to the ponds.

While participants did not mention climate change concerns, the trainer noted the potential effects where floods reduce spawning in river-based farms through sedimentation. In response to this threat he has developed another method that involves diverting a stream for farming to mitigate these impacts. The trainer also noted the importance of trainee selection. Some workshops did not lead to success where trainees lacked interest, a suitable site and at least modest access to capital. One respondent complained that on arrival with 6kg of prawns, the restaurant that promised to buy these for 1,000Vt/kg paid just 800Vt/kg,

demonstrating the risk to individual growers with a highly perishable product. Given their rural or remote location and the poor infrastructure and communications, producers need sectoral support and (probably) further training to negotiate good marketing opportunities.

Success Factors

While it is too soon to know whether these individuals will prosper, the signs are promising; in any case, increased production of prawns suggests freshwater farming has already yielded substantial success. There is also every reason to hope for positive results for the trainees interviewed for this case study. Roy's ambitions seem realistic and a reflection of the potential outcomes when critical factors come together: specialised training by an expert offered at the right time and level to complement an individual's innate drive, intelligence, existing skills and access to capital. In Roy's case, training through the TVET Centre has included not only aquaculture but business planning and management. Demonstrating his understanding of the power of the collective, Roy enthusiastically shares his talents with those in the partnership (and employees), thus expanding the knowledge pool (and potential accompanying benefits) beyond those trained.

One side benefit of this livelihood activity is keeping people on the land. Others are the production of valuable food stocks for local consumption, and the preserving of indigenous aquatic species. Finally, of particular international interest due to declining ocean fish numbers and the negative environmental effects of inefficient fish farming using fish meal, this is a contrary example of healthy aquaculture that uses only local (organic and abundant) vegetable sources. Even if Vanuatu's model cannot be replicated elsewhere, its sustainability is a notable achievement as the world seeks environmental solutions at country level. Clearly, TVET involvement in this sector is a critical support to national and provincial policy on livelihoods, food security and environmental sustainability.



Area leading to prawn farming ponds



Village near prawn farm

7.2 BDS Case Study – Vanilla Farming in Sanma Province

Vanilla is the second-most expensive spice in the world after saffron because its production is labour-intensive and plants are vulnerable to weather and pests. The plant is indigenous to Central America, but is grown widely in tropical zones, including the South Pacific, and requires a hot, humid climate. Vanilla's international price fluctuates greatly, having been as low as \$20/kg and as high as \$450/kg following climatic events and political instability.

Vanuatu has produced vanilla for decades, and an association of ni-Vanuatu farmers (Farm Support Association) has been selling certified organic vanilla since 1997.

Vanilla cultivation is complicated. It grows from cuttings as a vine, taking between one and four years to flower. Pruning and regular mulching of roots are necessary. A period of dry weather is needed to induce flowering, but pollination is done entirely by hand. A keen eye is required to distinguish when pods are mature. Curing is also painstaking, involving heat and moisture at specific levels over a given period to 'kill' and 'sweat' the beans, followed by drying and conditioning, to ensure good market value.



Vanilla plants in Malekula, Malampa*

The Sanma Skills Development Plan 2010-14 (SDP) notes that in 2007, 250 households on Malo island (Sanma) held a third of national stock, and production peaked at 3 tonnes. The SDP added that irregularity of flowering and poor weather had led some farmers to periodically ignore and then return to their vanilla vines, with quality impacts. Emphasising planting, husbandry and organic certification as priorities, the SDP sets this target:

Farmers in SANMA Province (essentially Malo) [continue] to produce vanilla targeting 1 tonne per year while maintaining their organic status (p. 14).

In May, Aug and Nov, 2011, the TVET Centre in Sanma coordinated four interlinked BDS workshops in vanilla production in partnership with the Farm Support Association and a regional expert as lead trainer. The lead trainer has spearheaded vanilla growing in Vanuatu for decades, produced a photographic manual on farming, and established a successful organic vanilla enterprise.

*Photos taken with permission (M Morrow)

For this case study, interviews were held with four farmers who attended the workshops. The farmers are from Malau, a remote part of the island of Espiritu Santo that is accessible only by boat. The lead trainer and an official from the Department of Agriculture were also interviewed. Results pertain to those interviewed and should not be generalised.

Before the BDS Activity

Jimmy, Willie, Gloria and Alick¹⁰ were part of a cohort from Malau selected for BDS as ‘lead farmers’ (seen by the community as effective, reliable and trusted). Alick’s family is prominent; he is a custom chief and his sons are local officials. Willie is just 15 years old, while Alick is an older man. None had more than primary education, and Alick had no schooling. Previously, all were growing vanilla, along with other crops – the norm for ni-Vanuatu farmers – and had harvested at least once. Their respective periods of vanilla farming varied substantially (3, 9, 7 and 30 years) as did the number of plants cultivated (300, 14, 150 and 400). No-one at that time was making substantial income from vanilla for reasons ranging from small size of holding to immaturity or neglect of the crop.

Content and Approach

The lead trainer was aware at the time of the uneven quality of Malau beans, but recognised the potential for this crop in that locale. During the interview he explained the various challenges facing Vanuatu vanilla farmers, including vagaries of weather and market price, the significantly different farming inputs (such as mulching and pollination) and technical knowledge required for quality production compared with other local crops. He highlighted the difficulties in regulating curing conditions in an area lacking electricity and secure storage facilities. To address these challenges, training was conducted in a series of short, on-site practical sessions at appropriate seasonal times to cover cultivation, growing, harvesting, curing and buying.

Special focus was given to curing, and simple technology (an esky, thermometer and blanket) was supplied for better control of temperature and humidity in these isolated villages. The sessions also included the process of organic certification, which attracts a high premium for the product. The final session was a critical one: purchasing. For this session farmers were brought to the trainer’s workshop to observe variations in quality and what explains them. This enabled participants to understand why their beans previously were rejected or purchased at a low price, and how to prevent each problem.

Two of the four respondents received a follow-up visit and coaching from a second trainer, and all were provided with an English-language booklet with illustrations.

Impacts of the BDS Activity

The quantifiable impacts of training for these four respondents are not yet compelling. For some, their vanilla plants are young and have yielded only small harvests (if at all); as well, most sustained substantial crop damage from excessive rain during 2011. However, price per kilo sold has increased, all respondents have received organic certification, and all are optimistic about future production. Each intends to expand his/her business, and all feel

¹⁰ Not their real names

increasing confidence in their capacity to produce quality beans. Only one respondent reported increased household expenditure on basic necessities, but two said their overall household wealth had improved and they were now able to spend more on fish, rice, school fees and community donations.

Interviews revealed solid understanding of the complicated process of cultivation, including curing. Willie, the 15-year-old, displayed surprisingly mature business insight in his decision to consolidate quality in a small crop before expanding the area under cultivation.

All respondents had shared their new knowledge with relatives, and two (including the elderly Alick) had done so with people beyond the family. Alick had also given cuttings to others, which he saw as a way of bypassing the sole purchaser of beans (who sells cuttings).



Vanilla farmers from Malo, Sanma

Perceived Challenges

Both the trainer and two respondents expressed concern about climate change threatening the viability of vanilla production (specifically, the possibility of increased and protracted rainfall, which can prevent flowering and obstruct drying). One also fears a jealous neighbour might destroy his plants, though he suggested this was unlikely when pressed. One participant and the Department of Agriculture official who was interviewed emphasised the disadvantages of having only one buyer (and very few trainers). It was felt this discourages competition, but one might argue that quality assurance and a guaranteed market are more important for a country with small rates of production.

Success Factors

It is too early to document measurable success from the TVET Centre training on vanilla. However, there are reasons to see it as promising. Firstly, Malau's soil and rainfall suit the crop. Second, vanilla is an attractive alternative compared to heavier crops like copra because the area's isolation and poor infrastructure add substantial time and cost for transportation by weight. Third, training has targeted lead farmers already growing vanilla, which increases their odds of remaining in the sector, while offering the potential of using them as local trainers. The trainer who was interviewed believes a train-the-trainer system whereby lead farmers would then train others within a limited area (eg, up to 3 villages) offers the most realistic prospect for success, although this approach has not yet been used. Finally, the market for vanilla is likely to remain strong according to the trainer due to increasing demand as populations and affluence increase in the region, and because of its vulnerability to inclement weather and other supply disruptions.

Moreover, vanilla is endorsed as a priority crop at provincial level; TVET training in this area reflects the Program's commitment to provincial policy, and the greater visibility the

training gives to the crop should help galvanise supportive inputs by the productive sector to enhance marketing opportunities. Based on these BDS workshops, competency standards for vanilla farming have been developed through the TVET Program for accreditation by the VNTC, along with associated teaching and learning materials. This will enable nationally certifiable training in this area in the near future.



Sorting vanilla beans for packaging

7.3 BDS Case Study – Mini-Milling, Malampa Province

Primary production is the main income source for the 38,000 residents of Malampa province. While most work in agriculture, forestry is described as ‘moderately active’ by the Malampa Skills Development Plan 2010-2014 (SDP), with 16% of households in agri-forestry in 2007. The SDP notes the need to balance natural resources and livelihood options:

After years of exploitation of the natural forest stocks, reforestation and improvement of the felling / sawing techniques for portable sawmill operators is becoming critical to improve productivity and income levels (SDP, p. 2).

SDP objectives for this sector include:

- Raised community awareness of challenges of sustainable management of forests
- Training of 10 portable sawmill operators to ‘...improve efficiency, leading to maximised use of forest resources and improved revenue for the operators...Training needs ... include better ... understanding of the Forestry Act, for improved compliance’ (p.17).

In late 2010 a group of rural chainsaw operators approached the Malampa Forestry Department for training on methods to calculate timber quality and volume, and thus improve their capacity to seek fair payment from buyers who on-sold their product. In March-April 2011 a 10-day BDS workshop on mini-milling was conducted through the Malampa TVET Centre in partnership with the Forestry Department and an independent expert. For this case study, interviews were held with BDS participants Jimmy, Nelson, Kalkie and Arthur¹¹, and the lead independent trainer. The relevant Forestry Department official was unavailable. Results pertain to those interviewed and should not be generalised.

Before the BDS Activity

The primary challenge for the operators was a lack of skills and milling equipment. They could only do rough cutting, but not correctly grade timber. Some did no felling, while others did so with poor knowledge of safe practices. Sawmill operators usually made clear-fell paths to reach the cuttings, thus destroying valuable resources. The lead trainer had decades of expertise in chainsaws and then portable sawmills, when these appeared. His reputation led to an invitation to conduct training for the Forestry Department. After undergoing a TVET Centre-coordinated train-the-trainer course in 2010, he has run BDS workshops through the TVET Centre alongside a Forestry official.

Content and Approach

The BDS workshop covered both theory and practice, with classroom instruction and field visits to learn technical and safety aspects. Key topics covered included:

- Safety equipment and safe practices, including felling
- Methods to calculate volume, grading and pricing of timber
- Using chalk line and portable chainsaw mini-mill to cut/ finish timber to specifications
- Reforestation policy, including planting of two trees for each one harvested.

¹¹ Not their real names

Impacts of the BDS Activity

Of the four interviewed, three reported substantial direct and indirect evidence of livelihood improvements at personal level, with flow-on effects to household and community, eg.

- Acquiring new clients (all expanded their markets, with three selling product to Port Vila)
- Major capital investments for three respondents, including (variously) new portable chainsaw mini-mills, truck and hoist, and water tank
- Full set of safety equipment purchased by all
- Community benefits via job creation, donations, skills-sharing (by all but one)
- For some, dramatically increased average monthly income (*see table 1*), with all reporting substantial annual net profits (300,000-700,000Vt)
- Arthur has repaid two loans for portable sawmills and has 250,000Vt bank savings
- Increased employee numbers (*see table 2*) and wages (plus short-term employment).

Table 1. Average monthly income (before expenses) before and after BDS(in Vatu)

Respondent	Before BDS	After BDS
Jimmy	40 000	48 000*
Nelson	30 000	800 000 – 1 million
Kalkie	No response	<i>'I don't get cheated'</i> **
Arthur	50 000	100-120 000

*The reported increase seems understated given that Jimmy recently constructed a permanent house.

**Sells shipment to Vila every 2 months for 110-120,000Vt profit.

Table 2. Number of employees (including family members but not self) before and after BDS

Respondent	Before BDS	After BDS
Jimmy	0	0
Nelson	2	8
Kalkie	0	0
Arthur	0	1

Another indirect sign of impact is the confidence to plan for expansion. Nelson, the stand-out success, hopes to double his business in the medium term. All had specific ideas for business growth:

- Build a lumber yard along the main road running near the village (1 respondent)
- Purchase 8" saw to expand type of product (1 respondent)
- Purchase additional portable sawmill/s (2 respondents)
- Further training in management (2 respondents)
- Start a local collective (1 respondent).

All reported minor increases in household expenditure on basic necessities, and two on non-essentials, including donations to the community. However, household expenditure is not the most reliable indicator of changes in affluence. This is better explained by a quote from the lead trainer:

Before the training, these fellows were paid just 5000Vt per cubic metre by sawmill operators or middle men for timber they fell or cut, but if they do the milling they sell it for 90,000Vt per cubic metre. (Lead trainer)



Felled tree awaiting milling*



Timber milled by a respondent

Perceived Challenges

All respondents mentioned existing or potential constraints to longer-term viability, including:

- Difficulties obtaining finance (1 respondent)
- Land disputes (3 respondents)
- Climate change, ie excessive rainfall (3 respondents)
- Poor infrastructure, eg roads, periodic unavailability of fuel
- Delays caused by sourcing spare parts.

*Photos taken with permission (M Morrow, Simeon Bage)

The trainer independently voiced concern over sustainability of forestry in Malampa. He claims forests are being removed for replacement with cash crops (coconut and cocoa) which grow quickly. He added that forests are burned for this purpose if the timber has not been extracted.

Success Factors

A number of factors help explain the success of this BDS workshop. These include the talents, commitment and enthusiasm of the lead trainer, and – critically – selection of participants. This group was already doing chainsaw work and were not newcomers, like some trainees. They were also landholders able to harvest timber on their own land.

Within the respondent sample, it may be relevant to consider more carefully the attributes of Nelson, the stand-out. With just a Class 6 education, he revealed himself to be a proactive problem solver and born entrepreneur constantly on the alert for methods of system improvement. In Nelson's words, *'the training has helped me to be more creative, to improve constantly.'* He had developed a novel cutting technique on his own that he demonstrated in the workshop, and has now undergone a train-the-trainer course himself through the TVET Centre. Nelson is agile and adaptable; for example, in rainy weather he keeps his crew busy on indoor tasks so there are no delays when the weather clears. In a country where new skills and information are sometimes fiercely guarded to reduce competition, Nelson hopes to start up a collective and eagerly shares his new learning. He seems to understand intuitively that collaboration benefits everyone. He also understands human motivation and loyalty, which he engenders in staff by demonstrating trust (eg, allowing them to manage valuable timber on their own), and offering them frequent professional development.

Formal accredited training is not yet available in mini-milling; however, the BDS workshop template has been the foundation for the development of units of competency in Forestry submitted for accreditation to the VNTC. The TVET Program has responded well to provincial priorities through the mini-mill training. It will help Malampa achieve the training targets articulated in the SDP, and manifestly contributes to economic improvements, at least for those with particular characteristics and circumstances. Moreover, it offers opportunities to contribute to environmental sustainability, given the key role played by forests as carbon sinks, and the need to model more balanced approaches to forestry. Sustainability must continue to be emphasised in future training for this cohort and others undertaking TVET courses in forestry.

7.4 BDS Case Study – Tourism, Malampa Province

Tourism is critical to the economy of Vanuatu. It accounts for about 40% of GDP and one-third of formal sector employment (http://www.dfat.gov.au/geo/vanuatu/vanuatu_brief.html). A recent International Monetary Fund report (No. 11/120; May 2011) predicted a gradual rebound for the Vanuatu economy, with expanding tourism numbers, partly driven by increasing cruise ship arrivals. The report noted increased private and government investment in the sector, along with measures to reduce red tape for investors. However, it also acknowledged the vulnerability of tourism to global and weather events. Tourism is seen as ‘an engine of growth’ (p. 9). ‘[Vanuatu’s] natural beauty and unique amalgamation of different cultures provide good opportunities for tourism’ (IMF No. 11/120; May 2011:3).



Small Nambas ceremonial dance, Malampa*



Rural scene, Malampa

The Malampa Skills Development Plan 2010-2014 (SDP) says tourism training ‘*should be one of the building blocks for the nascent but growing tourism industry in Malampa*’ (p. 50), with nature and culture tours predominating. Its target is to train 520 people in a wide variety of (accredited) courses; the SDP notes the need for efforts in ‘*infrastructure developments (both public and private), [and] in marketing services for bungalow operators to make the training efforts more effective*’ (p. 50). The TVET Program provides an integrated model of skills development support to the tourism sector in Malampa through a combination of accredited training and targeted mentoring and coaching through its Business Development Services (BDS). For this BDS case study, interviews were held with five Malampa tourism operators who have participated in the integrated model. Helen¹² and Claudine (with their husbands) own and manage bungalows in the provincial capital; Betty manages a bungalow in a rural setting; and Marie and her father Francois are tour guides in a village with a reputed local culture of ceremonial carving, dancing and singing. Interviews were also conducted with an official from the provincial Department of Tourism, and the main BDS trainer/coach. Results pertain to those interviewed and should not be generalised.

Before the BDS Activities

Malampa province is substantially less developed than Sanma. It has virtually no paved roads, little grid electricity or public water supply, and residents overwhelmingly practise a

*Photos taken with permission (M Morrow)

¹² Not their real names

traditional rural lifestyle, with home gardens supplying most sustenance, housing of bamboo and thatch, external kitchen using coconut husk fuel, and no modern sanitation. The challenges of preparing residents to manage modern tourism facilities are obvious.

Prior to their involvement in the coaching/training activities, all respondents had worked in the sector. Betty, now in her mid-20s, finished Class 10 plus 2 years at Vanuatu Institute of Technology, while the others were older and had less formal education. Claudine and her husband opened a small bungalow five years ago, but Helen's only experience was as occasional caretaker and cleaner in guesthouses owned by others. François had run tours for 12 years, lately involving his daughter. None had achieved high profitability, but all were keen to commit to their ventures.

The Malampa Tourism Department formerly offered limited local training, but this ceased after the Tourism Hospitality School opened in Port Vila. As the fledgling sector emerged, the provincial Tourism officer, who had previously conducted this training, saw a need to build capacity for aspiring operators with low educational backgrounds and limited awareness of international standards. The integrated model offered through the TVET Centre addresses these needs. The foreign-born lead BDS trainer/coach is an experienced business strategy and marketing consultant. His relocation to Vanuatu was inspired by a desire to support sustainable small business development. He runs a guesthouse in Port Vila, where he learned about the TVET Program. His special interest is to expand the proportion of ni-Vanuatu in the tourism industry. Since May 2010 he and the Tourism officer have collaborated in BDS coaching, and on marketing of provincial tourism through, eg. trade fairs and hosting travel agents from the region and beyond.

Content and Approach

BDS support in tourism comprises short, intensive workshops at intervals, enabling incremental consolidation of skills. It is constructed around the premise that periodic multiple inputs lead to learning outcomes that complement lengthier accredited courses.

The Action Plan model

The BDS model includes delivery over a few days of a workshop, followed by on-site coaching every second month. At each session, participants refine individual Action Plans developed in the first session. The two-person team travels to each site to review progress, offer support and guidance, and (if indicated) identify new goals. The BDS participants interviewed also undertook accredited training in food and hygiene, housekeeping, hospitality and business management.



Landscaped bungalow

The diverse training and exposure enable the delivery of better quality products that appeal to international tourists. However, trainees saw the BDS component as the lynchpin to applying new skills in context, and managing small business challenges that inevitably arise.

Coaching and training have also been supported by the launch last year of the Malampa “Call Centre,” a collaborative creation initiated by the TVET Program. Based at the provincial Tourism office, it offers information and facilitates bookings with providers (who are permitted to use the Call Centre’s internet connection for business email). Given that internet communication is fundamental to successful tourism in the 21st century, the Call Centre is a boon to expansion of the industry in Malampa.

Impacts of the BDS Activities

The five respondents all reported substantial, measureable improvements in livelihoods:

- Increasing client numbers (reported by all)
 - Betty’s bungalow was named Bungalow of the Year in 2010, when guests numbered just 32. By the end of 2011 this increased to 100
 - François formerly hosted just 1-2 customers/month, whereas it is 2-3/week now, including groups (some from cruise ships) of 5-30 people
- New products or services
 - Claudine has opened a small ‘convenience store’ in her bungalow
 - Helen purchased carvings from a local village to display on walls
 - Betty has employed a new cook and offers guests a local cultural show after renovating a plot of land used in ancient times as a walled fort
- Investment
 - Helen purchased local cane furniture, mattresses
 - Claudine invested in her store, a fridge and a double bed
 - Betty’s bungalow owners bought flush toilets, a generator, well and pump
 - Marie and François purchased a chainsaw
- Flow-on to the community through job creation, local purchasing (food, transport, cane furniture), tour options for other bungalows, donations, skills-sharing (by all but one)
- Increased average monthly income from 5 to 9 times (*see table 1*), with all reporting substantial annual profits (70,000-700,000Vt)
- Increased employee numbers (*see table 2*) and wages.

Table 1. Average monthly income (before expenses) before and after BDS (in Vatu)

Respondent	Before BDS	After BDS
Helen	30,000	180-200,000
Claudine	50-70,000	300,000
Betty	<200,000	1,000,000
Marie & François	<200,000	1,000,000

Table 2. Number of employees (includes family members, not self) before and after BDS

Respondent	Before BDS	After BDS
Helen	0	1
Claudine	1	4
Betty	1	5
Marie & François	5	26 (including dancers)

Success to date can also be inferred in the plans of all but one to expand the business:

- Helen intends to build another guest room and a small restaurant, and buy a refrigerator
- Betty wants additional training for staff and self (including in management through the Australia-Pacific Technical College), renovate the restaurant and advertise at trade fairs
- Marie and François want to develop new tours and treks, and build a 'model' bungalow for linking tour opportunities. They planned a 'Village Mini-Art Fair' for Aug 2012.

At household level, half had increased expenditure on basic necessities and all but Marie reported more spending on non-necessities, primarily, but not solely, to support relatives: *'We're no longer short of food, and even have sugar every day and soap. And we have a video player and a chainsaw.'*

All reported satisfaction with their level of skills, expressing obvious enthusiasm and pride in the transformation in their lives. As Helen put it, *'I'm so grateful for the training. Before I didn't have enough skills, but now I'm full-up.'* Some want more training in business management, and for Betty had this request: *'I'd also like training in website design so that I can make one for us. Now we pay 100,000Vt for a page or for any changes, plus the domain name.'*



Self-contained bungalow

Impacts beyond livelihoods for the province

The Tourism Department has gradually expanded the range of provincial products, which now include bungalows, tours and airport transfers. Through her three years of involvement in the TVET Program, the Tourism officer is more confident in mentoring and identifying local needs and training sites. Malampa now boasts 9 local tourism associations, more than any other province, and their chairs meet regularly to coordinate efforts. The contribution of training is evident not only in tourist numbers (up 25% in Malampa) and livelihoods, but in sustainability of cultures. In a nation with around 100 languages and disparate customs, the popularity of tours showing ceremonies and crafts helps keep them vibrant, and

involves both young and older community members. Recently a new 'custom school' opened in Malampa as a direct result of the development of the tourism sector.



Boy with ceremonial drum



Drizzling coconut milk on 'lap-lap' for tourists

Perceived Challenges

Respondents generally were optimistic about the future, but expressed some concerns when pressed. Poor infrastructure (unsealed roads nearly impassable in wet season, lack of grid power/water, and regular internet access) were cited by some, and obtaining finance by one. Two had guests who refused to pay, and two worried about land disputes disrupting access to their site. Marie and François have aspirations for village-wide collaboration on upgraded facilities, but have been unable to persuade neighbours to commit their savings.

Success Factors

Evidence from respondent interviews and comments from stakeholders suggests that the most critical element to Malampa tourism success was the model of periodic workshops, on-site coaching, and regular review of Action Plans. This rigorous approach led some people to decide against a tourism operation once they recognised their insufficiency of time, capital or capacity. The trainer sees such outcomes as an essential part of ethical training, as it protects those with limited education and worldly experience from making a disastrous investment. For those whose attributes enable them to keep pace with Action Plan targets, coaching and support have been pivotal to the impacts described above. Observation and interviews for the case studies revealed some of the results of coaching, such as striking improvements to landscaping and accessibility of pathways for bungalows and ceremonial sites, and self-awareness of their capacity to offer essentials demanded by foreign tourists. While some new skills were via accredited training, the self-esteem garnered through the demands (and supports) of the BDS coaching seemed to unlock the potential to implement new theoretical and practical knowledge. Respondents also attributed success to the Call Centre and marketing through electronic (and other) means.

From the Program's perspective, this skills development model clearly supports national and provincial policy of a key sector. It is responsive and adaptive, and cleverly integrates BDS and accredited training in a mutually-reinforcing model. It confers non-economic benefits related to preservation of cultures, and its economic contribution supports inclusive development principles, as it offers options for women and men in remote areas with few livelihood alternatives.

8 Limitations of Evaluation Findings

In considering the interpretation of evaluation findings, it is important to offer caveats related to methodological limitations. The first limitation relates to the sex ratios in the 12-month survey sample. While women comprised just 39% of accredited trainees overall, they were 55% of the survey sample. This is a 'design effect'; the cluster sampling method based on time interval (12-mths post-training) yielded a disproportionately female cohort. The survey sample, therefore, is not fully representative, possibly explaining the lack of significant difference by sex in reported income in the 12-month survey, which emerged in the Tracer Study. The 12-month survey also disproportionately sampled agriculture trainees, compared to the combined cohort of accredited trainees and BDS clients. This may have also affected results. Cluster sampling was the most robust available in terms of time constraints. If the survey is employed in future, it can adopt the random method employed for the Tracer Study. More importantly, the oversampling of women, whose incomes before and after training were lower than men's, may have led to an underestimate of the quantum of median increase in incomes for the self-employed 12-month survey sample.

Another limitation is that the truthfulness and accuracy of survey and interview/group responses cannot be ascertained. Field research is prone to social acceptability bias, under which participants may answer to 'please' the researcher (or other group members). However, the consistency of findings (as well as different perspectives from a minority) within and between data sets suggests this bias was unlikely. For example, indirect evidence of improvements (increased expenditure/production, new clients/services) corroborates reported income, profits and general improvements. The qualitative data also corroborated survey findings, thus enhancing the rigour of each. And stakeholder views across sectors, providers, PTBs and SAG were remarkably consistent in both provinces, and at the macro level that was the focus of the SAG evaluation workshop.

9 Conclusion

Phase II of the AusAID TVET Sector Strengthening Program has seen the successful implementation of ambitious reforms to a system that previously had not matched its potential. The emerging system is grounded within a new Policy that invokes unprecedented collaboration of disparate stakeholders and decentralisation to provinces as mechanisms for economic progress. It departs from the rigidity of conventional, institution-based education, prescribing a vision of flexible and localised ‘workplace’ training relevant to provincial economic priorities. The TVET Centre is the model through which the Program has experimented in the development of the TVET system in two pilot provinces. Though creative and adaptive as need requires, the Program utilises existing structures, simultaneously building capacity while engendering ownership and collaboration. A key arm of this collaboration has been the certification and utilisation of sectoral experts as trainers, supporting the development of an expanded pool of training providers able to meet contemporary expectations of accountability and quality. Another has been the literal shifting of training to the villages and communities where most people live, beyond the urban fringe. For the first time, residents in many parts of two provinces have been able to undertake modules consistent with their economic needs and aspirations, that can lead to certificate qualifications if so desired, expanding the opportunities for livelihoods and vocational advancement.

At the same time, the Program’s BDS activities permit rapid and context-specific responses to discrete business development needs for individuals and communities who may not desire – or have the educational background – to pursue certificate qualifications. While some BDS activities have evolved into accredited training, the mechanism remains to serve its purpose of providing targeted knowledge, skills and coaching in virtually any area of livelihood. Greater family and community application of new skills reported by BDS clients compared to accredited trainees further testifies to its practical utility.

The evaluation, using a combination of quantitative and qualitative methods of data gathering, found compelling evidence of achievement of the first two (and interconnected) long-term Program outcomes, *TVET Centres functioning as a replicable model of service delivery*, and an *integrated, articulated TVET system reflecting the new Policy, implemented at provincial level*. These achievements would have been impossible without strong leadership and processes available through the Program, and the enthusiastic collaboration of key stakeholders at provincial and national level. For such a new undertaking, it is inevitable that challenges remain. These consist primarily of under-representation of women among trainees, the delays in course accreditation and availability of certified trainers to meet demand, uneven engagement of sectors and departments, and uncertainty of funding for expansion nationwide.

Evaluation data from all sources strongly suggests that TVET accredited training and BDS activities have enabled the achievement of the third long-term outcome, *increased economic activity* in Sanma and Malampa provinces. Statistically significant changes were found between conditions before and after training, with measureable positive impacts for individuals, families and communities. Qualitative data corroborate the extent of change perceived by individuals. Overall increases after 12 months among self-employed trainees may be an underestimate given the overrepresentation in the sample of women, whose incomes before and after training were lower than men’s.

In respect of the final long-term outcome, *greater social inclusion in the sector*, the absence of coordinated, systematic provincial training prior to the Program makes it impossible to measure reach and participation of sub-groups against a baseline. However, it is obvious that poverty associated with remote residence and disability, and conventional gender norms restrict many people from accessing training at national level (or in provincial capitals). Social inclusion is not just a principle, but a marker of equity. The decentralised TVET Centre model has greatly expanded access to training for disadvantaged groups. The fact that the evaluation found greater positive economic change (in general) in absolute terms among more advantaged populations indicates that inequity remains. However, the disproportionate positive effects for some measures for the most disadvantaged (remote residents, women and female-headed households) testifies to the power and potential of the training to redress inequalities. This somewhat complex picture means that a continued focus on women, remote residents (and people with disability) is critical for greater equity impacts. The other important challenge is that of infrastructure, which at present acts as a barrier to more rapid economic growth through training. In this sphere, effective responses depend on national and provincial government stakeholders.

The TVET Program has achieved measureable and impressive success in meeting its nominated long-term outcomes. Its focal areas cover critical productive sectors while emphasising environmental sustainability and social inclusion. Program staff at all levels, and its key national and provincial stakeholders, should be gratified with the effectiveness of their hard work over this timeframe.

10 Acknowledgements

The monitoring and evaluation advisors are indebted to the TVET Program staff at all levels, the M&E officer and her assistant, members of the Provincial Training Boards of Sanma and Malampa, members of the Program's Strategic Advisory Group, external consultant Hong Tan, and every individual who generously gave time for interviews, group discussions and surveys used as part of the final evaluation.

All photos were taken with permission by Martha Morrow, except where otherwise indicated.



Appendix 1. Evaluation Methodology

Qualitative methods

Semi-structured interviews and group discussions using question guides were conducted with stakeholders and key informants to assess perceptions of the Program's achievements and limitations, and factors explaining these. Questions were devised on the basis of indicators relevant to the respondent's role within the Program, with probing and follow-up for greater clarity and detail.

In addition, two (qualitative) BDS Case Studies were conducted per province to explore the nature and impact of this more flexible and responsive model on selected individuals participating in particular business ventures. Cases and clients considered to be showing potential were purposively identified to enable the documentation of the various influences that appear to contribute to success. Clients were interviewed with a structured tool used to elicit follow-up questions (see Appendix) and trainers/coaches/sectoral representatives were interviewed with a loose question guide.

Thematic analysis was used to organise and interpret responses from interviews and discussions.

Provincial level data

Data gathering in each province is described below.

Individual interviews:

TVET Centre manager

BDS manager (Sanma only)

People with disabilities (2)

Disabled People's Organisation representatives (2 – Sanma only)

Group interviews:

Provincial Government departments /productive sector representatives external to PTB

PTB Chair & Provincial Government Planner

PTB members

Training providers & managers (Accredited Training)

BDS Case studies (per case):

Semi-structured individual interviews with four BDS clients

Observational visits to villages and workplaces (for 3 cases)

Semi-structured interviews with BDS consultants/trainers and sectoral officials.

National level data

Interviews and a stakeholder group discussion were conducted in Port Vila. The planned Stakeholder Advisory Group (SAG) meeting was used opportunistically to

disseminate and discuss evaluation data, as well as to elicit views of SAG members on Program achievements, limitations, sustainability, and potential next steps.

Individual interviews:

Program Team Leader

Program Technical Director

Director, Vanuatu National Training Council (VNTC)

Director, Ministry of Youth Development, Sports and Training (MYDST)

Group interview:

Training providers and managers

SAG Evaluation workshop (data presentation and discussion; data gathering)

World Café method of data collection

Presentation and discussion of:

- Output and tracer data
- BDS Case Study
- Sustainability review exercise.

Secondary document review

Along with review of previous evaluation reports and annual plans, the following documents were critical for assessing stakeholder collaboration and the degree to which the Program reflects national TVET policy:

Ministry of Youth Development, Sports & Training. 2010. Vanuatu Technical Vocational Education and Training [TVET] Policy 2011-2020.

Vanuatu Government and AusAID. 2010. Vanuatu TVET Sector Strengthening Program. Sanma Skills Development Plan 2010-14. Malampa Skills Development Plan 2010-14.

Quantitative methods

The evaluation report drew upon routine output and 6-month tracer data, as well as a new 12-month follow up survey. These data sets permit collation and (in some cases) secondary analysis of Program activities, training quality and self-reported change (at individual, household and community levels) in client skills, confidence, business activity, income and livelihoods. Tools are attached in the Appendix. Quantitative data were entered (100% double-checked) into Survey Monkey (an online survey tool), which generated descriptive statistics. Filtering of responses was necessary to enable simple inferential statistics (primarily using chi-square analysis, conducted with STATA v11) with four independent variables (sex, province, location, type of skills training).

Output data

Output data includes: activity and participant baseline data for accredited training and business development services, training provider support service project records, training observation reports and trainer reports.

Six-month follow-up (Tracer Study) of accredited trainees and BDS clients

All accredited trainees and BDS clients complete a Baseline form at the commencement of their training or business services activity respectively. Around 16% (n=678) of the combined baseline sample group were randomly selected for 6-month follow-up from 2010 to early 2012. The follow-up sample was 56% male, 44% female (similar to the gender split at baseline). The survey asked about perceived change in confidence, competence, livelihood and income for individuals, households and communities. The tool was implemented in Bislama after translation from the original English version.

Twelve-month follow-up of accredited trainees

The final evaluation utilised a new tool designed to provide additional evidence of (mainly) economic impacts – including quantification of changes in business income – at 12 months post-training. This relatively longer timeframe (compared to the 6-month Tracer Study) was chosen to enable change to materialise and to be sustained. Questions sought more specific data on changed economic circumstances than in the Tracer Study. While the Tracer Study included both BDS clients and accredited trainees, this sample was restricted to accredited trainees. That decision was made on the grounds that BDS inputs and aims often differ from those of accredited training.

The tool contains a series of sections. All respondents answer questions on changes in skills and household wealth and expenditure; separate sections with additional questions are given to the self-employed and those employed by others. Specific questions ask for a quantification of pre- and post-training salary/income and (for the self-employed) creation of employment opportunities and profit from their business. The tool amalgamates questions from the Tracer Study, international instruments and others based on Program aims and context. It was drafted in English, translated into Bislama, field tested and revised.

A cluster-sampling method based on training timeframe was used to recruit respondents. An interval of 3 months (Feb-May 2011) and 6 weeks (Apr-May 2011) yielded a sampling frame of 125 in Sanma and 130 in Malampa, respectively. Clients received training in 6 (Sanma) and 5 (Malampa) training areas. These included modules in: raising poultry, raising pigs, growing vegetables (both provinces); small engine maintenance, retail business, bookkeeping in Sanma; and housekeeping, business management in Malampa. Training was delivered by 4 (Sanma) and 3 (Malampa) providers.

The target sample of 100 was reached in each province, for a total of 200 participants. The follow-up sample was 45% male, 55% female, which represents an oversampling of women compared to the gender split in accredited trainees (61% male, 39% female).

Secondary analysis of Vanuatu Household Income and Expenditure Survey (HIES)

In an effort to explore evidence of Program economic impacts at provincial level, Hong Tan, an economist (who undertook the economic and financial analysis for the Program Design), conducted a secondary comparative analysis of the 2006 and 2010 HIES. His methods and findings appear as an Appendix.

Appendix 2. Evaluation Field Work by Method (per province / national level) (26 Apr – 19 May 2012)

Method / Tool	Sample (#, type) per province or level
<p>12-month follow up survey (clients from approx Feb-May 2011 sampling frame).</p> <p>Structured questionnaire.</p>	<p>ETF clients (n~100 per province).</p> <p>Sanma: Interval 2/2/11 to 5/5/11 yields n=125 in ff sectors:</p> <ul style="list-style-type: none"> • small engines • poultry • vegetables • piggery • retail business • bookkeeping, small shops. <p>Courses conducted by: St Michel, VAC, VCCI, Coops Dept.</p> <p>Malampa: Interval 4/4/11 – 19/5/11 yields n=130 in ff sectors:</p> <ul style="list-style-type: none"> • piggery • poultry • housekeeping • vegetables • business management. <p>Courses conducted by: VAC, VIT and Coops Dept.</p>
<p>2 BDS Case Studies (2 sectors/ province).</p> <p>Phase I: short structured tool</p> <p>Phase II: Semi-structured interviews (Question Guide)</p>	<p>Phase I: 6-7 BDS clients/ case</p> <p><u>Malampa:</u> Tourism; Mini-Milling (Forestry)</p> <p><u>Sanma:</u> Prawn farming; Vanilla farming</p> <p>Phase II (per case):</p> <p>BDS clients (3)</p> <p>BDS providers (1)</p> <p>Sector managers (1) (eg govt, NGO)</p>

Method / Tool	Sample (#, type) per province or level
Interviews w/ People w/ Disability (and Disabled People's Organisations). Semi-structured interviews (Question Guide)	<ul style="list-style-type: none"> • PWD (2) • DPO (<u>Sanma</u> only)
Stakeholder Interviews: (Question Guides)	<p>Individual interviews:</p> <ul style="list-style-type: none"> • TVET Centre manager • BDS manager (Sanma): <p>Group interviews:</p> <ul style="list-style-type: none"> • Provincial departments /productive sector departments external to PTB • PTB Chair & Planner • PTB group members • Training providers & managers (Accredited Training) <p>TOTAL: 5 operations</p>
Stakeholder Interviews Port Vila (Question Guides)	<p>Individual interviews:</p> <ul style="list-style-type: none"> • Team Leader • Technical Director • VNTC • MYDST <p>Group interview:</p> <ul style="list-style-type: none"> • Trainers providers and managers <p>TOTAL: 5 operations</p>
Evaluation workshop, Port Vila World Cafe method; presentations of output, tracer data, BDS Case Study; sustainability progress exercise	SAG members

Appendix 3. TVET SECTOR STRENGTHENING PROGRAM PHASE II 6-MONTH PARTICIPANT FOLLOW UP QUESTIONNAIRE

Participant Code Number:	(office only)
Date of Interview:	
Name of Interviewer:	

Introduction

Hello, my name is _____. I work on the TVET Program.
 We are interviewing training participants to follow up on the TVET Program you attended 6 months ago. We are interested to hear about what has happened since you attended the training. This interview will take about 20 minutes. What you say is completely confidential. Your name and identity will not be included in any report or be provided to any person outside of the program. Are you willing to take part in this survey?
 Informed consent obtained _____ (signature of interviewer)

SECTION 1 Personal details

Course participant name:

Sex (circle): **M** **F**

SECTION 2 Livelihood

1. Currently, What is your **main** occupation or livelihood? (*tick one*) (*Choose your main source of income*)

- a. Employed by someone else and paid a salary
- b. Self-employed and sell your goods or services eg. livestock, vegetables, retail, trades
- c. Subsistence farming – only enough for food for family
- d. Student
- e. Other

SECTION 3 Outcomes

2. Has anything changed for your work situation or livelihood since attending the TVET training?
 Yes (*Go to Q3*) No (*Go to Q10*)

3. Can you tell me what has changed? *(Do not prompt. Respondent may mention more than one. Use probe "has anything else changed" 1-2 times)*

- a. Increased skills and knowledge
- b. Started a business
- c. Improved my existing business
- d. Found a job
- e. Changed occupation
- f. Got a promotion
- g. Improved income or sales (business or agriculture etc)
- h. Improved level of production (agriculture, goods/services etc)
- i. Undertaking more study
- j. Other _____ *(write down response)*

4. Has there been any change in your income since the training? *(more \$\$ coming in, more \$\$ to use for expenses)*

- a. Income has increased
- b. Income has decreased
- c. No change

5. Has there been any changes in your production levels since the training? *(includes food, goods, and services)*

- a. Production has increased
- b. Production has decreased
- c. No change

6. Thinking about the changes you've mentioned, how did the TVET training help you achieve these changes? *(Do not prompt. Respondent may mention more than one. Use probe "is there anything else?")*

- a. Improved skills and knowledge
- b. Greater confidence in own abilities
- c. Ongoing support
- d. Access to a network
- e. Inspiration and ideas for work opportunities
- f. Other _____ *(Please specify)*

7. Have you had any barriers or difficulties to making changes? Yes No

(If yes), What were they? (Do not prompt. Respondent may mention more than one. Use probe "Is there anything else")

- a. Lack of opportunities in area of interest
- b. Access to finance
- c. Capacity to plan and organize
- d. Access to markets
- e. Literacy or other basic skills
- f. Lack of family or community support
- g. Personal issues/ commitments
- h. Land or other dispute
- i. Lack of infrastructure (eg. machinery, buildings, staff etc)
- j. Environmental (cyclones, pests etc)
- k. Customer debts
- l. Monkey business/ competition
- m. Other _____ (please specify)

8. Have there been any changes for the rest of your family as a result of you doing the TVET training?
Yes No

(if yes), What are they? (Do not prompt. Respondent may mention more than one)

- a. They are proud of my achievements
- b. My new skills/ knowledge are used by the family
- c. I have shared my new skills/ knowledge with the family
- d. There is more money in the family
- e. More livelihoods opportunities have been created
- f. More food for family
- g. Other _____ (please specify)

9. Have there been any changes for the rest of your community as a result of you doing the TVET training? Yes No

(if yes), What are they? (Do not prompt. Respondent may mention more than one)

- a. They are proud of my achievements
- b. My new skills/ knowledge are used by the community
- c. I have shared my new skills/ knowledge with the community
- d. There is more money in the community
- e. More livelihoods opportunities have been created
- f. Community has more access to goods
- g. I provide food and other donations
- h. Other _____ (please specify)

If no to Q2 go to Q10 If yes to Q2 skip Q10 and go to Q11

10. If you did not make any changes since the TVET training, what was the reason you were not able to make changes?

- a. Lack of opportunities in area of interest
- b. Access to finance
- c. Capacity to plan and organize
- d. Access to markets
- e. Lack of literacy or other basic skills
- f. Lack of confidence
- g. Lack of family or community support
- h. Personal issues/ commitments
- i. Land or other dispute
- j. Lack of infrastructure (eg. machinery, buildings, staff etc)
- k. Environmental (cyclones, pests etc)
- l. Customer debts
- m. Monkey business/ competition
- n. Don't know
- o. Other _____ (please specify)

SECTION 2 Training expectations and needs

11. Has the TVET training you attended met your expectations?

Yes

No

12. Have you used any other TVET Centre service since this training course?

Yes

No

If yes, which ones?

13. Do you have any further training, business development or employment services needs? Yes

No

(If yes), What do you need?

14. What are your plans for the future?

THANK YOU FOR YOUR TIME

Appendix 4. BDS Case Studies Questionnaire for Clients

Hello, my name is _____. I work on the TVET Program. We are interviewing training participants to follow up on the TVET training program you attended about one year ago. We are interested to hear about what has happened since you were trained. This will help us understand the strengths and weaknesses of training. This interview will take about 20 minutes. What you say is completely confidential. Your name and identity will not be included in any report or be provided to any person outside of the program. Are you willing to take part in this survey?

Verbal consent obtained _____ (signature of interviewer)

Alo, nem blong mi hem i ----- Mi wok long TVET Prokram
Mifala i stap askem kwesen long ol man mo ol woman we oli tekem trening long TVET
blong wan yia finish. Mifala i wantem harem mo save wanem i stap hapen afta we yu finisem
trening blong yu wetem TVET. Tingting we bae yu givem, bae i helpem TVET Prokram
blong luksave ol area blong trening we i strong mo faenem out tu area blong trening we i no
strong, afta bae mifala i wok blong improvem. Bae i tekem 20 minutes blong mi askem yu ol
kwesen ia.

Wanem yu talem bae i tabu blong talem out mo nem blo yu bae i no stap long eni repot.
Yu save akeptem blong tek pat long survey ia?

Agreemen blong yu _____ (signature blong man we i mekem interview).

PART 1 CHANGES IN YOUR BUSINESS

Part. 1 Jenis long bisnis blong yu

The first questions are about your business activity, and whether there have been any changes since TVET

Ol kwesen ia oli long saed blong ol activity blong bisnis blong yu mo blong faenem out sapos i gat sam jenis afta we yu mekem TVET trening.

1	Have you got any new clients or markets since TVET? Yu karem eni niufala kastoma o niu ples blong salem product blong yu, after we yu tekem trening wetem TVET?	(number) Hamas	No
2	Have you introduced any new services or products since TVET? Afta we yu mekem TVET trening, yu gat eni niufala product o sevis blong mekem moa mane?	Hamas Wanem kaen	No No
3	Do you belong to a collective or association with other businesses? Yu stap olsem wan memba blong wan association o cooperative blong helpem bisnis blong yu i gro?	Yes	No

4	If yes to question 3, has the collective or association strengthened your business since the time you had your TVET training? (read out responses and circle one) (If yes to question 3) – Cooperative o association ia, hemi helpem blong mekem se bisnis blong yu i gro afta taem yu mekem TVET trening?			
		a. Yes, a little Yes, smol		
		b. Yes, a lot Yes, bigwan		
		c. No No		
We are now interested in hearing about any changes to your business assets since TVET training. Mifala i wantem save noa ia sapos i gat eni jenis long saed blong ol samting we yu stap pem blong mekem bisnis blong yu i gro.				
5	Have you bought or acquired any new capital assets since TVET training? (eg. buildings, machinery, vehicles, equipment) Afta taem we yu mekem trening wetem TVET, yu bin pem eni niufala ekwipment o bilding blong mekem bisnis blong yu (olsem ol tool, ol machinery, ol truk, etc.)?	(If yes, list them)	No	
6	Has there been any change in your expenditure on materials or supplies used for your business, eg. fertiliser, animals, steel, wood, since TVET training? (read out and circle one) (note: interviewer will offer examples relating to sector) Afta trening wetem TVET, i gat eni jenis we yu lukim long mane we yu stap spendem blong pem ol samting blong mekem wok blong yu (olsem fertiliser, animals, steel, wood)?	a. Some increase I go antap smol b. Big increase I go antap bigwan c. No change I no gat jenis d. Some decrease i go doan smol e. Don't know Mi no save		
7	How many employees (including family) did you have before and after TVET? I gat hamas man mo woman we oli wok blong yu bifo mo afta long TVET trening? (Sapos ol famle memba i wok, plis includem tu.)	Before Bifo (estimate) #	After Afta (estimate) #	
We are now interested in hearing about whether there have been any changes to the financial position of your business since TVET. Afta yu tekem TVET training, mifala i wantem save sapos yu luk eni jenis long mane we yu stap recivem long bisnis blong yu.				
8	Could you please estimate the usual monthly income made by your business before you deduct any expenses or costs (such as wages, supplies) before and after TVET. Yu save	Before TVET Bifo TVET trening (insert	After TVET Afta TVET trening (insert estimate)	Don't know No save

	talem hamas mane bisnis blong yu i mekem long wan manis bifo yu karemout ol kost we yu mas pem (olsem ol pei blong man i wok, mo electricity, water ...)	estimate)		
9	Did your business make a profit in 2011? “Profit” means your total income minus expenses or costs. Bisnis blong yu i mekem wan profit long 2011 (profit hemi minim ol mane we bisnis blong yu i mekem afta yu karemout ol kost we yu mas pem)	Profit (insert estimate)	No	
10	Since TVET training, was there any increase in the total salaries you paid to your employees (this might include family members)? Afta long TVET trening , mane we yu stap pem i go long ol man mo woman we oli work blong yu, i go antap or no? (yu save includem ol famle memba)	Yes	No	
11	Overall, how would you rate the changes in your business now compared to before TVET training? (read out and circle one) Hao nao yu save talem ol jenis we e takem ples long bisnis blong yu afta yu makem training wetem TVET?			
		a. Some improvement sam gudfala jenis		
		b. Big improvement bigfala gudfala jenis		
		c. No change i no gat jenis		
		d. Some decline binis i go doan		
		e. Don’t know no save		
12	If (a) or (b) to question 11, what are the main reasons for improvement? (Do NOT read out. Prompt once: “anything else?” and circle any items mentioned) If (a) or (b) to question 11, wanem nao bigfala risen blong mekem se bisnis blong yu i kam gud.			
		a. Improved skills due to TVET training Ol skil oli kam gud from TVET training		
		b. Better economic conditions or opportunities in your province Eknomik developmen long provins i kam gud smol mo i gat moa jenis blong mekem bisnis i gro.		
		c. Changes in household or family wealth not related to TVET training Yu (o famle blong yu) gat moa mane from ol narafala samting we oli no related long TVET		

		d. Changes in household or family skills not related to TVET training Yu (o famle blong yu) gat moa skil from ol narafala opportuniti we oli no related long trening blong TVET	
		e. Other (specify). Eni nara samting	
		f. Don't know mi no save	
13	After TVET, did you receive any external accreditation or formal recognition of your business? Afta TVET trening, yu recivem eni accreditation o formal recognition blong bisnis blong yu?	If yes, describe	No
14	Has your business created any other new business opportunities in your community since TVET (eg. Jobs, supply of goods and services)? Bisnis blong yu i helpem eni narafala bisnis blong i gro long komuniti blong yu, afta long taem we yu tekem trening wetem TVET?	If yes, describe	No
15	Have there been any negative consequences for your business because of TVET? I gat eni problem wetem bisnis blong yu from we yu bin attendem TVET trening?	Describe	No
16	Over the next two to three years, do you aim to expand or increase your business? Afta long tu mo tri yia i pas, yu tingting blong mekem business blong yu i bigwan?	Yes	No
17	How do you aim to achieve your longer term growth plans? Is it by...? (read out each one) Wanem nao bae yu mekem blong kasem ol fiuja plans blong yu? Bae hem i long ...		
		a. Increasing your market share in existing markets Leftemap shea blong yu long ol market we e stap finis.	
		b. Exploiting new markets faenem ol niu market	
		c. Increasing the skills of your workers Mekem ol skil blong ol man mo woman we oli stap wok blong yu i go antap	
		d. Increasing the number of workers Mekem namba blong ol man mo woman we oli stap wok blong yu i go antap	
		e. Developing new products or services Produsem niufala product o sevis	
		f. Doing something else (SPECIFY) I gat narafala samting (wanem?)	
		g. Don't know mi no save	

18	Overall, what are the biggest obstacles to the success of your business? (circle any mentioned. Prompt once: “are there any more?”) Wanem nao sam bigfala samting we i mekem bisnis blong yu i no gro gud?		
		a. The economic situation in the province level blong eknomik long provins	
		b. Obtaining finance / loans Karem wan lon	
		c. Cash flow (including customer debts) Mane we i kam insaed long bisnis blong yu (cashflow)	
		d. Recruiting or keeping staff Tekem niu staf mo kipem olgeta	
		e. Transport issues Problem blong transport	
		f. Access to equipment and technology Akses long equipment mo technology	
		g. Competition in the market Competition long market	
		h. Shortage of skills/expertise I no gat enaf man mo woman we oli gat skil.	
		i. Lack of financial understanding Save long saed blong mane i no big wan	
		j. Crime or disputes Ol rowrow mo ol fasin no gud	
		k. Environmental problems (eg. cyclones, pests) ol natural problem - olsem cyclones, pests	
		l. Personal problems/ commitments Problem blong wanwan man mo woman	
		m. Other [PLEASE SPECIFY] Sam narafala problem	
		n. No obstacles I no gat problem	
19	(Only for those who mentioned obstacles in q18): In your opinion, what are the best ways to overcome the obstacles you mentioned? Long tingting blong yu, wanem nao samfala rod we yu save overcomem ol samting we i had.	(Ways to overcome obstacles) (Fasen blong overcomem ol samting we i had)	
20	Are there other changes in your business that we haven't covered yet that you would like to mention? I gat eni jenis long bisnis blong yu we yu ting se yu no talem yet?	If yes, please describe	No

PART 2 INDIVIDUAL SKILLS. Ol skil blong wanwan man			
Now we would like to ask you about any changes you have experienced in your own skills since TVET (ask about each) Noa ia bae yumi storian long saed blong eni jenis we yu experincem long ol skil blong yu afta TVET trening?			
21	Have you changed any of your work practices because you learned new skills through TVET? Ol skil we yu karem lo TVET trening, oli jenisem ol wai we yu stap mekem ol wok blong yu?	Yes	No
22	Have you been able to keep up your skill level since finishing TVET? Ol skil we yu karem long TVET trening, bae yu no save fogetem?	Yes	No
23	Have you done mentoring or training of others since TVET? Yu bin trenem o givhan long eniwan we i nid blong improvem ol skil blong hem afta yu bin mekem TVET trening?	Yes	No
24	Has your self-confidence about work ... (circle one). Level blong self confidence blong yu hemi olsem wanem?		
		a. Increased since TVET? I go antap afta long TVET trening	
		b. Decreased since TVET I go daon afta long TVET trening	
		c. No change? I no gat jenis afta long TVET trening	
		d. Don't know Mi no save	
25	Have you got any type of formal job certification since TVET? Afta long yu mekem TVET trening, yu bin save karem wan formal recognition blong wok blong yu - olsem wan license o wan registration?	If yes, describe	No
26	Overall, how satisfied are you with your current skill level? Afta long trening, yu hapi wetem ol skills we yu gat?		
		a. Satisfied – mi hapi	
		b. Not satisfied – mi no hapi	
27	If not satisfied, which skills need improvement? (please describe). Sapos yu no hapi, wanem ol skil nao we yu nid blo improvem		
28	Are there other changes for you personally that we haven't covered yet that you would	Describe	No

	like to mention? I gat eni narafala jenis we yu gat we yu no bin talem bae yu wantem talem?		
PART 3 HOUSEHOLD SITUATION			
Now I would like to ask you about any changes in your personal and household situation since TVET training. Nao ia bae yumi storian long saed blong eni jenis long famle blong yu afta taem we yu bin kasem TVET trening			
29	In your family, has your weekly spending on basic necessities such as food, clothing or shelter ... (ask each, then circle one). Long famle blong yu, ol spending blong yu long evri dei (olsem kakae, calico, ol basic samting long haus ...)		
		a. Increased since TVET training? I go antap afta TVET trening	
		b. No change? I no gat jenis	
		c. Decreased since TVET training? I go doan afta TVET trening	
		d. Don't know No save	
30	In your family, has your spending on special foods, entertainment or holidays ... (ask each, then circle one). Long famle blong yu, ol spending blong yu long ol spesel samting, olsem lafet, ol visit long nara ples ...		
		a. Increased since TVET training? I go antap afta TVET trening	
		b. No change? I no gat jenis	
		c. Decreased since TVET training? I go doan afta TVET trening	
		d. Don't know No save	
31	In general, do you feel your household wealth has ... (ask each, then circle one) Overall, yu ting se ol mane we i kam insaed long famle blong yu ...		
		a. Increased a little since TVET training? I go antap smol afta TVET trening	
		b. Increased a lot since TVET training? I go antap bigwan afta TVET trening	
		c. Not changed since TVET training? I no gat jenis	
		d. Decreased since TVET training? I go doan afta TVET trening	
		e. Don't know No save	

Please wait a minute while I check to make sure I have written down all your answers. (After checking): Thank you very much for taking time to give me this information today. We hope it will improve the life and well-being of our people. **Plis wet, bae mi chekem se mi raetem finis evri ansa we yu givem. Tangyu blong givem taem blong yu wetem ol information ia. Mi belif se information ia bae i helpem ol narafala man tu. Tangyu tumas.**

Appendix 5. 12-Month Follow-Up Questionnaire

SECTION 1. BASELINE DATA (Filled out by M&E Officer before interview)	
Participate Code	
Participant Name	
Participant Address	
Sex	M F
Age	
Main occupation or livelihood at baseline (circle)	
	a. Employed by someone else and paid a salary
	b. Self-employed and sell your goods or services
	c. Subsistence farming – only enough for food for family
	d. Student
	e. Other (specify)

Introdaksen

Alo, nem blong mi ----- Mi wok long TVET Prokram

Mifala i stap askem kwestin long ol man mo ol woman we oli bin atendem trening blong TVET wan yia i pas finis. Mifala i wantem save wanem i stap hapen afta we yu finisem trening blong yu wetem TVET long las yia. Wanem we yu talem, mbae i helpem TVET Prokram blong luksave ol eria blong trening we i strong mo tu, ol eria blong trening we oli no strong , afta mbae mifala i wok blong improvum ol eria we i no strong Mbae yumi tekem 50 minit blong ansarem ol kwestin we oli stap insaed long fom ia. Sipos yu no tek pat long sevei ia o yu no ansa eni kwestin emi oraet nomo.

Wanem yu talem i tabu mo nem blong yu mbae i no stap long eni ripot blong prokram. I no nid blong yu tek pat long sevei ia mo i no nid blong yu ansarem evri kwestin long fom ia.

Yu agri blong tek pat long sevei ia?

Agrimen blong yu _____ (signija blong man we i mekem intaviu).

Introduction

Hello, my name is _____. I work on the TVET Program. We are interviewing training participants to follow up on the TVET training program you attended about one year ago. We are interested to hear about what has happened since you were trained. This will help us understand the strengths and weaknesses of training. This interview will take about 50 minutes. What you say is completely confidential. Your name and identity will not be included in any report or be provided to any person outside of the program. You do not have to do this survey and you do not have to answer every question. Are you willing to take part in this survey?

Verbal consent obtained _____ (signature of interviewer)

SEKSEN 2. LAEFLIHUD			
SECTION 2. LIVELIHOODS DATA			
1	Wanem i mein wok o laeflihud blong yu naoia? (<i>Ridim evri ansa afta sekolem wan nomo</i>)		
	a. Mekem wok blong kasem wan salari	Go long Module 1, 2 mo 3.	
	b. Wok blong yu wan mo salem ol samting olsem buluk, faol, pig, kakae, kat wan stoa, transpot, etc.	Go long Module 1, 2 mo 4.	
	c. Subsistens fama – planem enaf nomo blong famli i kakae	Go long Module 1 mo 2 nomo.	
	d. Wan studen	Go long Module 1 mo 2 nomo.	
	e. Narafala ansa (wanem?)	Go long Module 1 mo 2 nomo.	
1	Currently, what is your main occupation or livelihood? (ask each, then circle one)		
	a. Employed by someone else and paid a salary	Go to Module 1 and 2, and then Module 3 ‘Employment’	
	b. Self-employed and sell your goods or services eg. livestock, vegetables, retail, trades	Go to Module 1 and 2, and then Module 4 ‘Business’	
	c. Subsistence farming – only enough for food for family	Go to Module 1 and 2 only	
	d. Student	Go to Module 1 and 2 only	
	e. Other (specify)	Go to Module 1 and 2 only	
2	(Sipos ansa blong hem long laeflihud kwestin, i difren long ansa blong hem long Beislaen): Mifala i notisim se yu kat wan difren wok o laeflihud naoia we i difren long wanem we yu bin stap mekem bifo trening blong TVET. Yu save eksplenem from wanem?		
	a. Ansa blong yu long Beislaen i rong.		
	b. Lusum o faenem wok.		
	c. Lusum o statem wan niu bisnis.		
	d. Narafala ansa (Wanem?)		
2	(If livelihoods category has changed from baseline): We notice you have a different livelihood now compared to before the TVET training. Can you explain why?		
	a. Incorrect at baseline		
	b. Lost or gained a job		
	c. Lost or started a new business		
	d. Other (SPECIFY)		

MODULE 1. Ol skil blong wanwan man (<i>Evriwan i mas ansa</i>)			
Naoia mifala i wantem askem yu long ol jenis we yu kasem wetem ol skil blong yu afta long trening blong TVET. (<i>Ridim aot ol kwestin mbe no Ridim aot ol ansa</i>).			
MODULE 1. INDIVIDUAL SKILLS			
Now we would like to ask you about any changes you have experienced in your own skills since TVET training. (Read out all questions but do NOT read the responses)			
3	Ol skil we yu kasem long trening, oli stap long sem level yet?	Yes	No
3	Have you been able to keep up your skill level since finishing TVET?	Yes	No
4	Yu trenem o givihan long wan nara man afta long trening blong TVET?	Yes	No
4	Have you done mentoring or training since TVET?	Yes	No
5	Yu hapi yet wetem ol skil we yu gat naoia?		
		a. Mi hapi (<i>Go long kwestin 7</i>)	
		b. Mi no hapi (<i>Go long kwestin 6</i>)	
5	Overall, how satisfied are you with your current skill level?		
		a. Satisfied	
		b. Not satisfied	
6	Sipos yu no hapi, wanem nao ol skil we yu wantem blong impruvum? (Plis talem).		
		a. Ol skil long saed long mane	
		b. Ol skil long saed long manejen	
		c. Ol teknikol skil	
		d. Ol skil blong rid mo raet	
		e. Narafala ansa (Wanem?)	
6	If not satisfied, which skills need improvement? (please describe).		
		a. Financial	
		b. Management	
		c. Technical	
		d. Literacy	
		e. Other (describe)	
7	Ol skil we yu kasem long trening, oli jenisim sam stael blong wok blong yu? (Sipos yes) Wanem? (<i>No ridim aot ol ansa mbe sekolem ol ansa blong hem. Helpem hem wetem ol toktok olsem: eni samting bakegen?</i>).		
		a. Impruvum kwaliti blong wok	
		b. Ol niu teknik/sistem	
		c. Prodak/bisnis i kam antap	
		d. Narafala ansa (Wanem?)	
		e. No kat jenis	
		f. No save	
7	Have you changed any of your work practices because you learned new skills through TVET? If yes, what did you change? <i>Then ask "anymore?"</i> .		
		a. Improved quality of work	
		b. New techniques or systems	
		c. More productive / greater output	
		d. Other (describe)	
		e. No changes	
		f. Don't know	
MODULE 2. SITJUESEN BLONG FAMLI. (<i>Evriwan i mas ansa</i>)			
Naoia, mbae mi askem yu long saed long ol jenis insaed long famli blong yu afta long trening blong yu wetem TVET.			
MODULE 2. HOUSEHOLD SITUATION (answered by all)			

Now I would like to ask you about any changes in your personal and household situation since TVET training	
8	Ol mane we yu spendem long famli blong yu evri wik long kakae, klos mo ples blong slip oli ... (<i>Ridim evri ansa mo sekolem wan nomo</i>).
	<div>e. go antap afta TVET trening.</div> <div>f. no gat jenis.</div> <div>g. go daon afta TVET trening.</div> <div>h. No save.</div>
8	In your family, has your weekly spending on basic necessities such as food, clothing or shelter ... (ask each, then circle one)
	<div>a. Increased since TVET training?</div> <div>b. No change?</div> <div>c. Decreased since TVET training?</div> <div>d. Don't know</div>
9	Yu gat ekstra mane blong spendem long lafet, holidei, entateinmen o givim aot long ol narafala memba blong famli blong yu? (<i>Ridim evri ansa mo sekolem wan nomo</i>).
	<div>e. Yes, emi go antap afta TVET trening.</div> <div>f. no gat jenis.</div> <div>g. No i go daon afta TVET trening.</div> <div>h. No save.</div>
9	Do you have extra money since TVET training that allows you to do things like buy special foods, have a holiday or entertainment, or give money to your family members? (ask each, then circle one)
	<div>a. Yes, it has increased since TVET training</div> <div>b. No change?</div> <div>c. No, it has decreased since TVET training?</div> <div>d. Don't know</div>
10	Yu skul long hamas yia?
10	How many years of schooling did you have in total? (write number of years)

MODULE 3. EMPLOYMEN				
Naoia mifala i intres blong save se i kat sam jenis long wok blong yu afta long trening blong TVET o no?				
MODULE 3. EMPLOYMENT (Answered only by those employed by others)				
We are interested in hearing about whether there have been any changes for you in employment since TVET training				
11	Yu kasem wan niu wok?	Yes	No	
11	Did you get a new job?	Yes	No	
12	Sipos Yes, emi from trening?	Yes	No	No save
12	If yes, is this mainly due to training?	Yes	No	Don't know
13	Yu kasem wan promosen long wok?	Yes	No	
13	Did you get a promotion in your job?	Yes	No	
14	Sipos Yes, emi from trening?	Yes	No	No save
14	If yes, is this mainly due to training?	Yes	No	Don't know
15	Yu mekem sam niu wok long ples blong wok?	Yes	No	
15	Do you have any new duties?	Yes	No	
16	Sipos Yes, emi from trening?	Yes	No	No save
16	If yes, is this mainly due to training?	Yes	No	Don't know
17	Yu save talem amaon blong salari blong yu long 2 wik?	(Putum amaon/salari blong 2 wik).		
17	At the present moment, can you tell me your level of fortnightly salary?	(Insert amount per fortnight)		
18	Salari blong yu ia emi ... (Ridim mo sekolem wan ansa nomo)			
		a. go antap afta TVET training.		
		b. no gat jenis afta TVET training.		
		c. go daon afta TVET training.		
		d. No save		
18	Has your salary ... (read out and circle one)			
		a. Increased since TVET training?		
		b. Not changed since TVET training?		
		c. Decreased since TVET training?		
		d. Don't know		
19	Ol responsibiliti blong yu long saed blong supavaesem ol nara wokman mo mekem ol niu wok oli ... (Ridim mo sekolem wan ansa nomo).			
		a. go antap afta TVET training.		
		b. go daon afta TVET training.		
		c. no gat jenis.		
		d. No save.		
19	Has your level of responsibility (eg, supervision of others, new duties) ... (read out and circle one)			
		a. Increased since TVET training?		
		b. Decreased since TVET training?		
		c. No change?		
		d. Don't know		

MODULE 4. BUSINESS (Answered only by self-employed)			
Part. 1 Ol Jenis long bisnis blong yu			
Ol kwestin long seksen ia oli long saed long ol bisnis aktiviti blong yu mo tu blong faenemaot sipos i gat sam jenis afta long TVET trening.			
MODULE 4. BUSINESS (Answered only by self-employed)			
The first questions are about your business activity, and whether there have been any changes since TVET			
20	Yu karem sam niufala kastoma o niu ples blong salem ol prodak blong yu, afta we yu atendem trening?	Yes Hamas?	No
20	Have you got any new clients or markets since TVET?	(number)	No
20 a	I gat eni jenis long spid blong prodaksen blong yu afta trening? (Sipos Yes askem olgeta blong eksplenem jenis ia)	a. I go antap smol.	
		b. I go antap bigwan	
		c. I no gat jenis	
		d. I go doan smol	
		e. Mi no save	
20a	Has there been any change in your rate of production since TVET? (If yes, ask them to clarify the change)	f. Some increase	
		g. Big increase	
		h. No change	
		i. Some decrease	
		j. Don't know	
21	Afta long trening, yu gat eni niufala prodak o sevis blong mekem?	Yes	No
21	Have you introduced any new services or products since TVET?	Yes	No No
22	Yu memba blong wan asosiesen blong ol nara bisnis?	Yes	No (Go long kwestin 24).
22	Do you belong to a collective or association with other businesses?	Yes	No Skip to 24
23	Sipos Yes long kwestin 22, yu save talem hamas help asosiesen ia i helpem bisnis blong yu long hem afta long trening? (Ridim ol ansa mo sekolem wan nomo).		
		a. Smol	
		b. Big wan	
		c. No	
23	If yes to question 22, has the collective or association strengthened your business since the time you had your TVET training? (read out responses and circle one) (If yes to question 22)		
		a. Yes, a little	
		b. Yes, a lot	
		c. No	

Mifala i wantem save naoia ol jenis long saed blong ol samting we yu stap pem blong helpem bisnis blong yu i gro.				
We are now interested in hearing about any changes to your business assets since TVET training.				
24	Yu pem eni bigfala samting olsem ol bilding, ol bigfala ekwipmen, trak afta TVET trening?	(Sipos <i>Yes</i> , wanem? <i>Raetem</i>).	No	
24	Have you bought any big items like buildings, large equipment, truck since TVET training?	(If yes, list them)	No	
25	I gat eni jenis long mane we yu spendem long ol samting we i blong usum long bisnis blong yu? (Ol samting olsem, fertelaesa, ol animol, aeyan, wud)? (<i>Ridim mo sekolem wan nomo. Givim ol eksampol we i stret long ol sekta blong trening we oli atendem</i>).			
		a. I go antap smol		
		b. I go antap bigwan		
		c. I no gat jenis		
		d. I go daon smol		
		e. Mi no save		
25	Has there been any change in your expenditure on materials or supplies used for your business, eg. fertiliser, animals, steel, wood, since TVET training? (read out and circle one) (note: interviewer will offer examples relating to sector)			
		a. Some increase		
		b. Big increase		
		c. No change		
		d. d. Some decrease		
		e. Don't know		
26	Hamas man mo woman oli wok blong yu bifo mo afta long trening? (Inkludum tu ol famli memba blong yu.)	Bifo Trening #	Afta Trening #	
26	How many employees (including family) did you have before and after TVET?	Before #	After #	
Naoia mifala i intres blong harem abaot ol jenis long saed blong mane blong bisnis blong yu afta TVET trening.				
We are now interested in hearing about whether there have been any changes to the financial position of your business since TVET				
27	Yu save talem hamas mane bisnis blong yu i mekem long wan manis (bifo yu karemaot ol mane blong salari blong ol wokman, elektrisiti, wota, etc.) bifo mo afta TVET training?	Bifo TVET trening (<i>Putum amaon</i>).	Afta TVET trening (<i>Putum amaon</i>)	No save
27	Could you please estimate the usual monthly income made by your business before you deduct any expenses or costs (such as wages, supplies) before and after TVET	Before TVET	After TVET	Don't know
28	Bisnis blong yu i mekem wan profit long las yia o no (profit hemi minim ol mane we bisnis blong yu i mekem afta yu karemaot ol kost we yu mas pem olsem wota, laet, etc.) (<i>Data koleta i mas jenisim i ko long amaon blong wan yia</i>).	Profit (<i>Putum amaon</i>)	No	

28	Did your business make a profit last year? “Profit” means your total income minus expenses or costs.	Profit (insert estimate)	No
29	Mane we yu pem long ol wokman blong yu, afta trening, i go antap or no? (<i>Inkludum tu ol famli memba blong yu</i>).	Yes	No
29	Since TVET training, was there any increase in the total salaries you paid to your employees (this might include family members)?	Yes	No
30	Hao nao yu save komperem ol jenis we i tekem ples long bisnis blong yu bifo long TVET trening? (<i>Ridim mo sekolem wan ansa nomo</i>).		
		a. Sam gudfala jenis	
		b. Bigfala gudfala jenis	
		c. I no gat jenis (<i>Go long kwestin 32</i>)	
		d. Bisnis i go daon (<i>Go long kwestin 32</i>)	
		e. No save (<i>Go long kwestin 32</i>)	
30	Overall, how would you rate the changes in your business now compared to before TVET training? (read out and circle one)		
		a. Some improvement	
		b. Big improvement	
		c. No change (skip to 32)	
		d. Some decline (skip to 32)	
		e. Don’t know (skip to 32)	
31	(<i>Sipos ansa blong hem i (a) o (b) long kwestin 30.</i>) Askem, Hao nao trening i mekem se bisnis blong yu i kam antap? (<i>No ridim aot ol ansa mbe sekolem ol ansa blong hem. Helpem hem wetem ol toktok olsem “eni samting bakegen?”</i>).		
		b. Ol skil oli kam gud from TVET training	
		c. Gat mo konfidens long yu wan.	
		d. Kontinu blong kasem sapot long TVET	
		e. Gat ol niu aedia blong wok	
		f. Narafala samting (Wanem?)	
		g. Narafala samting (Wanem?)	
		h. Mi no save	
31	(If (a) or (b) to question 30) How did the training help you improve your business? (Do NOT read out. Prompt once: “anything else?” and circle any items mentioned)		
		a. Improved skills due to TVET training	
		b. Greater confidence in own abilities	
		c. Ongoing support from TVET	
		d. Joining an association	
		e. New ideas for work	
		f. Other (specify)	
		g. don’t know	
32	(Blong sam sekta nomo] Yu kasem eni promosen o rekognisen long bisnis blong yu afta TVET trening?	<i>Sipos Yes, Hao?</i>	No
32	After TVET, did you receive any external accreditation or formal recognition of your business?	If yes, describe	No
33	Bisnis blong yu i helpem eni narafala bisnis blong i gro long Komuniti blong yu afta trening? Eksampol (<i>Ridim aot mo sekolem ol ansa blong hem</i>).		

		a. I gat mo wok long komuniti. b. I givim mo wok long ol nara bisnis man. c. Ol niu bisnis mo olgeta we i stap finis i kam antap. d. Narafala ansa. (Wanem?)		
33	Has your business created any other new business opportunities in your community since TVET, for example, ... (read out and circle any number)			
		a. New local jobs? b. Increased work for local suppliers? c. New or improved local businesses? d. Other? (describe)		
34	Afta tu o tri yia, mbae yu mekem bisnis blong yu i kam bigwan?	Yes	No <i>Go long kwestin 36</i>	No save <i>Go long kwestin 36</i>
34	Over the next two to three years, do you aim to expand or increase your business?	Yes	No Skip to 36	Don't know Skip to 36
35	Sipos Yes long kwestin 34, wanem nao mbae yu mekem? <i>(No ridim aot ol ansa mbe sekolem ol ansa blong hem. Helpem hem wetem ol toktok olsem, "eni samting bakegen?")</i> .			
		h. Leftemap shea blong yu insaed long ol maket we oli stap finis. i. Faenem ol niu maket. j. Leftemap ol skil blong ol wokman blong mi. k. Inkrisim namba blong ol wokman blong mi. l. Mekem ol niufala prodak o sevis m. Mekem narafala samting (wanem?) n. Mi no save		
35	If yes to 34, how will try to expand your business? (Do NOT read out. Prompt once: "anything else?" and circle any items mentioned)			
		a. Increasing your market share in existing markets b. Exploiting new markets c. Increasing the skills of your workers d. Increasing the number of workers e. Developing new products or services f. Doing something else (SPECIFY) g. Don't know		
36	Wanem nao sam long ol problem we i mekem bisnis blong yu i no gro gud? <i>(Sekolem ol ansa blong hem mo helpem hem wetem ol toktok olsem, "eni samting bakegen?")</i>			
		o. Level blong ekonomi long provins i no gud. p. Problem blong kasem wan lon/mane. q. Problem blong mane we i kam insaed long bisnis. (inkludum kaon) r. Tekem ol wokman mo kipim olgeta s. Problem blong transpot. t. Problem blong ol tul mo teknologi. u. Problem blong maket. v. I no gat enaf man mo woman we oli gat skil.		

	w. Save long saed blong mane i smol. x. Ol raro mo ol no gud fasin y. Ol problem blong envaeromen - olsem hariken, ol pes, etc. z. Problem blong wanwan man mo woman – olsem komitmen, etc. aa. Ol narafala problem (Wanem?) bb. No gat problem cc. No kat ansa o no save.
36	Overall, what are the biggest obstacles to the success of your business? (circle any mentioned. Prompt once: “are there any more?”)
	a. Bad economic situation in the province b. Obtaining finance / loans c. Cash flow (including customer debts d. Recruiting or keeping staff e. Transport issues f. Access to equipment and technology g. Competition in the market h. Shortage of skills/expertise i. Lack of financial understanding j. Crime or disputes k. Environmental problems (eg. cyclones, pests etc) l. Personal problems/ commitments m. Other [PLEASE SPECIFY] n. No obstacles o. No opinion or don’t know
37	<i>(Kwestin ia i blong olgeta we oli talemaot sam problem blong olgeta long kwestin 36 antap): Wanem nao samfala rod blong stretem ol problem blong olgeta ia? (Raetem wan sot samari long ansa blong hem).</i>
37	(Only for those who mentioned obstacles in q36): In your opinion, what are the best ways to overcome the obstacles you mentioned? (write brief summary)

Plis weit, mbae mi jekem se mi raetem daon evri ansa blong yu fastaem. Tank yu long taem mo ol ansa blong yu long sevei ia. Mi bilif se infomeisen ia mbae i helpem ol narafala man tu. Tank yu tumas.

Appendix 6. Interview and Meeting Schedule, Final Evaluation (25 Apr – 19 May 2012)

Date	Activity, Individuals Consulted
PORT VILA	
Wed 25 April	<i>Fly Melbourne – Port Vila</i>
Thu 26 April	Morning: Interview TL and PD - Anna Gibert 3.00 pm Interview VNTC – David Lambukly
MALAMPA	
Fri 27 April	7.40am Breakfast with Christelle Theiffry , AusAID 10.00am Fly Vila - Norsup 1.00pm Briefing with TVET Centre Staff 3.00pm Confirm appointments and evaluation plan
Sat 28 April	9.00am Start BDS Case Study 1 – Mini-milling – client interviews (Rojohn Rose & Simon Balbang) and site visits Start BDS Case Study 2 – Tourism client interview (Assunda Roy)
Sun 29 April	(Meet w/ Adelyne Nelson to plan survey training)
Mon 30 April	9.00am 12-m Survey Team ½ day training Trainees: Frederick Jean-Batis & Honore Albert 1.00pm BDS Case Study 1 client interview Joses Lingi
Tue 1 May	8.00 BDS 1 client interview: Kalotak Tura
Public holiday	9.00 Interviews w/trainees w/disabilities Apel & Elcy Muluen; Arthur Sumrai & Danny Naror PM: TVET Centre manager, Marian Loughman
Wed 2 May	8.00am Meet survey team for feedback 10.30am Interview PTB Chair, Planner (Renjo Samuel & Pallen Ata) 2.00pm Group Interview with Training providers Naomi Malau (affiliated VIT) (others unavailable)
Thu 3 May	9.00am Group interview with PTB members: Pallen Ata (Planner), Naomi Malau (Affiliated trainer), Edna Paolo (Tourism Officer), George Nial (Principal Secondary School); Kalkie Reganvanu (RTC); Kevin Enrel (Human Resources, Malampa); Nicholas Lingtamat (Agric Officer) 2.00pm Group interview with productive sectors: Jenita Dick (SCV); Nixon Finai and Dinesh (VTSSP); Basil Malili (Cocoa Growers Assoc); Annesa Ray (Redi Blong Business)
Fri 4 May	8.00am BDS Case Study 2 Edna Paolo (M Tourism Officer) 9.45 BDS Case Study 1 Ali Avock (Mini-milling trainer/ sector expert) 4.00pm Continue interview w/ Marian L. 6.00 pm Case Study 2 client (Aurielle Tessi , Nabelchel Bungalows)
Sat 5 May	BDS Case Study 2 Tourism client interviews (Rose Maltaus , Tamtam Bungalow), Amendee & Veronique Wesets (Rano Small Nambas Tour)

Date	Activity, Individuals Consulted
SANMA	
Sun 6 May	10.20am Fly Norsup – Santo Noon Meet Adelyne Nelson re: 12-m survey field work plan, Sanma
Mon 7 May	9.00am Briefing TVET Centre staff 10.00am Confirm appointments and evaluation plan 11.30am Interview Centre Mgr – Moulin Tabouti 2.00pm Continue planning/ reviewing record analysis
Tue 8 May	8.00am Survey Team Training ½ day John Vanua & Jamine Makikon 2.00pm Group Interview w/ Training provider managers and trainers Jonas Masovish and Daryl Nalo (Agric Culture); Theophile (Principal) & Pierre Noel Tabi (Trainer), St Michel; Richard Coleman (CEO) & Michael Eddy (Trg Mgr) VMC; Joel Daniel (Matahi RTC)
Wed 9 May	9.00am - 2 pm BDS Case Study 1 (Vanilla) client interviews: Dominique Mae, Joses William, Prylin Reremalo, Kiblot Jamaran 3.00 pm Tari Molisale BDS Vanilla sector rep (Dept of Agriculture)
Thu 10 May	9.00am Interview PTB Chair and Planner – Jimmy Solomon and Sachariah Daniel 2.00pm Interview DPO Representatives – Dorianne Nalipus (Frangipani Assn) and Nelly Caleb (DPA – Disability Promotion & Advocacy)
Fri 11 May	9.00am BDS Case Study 1 Vanilla trainer: Piero Bianchessi 11.00am – 3.00pm BDS Case Study 2 (Prawn farming) client interviews and field visit: Maliu, Tavue, Koilo – Nomouru Village
Sat 12 May	9.00am Interviews w/trainees w/disabilities - Simon Popol (poultry, Bus Mgt training) & Peter Dick (various training) 6.00pm Dinner/interview Case Study 2 (Prawn farming) Glen Alo, Fisheries Officer (affiliated w/ Ag College)
Sun 13 May	Rest Day (prepare for SAG workshop)
Mon 14 May	9.00am Group Interview with PTB members: PTB Chair (Jimmy Solomon); Planner (Sachariah Daniel); Chris Smythe Dept of Coops volunteer; Kalmer Vocor, President, Sanma Tourism Association; Marie Marau, VANWODS 2.00pm Group interview with productive sectors: Clentine Robson (Coop Dept); Dick Tomker (Forestry); Ian Baiuri and Jim Bennie (volunteer) (Tourism); Joane Alili (Save the Children); Kingsly Micar (Acting Youth Officer)
Tue 15 May	9.00am Interview BDS Mgr – Fremden Shadrack (fly to Vila)

Date	Activity, Individuals Consulted
PORT VILA	
Tues 15 May	<i>Fly Santo – Vila</i>
Wed 16 May	<p>8.45 Anna (debrief)</p> <p>12.00pm Lunch, followed by Group Interview with Training provider managers and trainers: Olsen Tama (VIT); Alick Berry (VCCI) Marie Shem (VCCI)</p> <p>4.00pm Interview MYDST – Joe Iautim</p>
Thu 17 May holiday	<p>Prepare for SAG meeting;</p> <p>5 pm Malampa Case Study 2 Tourism provider, Pascal Gavatto</p> <p>Dinner meeting with Peter Morris and Anna</p>
Fri 18 May	<p>Evaluation Workshop/SAG Meeting</p> <p>- SAG Members</p>
Sat 19 May	<i>Fly Port Vila – Melbourne</i>

Appendix 7. SAG Evaluation Workshop 19 May 2012 Invitation List

Last Name	First Name	Title	Organisation	Confirmation
Kalsuak	Ian	Chairman	VANGO	Confirmed
Bakeo	Reuben	Director	Department of Agriculture	Did not attend
Borugu	George	Director	Department of Tourism	Did not attend
Amos	Moses	Director	Department of Fisheries	Did not attend
Timothy	Sisi	Trade Officer	Department of Trade	Confirmed
Hanington	Tete	Acting Director	Department of Forestry	Confirmed
Paolo	Edna	Tourism Officer	Malampa Province	Confirmed
Aru	Adela	Principal Product Development Officer	Department of Tourism	Confirmed
Samuel	Janet	Principal Province Development Officer	Department of Tourism	Confirmed
Iautim	Joe	Director	MYDST	Confirmed
Lambukly	David	CEO	VNTC	Confirmed
Vora	Johnson	Senior Policy Analyst	Prime Minister's Office	Confirmed
Representative			National Statistics Office	Did not attend
Obed	Roy	Director	Ministry of Education	Did not attend
Kalpat	Kalbeo	Deputy Principal	VIT	Confirmed
Arnhambat	Jerrol	Director	VRDTCA	Confirmed
Joseph Matou	Sowany	Director	Department of Cooperatives	Confirmed
Joseph	Ridley	Principal Training Officer	Department of Cooperatives	Did not attend
Shem	Mereisi	Training Coordinator	Chamber of Commerce	Confirmed
Bulekon	Astrid	Acting General Manager	Chamber of Commerce	Confirmed
Massing	Joe	Commissioner	Malampa Province	Did not attend
Path	Joel	Secretary General	SANMA Province	Confirmed
Solomon	Jimmy	PTB Chair	SANMA Province	Confirmed

Last Name	First Name	Title	Organisation	Confirmation
Daniel	Sakariah	Provincial Planner	SANMA Province	Confirmed
Ata	Palen	Provincial Planner	MALAMPA Province	Confirmed
Samuel	Renjo	PTB Chair	MALAMPA Province	Confirmed
Mc Naughton	Belynda	First Secretary	AusAID	Confirmed
Thieffry	Christelle	Senior Program Officer	AusAID	Confirmed
Gibert	Anna	Team Leader	TVET Program	Confirmed
Morris	Peter	Technical Director	TVET Program	Confirmed
Dick	Berlinrose	Program Coordinator	TVET Program	Confirmed
Shadrack	Fremden	BDS Manager	TVET Program	Confirmed
Tabuti	Moulin	Center Manager	TVET Program	Confirmed
Loughman	Marian	Center Manager	TVET Program	Confirmed
Timothy	Joe	TPSS Manager	TVET Program	Confirmed
Nelson	Adelyne	M & E Officer	TVET Program	Confirmed
Martha	Morrow	M& E Advisor	TVET Program	Confirmed

Appendix 8. TVET Sector Strengthening Program Tracer Study Results 2012

Demographics

6-month Tracer Study		
	n	%
Sex		
Male	381	56%
Female	297	44%
Total	678	100%
Occupation		
Employed 2 45 16 48 = 111	111	16%
Self-employed 70 185 68 161 = 484	484	71%
Subsistence farming 17 23 19 = 59	59	9%
Student 3 4 2 = 9	9	1.3%
Other 1 6 9 = 16	16	2.4%

Q 2 Any changes since accredited training/ BDS

	Yes		No		Total		p-value
	n	%	n	%	n	%	
All respondents	629	93%	47	7%	676	100%	
Province							0.111
Sanma	299	91%	28	9%	327	100%	
Malampa	330	95%	19	5%	349	100%	
Total	629	93%	47	7%	676	100%	
Type of TVET training							0.000
Accredited training	479	96%	21	4%	500	100%	
Business Development Services (BDS)	150	85%	26	15%	176	100%	
Total	629	93%	47	7%	676	100%	
Sex							0.952
Male	348	93%	26	7%	374	100%	
Female	276	93%	21	7%	297	100%	
Total	624	93%	47	7%	671	100%	
Participant location							0.000
Remote	135	85%	23	15%	158	100%	
Non remote (rural/urban)	492	95%	24	5%	516	100%	
Total	629	93%	47	7%	676	100%	

Q 3b Started a new business

	Yes		No		Total		p-value
	n	%	n	%	n	%	
All respondents	101	16%	524	84%	625	100%	
Province							0.001
Sanma	64	21%	234	79%	298	100%	
Malampa	37	11%	290	89%	327	100%	
Total	101	16%	524	84%	625	100%	
Type of TVET training							0.179
Accredited training	72	15%	406	85%	478	100%	
Business Development Services (BDS)	29	20%	118	80%	147	100%	
Total	101	16%	524	84%	625	100%	
Sex							0.093
Male	64	18%	284	82%	348	100%	
Female	37	13%	239	87%	276	100%	
Total	101	16%	523	84%	624	100%	
Participant location							0.755
Remote	23	17%	112	83%	135	100%	
Non remote	78	16%	412	84%	490	100%	
Total	101	16%	524	84%	625	100%	

Q 3c Improved an existing business

	Yes		No		Total		p-value
	n	%	n	%	n	%	
All respondents	199	32%	430	68%	629	100%	
Province							0.050
Sanma	106	35%	193	72%	299	100%	
Malampa	93	28%	237	65%	330	100%	
Total	199	32%	430	68%	629	100%	
Type of TVET training							0.621
Accredited training	154	32%	325	68%	479	100%	
Business Development Services (BDS)	45	30%	105	70%	150	100%	
Total	199	32%	430	68%	629	100%	
Sex							0.067
Male	121	35%	227	65%	348	100%	
Female	77	28%	199	72%	276	100%	
Total	198	32%	426	68%	624	100%	
Participant location							0.633
Remote	45	33%	90	67%	135	100%	
Non remote	154	31%	340	69%	494	100%	
Total	199	32%	430	68%	629	100%	

Q4 Increased income

	Yes		No		Total		p-value
	n	%	n	%	n	%	
All respondents	444	70%	192	30%	636	100%	
Province							0.016
Sanma	224	74%	77	26%	301	100%	
Malampa	220	66%	115	34%	335	100%	

Total	444	70%	192	30%	636	100%	
Type of TVET training							0.267
Accredited training	342	71%	140	29%	482	100%	
Business Development Services (BDS)	102	66%	52	34%	154	100%	
Total	444	70%	192	30%	636	100%	
Sex							0.018
Male	258	74%	91	26%	349	100%	
Female	184	65%	98	35%	282	100%	
Total	442	70%	189	30%	631	100%	
Participant location							0.093
Remote	103	76%	33	24%	136	100%	
Non remote	340	68%	158	32%	498	100%	
Total	443	70%	191	30%	634	100%	

Q 5 Increased production

	Yes		No		Total		p-value
	n	%	n	%	n	%	
All respondents	437	69%	199	31%	636	100%	
Province							0.013
Sanma	222	74%	80	26%	302	100%	
Malampa	215	64%	119	36%	334	100%	
Total	437	69%	199	31%	636	100%	
Type of TVET training							0.970
Accredited training	331	69%	151	31%	482	100%	
Business Development Services (BDS)	106	69%	48	31%	154	100%	
Total	437	69%	199	31%	636	100%	
Sex							0.068
Male	251	72%	97	28%	348	100%	
Female	185	65%	98	35%	283	100%	
Total	436	69%	195	31%	631	100%	
Participant location							0.106
Remote	86	63%	50	37%	136	100%	
Non remote	351	70%	147	30%	498	100%	
Total	437	69%	197	31%	634	100%	

Q 7 Any barriers or difficulties in making changes

	Yes		No		Total		p-value
	n	%	n	%	n	%	
All respondents	369	57%	274	43%	643	100%	
Province							0.102
Sanma	187	61%	121	39%	308	100%	
Malampa	182	54%	153	46%	335	100%	
Total	369	57%	274	43%	643	100%	
Type of TVET training							0.154
Accredited training	273	56%	216	44%	489	100%	
Business Development Services (BDS)	96	62%	58	38%	154	100%	
Total	369	57%	274	43%	643	100%	

Sex							0.879
Male	204	58%	149	42%	353	100%	
Female	163	57%	122	43%	285	100%	
Total	367	58%	271	42%	638	100%	
Participant location							0.988
Remote	78	57%	58	43%	136	100%	
Non remote	290	57%	215	43%	505	100%	
Missing					2		
Total	369	57%	274	43%	643	100%	

Q 8 Any changes for rest of family

	Yes		No		Total		p-value
	n	%	n	%	n	%	
All respondents	610	95%	31	5%	641	100%	
Province							0.311
Sanma	293	96%	12	4%	305	100%	
Malampa	317	94%	19	6%	336	100%	
Total	610	95%	31	5%	641	100%	
Type of TVET training							0.828
Accredited training	463	95%	23	5%	486	100%	
Business Development Services (BDS)	147	95%	8	5%	155	100%	
Total	610	95%	31	5%	641	100%	
Sex							0.414
Male	338	96%	15	4%	353	100%	
Female	267	94%	16	6%	283	100%	
Total	605	95%	31	5%	636	100%	
Participant location							0.243
Remote	132	97%	4	3%	136	100%	
Non remote	476	95%	27	5%	503	100%	
Missing					2		
Total	610	95%	31	5%	641	100%	

Q 9 Any changes for rest of community

	Yes		No		Total		p-value
	n	%	n	%	n	%	
All respondents	527	82%	112	18%	639	100%	
Province							
Sanma	250	82%	55	18%	305	100%	0.748
Malampa	277	83%	57	17%	334	100%	
Total	527	82%	112	18%	639	100%	
Type of TVET training							0.998
Accredited training	400	82%	85	18%	485	100%	
Business Development Services (BDS)	127	82%	27	18%	154	100%	
Total	527	82%	112	18%	639	100%	
Sex							0.555
Male	294	83%	59	17%	353	100%	
Female	229	81%	52	19%	281	100%	
Total	523	82%	111	18%	634	100%	

Participant location							0.146
Remote	118	87%	18	13%	136	100%	
Non remote	408	81%	93	19%	501	100%	
Missing					2		
Total	527	82%	112	18%	639	100%	

Q 9b New skills/ knowledge used by rest of community (sig findings)

	Yes		No		Total		p-value
	n	%	n	%	n	%	
Type of TVET training							0.000
Accredited training	83	21%	317	79%	400	100%	
Business Development Services (BDS)	53	42%	74	58%	127	100%	
Total	136	26%	391	74%	527	100%	

Q 9e More livelihood opportunities (sig findings)

	Yes		No		Total		p-value
	n	%	n	%	n	%	
Sex							0.004
Male	63	21%	231	79%	294	100%	
Female	27	12%	202	88%	229	100%	
Total	90	17%	433	83%	523	100%	
Participant location							0.003
Remote	31	26%	87	74%	118	100%	
Non remote	59	14%	350	86%	409	100%	
Total	90	17%	437	83%	527	100%	

Q 9g Provide food and other donations (sig findings)

	Yes		No		Total		p-value
	n	%	n	%	n	%	
Participant location							0.001
Remote	52	44%	66	56%	118	100%	
Non remote	112	27%	297	73%	409	100%	
Total	164	31%	363	69%	527	100%	

Appendix 9. TVET Sector Strengthening Program: 12 month survey results 2012
Demographics

	n	%
Sample by province		
Sanma respondents	100	50%
Malampa respondents	100	50%
Sex		
Male	90	45%
Female	110	55%
Age		
19 or under	24	12%
20-35	99	50%
36-55	67	33%
56 or over	10	5%
Occupation		
Employed	18	9%
Self-employed	154	77%
Subsistence farming	7	3.5%
Student	7	3.5%
Other	13	6%
Mean years of education (total sample) = 8 years		

Household situation following training (overall sample)

	Yes		No		Total		p-value
	n	%	n	%	n	%	
Increased basic household expenditure							
All respondents	87	46%	103	54%	190	100%	
Province							0.000
Sanma	20	21%	77	79%	97	100%	
Malampa	67	72%	26	28%	93	100%	
Total	87	46%	103	54%	190	100%	
Sex							0.486
Male	37	43%	49	57%	86	100%	
Female	50	48%	54	52%	104	100%	
Total	87	46%	103	54%	190	100%	
Increased luxury household expenditure							
All respondents	92	49%	96	51%	188	100%	
Province							0.000
Sanma	30	32%	65	68%	95	100%	
Malampa	62	67%	31	33%	93	100%	
Total	92	49%	96	51%	188	100%	
Sex							0.447
Male	39	46%	46	54%	85	100%	
Female	53	52%	50	48%	103	100%	
Total	92	49%	96	51%	188	100%	

Outcomes for employed participants following training

	Yes		No		Total	
	n	%	n	%	n	%
Total employed	18	9%	181	91%	199	100%
Sanma	12	12%	88	88%	100	100%
Malampa	6	6%	93	94%	99	100%
Got a new job	10	56%	8	44%	18	100%
Due to training	4	50%	4	50%	8	100%
Got a promotion	6	33%	12	67%	18	100%
Due to training	4	67%	2	33%	6	100%
New duties	6	35%	11	65%	17	100%
Salary increased	4	25%	12	75%	16	100%
Mean current fortnightly salary = 11,569 vt						

Cross-tab analysis or chi-square tests not undertaken due to small sample size

Outcomes for self-employed participants following training

	Yes		No		Total		p-value
	n	%	n	%	n	%	
Have new clients or markets							
All respondents	98	66%	51	34%	149	100%	
Province							0.733
Sanma	49	67%	24	33%	73	100%	
Malampa	49	65%	27	35%	76	100%	
Total	98	66%	51	34%	149	100%	
Sex							0.624
Male	42	64%	24	36%	66	100%	
Female	56	68%	27	32%	83	100%	
Total	98	66%	51	34%	149	100%	
Increased production							
All respondents	109	81%	28	19%	137	100%	
Province							0.828
Sanma	57	80%	14	20%	71	100%	
Malampa	52	79%	14	21%	66	100%	
Total	109	81%	28	19%	137	100%	
Sex							0.184
Male	47	75%	16	25%	63	100%	
Female	62	84%	12	16%	74	100%	
Total	109	81%	28	19%	137	100%	
Introduced new services/ products							
All respondents	90	61%	57	40%	147	100%	
Province							0.435
Sanma	47	64%	26	36%	73	100%	
Malampa	43	58%	31	42%	74	100%	
Total	90	61%	57	40%	147	100%	
Sex							0.021
Male	33	51%	32	49%	65	100%	
Female	57	70%	25	30%	82	100%	
Total	90	61%	57	40%	147	100%	

Invested in new capital assets							
All respondents	29	19%	123	81%	152	100%	
Province							0.426
Sanma	12	16%	61	84%	73	100%	
Malampa	17	22%	62	78%	79	100%	
Total	29	19%	123	81%	152	100%	
Sex							0.400
Male	15	22%	53	78%	68	100%	
Female	14	17%	70	83%	84	100%	
Total	29	19%	123	81%	152	100%	

Outcomes for self-employed participants following training

	Yes		No		Total		p-value
	n	%	n	%	n	%	
Increased expenditure on supplies							
All respondents	92	63%	55	37%	147	100%	0.209
Province							
Sanma	42	58%	31	42%	73	100%	
Malampa	50	68%	24	32%	74	100%	
Total	92	63%	55	37%	147	100%	
Sex							0.750
Male	41	61%	26	39%	67	100%	
Female	51	64%	29	36%	80	100%	
Total	92	63%	55	37%	147	100%	
Made profit in last 12 months							
All respondents	131	92%	11	8%	142	100%	
Province							0.000
Sanma	59	84%	11	16%	70	100%	
Malampa	72	100%	0	0%	72	100%	
Total	131	92%	11	8%	142	100%	
Sex							0.323
Male	59	94%	4	6%	63	100%	
Female	72	91%	9	7%	79	100%	
Total	131	92%	11	8%	142	100%	
Overall business has improved							
All respondents	115	82%	26	18%	141	100%	
Province							0.815
Sanma	59	81%	14	19%	73	100%	
Malampa	56	82%	12	18%	68	100%	
Total	115	82%	26	18%	141	100%	
Sex							0.189
Male	50	77%	15	23%	65	100%	
Female	65	86%	11	14%	76	100%	
Total	115	82%	26	18%	141	100%	

**DID TVET IMPROVE HOUSEHOLD INCOMES IN RURAL
VANUATU?**
An Assessment of the Vanuatu TVET Sector Strengthening Program

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Note: The author gratefully acknowledges the Vanuatu National Statistics Office for providing the study with access to micro-data from the 2006 and 2010 Household Income and Expenditure Surveys (HIES) for the impact evaluation of the TVET Sector Strengthening Program.

EXECUTIVE SUMMARY

This paper assesses the early impacts of the Vanuatu TVET Sector Strengthening Program (henceforth TVET program) that was operationalized in two pilot provinces, Sanma and Malampa, in mid-2009. The TVET program provided demand-driven modular skills training through an Employment Training Fund (ETF), and advice on setting up a business through its Business Development Services (BDS). In tracer studies six months after training completion, most program beneficiaries reported improved skills and knowledge from ETF and BDS training, and gains in household income through increased production and sales of agricultural products and handicrafts, and wages and business incomes; others in the local community also reportedly benefited from the transfer of new skills and knowledge from program beneficiaries. This early impact assessment of the TVET program finds evidence consistent with the findings from these tracer studies.

The TVET program was evaluated using household-level micro data from the 2006 and 2010 Household Income and Expenditure Surveys (HIES) enumerated by the Vanuatu National Statistics Office (VNSO). Communities (HIES enumeration areas) whose members participated in training were identified from administrative records of program beneficiaries maintained by the TVET program and are referred to as TVET communities; other communities – both within the two pilot provinces and in other provinces – that did not participate in training are referred to as non-TVET communities. The net impacts of training for TVET communities were estimated by comparing changes in their household incomes between 2006 (the baseline year) and 2010 (some 18 months after the TVET program started) to changes in household incomes of non-TVET communities over the same period. This difference-in-differences (DID) approach was used to estimate the overall net impact of the TVET program, as well as separate impacts by province, and by type of training provided (ETF versus BDS). The estimated impacts of training reflect both the direct benefits to trainee households as well as the indirect spillover benefits to other households in the local community from knowledge sharing.

The DID analyses revealed that training provided significant benefits to households in TVET communities as compared to communities not participating in the TVET program. Taking into account broad time trends, differences between communities, attributes of household heads and the effects of other factors including major road projects in east Santo and rural Efate, the DID estimation showed positive overall impacts on household incomes of about 26

percent in TVET communities. The TVET program impacted total household incomes by changing the mix of economic activities – TVET communities were more likely to engage in wage and business activities and in production for own consumption – and income from different sources – sales of agricultural products and handicrafts increased while the value of own consumption declined, suggesting a movement towards market orientation. Training impacts also varied by gender of household heads: while female-headed households have lower incomes on average, they benefit disproportionately from training as compared to male-headed households.

The TVET program had different impacts on TVET communities by province and by type of training. Overall impacts of training on household incomes were positive in both provinces – 30 percent in Sanma and 18 percent in Malampa – but estimated net impacts were only statistically significant (at the 1 percent level of significance) in Sanma. By income component, the TVET program in Sanma had the biggest impact on incomes from sales of agricultural and handicraft products; in Malampa, the TVET program has the most impact on wages and business income offset in part by a significant decrease in subsistence agriculture. Part of the provincial difference in overall impact on household incomes is attributable to the type of training provided. In Sanma, both ETF and BDS training had significant positive impacts (29 percent) on total household incomes; in Malampa, only BDS training had a significant positive impact (41 percent), while the impact of ETF training on household incomes was not statistically significant. The absence of any ETF training impacts in Malampa may reflect broader provincial factors, such as poor infrastructure or slow growth (real incomes in Malampa hardly grew over this period), and this issue should be researched further.

The DID model was extended to test the sensitivity of the net impact estimates from comparing TVET and non-TVET communities with very diverse characteristics. This was done by limiting the analysis to a sub-sample of households in TVET and non-TVET communities matched on the basis of their baseline community characteristics such as urban-rural location, characteristics of household heads, and the mix of income-generating activities. The results using this matched sub-sample of households broadly replicated the earlier pattern of findings – in terms of overall net impacts, impacts by province and training type – though the magnitudes of impacts estimated were quantitatively smaller. A combined matching-DID estimation strategy may be more appropriate for estimating the net impacts of the TVET program.

To summarize, the analyses of the 2006 and 2010 HIES showed that ETF and BDS training was effective in improving household incomes of communities in Sanma and Malampa provinces that participated in the TVET program. This evidence of positive impacts is all the more remarkable given the short period the TVET program was operational as of the end of 2010. The long-term impacts of the TVET program, and extension of coverage to other provinces in Phase III, should be revisited when the next HIES is fielded some time in 2014 or 2015.

I. INTRODUCTION

In 2009, the AusAID-funded TVET Sector Strengthening Program (henceforth TVET program) began delivering accredited training to rural households in Sanma and Malampa, two of six provinces in the island nation of Vanuatu. The TVET program provided two types of training: modular skills training through an Employment Training Fund (ETF), and business development services (BDS) to set up and operate small businesses. In tracer studies of program beneficiaries six months after training completion, most respondents reported improved skills and subject matter knowledge from ETF and BDS training, and over two-thirds of them reported gains in household production and sales and increases in incomes from training. These impacts may also have spilled-over to the local community: many program beneficiaries reported sharing their new skills and knowledge with others which, in turn, may have led to higher incomes for other households in the community. While suggestive, these tracer study findings are not informative about the net impacts of the TVET program on household incomes – that would require information on what incomes might have been without the program – or the extent of beneficial spillover effects to others in the local community that did not participate in the program.

This paper addresses some of these issues using micro-data from the 2006 and 2010 Vanuatu Household Income and Expenditure Surveys (HIES), administrative data on participants in the TVET program, and a difference-in-differences (DID) estimation approach. The HIES, a nationally representative survey fielded by the Vanuatu National Statistics Office (VNSO), elicited detailed income and expenditure information from households in six provinces: Sanma and Malampa (the two pilot provinces), and Torba, Penama, Shefa and Tafea. While individual TVET participants cannot be identified in the HIES, the communities (HIES enumeration areas) in which they live can be determined from administrative records maintained by the TVET program. The DID approach estimates the net impacts of the TVET

program by comparing changes in household incomes between 2006 (the baseline year) and 2010 (the post-TVET year) in TVET communities as compared to communities that did not participate. These estimates cannot distinguish between the direct impacts on trainees and the indirect spillover benefits to other households in the community, only the combined impacts of both. Furthermore, given the relatively short time period (18 months) that the TVET program was in operation at the enumeration of the 2010 HIES – December 2010 – only its early impacts on household incomes can be estimated here. A more complete assessment of the full impact of the TVET program will need to wait for the next HIES, possibly in 2014.

This assessment of the early impacts of the TVET program includes several notable features. First, because communities served by ETF and BDS training in each province can be identified from the addresses of TVET program participants, the net impacts of the TVET program can be estimated separately for each province, as well as by training type. Second, detailed income data elicited in the HIES allow the separate effects of the TVET program to be estimated on each of the main sources of income, including income from wage and salary employment, production and sales of agricultural products and handicrafts, subsistence farming, other cash income and gifts received. Finally, the net impact estimates control for the potentially confounding effects of the attributes of household heads and other policy interventions that occurred over this period, specifically large-scale road construction projects in east Santo of Sanma province and the rural Efate ring road in Shefa province.

The remainder of this paper is divided into several sections. Section II sets the context with some background information on Vanuatu and the TVET program in Sanma and Malampa provinces. It describes the training provided through ETF and BDS programs, number of TVET program beneficiaries, and selected findings from tracer studies of program beneficiaries in 2010. Section III begins by providing descriptive statistics from the HIES on household incomes, income growth, and household characteristics by province as well as by community participation in the TVET program. It then describes a DID strategy for estimating net impacts from before-after comparisons of how incomes change in TVET and non-TVET communities. Section IV reports the DID estimates of net program impacts on household income and its components, controlling for the attributes of household heads, time-invariant level differences of communities, and the contemporaneous effects of large-scale road construction projects. It also reports the outcome of sensitivity analysis using a matched sample of TVET and non-TVET communities. The final section concludes.

II. COUNTRY CONTEXT AND TVET PROGRAM

Vanuatu is a mountainous island country in the South Pacific. Its population, estimated at about 234,000 people in 2009, is scattered over 83 islands. These islands are administratively divided into six provinces: Torba, Sanma, Penama, Malampa, Shefa and Tafea. While two urban centers exist – Luganville in Sanma and Port Vila (the capital) in Shefa – the majority of people (about 75 percent) live in rural villages. The economy is dominated by agriculture and services. In 2009, 44 percent of the population age 15 years and over were in subsistence agriculture and 11 percent produced agricultural products for sale; 34 percent worked in wage employment, owned a business or were self-employed; and another 11 percent worked without pay in voluntary jobs or in family businesses. The composition of jobs differs dramatically between urban and rural areas: wage and business employment dominates in urban centers (85 percent of jobs) while accounting for only 20 percent of jobs in rural areas; there, 54 percent of those who work in rural areas report being engaged in subsistence agriculture.¹³

Begun in 2005, the AusAID-funded Vanuatu TVET Sector Strengthening Program was designed to build institutional capacity to deliver accredited training to school leavers and adults and, through increased skills, to enhance productive employment and economic outcomes. While national TVET systems were set up in the first phase, capacity lagged at the provincial level to deliver training relevant to the skill needs of the rural population. In response, a second four-year phase of the TVET program was launched in 2008 to deliver demand-driven training and business development services at the provincial-level within a quality-based national training system. Two provinces – Sanma and Malampa – were selected through a competitive process managed by the Vanuatu Government, with the idea that other provinces would be included in subsequent phases by building on innovations and practices piloted in the first two provinces.

TVET Centres were established in each province to coordinate and facilitate the delivery of accredited training programs in response to identified skill needs. Short-term modular training is organized and delivered through the Employment Training Fund (ETF) while business training and advice for start-ups and ongoing businesses is provided through business development services (BDS). Accredited ETF training began in July 2009, and

¹³ Vanuatu National Statistics Office (2010), 2009 Population and Housing Census.

BDS programs followed suit at the beginning of 2010.¹⁴ A total of 2,339 people – both males and females – participated in ETF and BDS training activities over the 2009/2010 period, primarily in business planning and management, agriculture, forestry, and tourism. Training providers differed by province and training type: in Sanma, about half of the ETF training was conducted by the Vanuatu Chamber of Commerce and Industry, while in Malampa public sector TVET institutions were the main ETF providers; in the case of BDS, the main providers in Sanma were government departments (e.g. Forestry and Fisheries) while individuals and NGOs were the main providers in Malampa.

A tracer study of 247 participants from Sanma and Malampa provinces was conducted to elicit information about economic and other outcomes they had experienced six months after attending ETF training or BDS activities (TVET Program, 2011). The majority responded that they had gained increased skills and knowledge, followed by 26 percent that had improved an existing business and 21 percent that had started a new business. 65 to 70 percent of respondents reported increases in production levels and higher incomes since training. Significantly, most participants (85 percent) also reported changes for their community since completing ETF and BDS training, with new skills and knowledge from training being shared with community members (65 percent) and practiced by others in the community (44 percent). Their responses suggest that benefits of the program may extend beyond the trainee to others in the community through the sharing and adoption of new skills and practices learned in the TVET program.

These tracer study findings, while suggestive, are not informative about the magnitude of program impacts on the local community. Estimating net impacts, and distinguishing between the direct impacts of training and the indirect impacts from spillovers, require more information on the incomes of trainees and their communities both before and after training, as well as incomes of those in communities that did not participate in the TVET program. These data requirements are clearly challenging. The next section describes the HIES data for 2006 and 2010 that meet some, but not all these data requirements. The analytic approach used cannot distinguish between direct training effects and spillover effects, but it can provide estimates of their combined impacts on communities participating in the TVET program.

¹⁴ This section draws heavily upon the TVET Program (2011) Annual Evaluation Report.

III. DATA AND ANALYTIC APPROACH

This section describes the data sources and analytic approach used to estimate the net impacts of the TVET program on household incomes. The first source of data is the Household Income and Expenditure Survey (HIES) enumerated by the Vanuatu National Statistics Office (VNSO). In 2006 and 2010, the VNSO surveyed a nationally representative, 10 percent random sample of households, eliciting detailed comparable information on the demographic attributes, educational attainment, economic activity, household expenditures and incomes of household members. Each HIES contains approximately 4,000 households and 14,000 economically active persons age 10 years and above. The 2006 HIES provides baseline data on households prior to the 2008 implementation of the TVET program in Sanma and Malampa provinces, and the 2010 HIES provides post-training data some 18 months after the start of the TVET program.

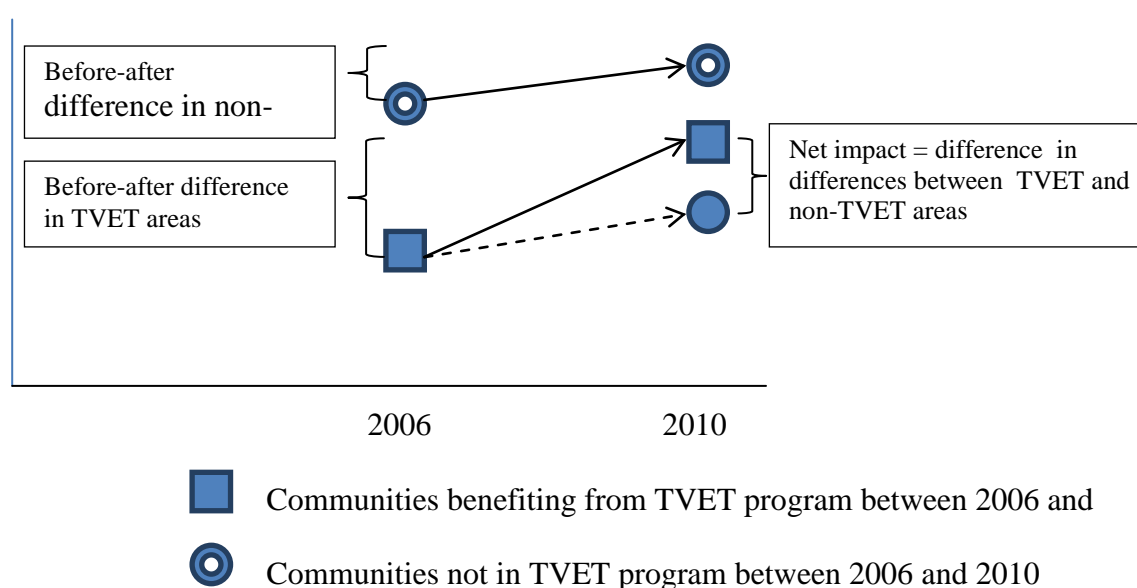
A second data set provides information on which communities participated in the TVET program within these two pilot provinces. As part of its ongoing monitoring and evaluation (M&E), the TVET program administered baseline surveys starting in 2010 to all persons participating in ETF training and BDS activities, collecting among other data information on the addresses of trainees. The geographic location of trainees (villages they live in) was mapped into HIES enumeration areas to identify the communities within Sanma and Malampa that participated in the TVET program. These are henceforth referred to as TVET communities, and all other non-participating enumeration areas as non-TVET communities. The administrative data also recorded type of training received, so TVET communities can be further distinguished by ETF or BDS training, a feature that will be exploited in the subsequent analysis of program impacts by province and type of training.

The 2006-2010 HIES, when linked to this administrative data, are well suited for investigating the impacts of the TVET program using a “difference-in-differences” (DID) approach. The changes in outcomes that occurred between 2006 and 2010, that is, from the baseline year to the post-TVET program year (the first difference), is a measure of how TVET communities performed relative to non-TVET communities. The difference of these outcome differences (the second difference) can be attributed to the effects of participation in the TVET program if certain assumptions are met.

The logic and assumptions behind this DID approach are elaborated in Figure 1. Time is measured on the horizontal axis, with 2006 and 2010 years marked off to represent the

baseline and post-program periods. Outcomes, such as total household income, are measured on the vertical axis. Communities participating in the TVET program (the “treatment” group) are represented by square dots, while communities not participating in the program (the “control” group) are represented by round dots. As drawn, the treatment group starts off in 2006 at a lower outcome level than the control group, but over time the outcome gap between the TVET and non-TVET communities narrows because of the effects of the TVET intervention.

Figure 1. The Difference-In-Differences Estimate of Net Program Impacts



Attributing the improvement in outcomes to the TVET program requires two distinct, but inter-related assumptions. The first assumption involves the counterfactual: how would outcomes in TVET communities have changed in the absence of the TVET program? Not all the before-after change in outcomes of TVET communities (the solid line connecting the square dots) is due to training; some part of this change would have occurred even without the TVET program because of common factors affecting all communities, such as secular growth or macro shocks from the global financial crisis. Since the counterfactual cannot be known, it is assumed that outcomes in TVET communities would have changed at the same pace as that of “similar” control group communities, represented by the dotted line from the square dot to the round dot. A second assumption is that the initial factors (including unobserved ones) that make communities differ from each other are time-invariant. This ensures that level differences between communities (the round and square dots in the baseline

year) would persist in the absence of the TVET program, except for the secular changes affecting all communities. Figure 1 makes this same point by drawing the counterfactual for the TVET community – the dotted line – to be parallel with that of the non-TVET control group – the solid line joining the round dots. Since secular changes in outcomes are similar for both groups (the first assumption), and the outcome level differences between communities are time-invariant (second assumption) and can be accounted (controlled) for, the remaining difference in the before-after outcome changes of the two groups yields a DID estimate of the TVET program’s net impact.

Household Income and Community Characteristics

Table 1 begins by providing a broad overview of mean household incomes and background on household characteristics by province and by community participation in the TVET program. In the first two columns of Table 1, inflation-adjusted mean household incomes from the 2006 and 2010 HIES are reported by province and by community.¹⁵ First, there is wide variation across provinces in the level of household incomes in the 2006 baseline year, being highest in Shefa and lowest in Torba and Tafea, with the TVET provinces Sanma and Malampa occupying the middle ranks. Second, between 2006 and 2010, mean household income in Sanma increases greatly, from 66,000 VT to 85,000 VT, but household incomes in Malampa do not change measurably, averaging about 58,000 VT. Income growth varied greatly in other provinces, showing positive gains in Torba, Shefa and to a lesser degree Tafea, but declining in Penama. Third, while TVET communities started with lower levels of household incomes in 2006 (59,000 VT) as compared to non-TVET communities (74,000 VT), they showed higher income gains by 2010 (to 73,000 VT) as compared to their non-TVET counterparts (to 81,000 VT).

The other columns of Table 1 present selected household characteristics by province and by participation in the TVET program. Over half of households in Shefa and about one quarter in Sanma are urban residents; all households in Malampa and the other provinces are considered to be rural residents. The remaining columns show the percentages of households with wage and business income, sales of agricultural products and handicrafts, or subsistence agriculture. These income-generating activities are closely related to rural-urban location: on average, households in Shefa and Sanma are more likely to report wage and business

¹⁵ Household incomes from the 2006 HIES are adjusted by the consumer price index (CPI) so that real incomes are reported in 2010 VT. Mean household incomes are weighted using population weights provided by VNSO.

income while Malampa and other rural households are more likely to report production and sales of agricultural products and handicrafts, and be engaged in subsistence agriculture. Finally, Table 1 makes clear that TVET communities are predominantly rural, engaged in sales of agricultural products and handicrafts and in subsistence farming, and are less reliant on wage and business income as compared to non-TVET communities.

Table 1 Household Incomes and Community Characteristics
by Province and Participation in TVET Program

Province	Mean HH Incomes		Average Community Characteristics (%)			
	2006	2010	Urban Location	Wage & Business	Agri. Sales & Handicraft	Subsistence Agriculture
Torba	42,504	64,435	0.0	17.3	76.4	92.2
Sanma	66,448	85,430	26.7	39.2	64.4	93.4
Penama	83,700	67,592	0.0	14.2	83.9	93.6
Malampa	58,057	58,380	0.0	16.7	82.8	95.7
Shefa	91,194	104,675	57.4	67.5	42.8	62.2
Tafea	51,618	53,893	0.0	10.8	76.8	96.5
Communities						
TVET	59,474	72,593	1.9	24.3	76.9	96.7
Non-TVET	73,871	81,061	27.1	37.9	63.7	82.1

Source: computed from 2006 and 2010 HIES, using population weights provided by VNSO.

Notes: Household incomes adjusted using the CPI and expressed in real 2010 VT. Community characteristics are calculated using the combined 2006 and 2010 HIES, and are weighted means of households' urban-rural location, and whether they have incomes from each source. TVET communities are HIES enumeration areas with household participation in the TVET program.

DID Estimates Using Group Means

Table 2 illustrates the simple application of the DID approach to estimating net impacts of the TVET program using group means of the key variables. The first two rows of Table 2 reproduce the previous figures on average household incomes in 2006 and 2010 for TVET

and non-TVET communities. Note that while baseline income levels in TVET communities are invariably lower than those in non-TVET communities, they increase faster over time (22.1 percent) compared to non-TVET communities (9.7 percent) so that the income gap between the two communities narrows over time. By this yardstick, the TVET program had a 12.4 percent (22.1 minus 9.7) net impact on household incomes. Second, restricting the comparisons to Sanma and Malampa (and thus a more homogeneous set of households) does not change the main patterns of change. This time, while incomes of both groups are more similar in 2006, the household incomes of TVET communities increase more over time (22.1 percent) than that of non-TVET communities (12.5 percent), becoming virtually identical at about 73,000 VT by 2010. The result is a DID estimate of a net positive TVET program impact of 9.6 percent (22.1 minus 12.5) on household incomes.

Table 2. Tabular DID Estimate of TVET Impact on Household Incomes
Simple Comparisons of TVET and non-TVET Communities

	Mean HH Incomes in 2010 VT		Change in HH Incomes between 2006 and 2010		Net Impact of TVET Program
	2006	2010	Change	%	DID %
<i>All provinces</i>					
treated communities	59,474	72,593	13,119	22.1	12.4
control communities	73,871	81,061	7,190	9.7	
<i>Sanma and Malampa</i>					
treated communities	59,474	72,593	13,119	22.1	9.6
control communities	64,676	72,759	8,083	12.5	

Source: Computed from 2006 and 2010 HIES and TVET Program administrative databases, using VNSO provided population weights.

These tabular comparisons, while illustrative, are ultimately limited by the aggregate nature of the analysis. Grouped means conceal a great deal of diversity both within and across provinces and between the TVET and non-TVET communities. This was apparent in Table 1 which showed wide variations across provinces and communities in urban-rural location, and

in the mix of economic activities. Also hitherto not taken into account are potentially important effects of differences across provinces and communities in the makeup of households – in terms of level of schooling attainment, age, gender and household size – or other interventions occurring during the same period, such as road construction projects.

DID Regression Approach To Estimating Net Impacts

The DID regression model is a more effective way to assess net program impacts than tabular comparisons of group means. The regression framework allows net impacts to be estimated more precisely because the analyst can control for potentially confounding effects of other variables such as the characteristics of household heads, the heterogeneity of communities in different areas, and the contemporaneous occurrence of other policy interventions including major road improvement projects in East Santo (Sanma) and rural Efate (Shefa) funded by the Vanuatu Millennium Challenge Account (MCA).¹⁶ These road improvement projects were intended to benefit rural households by improving access to markets for their agricultural products, and thus reduce of rural poverty.

The following DID regression model compares the growth in outcomes of TVET and non-TVET communities from 2006 to 2010 by regressing outcomes Y_{ijt} on a set of explanatory variables:

$$Y_{ijt} = \alpha + \phi_j + \delta D_t + \beta TVET_{jt} * D_t + \gamma Z_{ijt} + \varepsilon_{ijt} \quad (1)$$

where subscripts i denotes the household, j the HIES enumeration area, and t the time period. The explanatory variables include a dummy variable D with a value of one if the year is 2010, and zero otherwise; a $TVET$ variable identifying the communities participating in the TVET program, in interacted form with the 2010 dummy D ; and a vector Z of control variables for household characteristics and other factors such as MCA-funded road projects. The regression model estimates an overall constant α , a set of fixed effects ϕ to account for level differences in outcomes across enumeration areas j , the δ and β coefficients for D and $TVET*D$ respectively, and γ for other control variables Z . Since level differences are already removed by the fixed effects, the δ coefficient estimates the overall change in outcomes between 2006 and 2010 – the counterfactual in the absence of the TVET program – while the β coefficient estimates the net (additional) impact of participation in the TVET program. The β coefficient can be used to test the null hypothesis – that the TVET program had zero

¹⁶ See Kim Robertson (2011), HIES 2010 Poverty Analysis for Vanuatu.

impacts on changes in outcomes – and to determine the statistical significance of net impacts if any.

IV. DID ESTIMATES OF PROGRAM IMPACTS

This section implements the DID model described in equation (1) by ordinary least squares (OLS) regression methods on pooled household-level data from the 2006 and 2010 HIES. The regression analyses investigate TVET program impacts on total household income, on changes in economic activity and incomes from different sources, on male versus female-headed households, and on whether program impacts were different in Sanma and Malampa provinces. The household income variables are expressed in logarithms so that the estimated net program impacts are readily interpreted as percentage changes in outcomes.

Table 3 reports the results of estimating several specifications of the DID regression model. In the first model specification, the TVET-2010 year interaction yielded a statistically significant estimate of 0.291 suggesting that household incomes of communities participating in the TVET program increased significantly an average of 29 percent relative to non-TVET communities both within and outside Sanma and Malampa provinces. The coefficient of the 2010 year dummy was positive but not significantly different from zero, suggesting that overall household incomes (in inflation-adjusted 2010 VT) did not change over the 2006-2010 period.¹⁷

The second specification adds a 2010 year interaction with areas where MCA-funded road construction projects were implemented in East Santo and rural Efate. Controlling for these road construction projects did not change the estimated impacts of the TVET program on household incomes. The effects of road improvement projects themselves were positive but not statistically significant. More time may be required before the hoped-for benefits of improved market access materialize, and VNSO is currently in the field implementing a mini-2012 HIES to track changes in household circumstances up to the present.¹⁸

The third specification accounts for different attributes of the household head such as age, gender and main economic activity. The results indicate that household incomes are significantly higher for household heads that are male, who are older, in wage and salary

¹⁷ The analyses also investigated specifications of the outcome variable in which information on household size was used to construct a per capita household income dependent variable. The results were essentially unchanged and the analyses only reports results for household income in the remainders of the study.

¹⁸ The present study did not have information on treatment areas to be used for the MCA-funded road projects in East Santo and rural Efate. Estimated impacts may change using more refined definitions of treatment areas.

employment, owning a business or producing, or selling agricultural and handicraft products; however, incomes tend to be lower for unemployed heads of households. Controlling for these attributes of household heads improved the precision of the regression model, and yielded program impact estimates of about 26 percent, still statistically significant at the 1 percent level.

Table 3. DID Regressions on Total Household Income

Dependent variable:

log (HH total income)	Model 1		Model 2		Model 3	
Explanatory variables	Coef.	t-stat	Coef.	t-stat	Coef.	t-stat
<i>Changes over time</i>						
2010 year dummy	0.017		0.015		0.028	
TVET * 2010 dummy	0.291	***	0.289	***	0.264	***
Roads * 2010 dummy			0.020		-0.008	
<i>Attributes of HH Head</i>						
Male					0.271	***
Age					0.041	***
Age-squared					0.001	***
Working for wages					0.426	***
Own business					0.449	***
Produce for sale					0.066	
Unemployed					-0.150	*
Domestic duties					-0.021	
Full-time student					-0.006	
Other activities					-0.016	
Constant	10.780	641.3	10.780	640.45	9.476	***
Sample size	8,155		8,155		8,155	
Adjusted R-squared	0.2176		0.2176		0.2705	
Fixed effects for EA's	Yes		Yes		Yes	

Notes: OLS weighted regression estimated with robust standard errors. The dependent variable is the logarithm of total household income in real 2010 VT. TVET is a (0,1) indicator variable for TVET treated communities, and Roads is a (0,1) indicator variable for enumeration areas surrounding MCC-funded road construction

projects. Both variables are interacted with a (0,1) dummy variable for the year 2010. Statistical significance (t-statistic) of estimated coefficients denoted by * at the 10% level, ** at the 5% level and *** at the 1% significance level

Changes in Economic Activity and Income Sources

The analysis turns next to the composition of household income and how it changed between 2006 and 2010. Comparisons of income sources between TVET and non-TVET communities offer insights into how the economic activities, and hence total income, of households might have changed as a result of new skills and knowledge acquired directly from the TVET program or indirectly by learning from neighbors who participated in the program. These changes can take two forms: changes in the probability that household members are engaged in different activities that generate income, and changes in income from that source conditional upon engagement in that income generating activity. Three economic activities generate income: (a) wage and self-employment and running a business; (b) production and sales of agricultural products and handicrafts; and (c) subsistence agriculture.¹⁹ The impacts of TVET on each income sources are investigated by estimating DID regression model (1) on the probability of having a given income source, and the logarithm of income conditional on having that income source.

Table 4. DID Regressions on Components of HH Total Income

Dependent variable:	Have Component and Value of Component					
	Wages & Income from Business		Income from Agriculture & Handicraft		Subsistence Agriculture	
<i>(0,1) indicator for HH having income component</i>						
2010 year dummy	-0.020	**	0.014		-0.028	*
TVET * 2010 dummy	0.073	***	-0.011		0.052	***
Roads * 2010 dummy	-0.096	***	-0.025		-0.055	*
Constant	0.027		0.498	***	0.795	***

¹⁹ The other two components – other income and gifts received – are passive sources of income from land, interest income, ownership of businesses, pension payments and inter-personal transactions with other households.

Sample size	8,262		8,262		8,262	
Adjusted R-squared	0.6784		0.3509		0.3381	
<i>log (income in 2010 VT)</i>						
2010 year dummy	-0.089	*	0.243	***	0.358	***
TVET * 2010 dummy	0.231		0.418	***	-0.120	*
Roads * 2010 dummy	0.292	*	0.326	**	-0.017	
Constant	9.311	***	7.952	***	9.007	***
Sample size	2,859		5,503		7,143	
Adjusted R-squared	0.2841		0.2779		0.3881	

Note: All OLS weighted regressions include controls for attributes of HH heads, and enumeration area fixed effects. Results for “other income” and “gifts” were never significant and are not reported here. Statistical significance (t-statistic) of estimated coefficients denoted by * at the 10% level, ** at the 5% level and *** at the 1% significance level

The results of this analysis by income source are summarized in Table 4. The top panel reports estimates of the linear probability of having each come source as measured by an indicator variable with a value of one if household members engaged in that activity, and zero otherwise. The coefficients of the TVET interaction with the 2010 year dummy – representing changes over time in the likelihood of economic activity between TVET and non-TVET communities – are positive and significant only for wages and business income and subsistence agriculture, but not for income from sales of agricultural products and handicrafts.

The lower panel of Table 4 reports estimates for logarithms of each income source, conditional upon having that income source. The coefficients of the TVET-year interaction for each source indicate that wages and business income in TVET communities did not change significantly over time as compared to non-TVET areas. However, in TVET communities, incomes from sales of agricultural and handicraft products increased significantly and subsistence agriculture fell more modestly over this period as compared to non-TVET communities, representing a shift towards market-based agriculture. Taken

together, these results – and the earlier finding of a 26 percent gain in total household incomes – suggest that the TVET program affected household incomes in complex ways, through changing patterns of economic activity and income sources, including substitution away from subsistence farming towards market-based agriculture.

Program Impacts by Gender of Household Heads

The issue of whether households are impacted differentially by the TVET program is of policy interest. On average, male-headed households have total incomes that are 27 percent higher than households headed by females (see Table 3). In other analyses (Table 4), large differentials by gender of household heads were also found by income components, ranging from 16 percent for wages and business income to 18 percent for subsistence agriculture to 50 percent for income from production and sales of agriculture and handicraft products. These figures, however, are silent about whether male and female headed households are impacted differentially by training or knowledge-sharing from the TVET program.

To test for potential gender-differences in impacts, the DID regression model (1) was estimated on total household income and main income components, separately for male and female headed households. The results, the coefficients of the TVET-year interaction reported in Table 5, show that the net impact of the TVET program on total household incomes (24 percent) is positive and significant for male-headed households; mirroring the estimates reported earlier, TVET improves incomes of male-headed households from agriculture and handicraft sales and reduces incomes from subsistence agriculture relative to the control communities. In contrast, the TVET program has a larger positive impact on total incomes of female-headed households (of about 47 percent), but this estimate is not statistically significant. Among income components of female-headed households, the TVET program is only significant for income from wages, businesses and self-employment, a net impact of 128 percent compared to incomes of female-headed households in non-TVET communities.

Table 5. DID Regressions on HH Total Income and Main Income Components

By Gender of HH Head

Dependent variable: log(income 2010VT)	Total HH Income		Wage & Business Income		Agriculture & Handicraft Income		Subsistence Agriculture	
	Coef.	t-stat	Coef.	t-stat	Coef.	t-stat	Coef.	t-stat
<i>Male HH Heads</i>								
2010 year dummy	0.025		-0.094	*	0.280	***	0.374	***
TVET*2010 dummy	0.242	***	0.117		0.340	***	-0.126	*
Roads*2010 dummy	-0.007		0.421	**	0.268	*	-0.019	
Constant	9.763	***	9.405	***	8.439	***	9.219	***
Sample size	7302		2587		4966		6407	
Adjusted R-squared	0.255		0.292		0.272		0.400	
<i>Female HH Heads</i>								
2010 year dummy	0.200		0.061		0.285		0.226	
TVET*2010 dummy	0.472		1.283	***	0.844		-0.233	
Roads*2010 dummy	-0.286		-1.601	***	0.328		-0.504	
Constant	9.461	***	8.638	***	7.595	***	8.912	***
Sample size	853		272		537		736	
Adjusted R-squared	0.382		0.272		0.252		0.264	

Note: All regressions include controls for attributes of HH heads, and enumeration area fixed effects. Results for “other income” and “gifts” were never significant and are not reported here. Statistical significance (t-statistic) of estimated coefficients denoted by * at the 10% level, ** at the 5% level and *** at the 1% significance level.

These estimated gender differentials should be interpreted with caution. First, sample sizes by gender of households vary considerably – male-headed households make up over 90 percent of the total pooled HIES sample, so that net impacts of TVET would be estimated more precisely. Second, these results do not speak to the differential impacts of TVET

program participation by gender, since male and female-headed households include members of either gender. The results can only highlight how different households benefit from being in communities participating in the TVET program. The important result is that in such communities, low-income female-headed households benefit disproportionately in terms of wage and business income generating activities than comparable households in other non-TVET communities.

Program Impacts in Sanma and Malampa

The next set of analyses investigates the possibility that the TVET program impacted Sanma and Malampa provinces differentially. Simple tabular comparisons of changes over time in mean household incomes indicated that Sanma may have benefited more from the TVET program than Malampa. To test this hypothesis, the DID regression model (1) was re-estimated with separate TVET-2010 year interaction variables for communities in Sanma and Malampa that participated in the TVET program. In a second specification, these province-specific interaction variables were broken down further by type of training program – whether delivered as modular training through the ETF or as business development services (BDS) – by using administrative records from the TVET program on which communities received each type of TVET training.

The results of tests for differential TVET program impacts by province are reported in Table 6. The top panel shows estimated net impacts by province, separately for total household income and by main income components. The net impact of the TVET program on overall household incomes is positive – 30 percent in Sanma and 18 percent in Malampa – but this net impact is only statistically significant at the 1 percent level for Sanma. By income component, the TVET program has a positive and significant impact on incomes (54 percent) from sales of agricultural and handicraft product; in Malampa, the TVET program is associated with a significant increase in wages and business income (51 percent) offset in part by a significant decrease in the value of subsistence agriculture (36 percent).

The bottom panel of Table 6 reports net impact estimates by province that distinguish between communities participating in different TVET programs. These refined estimates suggest that part of the overall provincial difference in impacts is attributable to the type of training provided. In Sanma, both ETF and BDS training have positive and significant impacts (29 percent) on total household incomes; in Malampa, only BDS training has a positive and significant net impact (41 percent), while the impact of ETF training on

household incomes is not statistically significant. These differential impacts in Malampa by type of training are attributable in part to the gains in sales of agricultural and handcraft products in communities getting BDS training and the decline in incomes from such activities in communities getting ETF training. Tracer studies and interviews with TVET program beneficiaries currently underway may provide insights for why impacts may vary by training type in the two provinces.

Table 6. DID Regressions on HH Total Income and Main Income Components

Net Impacts of TVET by Province and Training Type

	HH Total Income		Wages & Business Income		Agriculture & Handicraft Income		Subsistence Agriculture	
<i>Province Effects</i>	Coef.	t-stat	Coef.	t-stat	Coef.	t-stat	Coef.	t-stat
2010 year dummy	0.029		-0.092	**	0.247	***	0.362	***
TVET*2010 Sanma	0.301	***	0.023		0.537	***	-0.014	
TVET*2010 Malampa	0.183		0.509	**	0.141		-0.356	***
Roads*2010 dummy	-0.021		0.357	**	0.286	*	-0.057	
Constant	9.477	***	9.312	***	7.958	***	9.012	***
Adjusted R-squared	0.2705		0.2849		0.2782		0.3886	
<i>Province by Training Type Effects</i>								
2010 year dummy	0.023		-0.095	**	0.233	***	0.355	***
ETF*2010 Sanma	0.294	***	-0.319		0.566	***	-0.076	
BDS*2010 Sanma	0.295	***	0.418		0.428	*	0.133	
ETF*2010 Malampa	-0.190		0.474		-0.699	**	-0.167	
BDS*2010 Malampa	0.412	***	0.090		0.771	***	-0.286	*
Roads*2010 dummy	-0.043		0.438	**	0.240		-0.042	
Constant	9.486	***	9.308	***	7.983	***	9.010	***
Adjusted R-squared	0.2717		0.2855		0.2804		0.3885	
Sample size	8,155		2,859		5,503		7,143	

Notes: All regressions include controls for attributes of HH heads, and enumeration area fixed effects. Results for “other income” and “gifts” were never significant and are not reported here. Statistical significance (t-statistic) of estimated

coefficients denoted by * at the 10% level, ** at the 5% level and *** at the 1% significance level.

Results of Matching TVET and Non-TVET Communities

Thus far, the TVET program's impacts were estimated from comparisons of a diverse group of TVET and non-TVET communities varying by urban-rural location and economic activity (for example, see Table 1). The DID regression model accommodated this diversity by controlling for household characteristics and allowing each HIES enumeration area to have its own intercept. The latter builds on the second assumption of the DID model, namely, that the factors driving outcome differences are unchanged over time, and are level-preserving except for the secular changes affecting all communities. This assumption is testable, in principle, if there are at least two HIES baseline surveys from which pre-TVET outcome trajectories can be estimated for different communities and incorporated into the DID regression model. This was clearly not feasible given that only one pre-TVET program HIES was available.

An alternative estimation strategy to address this issue is to restrict the DID comparisons to a matched sub-sample of TVET and non-TVET communities. The logic of this approach is that while communities may differ in their underlying growth rates, those with the same baseline characteristics (and, presumably, at the same level of development) might also be expected to have similar growth trajectories in the absence of the TVET program. If so, the post-TVET difference in growth between TVET and non-TVET communities that are matched on baseline characteristics can be attributed to the impact of the TVET program.

TVET and non-TVET communities were matched using household-level information aggregated to the level of the community (HIES enumeration area) in the baseline year, 2006. In a first step, the probability that a given community participates in the TVET program was estimated using the following logit model:

$$TVET_j = \alpha + \delta Y_j + \beta HH_j + \gamma ACT_i + \varepsilon_j \quad (2)$$

where subscript j denotes the community, and $TVET$ is an indicator variable with a value of 1 if j is a TVET community and zero if j is a non-TVET community. $TVET$ is regressed on average household incomes Y in the baseline year; mean household characteristics HH in the community including urban-rural location, household size and attributes of household heads

(age, sex, and main activity); and share of households *ACT* in the community engaged in various kinds of income-generating activities (e.g. wage and business income, production and sales of agricultural products, and subsistence farming). The estimated parameters – α , δ , β and γ – were then used to generate a “propensity score” for each community.

Out of a total of 235 HIES enumeration areas in 2006, a matched sample of 36 TVET and 114 non-TVET communities with propensity scores falling within a certain range of values – the region of common support²⁰ – was selected for analysis. Compared to the full sample of TVET and non-TVET communities (see Table 1), these matched communities were more similar to each other in terms of baseline household income (50,740 and 56,190 VT, respectively for TVET and non-TVET communities), urban-rural location (3 and 7 percent), mix of income-generating activities, and characteristics of household heads.

The matching-DID regression model was estimated on household-level data in the matched sample of TVET and non-TVET communities. Excluding 84 non-TVET communities that were not a good match, as well as communities without baseline information²¹, reduced the sample size to 4,251 households, under half of the original sample of 8,100 households.

Table 7 replicates the earlier DID regression analyses of three model specifications, estimating the overall TVET program net impacts, impacts by province, and impacts by province and training type. In the estimation of each model specification, net impacts are reported for total household income as well as each of the main income components.

The net impacts estimated using the matching-DID model were broadly similar to the previous DID results. First, the TVET program was estimated to have an overall positive and significant net impact on household incomes; as before, the income gains came principally from increased sales of agricultural products and handicrafts and a decline in subsistence farming. Second, as before, the net impacts of the TVET program were larger and more significant in Sanma than in Malampa; when income gains were found in Malampa, they were from BDS training rather than ETF training which was associated with a fall in incomes. Third, the matching-DID model nonetheless yielded net program impacts that were quantitatively smaller than those estimated previously. For instance, overall TVET program

²⁰ The region of common support is that range of values where the propensity scores of the TVET and non-TVET communities overlap, that is, that range of values where the characteristics of both groups make them equally likely to participate in the TVET program. This region of common support is determined by the overlap in the minimum and maximum values of the propensity score distribution of each group.

²¹ These are enumeration areas covered in the 2010 HIES but not in the 2006 HIES, and which therefore have no baseline information needed to estimate their propensity scores.

impacts were estimated at about 15 percent, one third smaller than the 26 percent estimated by the DID model. The net impacts estimated for Sanma only averaged 19 percent as compared to the 30 percent reported previously; net impacts by training type ranged between 19 and 25 percent, somewhat lower than the previous estimates of 29 percent. In the case of Malampa, estimated overall net impacts were positive but not statistically significant; BDS training had a positive significant net impact of 34 percent, lower than the 41 percent impact estimated previously. It appears that heterogeneity across localities is only partly accommodated by the DID regression framework, and a combined matching-DID estimation strategy may be needed to measure the net impacts of the TVET program.

Table 7. Matched-DID Regressions on HH Total Income and Income Components:

Net Impacts of TVET and Impacts by Province and Training Type

	HH Total Income		Wage & Business Income		Agriculture & Handicraft Income		Subsistence Agriculture	
<i>Overall Effects</i>								
2010 year dummy	0.170	***	0.092		0.450	***	0.367	***
TVET * 2010	0.149	**	0.069		0.266	*	-0.122	*
Roads * 2010	-0.173	*	0.145		0.128		-0.046	
Constant	9.519	***	9.596	***	8.007	***	9.084	***
Adjusted R-squared	0.2381		0.2054		0.3065		0.2922	
<i>Effects by Province</i>								
2010 year dummy	0.173	***	0.076		0.457	***	0.375	***
TVET*2010 Sanma	0.193	**	-0.131		0.383	**	-0.007	
TVET*2010 Malampa	0.049		0.353		-0.012		-0.384	***
Roads * 2010	-0.192	*	0.228		0.082		-0.098	
Constant	9.521	***	9.600	***	8.017	**	9.093	***
Adjusted R-squared	0.2382		0.3164		0.3069		0.2938	
<i>Effects by Province and Training Type</i>								
2010 year dummy	0.156	***	0.063		0.429	***	0.362	***
ETF*2010 Sanma	0.251	***	-0.405		0.493	***	-0.058	

BDS*2010 Sanma	0.192	*	0.272		0.314		0.132
ETF*2010 Malampa	-0.279	*	0.368		-0.718	***	-0.178
BDS*2010 Malampa	0.339	**	0.052		0.602	**	-0.302 *
Roads * 2010	-0.221	**	0.318		0.026		-0.080
Constant	9.536	***	9.584	***	8.055	***	9.088 ***
Adjusted R-squared	0.2403		0.2084		0.3102		0.2935
Sample size	4,251		1,127		3,189		3,954

Notes: All regressions include controls for attributes of HH heads and enumeration area fixed effects. Statistical significance denoted by * at 10 percent, ** at 5 percent and *** at 1 percent.

V. CONCLUDING REMARKS

This study used micro data from the 2006 and 2010 HIES and a DID regression model to assess the early impacts of the TVET Strengthening Program on household incomes in rural Vanuatu. It recognized that only early program impacts could be estimated because enumeration of the 2010 HIES came just 18 months after the TVET program became operational in Sanma and Malampa provinces. However, the early evidence is heartening: household incomes in communities that participated in the TVET program increased an average of 26 percent relative to communities that did not participate both within the same two provinces, and in other provinces. The program impacts reflect individual gains from training as well as spillover benefits to other households in the community from new skills and knowledge of trainees, confirming the findings from tracer studies of TVET program participants six months after training completion.

There was also evidence that the TVET program had an impact on the economic activities of households and their different sources of income. Households in participating communities were more likely by 2010 to be in wage and business income activities and to engage in production and sales of agricultural products and handicrafts instead of subsistence agriculture, that is, to become more market-oriented. The impacts of the TVET program varied by province and type of training, with ETF and BDS training having positive impacts in Sanma but only BDS training having positive impacts in Malampa. These findings by province and type of training are robust, and remain even when the analysis is limited to households residing in a sub-set of matched TVET and non-TVET communities. What

factors are responsible for these differences, and whether they will persist over time, should be subjects for study in ongoing and planned tracer studies of TVET participants and future replications of the DID regression analysis using the next round of HIES data.

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