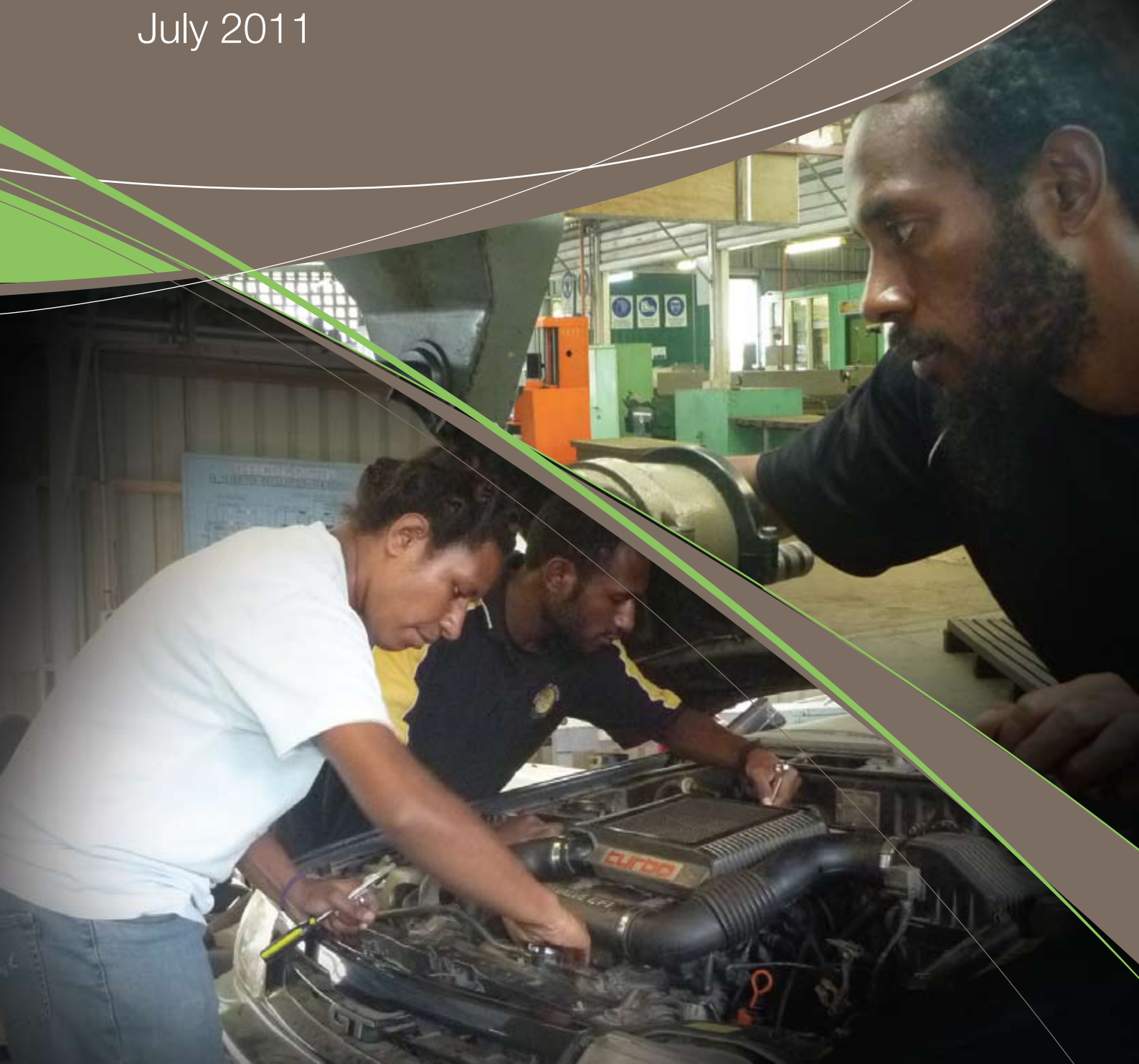FINAL REPORT

Needs Analysis Study of PNG TVET Colleges

July 2011

Prepared for AusAID

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CONTENTS

3C: Mt Hagen Technical College

3D: Kokopo Business College

3E: National Polytechnic Institute of PNG – Lae

3F: Madang Technical College

3G: Goroka Technical College

ABBREVIATIONS

APTC	Australia Pacific Technical College
BTC	Basic Trade Certificate
CAT	Certificate in Applied Technology
CBT	Competency Based Training
CBTA	Competency Based Training & Assessment
DBTI	Don Bosco Technical Institute
DPM	Department of Personnel Management
DSP	Development Strategic Plan
DWTS	Department of Works, Transport and Supply
DWU	Divine Word University
ECBP	Education Capacity Building Program
GoPNG	Government of Papua New Guinea
GPA	Grade Point Average
GTC	Goroka Technical College
HECAS	Higher Education Cost Assistance Scheme
IPA	Institute of Public Administration
MHTC	Mt Hagen Technical College
MMC	Madang Maritime College
MTDP	Medium Term Development Plan
NAS	Needs Analysis Study
NATTB	National Apprenticeship & Trade Testing Board
NC	National Certificate
NEB	National Education Board
NDOE	National Department of Education
NPIPNG	National Polytechnic Institute of Papua New Guinea – Lae

NDPM	**National Department of Planning & Monitoring**
NQF	**National Qualification Framework**
NSA	**National Skills Authority**
NTC	**National Training Council**
NTP	**National Training Package**
OHE	**Office of Higher Education**
OJT	**On the job training**
PAU	**Pacific Adventist University**
PETT	**Pre Employment Training Program**
POMBUS	**Port Moresby Business College**
POMTECH	**Port Moresby Technical College**
PPP	**Public Private Partnerships**
RTO	**Registered Training Organisation**
SMIT	**Star Mountain Institute of Technology**
SRC	**Students Representative Council**
SWOT	**Strengths, Weaknesses, Opportunities, Threats**
T&H	**Tourism & Hospitality**
TESAS	**Tertiary Education Scholarship Assistance Scheme**
TSC	**Teaching Services Commission**
TTC	**Technical Trade Certificate**
UOG	**University of Goroka**

Final Report: Needs Analysis Study of PNG Technical and Business Colleges

EXECUTIVE SUMMARY

Skills training is a high priority for PNG to meet both labour market demand for high quality trades and technical skills and to meet surging social demand for post secondary education.

Technical and vocational skills training is currently being delivered through a wide (and growing) range of institutions (both private and public) with significant duplication of course delivery between the universities and the national public TVET system (seven technical and business colleges), and between the national TVET system and the provincial vocational system. For the public institutions this is largely a 'survival' response to what has been an insecure funding environment over many years. This 'survival' response is currently the key driver of supply. As such, growth in course offerings, (both private and public), have primarily been for business and tourism courses at the expense of higher cost technical and trade courses. This strategy also meets the social demand for affordable education.

Likewise the national agencies responsible for TVET policy development and implementation have been operating within extremely limited resource envelopes, relying heavily on donor funding for any developmental initiatives. Where donor projects have been completed, there has been no sustainable uptake of funding responsibility by GoPNG. A further complicating factor is a fragmentation of national TVET responsibility across four agencies under three separate Ministries: Education; Higher Education, Research, Science and Technology (HERST); and Labour and Industrial Relations.

The key finding of the Needs Analysis Study (NAS) mission is that the national TVET system at all levels is in urgent need of revitalisation. The quality, relevance and currency of skills and knowledge produced by the current training programs is clearly not meeting private sector need nor is it meeting student (and parent) expectations for articulation, quality and employability. While the study report has identified specific support needs at institutional level, ad hoc activities will not address the more fundamental system level reform that is needed. The challenge is significant and is not one which can be tackled by donor or development funding alone.

How to move forward? While the following report makes 28 separate recommendations, these can be categorised in seven broad areas as follows:

1. **Creation of a National Skills Authority (NSA)** which has significant private sector representation. An NSA cannot be another competing layer of bureaucracy, but should take on many of the existing responsibilities undertaken by a range of national and provincial agencies. The NSA mission should focus on TVET strategic direction, quality, relevance and currency of institutions, trainers and teachers, and course content. Reliable and up-to-date labour market analysis should underpin NSA decision processes.

2. **Funding model:** TVET needs to be put on a sustainable funding model. Contributions from GoPNG recurrent funding, private sector, student fees and scholarships (donors and GoPNG) all supporting a level of resourcing which will both enable acceptable quality to be delivered and at the same time promote efficiencies in resource utilisation.

3. **TVET for what?:** There needs to be a clear 'mission' for each of the universities, technical and business colleges, vocational centres and community colleges, which articulates their role within a post secondary education and training system which promotes articulation, flexibility of delivery and 'stair-casing' of qualifications. The role of the new Polytechnics in the system is far from clear and is a matter needing urgent policy justification.

4. **TVET curriculum:** Technical and Vocational training packages (curriculum) and the associated learning resources (equipment and consumables) urgently need updating. The current program of 'curriculum development' is cumbersome, and disconnected from operational planning for teacher in-servicing and learning resource procurement. The introduction of Competency Based Training and Assessment (CBT) pedagogy has, after a number of years, failed to achieve minimal penetration, with teaching staff reverting back to old pedagogy methods and outdated technical knowledge.

5. **Human Resources:** The policies, systems and processes for recruitment, remuneration, career development and performance management of teaching and leadership staff have failed and need a complete overhaul. The current model (under the Teaching Services Commission) does not encourage recruitment and retention of new staff with strong skills and a passion to teach and to innovate. Leadership at both system and college level needs to be refreshed through transparent merit based recruitment from both within and outside the current education system.

6. The **apprenticeship system** urgently needs revitalisation. There is growing demand for apprentices within industry, but the public system is not capable of delivering quality 'extension' training (the mandatory theory component) for apprenticeships. On the job training is a successful, viable and complementary training mechanism to college based training which also addresses workforce needs.

7. **Physical infrastructure** for learning and social development is dilapidated and largely antiquated. Recapitalisation of the public system needs to be based on a realistic assessment as to which fields of study GoPNG can afford to fund and which should be provided by the PNG private sector through mechanisms such as scholarships and public private partnerships (PPPs).

KEY FINDINGS & WAY FORWARD

1.   Background and Purpose of study

The GoPNG through its *Vision 2050* and associated planning documents has prioritised the need to increase the quality and quantity of skills training in the technical and business colleges and other tertiary institutions as part of an overall strategy of increasing the skills capacity of the PNG work force. Skills training is now a very high priority on the GoPNG policy and planning agenda after decades of neglect.

In this context, under the *PNG – Australia Partnership for Development*, it was agreed that a needs assessment of the seven TVET/Business Colleges would be conducted and that AusAID would provide the necessary financial support for this study.

The key purposes of the study were twofold:

1. Inform and test assumptions on where and how a program of effective and sustained support will best improve the PNG TVET sector; and

2. Contribute baseline data to assist in monitoring and measuring the performance of PNG technical and business colleges

The needs analysis study was conducted over the period November 2010 to April 2011 and has been comprehensive covering the leadership and management capacity of the colleges, governance and financial systems, the range and currency of courses offered and planned for the future, the teaching capacity, the state of infrastructure including classrooms and workshops, student and staff accommodation and facilities for administration, and the currency and extent of teaching and learning resources including specialist equipment.

2.   Key findings

> **Systemic priorities**: Before investing in further expansion of the TVET college system, the GoPNG will need first to focus on and fund the current and relevant curriculum (including teacher/student resources), the recapitalisation of the existing colleges and ensure that the system has the appropriate sectoral governance and management capacity to oversee subsequent expansion.

The strengthening of the capacity and quality of the technical and business colleges is central to achievement of the Government's *Vision 2050.*

The study has found that TVET in PNG suffers from fragmentation, low capacity in terms of policy development, research and evaluation and strategic planning for the sector. The various agencies operate as strong silos, with very limited communication. It is very clear that the sector lacks an organisation that can provide strategic planning for the sector as a whole.

There is very strong support amongst key stakeholders on the need for reform and reinvestment in TVET. Reform of the sector needs to focus on quality, affordability and sustainability. The lack of coordination of the TVET sector is hampering efforts to improve quality.

There is now a very clear consensus amongst the government agencies and also the private sector on the imperative to rationalise TVET in PNG, under a single authority. The study has identified this as a critical and urgent need. Without such rationalisation, which will require high level political commitment, the risk of ad hoc and piecemeal efforts to improve the sector will continue.

The TVET component of the PNG National Qualifications Framework (NQF) is still in an early stage of implementation with bottlenecks at various stages of standards development, curriculum development, and implementation. The alignment of the NQF with the skills standards for apprenticeship training and trade testing is a key matter requiring attention.

TVET has a high profile in the Government's *Vision 2050* and the 20 year *Development Strategic Plan* (DSP) 2010-2030, with human capital development being one of the Vision's seven key pillars. Further, there is an emphasis on development of a knowledge based economy and wealth creation as key parts of the strategic direction for PNG growth and development.

Public provision of trade training has failed in PNG. The training market in PNG is experiencing significant structural change. Parts of the market are prepared to pay considerably more than the fees levied by the colleges if, in return, the training provided is of high quality and relevant to industry training needs. The training quality gap between that provided by the enterprise providers and the public TVET colleges (under NDOE responsibility) in the trade areas is major, on all key indicators (currency and quality of equipment, technical skills of trainers, management, and overall level of resourcing).

Employers are dissatisfied with the services provided by the colleges and strongly emphasised the need for a coordinating authority. Employers are particularly critical of the management and quality of training provided under the extension block components of the PNG apprenticeship scheme. Some employers questioned whether or not it is possible to rebuild the colleges such is the extent of loss of confidence in the organisation and management of the sector.

College viability: The viability of a number of the colleges in their present form is not assured. Viability is not just a matter of unit cost. Most importantly it is the sustained capacity to be able to provide high quality training outcomes. It is important that resources for the colleges are allocated in a manner that supports both strategic utilisation of resources and also effectiveness in terms of training outcomes.

As a result of severe funding restrictions over a number of years, currently course offerings in the colleges are primarily determined by the TVET funding model rather than a sustainable strategy which takes into account both current and emerging labour market demand or the roles of new and emerging private and enterprise-based providers.

There is an urgent need to explore new models of TVET service delivery and management including Public Private Partnerships (PPPs). While a case can still be made for public provision of business studies training through the colleges, the situation with regard to trade training requires a fundamental rethink. The Government needs to strongly consider contracting out technical trade training to the private sector in association with international TVET providers.

Without question POMTECH is in a state of crisis. It receives the highest resourcing per student and quality of training on a range of indicators is extremely low. The situation Report in Annex 3A

provides full details of POMTECH's current condition. The only hope for POMTECH in terms of being able to deliver training at a standard acceptable to industry requirements is under a different organisational arrangement to that currently in place. The anticipated handover of the Exxon Mobile Construction Training Facility (CTF) co-located on the POMTECH campus represents an ideal opportunity to test a PPP model through an open tender process for the private enterprise technical training provider to take on this facility in the medium term while a reform process continues within POMTECH.

Policy gap in relation to polytechnics: There is a major policy gap in terms of a model for the new polytechnics in relation to student intake, governance, course offerings and resource provision. The polytechnic policy decision (in respect of Lae in the first instance) has significantly altered and raised stakeholder expectations regarding the type and level of training to be provided in these institutions. This has placed the management and Councils in a very difficult position as the resources at their disposal cannot meet these new expectations.

College governance: The Colleges operate semi-autonomously. However TVET Division oversight is ineffectual. College governance is in need of major strengthening. The composition of the College Councils needs to be reviewed, particularly for the new Polytechnics.

In most of the Colleges visited, the Council and Executive are reported to be working in partnership. However major breakdowns in this partnership have occurred with a number of Colleges in the recent past. Council members consistently reported frustration in their relationship with the TVET Division on policy directions and on key matters affecting individual Colleges, such as Principal and Deputy Principal appointments. Industry involvement and representation on the Councils is very limited, with several of the Colleges reporting that the positions for industry representatives had been vacant for a number of years. The lack of involvement may be symptomatic of the loss of confidence by industry in the quality and management of TVET in PNG.

Leadership and management: There is a leadership crisis in the TVET system both at the system level and institution level. Without major change to the process, criteria and conditions governing appointment of College Principals and senior management, the likelihood of achieving significant improvements in service delivery of public TVET will be minimal.

The Principals of the Colleges have risen through the ranks of TVET starting out as classroom teachers. None of them has received management training appropriate to their role. At the time of the study there was no Leadership and Management training program for Principals. Recently a pilot program involving short term course awards in Australia and funded by AusAID has commenced. One of the pilots targeting TVET is addressing institutional financial management. At the time of the study all but one of the College Principals were performing the role in an acting capacity. With the small number of teachers in the TVET colleges overall and no outside filling of positions at Deputy and Principal level the pool of people in the system eligible for appointment at this level, is very small. Although some good management practice was identified (for example at POMBUS and at NPIPMG) there is little serious attention placed on performance and accountability. The study found strong support for contract appointment for Principals, Deputies and Heads of Department with renewal of such contracts being based on performance against key indicators.

Education Programs: **Over 80% of students are enrolled in courses in which the curriculum has not been reviewed for at least 15 years**.

In terms of awards sought, the major growth has occurred in the Diploma level programs, which now represent 51% of total enrolments.

In terms of fields of study, 51% of students were enrolled in Business Studies courses, 8% in Tourism and Hospitality, 10% in Applied Science and Technology, and 31% in Trade Technology courses. In the absence of policy/funding model change, the share of total enrolments represented by Business Studies and Tourism and Hospitality is likely to increase further over the next five years.

Employers are frustrated with the organisation and management of the extension block courses (Apprenticeships). There is a major backlog of apprentices in training waiting to undertake the extension blocks. Colleges are under pressure managing the competing requirements of the extension courses and the other TTC and NC courses in terms of classroom, workshops and dormitory availability.

The Technical Trade Certificate (TTC) and Pre Employment Technical Training (PETT) programs represent 30% of enrolments followed by the new National Certificate (NC) courses (9%), local courses approved by the College Councils (6.5%) and Extension block courses under the PNG apprenticeship program (3.5%). Only the NC courses come under the new NQF.

Student quality: The quality of student intake has fallen over the last decade. Lack of transparency in student selection processes is another problem factor impacting on quality at entry.

Some College Principals reported anecdotal evidence that increasing numbers of graduating students are now 'walking the streets'. There is a strong need for a tracer study to be conducted, to provide valuable feedback to College management and teachers on the quality at exit and effectiveness and relevancy of current TVET programs.

Teacher quality: there is a crisis with the supply of appropriately trained teachers in the public TVET system. Many of the teachers (approximately 20%) have not had any teacher training, and those that have had some initial training, have very limited opportunities for upgrading their skills, knowledge and qualifications through industry attachments, on the job training (OJT) or scholarships for further study. Teacher turnover is on the increase partly in response to strong 'pull' factors in the current PNG labour market and partly in response to 'push' factors associated with conditions of employment and the availability and quality of teacher housing. **Staff morale is very low in a number of the Colleges**.

The process for recruitment of teaching staff and the placement of teachers on the Government payroll is complex, and a source of grievance and frustration for many teachers. The process contributes to the high levels of teacher attrition and the low state of teacher morale. There is little confidence amongst the relevant stakeholders in the teacher inspection system as a reliable and consistent mechanism for assuring teacher quality.

Learning Resources: **An extremely impoverished learning (and living) environment pervades all the colleges.** The Situation Reports for each college included in Annex 3 paint a picture of severe neglect. Years of neglect and continuing poor budgets, has resulted in outdated or inoperable

equipment which no longer meets the requirements of changing industry needs and cannot allow teaching staff, even with appropriate skills, to deliver competency based training. Managers, staff and students are currently working in profound isolation. There is **poor internet access** which exacerbates problems of obsolete teacher knowledge and inadequate learning resources.

Funding for maintenance and replacement of equipment has not been provided in government grants. The new training packages under the NC courses are **supposed to be competency based**, in terms of delivery. They specify a range of necessary equipment, none of which has been provided. So what is meant to be a practical hands-on competency based approach to training turns out to be a theory based pedagogy. Maintenance is poor for most equipment and it is no longer possible to obtain replacement parts, because equipment is too old. There is very little attention to safety in the workshops other than wearing overalls and safety boots. All college libraries are failing to provide an adequate service to meet the needs of either staff or students.

Computer hardware installation, maintenance and replacement have not kept pace with the rapid growth in student enrolments and as a result there are insufficient computers or other supporting hardware available either for staff or student use. The overall student to computer ratio is approximately 7.25/1. However this ratio is increasing. Some colleges have initiated subsidised arrangements to supply teachers with a laptop and teachers are making good use of the laptops for lesson preparation and assessment.

The physical infrastructure of the colleges in general is dilapidated, unmaintained, and obsolete. This ageing, lack of maintenance and obsolescence has created infrastructure that is not fit for the Colleges' traditional purposes, even without the additional pressures for CBT, growth and technological change.

There has been very limited capital expenditure on the Colleges since inception. **There are no proper business plans for the Colleges**, which would tie together market response, use of new and existing infrastructure, teaching resources, student numbers, equipment and materials, and funds flows. There is very little understanding, nor documented evidence, of quality infrastructure procurement policies and procedures. Most colleges show evidence of poor maintenance planning and prioritisation. Some of the colleges have entered into new building procurement that has turned out to be poor value for money.

Building designs in most colleges, especially of the workshops, are obsolete. Most buildings are in very poor condition, and would normally be considered at the end of their useful life—if funds were available to reconstruct.

Drivers of Demand: The quality of training is being compromised as a result of the enrolment management practices being followed by the Colleges. The **key drivers of internal resource allocation** within the Colleges are **social demand** and **organisational survival**. Colleges are struggling to manage the surge in social demand that is now very evident. The extent of direct industry demand and support for the course offerings of the colleges is very weak.

There has been a surge in enrolments in the TVET colleges over the last three years. The total enrolment in Semester One 2011 across the Colleges was approximately 4800 students (higher than

any previous year)[1]. **Already the growth target identified for the Colleges in the MTDP for 2011-2015 has been met. The** number of applications for places in the colleges now far exceeds the available supply. Most Colleges over enrol, responding to both social demand and an urgent need for funds. This has resulted in dormitory and classroom overcrowding and pressure on already inadequate ablution services. The degree of transparency in student selection and enrolment procedures has dropped.

Sources of Tuition Fees: The number of company sponsored students has fallen significantly – a collapse as observed by a number of stakeholders. This is a clear reflection of the low regard for the quality of training held by many employers. Approximately 80% of students across the Colleges in 2011 are self sponsored with 15% receiving scholarship assistance from OHE under the HECAS and only 5% of students sponsored by employers.

TVET Financing and Financial management: **A fundamental rethink of the underlying funding model for Public TVET is required.** There is a significant recurrent resource gap that needs to be closed. The Colleges rely very heavily on student fee income for their financial **survival**, however these fees are capped by the NEB at levels lower than the real cost of many courses, particularly those in the heavy trades. This 'survival' approach to funding drives overcrowding, a bias towards lower cost courses such as business studies, at the expense of higher cost trade and technical training and has lead to a disinvestment in core quality.

In addition there is a need for recapitalisation of TVET colleges, if the Colleges are to be able to achieve a level of quality of training outcomes at exit that goes some way towards meeting industry expectations.

Current funds could be allocated more efficiently, however Principals have received very little, if any, training in financial management and budget preparation and the financial reporting systems are ad hoc (with only some colleges using financial software previously provided by AusAID) and is not independently audited. Systems, policies, procedures, and capacity and training in financial management all need to be strengthened.

3.   Recommendations and Way Forward

The problems with TVET service delivery in PNG are profound and deep seated. A high level political will within PNG with support from development partners will be essential to navigate the inevitable major obstacles along the road towards improved quality.

The way forward needs to have a very strong focus on new organisational arrangements and commitment to **quality** and **accountability**, **at all levels of the TVET system,** a review and redesign of underlying **funding mechanisms** to support the focus on quality and a willingness to consider

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[1] The enrolments had increased further between the field visits in February/March and the period of consultation on the draft report indicating that colleges continue to enrol additional students well into the Semester.

opportunities for **rationalisation of service delivery**. A holistic, staged and comprehensive approach is needed.

The immediate priority needs to be on properly planned recapitalisation of the existing colleges to ensure that they have the management and governance capacity to both manage current course offerings and resources, and also subsequent expansion. It is essential that the focus of systemic reform is on development of consistent quality assurance frameworks and implementation arrangements designed to substantially raise the quality at exit (training outcomes) from the colleges.

The reform strategy, as outlined below addresses 28 proposed reforms, delivered either concurrently or in sequence. A suggested priority of sequencing is presented in Table 1, below.

1. Sector Coordination

A.   Locate responsibility for TVET under a single statutory authority, (Responsibility: GoPNG).

Establish a high level Working Party for the establishment of the Authority, with a mandate to report to GoPNG by end of 2011. This working party needs to include high level representatives from industry as well as the key government agencies and development partners. At the very least, the Working Party should report to the Secretary of Planning. The new Authority, once established, should urgently develop a 'White Paper' outlining a new Vision for TVET in PNG. The Mission notes this single authority concept has been floated in PNG for a number of years. The political will is urgently needed to act upon and move the idea forward, consolidating and rationalising the existing central agencies rather than simply adding another layer of competing bureaucracy and therefore complexity.

2. Policy and planning framework:

A.   A rationale and policy frame for the new Polytechnic structure, including TVET Governance to be developed as part of the TOR for the Working Party. (Responsibility: GoPNG with donor support)

B.   Establish a working party to review POMTECH's situation with a short time frame to develop a new organisational and training delivery model that can be progressively implemented from 2012, (Responsibility: GoPNG with donor support).

C.   Review the arrangements in each of the other colleges with a view, through amalgamations with other TVET or HE providers, to implementing revised organisational structures that will result in improvements in efficiency of resource use and also more effective training outcomes, (Responsibility: GoPNG with donor support).

3. Leadership and management:

A.   Replenish and recruit fresh system leadership including through merit based internal and lateral recruitment (from outside the system). (Responsibility: GoPNG with donor support)

B. Initiate a college leadership and management program for current cadre of Principals/Deputy Principals and also the cadre of future leaders at HOD and Section Head level, (Responsibility: Donors in partnership with GoPNG).

C. Establish a culture of accountability and performance through performance contracts (Responsibility: GoPNG).

D. Support long term twinning arrangements with appropriate colleges in the region as a key mechanism for building leadership, management capacity and training delivery quality in the colleges (Responsibility: Donors in partnership with GoPNG).

4. College governance:

A. Develop and implement induction programs and other training packages on principles and practices of good governance, (Responsibility: GoPNG with donor support).

5. Teachers and Support Staff:

A. Develop, fund and implement a Human Resources Development Plan, with clearing of backlog of untrained teachers a short term priority, (Responsibility: GoPNG with donor support).

Once established, the new Authority should:

B. Develop revised conditions of service – linked where appropriate to market conditions and performance, (Responsibility: GoPNG with donor support).

C. Develop new teacher accountability systems with high stakes placed on performance and lack of performance, (Responsibility: GoPNG with donor support).

6. Educational programs:

A. Develop, resource and implement a comprehensive and systematic Action Plan for the implementation of the TVET components of the PNG NQF, the competency standards, and the development and implementation of NC and other courses under the NQF. The Action Plan to include required resource materials (equipment, learning materials), teacher training and risk factors that need to be addressed, as a priority to accelerate implementation, (Responsibility: GoPNG with donor support).

B. Initiate a major independent review of apprenticeship training in PNG. In addition to the management, funding and organisation of the apprenticeship system, the review will need to examine the alignment of the apprenticeship system with the NQF. A Steering Committee to guide the review should include high level industry representation. (Responsibility: GoPNG).

C. Conduct a tracer study as a way of determining the extent to which the colleges are meeting industry requirements. (Responsibility: GoPNG with donor and industry support).

7. Learning Resources, networking, communication & and student services:

A. Major equipment procurement needs to be based on **forward-looking business cases prioritised within a national TVET strategy**. The business cases need to address national need (*Vision 2050*, DSP, and MTDP), competitiveness, repairs and maintenance and teacher upgrading implications. (Responsibility: GoPNG with donor support)

B. Colleges to prioritise minor equipment and student learning resource materials within their annual College budgets. (Responsibility: College administration and GoPNG).

C. Redevelop libraries as Information Resource Centres that promote information literacy and *e-learning,* and networking for staff and students. (Responsibility: Donors in partnership with GoPNG).

D. Develop IT and Communication Plans for each College – to guide resource allocation, consistency and sustainability. This includes using the whole system's 'buying power' to secure cost effective internet access and to implement a model of limited free download and then user pay (at cost recovery rates) for both teachers and students. (Responsibility: GoPNG with donor support).

E. Incentivize communities of practice with College based leadership and moderation. Encourage the sharing of teaching and technical knowledge development. Reward collaborative efforts, (Responsibility: GoPNG).

F. Strengthen 'demand side' (student, parent and employer involvement) to hold colleges accountable for the provision of essential services. Implement student and industry surveys to be conducted annually and results made public. (Responsibility: GoPNG with donor support).

8. Physical infrastructure:

A. Develop, fund and implement a realistic five-year nation-wide capital investment plan for public TVET, in response to national and local priorities. The capital expenditure process needs to involve end users in the design of works and also needs to include the development of new policies and standards that translate high level TVET strategies such as the introduction of CBT into new infrastructure policies and strategies. The five year plan needs to include **forward thinking, affordable and innovative** strategies for financial and social sustainability of facilities, consider designs which respond to PNG environment and utilise best practice environmental solutions (for example dry composting toilets), (Responsibility: GoPNG with donor support).

B. Decentralise infrastructure planning support: Establishment of a Facilities Office at NPIPNG, with appropriately qualified and organised specialist staff to provide design, procurement and quality assurance services to all colleges. Drawing on best practice arrangements for remote environments, the Facilities office to review models for dormitories and learning infrastructure and establish new guidelines for water, sanitation and power, (Responsibility: GoPNG with donor support).

C. Overhaul the current ad hoc arrangements for teacher housing and develop a comprehensive policy and management framework covering appropriate occupancy, rents, agreements, mutual responsibilities, and maintenance. (Responsibility: GoPNG).

D. Inspections of colleges to include inspection of facilities including adequacy of maintenance and compliance with safety requirements. (Responsibility: GoPNG)

9. Financial Resources:

A. GoPNG to initiate a full sector review of TVET finances (including HECAS) to develop a new funding model and benchmarks designed to ensure that TVET is industry driven and funding incentives are aligned with *Vision 2050* priorities. Technical assistance is likely to be needed in the funding sector review, (Responsibility: GoPNG with donor support).

B. Principals, Deputies and Heads of Department to be provided with appropriate training in financial management and business planning, (Responsibility: Donors in partnership with GoPNG).

C. Upgrade the Registrar positions to Finance Managers, filled by personnel with qualifications and experience in financial management, (Responsibility: GoPNG).

Table 1: Implementation Timeline for Recommendations

Recommendations	2011	2012	2013
1A: Locate responsibility for TVET under a single statutory authority	Working Party to report by Dec 2011		
2A: Develop rationale and policy frame for the new Polytechnic structure.	Start September		
2B: Establish a working party to review POMTECH's situation.	Start August		
2C: Review the structural arrangements in each of the other colleges.		Start June	
3A: Recruit fresh system leadership including through lateral recruitment.		Start June	
3B: Initiate a college leadership and management program.		Start June	
3C: Establish a culture of accountability and performance through performance contracts.		Start June	
3D: Support long term twinning arrangements with appropriate colleges in the region.		Planning start Jan	Start Jan
4A: Develop and implement induction programs and other training packages for College councillors.		Start June	
5A: Develop, fund and implement a Human Resources Development Plan.		Start June	
5B: Develop revised conditions of service – linked where appropriate to market conditions and performance.		Start June	
5C: Develop new teacher accountability systems.		Development to start June	Start Jan
6A: Develop, resource and implement a comprehensive and systematic Action Plan for the implementation of the TVET components of the PNG NQF.		Start Jan	
6B: Initiate a major independent review of apprenticeship training in PNG.	Start Sept		
6C: Conduct a student tracer study.		Jan to June	
7A: Business case development for major equipment procurement to be based on outcomes of TVET curriculum review.		Start June	
7B: Colleges to prioritise minor equipment and student learning resource materials within their annual College budgets		Start Jan	
7C: Redevelop libraries as Information Resource Centres.		Start Jan	
7D: Develop IT and Communication Plans for each College.		Start June	
7E: Incentivize communities of practice with College based		Start Jan	

leadership and moderation. Encourage the sharing of knowledge development			
7F: Strengthen 'demand side' (parents, student, and employer involvement) to hold colleges accountable for the provision of essential services.		Start June	
8A: Develop, fund and implement a realistic five-year nation-wide capital investment plan for public TVET, in response to national and local priorities.		Start June	
8B: Decentralise infrastructure planning support:		Start June	
8C: Overhaul the current ad hoc arrangements for teacher housing.	Start Sept		
8D: Inspections of colleges to include inspection of facilities including adequacy of maintenance and compliance with safety requirements		Start Jan	
9A: GoPNG to initiate a full sector review of TVET finances (including HECAS) to develop a new funding model and benchmarks.		Start Jan	
9B: Principals, Deputies and Heads of Department to be provided with appropriate training in financial management and business planning		Start Jan	
9C: Upgrade the Registrar positions to Finance Managers, filled by personnel with qualifications and experience in financial management		Start June	

1. BACKGROUND AND PURPOSE OF NEEDS ANALYSIS STUDY

The PNG economy is in a state of transition. Periods of weak economic growth in the 1980s and 1990s in which the rate of growth in many years was below the rate of population growth led to deterioration in living standards for many Papua New Guineans in real terms. The PNG economy is now in a new phase of development with strong stimulus coming from growth in the minerals and extractive industries. This in turn has led to an upturn in activity in building and construction, transportation, telecommunications, and related service industries. The growth in Gross Domestic Product (GDP) for 2010 was approximately 8% and the economy is projected to grow by 9.5% in 2011. Recent economic data reveal that the period since 2002 has been the longest period of uninterrupted growth in PNG since independence in 1975. This emerging economic transformation of PNG is being reflected in the labour markets. At the time of the PNG TVET needs analysis study the construction phase of the LNG project had commenced and it is expected that the Ramu Nickel cobalt mine is expected to come on stream sometime in 2011.

The GoPNG through its *Vision 2050* and associated planning documents has prioritised the need to increase the quality and quantity of skills training in the technical and business colleges and other tertiary institutions as part of an overall strategy of increasing the skills capacity of the PNG work force. Skills training is now a very high priority on the GoPNG policy and planning agenda after decades of neglect.

In this context of high priority being given to skills training, under the *PNG – Australia Partnership for Development* it was agreed that a needs assessment of the seven TVET/Business Colleges would be conducted to determine areas of support including leadership and management, infrastructure, equipment and curriculum development. It was agreed that AusAID would provide the necessary financial support for this study.

The key purposes of the study were twofold:

1. Inform and test assumptions on where and how to provide a program of effective and sustained support for the PNG TVET sector; and

2. Contribute baseline data to assist in monitoring and measuring the performance of the PNG technical and business colleges

The needs analysis has taken place over three phases over the period November 2010 to June 2011 and has been comprehensive covering the leadership and management capacity of the colleges, governance and financial systems, the range and currency of courses offered and planned for the future, the teaching capacity, the state of infrastructure including classrooms and workshops, student and staff accommodation and facilities for administration, and the currency and extent of teaching and learning resources including specialist equipment.

Phase One took place in November 2011 and involved a brief visit to each of the seven colleges and initial consultations with each of the central GoPNG agencies involved with TVET. Phase Two, which took place from 8 to 19 February comprised:

i) completion of the key agency consultations

ii) promotion of awareness of the objectives and importance of the study amongst the key stakeholders;

iii) development of the data collection instruments for the institution visits and trialling of these instruments during the visit to Port Moresby Business College

iv) conducting some high level round table workshops with key stakeholders on apprenticeship training, private sector involvement in TVET and the TVET National Qualifications framework; and

Phase Three of the Needs Analysis Study took place between 27 February and 1 April 2011[2]. The Phase Three team mission comprised Ian Hind, Team Leader, David Week, Infrastructure Adviser, John Larsen, Trade Curriculum Adviser, Emmanuel Peni, Research Officer, and Second Secretary, AusAID, Port Moresby. The primary activities of Phase Three comprised

i) undertaking the institutional needs assessments of the seven Colleges (Port Moresby Business College was partially conducted during Phase Two);

ii) meeting with management and staff of a number of private and industry providers of TVET and also the two tertiary institutions providing teacher training for TVET teachers;

iii) consultations with a number of employers that have been engaged with the public TVET system;

iv) follow up meetings with various senior officials in the National Department of Education and other national agencies at the TVET system level;

v) exit briefings with AusAID and a group of stakeholders.

Annex 1 provides a list of all persons consulted during all three phases. The study team would like to acknowledge and thank all stakeholders who were consulted, particularly the leadership teams at each of the colleges, who were very generous in the time and logistical support provided to the team.

This report provides a summary of the study findings and outlines a series of actions that meed to be considered in addressing the identified needs. The Annexes provides detailed data on the needs in each of the seven colleges and also more detail on needs across the colleges and additional information relating to each of the critical success factors. The team was able to assemble a considerable amount of new data on the current situation in the colleges. A key finding was the rapid growth in enrolments over the last three years and the impact this has had on overcrowding of key learning and other infrastructure, and the resultant negative impact on quality of service delivery.

A draft Report on the Need Analysis Study was prepared in May 2011 and circulated by AusAID, Port Moresby to the key stakeholders within PNG. In late June consultations were held with the NDOE,

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[2]The schedule of visits was as follows: POMBUS 14-16 February, POMTECH 1-4 March, Mt Hagen TC 7-9 March, Kokopo BC 10-11 March, NPIPNG 14-17 March, Madang TC 18-22 March, Goroka TC 24-25 March.

NDPM and the two colleges located in Port Moresby – POMBUS and POMTECH. A written response from the TVET Curriculum Branch of NDOE, which supported the findings and recommendations of the study, has been included as Annex Thirteen.

2. EXTERNAL ENVIRONMENTAL CONTEXT

2.1 Policy Context

TVET has a high profile in the Government's *Vision 2050* and the 20 year *Development Strategic Plan* (DSP) 2010-2030, with human capital development being one of the Vision's seven key pillars. Further, there is an emphasis on development of a knowledge based economy and wealth creation as key parts of the strategic direction for PNG growth and development. **The strengthening of the capacity and quality of the technical and business colleges is central to achievement of *Vision 2050* through the DSP.**

The Vision of the DSP for 2010-2030 is that PNG will become a prosperous middle-income country by 2030. From global experience, a key explicit lesson of the DSP is that no country has become prosperous without developing a highly skilled workforce. Achievement of this vision will be dependent on the creation of an additional 100,000 jobs each year, with the key sectors of agriculture, tourism and manufacturing to drive the rapid increase in economic growth, upon which the job creation is premised. Growth of these key sectors will be critically dependent on revitalised higher education and training and infrastructure strategies. Higher education, including the technical and business colleges, will need to be reformed, with a focus on autonomy in staffing, teaching and finances. The funding for higher education institutions including the colleges, will, under the DSP, be realigned to target training which meets the demand for skills. Education is identified as one of the sectors which are to be given a higher priority in the early Medium Term Development Plans (MTDPs).

A key theme of the MTDP for 2011-2015 is to improve the governance, institutional capacity and essential infrastructure of enabling institutions, such as the technical and business colleges.

The MTDP is unequivocal that before investing in the expansion of the colleges, the GoPNG will need to fund the recapitalisation of the colleges and ensure that they have the management capacity to oversee expansion, which will be a priority in subsequent MTDPs. These key policy and planning messages are highly relevant and have provided robust parameters for the scope and focus of the needs analysis study. A synopsis of the key policy and planning parameters from the various documents is provided in Annex 2.

2.2 Organisational Context

Consultations during Phases One and Two of the Study confirmed that there are five key national agencies performing important roles in the management, and governance of the TVET sector –

 i) the **National Department of Education** (NDOE) – in particular the National Education Board (NEB) and TVET Division – Curriculum, Inspections and Operations Sections. The NEB is the principal policy-making body in education in PNG. The TVET Division has operational responsibility for the colleges as national institutions, as well as having responsibility for inspection and curriculum development. Stakeholder consultations and a review of past reviews of the sector, attest to a

history of weak management capacity and performance within TVET, a lack of teamwork amongst the senior team, and dysfunctional relationships with the other agencies working in the sector and the colleges themselves. The study found that the Operations, Curriculum and Inspections sections are all working independently and in isolation from each other.

In response to the priority attached to TVET in the government's planning agenda, the NDOE currently has a proposal before the Department of Personnel Management (DPM),to establish a semi independent TVET 'Wing' (with significantly increased staffing levels) of the NDOE. The Division has prepared a draft Strategic Management Plan for the period 2010-2020 as a response to the government's priorities articulated with *Vision 2050* and the DSP.

ii) the **Teaching Services Commission** (TSC) sets the employment and salary conditions for teachers in the Colleges. Uncompetitive conditions for TVET teachers was a constant theme in the consultations conducted as part of this study. Attrition rates are very high and reported to be increasing. The TVET teaching force of 250 represents only 0.5 % of the total teaching workforce of 46,000. During the study consultations the TSC advised the study team that it would be happy to divest responsibility for TVET teachers to higher education or the public service. At the conclusion of the study the Government announced a pay increase for teachers of 16% to be implemented over three years. This increase will go some way towards addressing the issue of terms and conditions for TVET teachers, which is key priority under Pillar 1 of *Vision 2050*.

iii) the **Office of Higher Education** (OHE) is the lead agency for the higher education sector and is also responsible for the development and implementation of the PNG National Qualifications Framework (NQF). OHE is also responsible for the Tertiary Education Study Assistance Scheme (TESAS) under which a limited number of scholarships at TVET level are awarded under the Higher Education Cost Assistance Scheme (HECAS) component. The TESAS comprises approximately 8000 scholarships with 3000 new scholarships awarded each year of which only around 700 were allocated for study at the national TVET colleges. Consistently these scholarships have been underutilised. OHE is also responsible for quality assurance for courses (at this stage, new courses only) for which scholarships are awarded. The OHE is also conducting a major labour market analysis focusing on the labour market requirements of major impact investments. OHE is taking a leading role in coordinating the alignment of institutional plans (there are 28 institutions of higher education in PNG including six universities and the seven technical and business colleges) to the skills training imperatives of *VISION 2050* and the DSP. Recently OHE has begun to implement a separate TVET skills scholarship program (TVETSSP) which aims to send up to 2,000 people to Australia for TVET training at Australian technical colleges.

iv) the **National Apprenticeship and Trade Testing Board** (NATTB) has statutory responsibility for apprenticeship training and also administration of trade testing through a range of trade testing centres at the Colleges. In this role the NATTB liaises directly with the colleges regarding the Extension block components of the apprenticeship system and also the administration of the trade testing centres, several of which are located at the colleges. The Board and other stakeholders are of the view that the NATTB lacks the necessary resources and management capacity to undertake its trade testing and standards development functions.

v) the **National Training Council** (NTC) is under the Ministry of Labor and is responsible for registration and quality assurance of private TVET providers and trainers. The NTC also has

responsibility for scholarship coordination (separate from the OHE scholarships) and national coordination of the training sector as a whole. The Ministry of Labor is responsible for the Independence Fellowship scheme (K5m over 20 years)' under which scholarships can only be awarded to Grade 10 and Grade 12 school leavers undertaking courses in public and private providers, registered by the NTC.

Issues relating to TVET sector coordination and policy development and implementation:

Consistent with the findings of earlier studies, the needs analysis study has found that **TVET in PNG suffers from fragmentation**, low capacity in terms of policy development, research and evaluation and strategic planning for the sector. The various agencies operate as strong silos, with very limited communication. The NTC, NATTB and TVET Division of NDOE are predominantly operational in nature and it is now very clear that that the sector lacks an organisation that can provide strategic planning for the sector as a whole.

Policy implementation is weak: the TVET Division developed in 2005 (with Technical Assistance) a comprehensive policy framework (over 85 separate policies) for TVET. Through stakeholder discussions and document review the study team analysed the state of implementation and adherence to these policies. The track record (documented in Annex 2b) highlights the low capacity and commitment within the Division in terms of policy implementation.

The key agencies have all, during the courses of the study, emphasised that the need for reform and reinvestment in TVET is now very clear and strongly reflected in the hierarchy of current GoPNG strategic plans and frameworks, and the 2011 budget appropriations. NDPM informed the mission that it saw a priority need to reform and strengthen the governance and management of the TVET institutions, over the next 5 years. **There needs to be a very strong focus on quality** as against unplanned growth with little attention to quality.

All Government agencies argued that **lack of coordination of the TVET sector is hampering efforts to improve quality**. Amongst the senior officials of the agencies (and also the private sector) there is now a very clear consensus on the imperative to rationalise TVET in PNG, under a single authority. At the same time officials acknowledged that in the past there has not been agreement amongst the various authorities, to restructure and reform TVET in PNG. The study has identified this as a critical and urgent need. Without such rationalisation, which will require high level political commitment, the risk of ad hoc and piecemeal efforts to improve the sector will continue. The NTC has examined the Skills Development Authority in Fiji, as a possible model for reform in PNG.

The National Qualifications Framework (NQF): One of the key elements of the TVET reforms, which were initiated five years ago, is the development and implementation of the PNG National Qualifications Framework (NQF). The NQF is still in an early stage of implementation with bottlenecks at various stages of standards development, curriculum development, and implementation.   The alignment of the NQF with the skills standards of the NATTB for apprenticeship training and trade testing is a key matter requiring attention.   Pace of implementation of the NQF and associated curriculum and teacher training in the Competency Based Approach to Training and Assessment (CBTA) has been very slow. Teacher transfers and teacher attrition and the lack of funding for equipment (in line with the curriculum) and poor coordination between the various agencies have impacted negatively on the pace of implementation

of the NQF and associated curriculum reforms. At the college level there is major disenchantment with the lack of progress with implementation and the degree of support provide to teachers.

2.3 Training market in PNG

Enterprise and private providers: Partly in response to the deterioration in quality of training provided by the colleges and partly in response to the high demand for skills resulting from the upturn in economic activity, the training market in PNG is experiencing significant structural change. Since the establishment of the NTC in 1991 over 250 training providers have been registered by the NTC. These comprise enterprise based training organisations (e.g. Ela Motors, Hastings Deering, Lihir Gold), private providers such as IEA and Don Bosco Technological Institute and public sector providers such as Works Institute of Technology (WIT), and Institute of Public Administration (IPA) [3].

Consultations held during the study revealed very clearly, that parts of the market are prepared to pay considerably more than the fees levied by the colleges if, in return, the training provided is of high quality and relevant to industry training needs. The training quality gap between that provided by the enterprise providers and the public TVET colleges is large, on all key indicators (currency and quality of equipment, technical skills of trainers, management, and overall level of resourcing).

Consultations with employers: The study team held consultations with a number of major employers and industry associations. These meetings coupled with the workshop held with a range of industry associations, enabled the study team to capture employer expectations regarding quality of output of the colleges and the organisation and governance of the TVET subsector.   The employers highlighted the problems with the number of agencies involved in TVET and strongly emphasised the need for a coordinating authority.

The private sector has major concerns regarding the level of quality of the student output from the Colleges.   Employers are particularly critical of the management and quality of training provided under the extension block components of the PNG apprenticeship scheme. The concerns expressed regarding lack of quality and relevance of the training, were also expressed by apprentices in training who participated in the student focus groups, as part of the individual college needs assessments.

Some employers questioned whether or not it is possible to rebuild the colleges such is the extent of loss of confidence in the organisation and management of the sector. Employers felt that there is a need to explore new models of service delivery and management including Public Private Partnerships (PPPs). The need for improvement in the quality of primary and secondary education was also emphasised by most employers. It is not just a matter of overhauling TVET.

Categories of public providers of TVET: In addition to the seven technical and business colleges the public education provision includes 130 vocational centres (under Provincial government responsibility) and a number of newly established Community Colleges[4]. The Government has plans to establish a number of new technical colleges and upgrade a number of the vocational centres to technical college status, so that within the next 10 years there will be one college in each province.

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[3] Notes on the programs and organisational arrangements for these providers are included in Annex 9

[4] The NEC has approved funding of PGK130m for the first 13 'pilot' community colleges.

In addition four of the existing colleges will be converted to polytechnics over the course of the current Medium Term Development Plan (2011-15). These plans are a response to two agendas – first, the political imperative to provide increased access to post secondary education, as the number of school leavers at both Grade 10 and grade 12 continues to rise significantly – and second, the need to build capacity to respond to the requirements for a skilled workforce.

The needs of the formal and non-formal sectors: A key issue for TVET in PNG is its role in responding to the needs of the formal and non-formal sectors respectively. Reliable data on the PNG labour market, in terms of rate and composition of growth, skill gaps and regional trends is still lacking despite some recent studies (e.g. Gannicott, 2011) addressing specific aspects. The formal employment sector in 2010 is estimated to be approximately 450,000 with just 25-30% of employees in the public sector. The workforce is estimated to have grown at the rate of 22,000 additional jobs a year, over the last decade. While this represents a significant increase on the rate of job creation in the 1980s and 1990s, there are estimated to be 53,000 young people joining the workforce each year – thus many young people are unable to find work. However the achievement of the Government's high level goals and vision (as articulated in the DSP) is based on the workforce increasing to 2 million by 2030, with an additional 100,000 jobs created each year. Given the ambition and degree of stretch involved in these workforce targets, the study has taken the view that the mission of the colleges, with an overall enrolment of just under 5000 in 2011 and with an annual intake of approximately 2500 – 3000 students , needs to be primarily based on the skills training for the formal sector. The *Vision 2050* and DSP along with the National Higher Education Plan and the Human Resources Development Strategy 2020 all emphasise the importance of developing the overall skill capacity of the PNG work force.

College viability: The study team is not satisfied as to the viability of a number of the colleges in their present form. Viability is not just a matter of unit cost. Most importantly it is the sustained capacity to be able to provide high quality training outcomes. It is important that resources for the colleges are allocated in a manner that supports both efficient utilisation of resources and also effectiveness in terms of training outcomes.

Without question POMTECH is in a state of crisis. It receives the highest resourcing per student (refer Table 2 on page 43) and quality of training on a range of indicators is extremely low. It is a key national institution in terms of technical training. It is in a unique situation due to the adjacent establishment of the APTC and the Exxon Mobil Community Training Facility and it has been designated as one of the four polytechnics by GoPNG. The study team believes that the only hope for POMTECH in terms of being able to deliver training at a standard acceptable to industry requirements is under a different organisational arrangement to that currently in place. The GoPNG and the donors need to establish a working party with a short time frame to develop a new model that can be progressively implemented from 2012.

Madang TC is another college that is in need of urgent review. With the decision already made to establish Lae TC as NPIPNG, a strong case can be made to develop Madang as a campus of NPIPNG. The risk exists under current arrangements that course planning within the two institutes will result in duplication of scarce resources. Goroka TC is attempting to broaden its offerings in the heavy trades. Goroka TC is co-located to University of Goroka. The potential exists to develop Goroka TC as a campus of UOG with UOG becoming a dual sector University with a strengthened set of

offerings in terms of TVET pre and in-service teacher education. A first step towards an amalgamation could be a sharing of IT and library resources. The development of new organisational arrangements for these and other colleges would facilitate and encourage improved pathways for students between TVET and higher education.

3.   COLLEGE VISITS AND INSTITUTIONAL NEEDS ASSESSMENTS

The mission visited and conducted institutional needs assessments of the following colleges (in order of visit): Port Moresby Business College, Port Moresby Technical College (POMTECH), Mt Hagen Technical College, Kokopo Business College, National Polytechnic Institute of Papua New Guinea (NPIPNG) - Lae, Madang Technical College and Goroka Technical College.

The study team spent two to four days in each of the seven Colleges. Meetings were held with the College Principals and Deputies, Heads of Department and section Heads, the College Registrars (responsible for management of College finances), and Chairs and Deputies and other members of College Councils. In addition to the individual consultations, focus group meetings were held with groups of students and teachers. Questionnaires were distributed to those consulted within each stakeholder group. Response to the questionnaires was very high with over 90% completed and collected. Key documents were collected from each College covering enrolments for 2011 staffing, budgets, facilities schedules, most recent College management or strategic plan, and recent Council papers and agendas and minutes. The study team undertook a tour and inspection of the key College facilities including classrooms, laboratories and workshops, student accommodation, staff housing, library, IT laboratories and facilities for students, including the mess halls. Data from the questionnaires, the key documents supplied, the tour and inspection of infrastructure and the individual consultations have enabled very useful baseline data to be developed on the current situation in each college.

At the completion of each College visit the study team presented its preliminary findings in a debrief to the senior management and Chair and Deputy of Council in the form of a one page Strengths, Weaknesses, Opportunities and Threats (SWOT) analysis. The debriefs were very much valued by the Colleges and are included as part of the College Situation Reports in Annex 3.

3.1 Assessment Framework for Institutional Needs Assessments

The study team has developed a Situation Analysis Report for each College (refer Annex 3). In developing the reports the team was mindful that there is no published quality framework for the public TVET colleges under the responsibility of TVET Division. The study team decided to utilise the framework, where applicable, that underpins the *Guidelines for Institutional Accreditation* developed by the National Higher Education Quality Assurance and Accreditation Committee of the Commission for Higher Education. The amended framework for the Situation Reports comprises the following components:

- Institutional Profile

- Purposes (including mission)

- Governance and Administration

- Educational Programs

- Teaching and Ancillary staff

- Learning Resources

- Student Activities

- Physical Resources

- Financial resources

The study team is able to report on the following key findings across the Colleges in respect of each element of this standards framework.

3.2 Institutional Profiles

The seven Colleges all date back to the pre-independence period. In most cases they had their origins as high schools or technical schools catering for Grade 6 or Grade 8 school leavers. It was apparent to the Mission that the organisation and management of the colleges is in many respects still based on a schooling model. The infrastructure in terms of workshops and equipment for the technical colleges was developed during the late 1960s/early 1970s. Kokopo Business College which was previously Rabaul Technical College was rebuilt on its current site following the volcanic disruption that destroyed much of Rabaul.

TABLE 2: INSTITUTIONAL PROFILE KEY DATA

	Enrolment	% students self sponsored	Female students	% students female	Teaching Staff	Ancillary Staff	Staff Houses	2010 Budget (KM)
Port Moresby Business College	810	95	462	57	38	16	14	2.4
Port Moresby Technical College	501	60	58	11.5	47	35	54	3.2
Kokopo Business College	685	90	350	51.1	26	25	14	3.0
National Polytechnic Institute of Papua New Guinea (Lae)	1292	76	393	30.4	64	40	39	5.0
Mt Hagen Technical College	371	60	47	12.6	30	24	30	1.9
Madang Technical College	359	89	119	33.1	30	22	20	1.9
Goroka Technical College	774	74	244	41.3	29	18	30	2.5
Total	**4792**	**80**	**1673**	**34.9**	**264**	**180**	**201**	**20**

The total enrolment in Semester One 2011 across the Colleges was approximately 4800 students (higher than any previous year). Already the growth target identified for the Colleges in the MTDP for 2011-2015 has been met. Details of each college's enrolments are included in Annex 4. The study found that there has been a surge in enrolments over the last three years[5].

By international benchmarks the Colleges are quite small and this impacts on the internal capacity to effectively manage and provide resources and services. Only one college, the Polytechnic Institute at Lae, has in excess of 1000 students. Six of the seven Colleges have significant student dormitory accommodation. While most colleges do draw upwards of 50% of their students from surrounding provinces, they all, as national institutions, also enrol some students from many other PNG provinces. Only POMBUS operates exclusively as a college for day students. Improving both the quantum and quality of student housing emerged as a critical need in the institutional assessments.

The **percentage of female students is** currently 35% and **growing** (compared to 25% in 2007) including enrolments in traditional trade courses.

3.3 Purposes

The Colleges all began their life as some form of technical school or vocational centre. During the 1970s they were designated as technical or business colleges with a major focus on providing skilled personnel primarily for the PNG public sector. In response to weak economic conditions impacting on government revenue during the late 1980s and early 1990s, the government funding to the colleges was cut in real terms.

Status of home college policy: In 1996 the NDOE implemented what was known as the 'home college' policy. This was an attempt to rationalise the course offerings with each college becoming a national 'home' for a particular group of trades or disciplines. Most colleges were adversely affected by this policy and a number suffered significant enrolment loss. Viability of some colleges was in question. The mission has found that there is now little ownership of the home college policy by the colleges and the TVET Division. During the 2000s each college has attempted to diversify its course offerings as a measure to underpin long-term viability. Colleges such as Goroka and Madang are now attempting to revive areas of training that were lost under the home college policy.

Business studies essential for survival: All colleges with the exception of POMTECH now offer some business studies programs. It became very clear to the mission, given the costs (both recurrent and capital) of delivering a quality program, the level of funding that has been provided by government and the fee levels which are also set by government, that it is extremely difficult for the Colleges to survive in what is an increasingly competitive training environment without a significant business studies portfolio in the overall course offerings.

Polytechnic establishment: In late 2009 the NDOE by way of a name change and an increase in the financial delegation to the Director, (title changed from Principal) the National Polytechnic Institute of Papua New Guinea (NPIPNG) was established on the site of Lae Technical College. Since then the

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[5] This surge in enrolments is not apparent in the official enrolment statistics as there is a lag of approx. two years in publication of data. A very recent study (Gannicott, 2011) using the published data came to the conclusion that 'it is no exaggeration to talk of the virtual stagnation of the TVET sector'.

GoPNG has announced that one polytechnic will be established in each region by 2014 and, to expand access to TVET, one technical college will be established in each province. The other three technical colleges to be upgraded to Polytechnic institutes are Mt Hagen, POMTECH, and Kokopo Business College. Although there has been 'talk' to establish polytechnics for a number of years, the needs analysis study has found that there is a major policy gap in terms of a model for the polytechnics in relation to student intake, governance, course offerings and resource provision. The study found that the polytechnic policy decision (in respect of Lae in the first instance) has significantly altered and raised stakeholder (principally student and parent) expectations regarding the type and level of training to be provided in these institutions. This has placed the management and Councils in a very difficult position as the resources at their disposal cannot meet these new expectations.

3.4 Governance and Administration

Governance: A Governing Council is in place at each College and the composition of the Councils in terms of categories is specified in the Education Act. While it became apparent that there is a small pool of dedicated people serving on the College Councils, it became very clear to the Mission that College governance is in need of major strengthening. In most cases of the Colleges visited, the Council and Executive are reported to be working in partnership. However major breakdowns in this partnership have occurred with a number of Colleges in the recent past. Council members consistently reported frustration in their relationship with the TVET Division on policy directions and on key matters affecting individual Colleges, such as Principal and Deputy Principal appointments.

Industry involvement and representation on the Councils is very limited, with several of the Colleges reporting that the positions for industry representatives had been vacant for a number of years. Colleges saw this lack of industry involvement as a weakness, but were at a loss to explain why industry involvement had fallen away. The Mission feels that the lack of involvement may be symptomatic of the loss of confidence by industry in the quality and management of TVET in PNG. Several of the Council Chairs have held their positions for extended periods of time (in excess of 15 years). The composition of the College Councils needs to be reviewed, particularly for the new Polytechnics.

Leadership & Management: The Mission's view is that without major change to the process, criteria and conditions governing appointment and leadership/management training of College Principals and other senior management, (including encouraging eligible applications from outside the system to apply for positions), the likelihood of achieving significant improvements in service delivery of public TVET will be minimal.

The Principals and Deputy Principals of the Colleges have risen through the ranks of TVET starting out as classroom teachers. None of them has received management training appropriate to their role. There is no Leadership and Management training program for Principals organised by TVET despite inclusion of this in the TVET Policy (endorsed in 2005). At the time of the mission all but one of the College Principals were performing the role in an acting capacity. With the small number of teachers in the TVET colleges overall and no outside filling of positions at Deputy and Deputy Principal level under current TSC recruitment arrangements, the pool of people in the system eligible for appointment at this level, is very small and has resulted in a recycling of those that are eligible across the Principal and Deputy positions.

There is little serious attention placed on performance and accountability. The mechanisms for evaluating and managing Principal and Deputy Principal performance are weak, bureaucratic and opaque. Several Principals and Chairs of Council expressed support for contract appointment for Principals, Deputies and Heads of Department with renewal of such contracts being based on performance against key indicators. The study was advised that the TVET Division has broached the notion of contract employment for Principals in the past, but encountered Principal resistance.

3.5 Educational Programs

Data collected by the study team on student enrolments for Semester One 2011 reveals that the Colleges offer a wide range of technical and business studies courses up to 2 years duration, primarily for Grade 12 school leavers. Major growth has occurred in the Diploma level programs, which now represent 51% of total enrolments. The Technical Trade Certificate (TTC) and Pre Employment Technical Training (PETT) programs represent 30% of enrolments followed by the new National Certificate (NC) courses (9%), local courses approved by the College Councils (6.5%) and Extension block courses under the PNG apprenticeship program (3.5%)[6].

Currently only the NC courses come under the new NQF. These NC courses are supposed to be competency based, in terms of delivery however in developing the policy of a move to competency based training and assessment (CBTA), it seems to the mission that little or no thought was given to the resource implications of such a change. These data reveal the very limited implementation of the NQF in its first five years with less than 10% of students enrolled in the new courses. Over 80% of students are enrolled in courses in which the curriculum has not been reviewed for at least 15 years. In most areas of study, teaching staff are responding to this lack of up-to-date curriculum by either developing their own curriculum in an ad hoc and organic fashion or they are relying on their own technical knowledge which (particularly in the mechanical trades), is often outdated. Where curriculum is developed by individual teachers or by colleges, there is a reluctance to share or test this learning material across the college network and a misplaced concept of intellectual property ownership of such a resource.

Social demand & student sponsorship: Approximately 80% of students across the Colleges in 2011 were self sponsored with 15% receiving scholarship assistance from OHE under the HECAS and only 5% of students sponsored by employers. The number of company sponsored students has fallen significantly – a collapse as observed by a number of stakeholders. This is a clear reflection of the low regard for the quality of training held by many employers.

These data clearly show that the **key driver of internal resource allocation** within the Colleges **is social demand**. The extent of direct industry demand and support for the course offerings of the colleges is very weak. Colleges are struggling to manage the surge in social demand that is now very evident. The Colleges (and the universities) are now experiencing a major pipeline effect of the general education reforms implemented in PNG since 1995 which have resulted in a significant increase in the number of Grade 10 and Grade 12 school leavers(approximately 25,000 students exiting school at Grade 10 and 12,000 exiting school at Grade 12).

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[6] Refer Annex 4 for the course breakdown in each college.

Over enrolment impacting on quality: The number of applications for places in the colleges now far exceeds the available supply. Most Colleges over the last two to three years have overenrolled and this has resulted in dormitory and classroom overcrowding. This over enrolment is a response to both social demand and as a survival response by the colleges which are starved of any significant GoPNG recurrent funding. The degree of transparency in student selection and enrolment procedures has dropped and is open to corruption. The quality of Competency Based Training (CBT) in particular is being compromised as a result of the enrolment management practices being followed by the Colleges.

In terms of the disciplines or fields of study 51% of students were enrolled in Business Studies courses, 8% in Tourism and Hospitality, 10% in Applied Science and Technology, and 31% in Trade Technology courses. The pattern of enrolments over the last three years would indicate that, in the absence of policy/funding change, the share of total enrolments represented by Business Studies and Tourism and Hospitality will increase further over the next five years.

Business Studies: The courses offered in Business studies at the two Business Colleges and four of the Technical Colleges comprise Diplomas, the Technical Training Certificate (TTC) and the new National Certificate courses (presently confined to Office Administration). There has been no review of the Diploma programs since 1997 and, not surprisingly, the outdated nature of the curriculum was raised as a major concern of teachers and the Heads of Departments and Section Heads in all colleges. Boards of Studies, which in the past played a role in curriculum review, have not met since 2006.

Some of the colleges are negotiating accreditation arrangements with PNG universities (some more successfully than others) to provide a pathway or staircase for further study at degree level. Accreditation arrangements are also in place in certain colleges with the accounting and management professional bodies. These accreditation arrangements are acting as a 'quasi market' strengthening the demand side of the college market place, acting as proxies of course quality, and the student focus groups confirmed that the availability of such pathways is important in student choice of colleges.

The TVET Division is currently attempting to phase out the TTC courses to be replaced by the new NC courses under the NQF. However development of these courses has been under resourced and very slow with only NC1 in Office Administration rolled out. All Colleges reported that insufficient training has been provided in the CBT approach inherent in the NC courses. In addition, no funding for the equipment specified in the NC1 curriculum package has been provided. An additional issue raised is that the roll-out of the new NC courses by TVET, which are each of six months duration, is at cross purposes with the policy of OHE regarding scholarship eligibility under HECAS, which is restricted to courses of at least one year's duration.

With the major expansion in business studies enrolments over the last five years, the Colleges have been forced to hire recent graduates to teach the courses. Although the recently acquired content knowledge that these graduates bring, is valued, (in some cases their own study notes act as a proxy curriculum) the study found that between a half and 75% of business studies teachers have not had any teacher training. Turnover of staff in business studies is very high particularly so with newly recruited staff rather than staff who have been in the system for some time. All the Colleges experienced considerable difficulty in retaining qualified PNG nationals in business studies.

Tourism and Hospitality (T&H) has been another growth area for the Colleges with courses currently offered in four colleges. As with Business Studies, the curriculum for the Diploma course (where student demand is high) has not been revised since 1997. A number of new NC courses have been developed. Two Colleges (POMBUS and NPIPNG) have dedicated infrastructure resources in the form of a training kitchen and restaurant. NPIPNG also has a small accommodation facility which provides authentic learning in housekeeping and is also managed on a commercial basis. Madang is in the process of converting some existing infrastructure to provide a practical learning environment. The facilities at POMBUS are relatively new and most in working order, creating a reasonable authentic learning environment. However this was not the case at NPIPNG where over 85% of the teaching equipment (which was installed in the early 1970s) is no longer working.

Most of the T&H courses have been introduced in the Colleges in the last decade and as student exposure and placement in industry is a key feature of the courses, the study observed a greater level of industry engagement with these courses than elsewhere.

Trade Technology: The mission found that the most popular nationally recognised trade based courses being delivered by the five Technical Colleges across PNG, are the one year duration Technical Trade Certificates (TTC 1 & 2) in Auto Electrical, Cabinet Making, Carpentry, Drafting, Diesel Heavy Equipment Fitting, Electrical, Fitting and Machining, Metal Fabrication, Motor Vehicle Mechanic, Plumbing, Printing and Graphics. Syllabuses and content outlines were developed around 1998 and need updating. There are a range of reasons for TTC popularity, including teaching staff familiarity with TTC pedagogy, TTC 1& 2 were the historical pathways to full apprenticeships and that TTC is the only trade course recognised by OHE as eligible for scholarship funding.

Colleges (POMTECH, Mt Hagen, NPIPNG & Madang) continue to deliver eight-week extension courses for apprentices (Blocks 1, 2 & 3), for all trades identified above. There is no new curriculum for these courses **nor is there any indication when or how apprenticeships will be recognised in the NQF**.

Employers consulted during the mission expressed frustration with the organisation and management of the extension block courses. There is reported to be major backlog of apprentices in training waiting to undertake the extension blocks. Colleges are under pressure managing the competing requirements of the extension courses and the other TTC and NC courses in terms of classroom, workshops and dormitory availability. Apprentices attending extension blocks almost universally reported the experience of limited or zero value. At two separate colleges apprentices described their college experience as like being in a 'bad holiday camp' with squalid living conditions and ill equipped teaching staff. They noted teachers regularly not turning up to class and when they did, spending half their time 'story telling' with less than 50% of class time on actual learning.

In response to TVET directives, CBT National Certificate (NC 1 and 2) 20 week programs were commenced in 2009 in Carpentry and Joinery, Plumbing, Electrical, Motor Vehicle Mechanic, Diesel Heavy Equipment Fitting, Metal Fabrication and Fitting and Machining. Curriculum documentation was prepared by the TVET Curriculum Branch which identified the required training modules, which reflected industry standards previously developed by NATTB, in collaboration with industry sectors. TVET Curriculum Branch also presented in-service training workshops to upgrade college personnel (managers and teachers) knowledge and understanding of the required delivery and assessment implications of the new National Certificates (NC 1 & 2) programs. This in-service training included

how to prepare class room resources, based on the training modules. Teaching staff, particularly PNG nationals who had worked within the college system for some time, argued the in-service was inadequate with little or no follow-up support. The study was advised that National Training Packages for the subsequent NC3 levels in all trades are not yet completed (there is no indication when this will occur) and this has resulted in a problem for students who have completed NC 1 and 2 courses. They can progress no further with their chosen field of study.

The Mission found that there were no learning or assessment materials provided and teachers were expected to progressively develop suitable resources for use in delivery. During the Mission, it was apparent that the workshops did not adequately inform teachers of the new NTP implementation. There was insufficient support given to such an important undertaking, particularly if a quality outcome was expected. No new text books or reference materials were provided. Very little staff development was provided for teachers to upgrade their knowledge and skills to prepare to teach new technology, that they may never have experienced. They have inadequate access to computers and internet, and there was no reduction in teaching load. So, rather than implement CBT delivery and assessment, the majority of teachers consulted during the Mission advised that it is a case of "business as usual". For many teachers this meant ignoring the NDOE directive and continuing to deliver TTC or PETT material.

The study has concluded that implementation of the NC1 and 2 courses was premature and should have been delayed until NC3 National Training Packages (NTPs) were completed, NC1,2 and 3 were recognised as eligible for HECAS and resourcing was secured to properly in-service teaching staff and equip facilities to implement the CBT based NC programs.

Applied Science and Technology: A number of nationally recognised Diploma courses are being delivered at NPIPNG in Architectural Drafting, Applied Science, Building, Civil Engineering, Electrical Engineering and Mechanical Engineering. All are two years duration. Enrolments are high, and the Mission was advised that graduates are highly sought and are able to obtain employment on graduation. Syllabuses are long outdated and need redesigning and there is no indication when new curriculum will be completed to convert them to NTPs, at either Diploma or Advanced Diploma level. Teaching staff have been proactive and initiated their own upgrading to ensure that industry relevance is maintained and have included industry representation on their advisory committees.

Other Courses: To provide for community demand, a number of colleges also deliver a number of College Council approved courses such as Certificate in Applied Technology (CAT) in auto electrical, carpentry, and Basic Trade Certificate (BTC) in cabinetmaking, carpentry, printing and graphics, sign writing. These courses have been very important in providing financial security at Mt Hagen, Madang and to a lesser extent at POMTECH. The two business colleges and also the Business Studies Department at Madang also offer a number of short courses in various aspects of business and office administration. However the study was advised that the market place is crowded with other providers operating in this area and that with staffing shortages the norm in each of the colleges, customised short course delivery is not currently a significant business stream.

Quality at Entry and Quality at Exit:

QUALITY AT ENTRY: The majority of new enrolments in the colleges are now Grade 12 school leavers. All colleges reported that the quality of student intake had fallen over the last decade. A number of staff indicated that the quality (reading, writing and comprehension skills in particular) of Grade 12 school leavers now being enrolled in the colleges, was less than that of Grade 10 school leavers which over a decade ago had been the main entry point in to the colleges.

The mission was advised by the OHE that the number of school leavers listing one of the business and technical colleges as their first choice was low and that each year the number of HECAS scholarships offered (approx. 500 in total) to students studying TVET courses has been less than the quota allocated. A Grade Point Average (GPA) of 2.25 is one of the minimum requirements to be awarded a scholarship. With more than 2000 new enrolees each year in the colleges it can be inferred that the majority enter with a GPA less than the HECAS cut off point.

Lack of transparency in student selection processes is another problem factor impacting on quality at entry. A number of colleges reported serious issues with the quality (and subsequent academic progress) of what were referred to as 'walk in' students.

QUALITY AT EXIT AND DESTINATION OF STUDENTS AT EXIT: Up until 2009 many of the exams were externally set by the TVET Division. Since then colleges have been required to develop and implement their own assessment processes and procedures. Internal quality assurance over assessment and reporting rests with the Deputy Director, Academic who chairs the Council Academic Advisory Committee.

None of the Colleges has conducted a tracer study to determine the employment rate of graduates upon completion or the types of occupations in which graduates are finding employment. While a number of teachers and heads of Departments were able to identify courses in which the majority of students had obtained employment, before completing their studies, some College Principals reported anecdotal evidence that increasing numbers of graduating students are now 'walking the streets'. There was very strong support for the need for a tracer study to be conducted, to provide valuable feedback to College management and teachers on the quality at exit and effectiveness and relevancy of current TVET programs.

3.6 Teaching and Ancillary Staff

Teacher training: The data collected by the mission, both quantitative and qualitative, has confirmed that there is a crisis with the supply of appropriately trained teachers in the public TVET system. Key baseline data on teachers and their age profile and qualifications is included in Annex 5. With approx 260 teachers and 4800 students, the teacher/student ratio is currently 1/18 across the colleges. This is higher than targeted in the NDOE plan for 2005-14. This overall ratio is reasonable by international standards for this type of training. However the ratios varied significantly between colleges and also between Departments within Colleges. Some ratios were very high with clear adverse consequences for service delivery quality.

Approximately 25% of TVET teachers are female and the percentage is increasing. The teaching force appears to ageing. Approximately 24% of teachers are 50 years and over and a further 38% aged between 41 and 50.

Many of the teachers (approximately 20%) currently in the colleges have not had any teacher training, and those that have had some initial training, have very limited opportunities for upgrading their skills, knowledge and qualifications through industry attachments, on the job training (OJT) or scholarships for further study. **Over 80% of teachers are in acting positions**. Teachers cannot become eligible for promotion and progression through the salary scales, unless they are teacher trained, and there is no Staff Development Plan to address the backlog in the number of teachers requiring teacher training. **Teacher turnover is on the increase partly in response to strong 'pull' factors in the current PNG labour market and partly in response to 'push' factors associated with conditions of employment and the availability and quality of teacher housing.**

The study team during Phase Three visited the two major providers of teacher training of TVET teachers - University of Goroka (UOG) and Divine Word University (DWU). The major focus of these meetings and consultations, which were most instructive, was the pre-service and in-service training of TVET teachers. Both organisations indicated a willingness to be more active partners in improving teacher quality in PNG. The TVET Division has its own plans to establish TVET teacher training facilities and courses within the polytechnic structure. The study team sees the strengthening of relationships between the NDOE and the existing providers as a more effective and efficient solution to increasing the teaching capacity of existing and new teaching staff. The Mission noted some reluctance by NDOE to engage with Divine Word University (DWU) as a teacher education provider for TVET. While the Mission did not have the time to explore this issue further, it sees DWU as a legitimate service provider for upgrading of teaching skills, especially since they offer a range of flexible learning options. It was noted that many provincially run Vocational Centres were actively engaged with DWU in developing flexible training pathways.

Staff morale is very low in a number of the Colleges. A number of the colleges experience significant (and destructive) factionalism amongst the teaching ranks. This inhibits organisational and curriculum reform. Some factions are unwilling to support the college administration. Much of this factionalism and low staff morale can be attributed to the general neglect of TVET over a number of years. Many teaching staff have been in the college system for a number of decades, with only grade ten school qualifications and little opportunity, encouragement or resources to upgrade their technical and teaching skills. This, coupled with weak performance management systems, has allowed them to 'coast' unchallenged in how they practice their teaching. In noting the above the study team also noted examples of colleges where staff morale was strong. This was always at colleges where there was strong, consistent and supportive leadership that led by example.

Teacher recruitment and inspection: The process for recruitment of teaching staff and the placement of teachers, once recruited on the Government payroll is an administrative headache for the Colleges, and a source of grievance and frustration for many teachers and Principals. The process contributes to the high levels of teacher attrition and the low state of teacher morale evident in a number of the colleges. Overall there is little confidence expressed by teachers, Principals and Council members in the teacher inspection system as a reliable and consistent mechanism for assuring teacher quality. In addition, the process for addressing and managing cases of poor teacher (and Principal) performance, is unwieldy. While in some of the colleges there is evidence of a sense of cooperation, dedication and collegiality, in overall terms, there is only a

rudimentary culture of accountability and performance, with respect to the human resources working in the colleges.

Approximately 90% of the teaching positions are currently filled by PNG nationals. The remaining 10% of positions are filled by expatriates, under Contract employment. The study was advised that the Contract staff are being phased out in the NDOE, and at the time of the study four of the seven Colleges no longer had any Contract staff. In one College (POMBUS) the Contract staff represented a third of the overall staff establishment and a higher percentage of the senior staff. Only two colleges (POMTECH and Kokopo) had additional staff funded under development assistance.

There was strong support expressed in the study consultations by Principals, teachers and Council members of the future value to the Colleges of twinning arrangements with other appropriate tertiary institutions in the region.

Ancillary staff: All colleges recruit a number of ancillary staff (approx. 180 in total) and the wages and salaries of these staff represents approximately 10-12% of College managed budgets. Most positions are lowly paid and, as with teachers, the study found that morale was often, very poor. There is a critical gap of ancillary staff in supervisory/management positions in the areas of IT, library services, facilities/asset management and student welfare. Colleges would need to be able to charge higher student fees to be able to enhance their staffing in these areas.

3.7 Learning Resources

Annex 6 provides a summary situation analysis in respect of the learning resources in each of the seven colleges.

Equipment: In all colleges, the study found that years of neglect and continuing poor budgets, has resulted in outdated or inoperable equipment which no longer meets the requirements of changing industry needs and cannot allow teaching staff, even with appropriate skills, to deliver the range of outcomes presented in the NTPs. Funding for maintenance and replacement has not been provided in the grants made available to the colleges by TVET Division. The new training packages under the NC courses specify a range of necessary equipment but none of this has been provided. So what is meant to be a practical hands-on competency based approach to training turns out to be a theory based pedagogy.

Maintenance is poor for most equipment and it is no longer possible to obtain replacement parts, because equipment is too old, e.g. printing presses at POMTECH, metal lathes at Lae, ovens and other equipment in the training kitchen at Lae. In most workshops the quantity of hand tools and small portable equipment is not sufficient for a full class and students, making it difficult for teachers to keep control. Secure storage space is generally not available in workshop areas and the study found that tool boxes are often left on work benches.

The study found very little attention to safety in the workshops. For example, very few electric saws are protected by safety guards over the blades and there were no extraction systems installed to remove dust or fumes in woodworking areas, motor vehicle workshops, sign writing, chemical laboratories, or welding workshops (gas and electric). There is no fire protection equipment in the chemical store at Lae. Students were seen wearing uncovered footwear in metal and welding

workshops and in Madang young children were seen playing in the joinery workshops while students and teachers were operating dangerous machinery.

Libraries: Inspections of all college libraries were carried out, not only to assess book stock and other resources (including internet access), but also suitability and function to meet the continuing needs of staff and students. With no exceptions, the college libraries are failing to provide an adequate service to meet the needs of either staff or students. The library at the Lae Polytechnic was in functional working order staffed by a trained librarian, and with evening and weekend access for students. However the level of service was inadequate for the number of students requiring access. In all libraries there are not many relevant texts or reference books to service courses offered. Any that are suitable are held in the reference section and can only be accessed by students in the library, and not borrowed.

There is evidence of extremely old outdated mainly, donated stock, poor security control, manual stock control, insufficient general reading materials, old computers, many no longer operating, no connection to internet facilities and insufficient furniture. Discussions were held with all librarians, and while some had no budgets allocated to acquire resources, the maximum annual budget was K20,000, which is insufficient in terms of existing demand. Students were especially critical of the library resources. The opportunity exists for the college system to 'leapfrog' old concepts of how a library functions and look to new ways of thinking about information literacy and learning resource centres. The Mission notes and was impressed by the DWU *e-learning* centre and strongly recommends this type of concept be explored as a way of accessing current learning resources and networking students and teaching staff across all seven colleges.

Information technology (IT): The study found that the utilisation of information technology (IT) in the colleges to support student learning and management of resources is still at an early stage of development. Details on IT access and usage for each college is provided in Annex 6. With no dedicated funding from Government, the colleges have had to rely on donor support and a small internal allocation from student fee income to procure hardware and software. A much needed allocation for computers for student use was provided under the AusAID funded ECBP in 2009. These computers have been installed in the student computer laboratories with a small number deployed in the libraries. Computer hardware installation and replacement has not kept pace with the rapid growth in student enrolments and as a result there are insufficient computers or other supporting hardware available either for staff or student use. The overall student to computer ratio is approximately 7.25/1 and is increasing. As with course ratios this average ratio does not reflect course specific ratios, which in some circumstances saw up to three students working on one computer during class time (with no after class time available to practice or catch up). These student to 'hardware' ratios do not cover a range of other issues such as outdated software which has little relevance to the workplace (for example Graphic Design).

Colleges do not employ a technician or IT manager to control the computer systems, so consequently, many no longer operate. Responsibility for College wide IT support is generally assumed by one of the computer studies teachers from the Business Studies department. Access to the internet is very limited. Some senior staff members in a number of Colleges have been supplied with wireless modems, but there are no other connections available for teachers or students. Mt Hagen, Goroka and Kokopo have initiated subsidised arrangements to supply teachers with a laptop.

The study found that teachers are making good use of the laptops for lesson preparation and assessment.

Virus infection is a constant threat, as, because of the very limited internet access, virus protection software cannot be readily updated. Some colleges engage local contractors to update protection and remove infections, but insufficient budgets make this arrangement difficult to arrange on a regular basis and is unreliable.

The Mission notes the current high costs of internet access in PNG. This is a significant inhibitor to improving teaching and learning quality. The development and implementation of a concept of networked communities of learning and (teaching) practice should be an important adjunct to governance and leadership reform within the college system.

3.8 Student Services:

Although the Colleges are 'home' for more than half of students enrolled, as they live on campus for approximately 40 weeks a year, the level of services provided to students 'outside of the classroom or workshops', is very limited.

Security is a concern for the colleges especially on the part of the personal effects of the students, their safety and that of the college property and assets. All colleges had fences. Only two of the colleges did not have visible security guards at the gate. Colleges that were surrounded by local landowners had problems with the landowners in terms of security. Security was a priority at the National Polytechnic 9Lae). The students reported that the zero tolerance policy, the boundary fence and the diligent security guards made them feel safe in the campus.

Only Kokopo Business College reported having a student counsellor. All other colleges use the home room periods to engage with teachers who provided some sort of guidance and time for the students to express their collective concerns.

All colleges have playing fields for sports. The visible ones were rugby and soccer fields and basketball courts. In colleges that had an effective Student Representative Council (SRC), sporting, cultural and social events were organized. Other colleges had informal activities only.

The orientation for students was described by the students as inadequate. Students were often picked up at the airport but not properly informed by the administration as to the dates of the start of the term, what to bring, what to expect and the condition of the college. The teachers who were interviewed stated that the students who were not orientated were mainly the HECAS students who had their travels and arrangements organised up by the Office of Higher Education.

The students complained about the unavailability of water, the quality of food served at the mess and the food preparation practices of the cooks. The students also complained about the overcrowding in the dormitories, classrooms, workshops, library and messing facilities. This overcrowding has not only caused considerable strain to individuals, but also has affected the operating efficiency of water pressure, plumbing, sanitation and sewerage systems.

The SRC in Kokopo and the National Polytechnic were better managed than the other colleges. The students reported that the SRC was to serve the welfare and the interest of the students. The SRC have organized excursions, sports, religious and other cultural activities for the students for the term. However, other students that were interviewed said most of the grievances, concerns, issues and requests brought to the administration by the SRC are usually turned down by the administration.

With the exception of NPIPNG (Lae), all other colleges visited did not have a functioning clinic. The NPIPNG had a clinic with a certified and registered nurse who is always at the campus. The NPIPNG was also the only college that had a corner trade store that was busy and active. This is privately owned and run to meet the requirements of the college.

Three of the colleges had reasonable food served in the mess hall. Others complained of the diet, the mess building, the food preparation and the staff who were providing the service.

Students were aware of the HIV/AIDS issues through their teachers and from outside programs.

Teachers also confirmed that many students who are staying with extended family or friends are attending class without proper breakfast and lunch. This has also caused students to miss classes. Another reason for missing class, as identified by the teachers, was that students are usually attending PNG traditional practices such as funeral and compensation payments.

The students generally expressed disappointment on the general state of the buildings, workshops, dormitories and equipment. The ratio of students to materials and equipment was also too high according to the students.

All colleges started their classes as late as week 4. The students reported that the teachers are usually late for classes and some do not turn up at all. Library services are very limited. There are some computers in the library but were usually not in working order, and there is very limited internet access.

Despite the dynamics of the challenges, the students expressed resilience and courage to continue their studies. They wanted to complete their programs and get a qualification.

3.9 Physical Resources:

The study carried out a detailed needs assessment of the condition and relevancy of the physical infrastructure at each of the colleges. Reports of these assessments are included in Annex3 as part of the overall Institutional Needs Assessments. The data collected provides a baseline in respect of infrastructure, as at 2011. The following section presents the key findings from these college assessments highlighting key trends (with examples from individual colleges) in management, infrastructure planning and procurement, external pressures on infrastructure and condition of the various categories of infrastructure.

Demands on Infrastructure

EXTERNAL PRESSURES: Infrastructure in the Colleges is under pressure from a number of different sources. These are: (a) pressure from NDOE to introduce CBT, which requires a one-to-one relationship between students and equipment, and therefore larger workshop spaces; (b) pressure from GoPNG to accept a growing wave of High School graduates, which leads to overcrowding of classrooms, workshops, laboratories and dormitories, (c) constant technological innovation in many trades, which requires large, flexible workshop spaces in which teaching arrangements and tools can be reconfigured and adapted, and which spaces the Colleges do not have, (d) employer demand for

quality, which requires that the standard of training facility mirror the standard of a typical industry facility, and (e) the nomination of four of the Colleges as future polytechnics.

INTERNAL CONDITION: At the same time, the infrastructure of the Colleges is (a) dilapidated, in some cases dating back to the 1950s, the last significant upgrade to college infrastructure took place under an ADB project in the 1980s, (b) unmaintained, due to the transfer of asset responsibilities to the Colleges, without asset capacity and without budget, and (c) obsolete, having started life as high school buildings, or built for trades as they were practiced 30 to 40 years ago. This age, lack of maintenance and obsolescence has created infrastructure that is not fit for the College's traditional purpose, even without the additional pressures for CBT, growth and technological change.

Management of College Infrastructure

DEPUTY PRINCIPAL (ADMINISTRATION): Generally, the Deputy Principal (Administration) is charged with the management of the campus assets. This is only one of their duties: they are charged with all administrative management of the College. In the larger colleges academic matters are handled by a Deputy Principal Academic. Elsewhere, e.g. Goroka, Madang, the two posts are combined, increasing the pressure on the role. On some campuses, (e.g. NPIPNG, Goroka) the Deputy Principal also teaches. All of these duties increase the load on the DP Administration, and reduce management attention to infrastructure operations, maintenance, and procurement. On most campuses, the DP Administration has no infrastructure training or experience. One exception is NPIPNG, where the DP Administration is an architect, and the DP Academic is an engineer, creating a powerful partnership to manage assets, with visible results.

SUPPORT STAFF: The Colleges must meet the costs of all ancillary staff out of their student fee income, with the result that they are reluctant to employ such staff beyond a minimum requirement. The DP Administration therefore has inadequate support: typically one cleaner for the whole campus, one grounds-person, and 0-2 maintenance workers. Mt Hagen is an exception: it employs a full time architecture and building graduate (from NPIPNG) to manage maintenance and new construction. POMBUS is another exception, which effectively mobilises staff to do upgrading and maintenance: e.g. staff painting classrooms and houses. One result of this understaffing is many examples of very low cost maintenance not done: missing treads on staircases, missing railings on upstairs balconies, gutters uncleaned and sprouting plant life, structurally dangerous columns not replaced, holes in floors not fixed. Facilities are almost uniformly dusty and dirty (except for Administration), and boys' dormitory toilets are often a health risk: in the case of Mt Hagen, certified as such by the Department of Health.

PROFESSIONAL ADVICE: Because of the systemic poverty of the campuses, there is also pressure not to use outside consultants, sometimes with poor results (Mt Hagen, Kokopo). The same reluctance applies to outsourcing maintenance work. Goroka and NPIPNG are exceptions: they use contractors for maintenance, and have employed outside consultants to assist with the design and implementation of new buildings works.

SYSTEM CAPACITY: Historically, the Department of Works, Transport and Supply (DWTS) managed education infrastructure procurement. In 1994, DWTS was downsized and ceased to manage this service on behalf of NDOE. No corresponding capacity was built up either at the College level or Division level in preparation for this reform. Capacity building post-reform has been ad hoc.

The TVET Division currently employs two people in Port Moresby to manage assets, including buildings and equipment. There is no central database and the staff do not have a technical background in asset management. There are no infrastructure policies or system development plans. Principals generally initiate new infrastructure projects according to their own perceptions of need.

Infrastructure Planning, Finance and Procurement

INFRASTRUCTURE PLANNING: In general, there has been very limited Capital Expenditure (*capex*) on the Colleges since inception. Correctly planned *capex* has to be founded on business planning. There are no proper business plans for the Colleges, which would tie together market response, use of new and existing infrastructure, teaching resources, student numbers, equipment and materials, and funds flows. The study found that there is little consultation with teachers and departments in the planning of infrastructure. In Kokopo, teachers were not consulted in the design of new teacher accommodation, which turned out to be substandard. The College Principal is the financial delegate under the Public Finance Management Act. The Principals have generally interpreted this as to mean sole control over the development and management of infrastructure budgets with limited consultation, delegation or even information. Planning is generally top down and incompletely informed.

FINANCE: The NDOE's contribution to College budgets is on the order of K50-100k per annum, is not tied to periodic maintenance, nor does it supplement fee income to the level where periodic maintenance can be made routine and affordable. Until the new GoPNG budget allocation of K10m for 2011, there has been no dedicated maintenance funding from TVET Division since the year 2000. An analysis of college budgets for 2010 found that the allocation for maintenance was only 4.6% of total (refer Annex 9) and in all colleges this was an allocation for urgent maintenance only. Often the senior managers were not aware of the size of the maintenance budget. College administrations and Councils felt that funding for periodic maintenance was beyond the financial limits of the colleges.

PROCUREMENT: Procurement of buildings and infrastructure is complex and high risk. Only Lae Polytechnic has, at this stage, demonstrated capacity to design and procure, with a reasonably complete and well-structured infrastructure procurement process. The first round of infrastructure funding under this current five year plan (K10m) is intended mainly for rehabilitation, but certain new projects seen as urgent, including two replacement dormitories, but also two administration blocks, have been given priority, reducing the amount available for rehabilitation.

Except at NPIPNG, there is very little understanding, nor documented evidence, of quality infrastructure procurement policies and procedures. Most of the colleges show evidence of poor maintenance planning and prioritisation. Some of the colleges have entered into new building procurement that has turned out to be poor value for money.

HOUSING: There is a lack of clarity as to who has the right to occupy staff housing, the occupants and the colleges responsibilities and where rent collected should go (to the college's operational funds or to NDOE's consolidated revenue). The Colleges see the National Government as responsible for the maintenance of staff housing. This appears to be administratively correct. However, that responsibility is not being fulfilled. The rental/maintenance cycle has broken down, with many

teachers refusing to pay rent while houses remain unmaintained. Where rent is paid, it is generally not returned in the form of maintenance of services. Rental payments do not reflect the cost to the colleges of maintaining the houses or paying for utilities (where applicable). Colleges do not always have direct access to this income rental.

The study was informed that Central Departmental staff (some not working in TVET Division) are occupying some houses at POMBUS & POMTECH, inhibiting the colleges' capacity to recruit the best available staff. It is acknowledged that in Port Moresby housing is expensive and security is an issue, and thus it is understandable how this situation has arisen. However the study team does not regard this as an acceptable reason for this situation being allowed to continue. A housing policy needs to be urgently developed and implemented. It needs to be equitable, transparent and reasonable to both the end users (the teaching staff) and to the tax payers of PNG. Given the lack of clarity and transparency, the current arrangements are open to potential abuse and corruption. An improved housing policy and provision will have a considerable positive impact on teacher morale.

Land

AVAILABILITY: Most of the Colleges have land for expansion. Lae has the most limited opportunity for new land, and is looking to two-storey buildings for all new construction.

LANDOWNER DEMANDS: Two colleges—Mt Hagen and Madang—have experienced trouble with local landowners; at Mt Hagen, demands for compensation, and ongoing pilfering. Goroka has not had problems to date, but its immediate neighbour, the University of Goroka, reports serious ongoing disputes and demands for further payments for the use of existing land. This is likely related to the large new infrastructure projects on the UOG campus, and if Goroka is developed, there is a high risk of similar disputes. Though sometimes derided as mere "compensation culture", this can also be understood as demand from local landowners for a share of the benefits from development, where no other forms of sharing are available.

Town services

PNG is urbanising rapidly, but the growth of towns has not been matched by investment in PNG town infrastructure. This leads to breakdowns in the supply of essential services to the colleges, in particular power and water. Mt Hagen is most threatened by lack of water, and all Colleges have been given backup diesel generators which supply the teaching establishment (but not the teacher houses) when the town power supply goes down. Blackouts and water shortages are likely to worsen.

Campus infrastructure

AGE AND CONDITION: The campuses are dominated by old infrastructure, which dates back to pre-independence times and in some cases (Madang) to the 1950s. The exception is Kokopo, whose infrastructure dates only from 2000, and the infrastructure of which is in fair condition. Building designs in most colleges, especially of the workshops, are obsolete. Due to timber construction and lack of maintenance, most buildings are in very poor condition, and would normally be considered at the end of their useful life—if funds were available to reconstruct. However, most buildings can be

kept useful for another five years through extensive refurbishment. It is important to note that because of the age of the campuses, almost all buildings should be considered as containing asbestos. A full asbestos study and plan should be prepared for each college prior to undertaking any refurbishments or demolition.

QUALITY: The quality of the physical learning environment has diverged significantly from the quality of a modern industrial work environment, with two results: (a) students without work experience are not being imbued with a culture of maintenance, repair, cleanliness and work order, and (b) apprentices attending training express shock at the low quality of where they are expected to live and learn.

In most cases, the design of the buildings dates back to the 1960s and 1970s. Many aspects of building design and construction are not amenable to durability or maintenance: timber steps exposed to rain, insufficient overhangs and hoods to protect building from rain and sun; use of non-durable or untreated timbers; wet areas on raised timber floors; insufficiently hard-wearing finishes in shared toilets; kitchens and toilets difficult to clean; doors, door hinges and locks not substantial enough for heavy use; insufficient insulation in roofs to dampen rain noise and keep buildings cool when the sun is high; water supply and sanitation does not take into account vagaries of town supply, abundance of rain, or low maintenance operating environment; house designs do not account for PNG way of life; workshops do not reflect 21st C. industry; classrooms do not provide a 21st C. teaching environment, no use of solar systems to power IT, while many machines burnt out due to constant mains supply fluctuations.

CATEGORIES: For the purpose of analysis, infrastructure has been grouped into five major categories, listed here in order of neglect: with the best cared for at the top, and the worst cared for at the bottom. This hierarchy of care is endemic, with key health infrastructure in a state of neglect and disrepair. College priorities seem to be biased towards certain functions, and against others. No college was prioritising boys' ablutions, although these are in very poor condition, and represent a health hazard. On the other hand, all Colleges except Kokopo were prioritising new or renovated Administration blocks. Many of the College buildings would be closed if OH&S laws were being rigorously enforced.

- *Administration and management:* Generally, administration accommodation is adequate. Two of the seven colleges (NPIPNG and Mt Hagen) have new Administration blocks under construction, three others (Madang, POMBUS, Goroka) have new administration blocks planned, and one (POMTECH) with expansion plans for its office. Only Kokopo does not allocate high priority for its Administration block.
- *Learning environments:* Generally, learning environments (classrooms, workshops, and library) are in poor condition. Workshops tend to be old, small, narrow span buildings, not flexible for industrial use. Libraries are too small for the student population, and often housed in a converted classroom in one of the old buildings. The key external services for learning and environment are power and Internet. Power is erratic but available from backup generators. Internet is not available in a learning environment at any campus.
- *Teacher accommodation:* Shortage of teacher accommodation is a critical issue for the colleges. Goroka is the only college that is able at present to provide housing for its teachers and senior ancillary staff. Inability to provide housing is a major impediment in filling a number of vacant positions. Except at POMBUS, teacher accommodation is in very poor condition. Teachers were asked as part of the questionnaires to rate the quality of housing

provided. 45% of teachers rated the quality as poor and a further 45% rated the condition as fair. In Mt Hagen, teachers have no water. At POMTECH, conditions in some houses are so poor that the houses should be condemned. In Madang, some houses have no functioning WCs, and one house has been condemned—but people are still living in it. In Lae, Kokopo, Madang and Goroka, staff are living in converted or even unconverted dormitories and classrooms. Central Departmental staff are occupying some houses at POMBUS & POMTECH.

- *Student accommodation and services*: At all Colleges except Goroka and POMBUS (which has no student accommodation), student accommodation is overcrowded, with three, four or even five students living in rooms meant for two. Boys' dormitories are generally in a very poor state. Many of the older dormitory designs do not allow for study in the dormitories; generally there are no power points for laptops or phones. Of the Colleges, only NPIPNG appears to be making significant investment in student services.

- *Health infrastructure:* By health infrastructure, the study means a wide range of infrastructure that is essential to, and has a direct impact on, student health and safety. Health infrastructure includes:
    - o water: not functioning in Mt Hagen
    - o sanitation: dependent on very old and unmaintained septic tanks; flowing directly into the sea at POMTECH; okay only at Lae
    - o dorm toilets: unsanitary and unhealthy in all male dormitories
    - o day toilets: available only at Lae and Kokopo
    - o clinic: staffed and functioning only at Lae
    - o kitchen/mess: in unsanitary state at all campuses
    - o security fencing: effective at Lae, not effective elsewhere

3.10   Financial resources

Financial management: Most Colleges in the past have experienced significant problems in the management of their financial resources. Principals have received very little, if any, training in financial management and budget preparation before they take on their roles. Each Council has a Finance Committee and the study's analysis of Council papers and consultations with Council members indicates that the Finance Committees meet more frequently than any of the other committees. However the study was advised that these committees in most instances also lack financial expertise. Responsibility for the College bookkeeping function rests with the College Registrar. In most Colleges the incumbents had some form of accounting qualification. The Registrars in several colleges also take on a teaching role.

Given the structure of College finances, the greatest risk to College solvency is the level of unpaid student fees that can arise. Colleges are managing this risk by attempting to collect at least 75% of student fees at registration. One college has introduced a 'No permit, no exam' policy as a way of collecting outstanding debts, at the end of the calendar year.

Most of the Colleges over the last five years have attempted to budget for a surplus in order to build up cash reserves to fund small infrastructure projects and other initiatives (such as laptops for staff) designed to improve quality of training.

Given the increase in the scale of the budgets that the Colleges will be expected to manage in the future, it is clear that systems, policies, procedures, and capacity and training in financial management all need to be strengthened.

College Revenue: The cost of running the colleges is shared between the GoPNG (through TVET Division of NDOE) and the college councils. The NDOE meets the salary and associated costs of teaching staff and in addition Colleges receive from NDOE small annual recurrent grants. The colleges receive a fee subsidy from OHE for those students that have been awarded a HECAS scholarship. The majority of college income comes from student fees.

In the late 1990s government recurrent funding to the colleges was reduced with the colleges being required to raise the majority of their recurrent income from student fees. The Colleges are now responsible for managing significant cash budgets which, even for the two smallest Colleges in terms of enrolments, (Mt Hagen and Madang Technical Colleges) exceeds K2m per annum.

The Colleges rely very heavily on student fee income for their financial survival. Students are required to pay fees for tuition and boarding accommodation. These, along with fees for other national education institutions, are set by the National Education Board (NEB). There has been no increase in fees for 2011 over the 2010 levels and this has impacted on the colleges, given rising costs for key consumables such as food and utilities.

These fees represent 83% of income (excluding teacher salaries) in all Colleges with grants from the TVET Division representing less than 5% of annual income. Approximately 6% of College income is sourced from grants from OHE for the students under HECAS scholarships. There is very little revenue raised from hire of college facilities or other commercial enterprises.

The GOPNG has allocated K10M in capital funding for 2011 to address an urgent backlog of needs. The Mission was advised that K3.5M of this allocation had already been released to TVET Division. It is understood that the allocation is primarily for maintenance of buildings and construction of new buildings. The TVET Division has prepared a priority list of project allocations, including construction of replacement dormitories at Madang and POMTECH, construction of new administration blocks at Goroka and POMBUS, renovation of existing dormitories at NPIPNG and Mt Hagen, and renovation of some staff houses at each college.

College cost structure and expenditure per student: The mission has collected detailed data on all College budgets (estimated and outturn for 2010) and draft budgets for 2011 for a number of Colleges. Details of the 2010 budgets and a breakdown of revenue and expenditure for each college and for the colleges as a whole are included in Annex 9.

The aggregate expenditure outturn for all Colleges in total in 2010 was approximately K19.6M and revenue K20.8M highlighting that most colleges are budgeting for a surplus to build reserves for small scale capital projects. When salaries and associated costs of teachers are added to the college actual budgets, the total expenditure of all colleges was estimated to be K31.87m in 2010. Salary and associated costs of teachers and ancillary staff represented 45% of total outlays.

Although fees have not risen for 2011, with the growth in student enrolments that has occurred from 2010 to 2011, the estimated aggregate budget for 2011 (excluding teacher salaries) will be approximately K22M in total. With salaries and other associated benefits for teachers (including the Contract officers) paid for by TVET at a level of K11.3M for 2011, the total recurrent allocation to the Colleges from both public and privates sources is estimated to be approximately K33.3M.

The study has prepared some estimates of expenditure per student based on the data collected for 2010. These data from which Chart 1 is drawn are included in Annex 9.

Chart 1: Expenditure per student at TVET Colleges
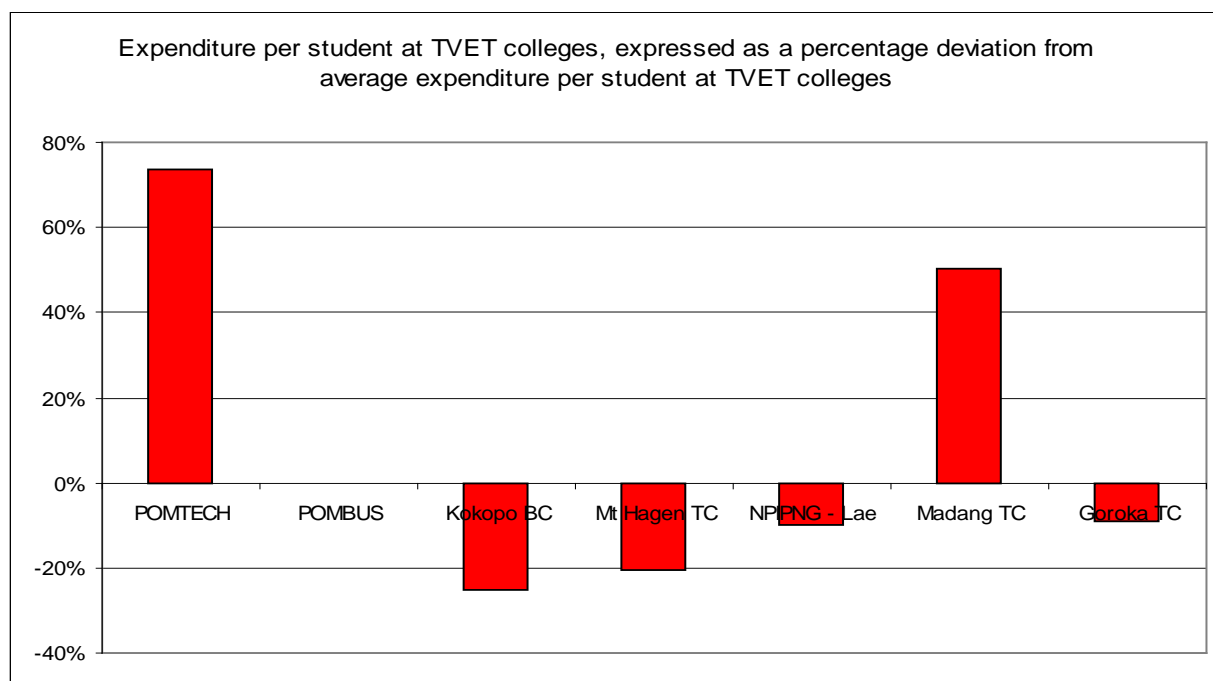
The data show that an average expenditure per student of K7,773 across the colleges with some very significant differences between the colleges. The high expenditures for POMTECH are primarily explained by the large number of staff relative to enrolments and the additional costs of contract staff. In the case of Madang the high expenditure is primarily a result of the small enrolment base (only 250 students in 2010) over which expenditures are apportioned. It is important to note that GoPNG funding of the colleges is not linked to training outcomes and that as a result it is not possible to infer any relationship between the expenditure per student in the colleges and the quality of training outcomes delivered.

It is likely that there will be a fall in expenditure per student between 2010 and 2011 primarily as a result of college budgets increasing by significantly less than the enrolment increase of 15 to 20%. With approximately 4800 students enrolled in Semester One, 2011, the study has estimated that the recurrent service delivery expenditure per student for 2011 (excluding College share of NDOE corporate overheads) to be in the order of K6,940 per student. This figure includes the cost of boarding and meals for approximately 50% of the total student enrolment. The recurrent expenditure, excluding boarding costs, is estimated to be approximately K6,000 per student. [7]

Funding gap: These preliminary per student estimates serve as a useful comparator with the level of resourcing in other current TVET providers in PNG, both public and private. **The study can be confident in its preliminary assessment based on these figures that there is a significant recurrent resource gap that needs to be closed. In addition, there is a need for recapitalisation** TVET

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[7] These estimates do not take account of the recently negotiated pay increases for teachers.

colleges, if the Colleges are to be able to achieve a level of quality of training outcomes at exit that goes some way towards meeting industry expectations.

Although there is clearly a very significant recurrent funding gap in the TVET colleges, it is very apparent from the study's analyses that the problems with TVET in PNG are not merely a matter of the quantum of funds. The current funding mechanism whereby the fees levied are capped by government and the number of students enrolled is uncapped, is contributing to the surge in enrolments. The Colleges are incentivized to continue enrolling students in courses (such as business studies) with the lowest average costs of tuition. The study's view that the way forward for TVET in PNG will need to involve a fundamental rethink of the underlying funding model.

Ian Hind, John Larsen, David Week and Emmanuel Peni, *PNG TVET Needs Analysis Study*, 24 June 2011

Annex 1: Stakeholders consulted

Table A: Stakeholders consulted in Phase Three

Dr Michael Tapo	First Assistant Secretary, National Department of Education
J.B.Jayasundara	Acting Assistant Secretary, TVET, National Department of Education
Pedro Cortez	Superintendent, Curriculum, TVET, National Department of Education
Winnie Leka	Superintendent, Inspections, TVET, National Department of Education
Monica Maluan	Acting Superintendent, Operations, TVET, National Department of Education
Yali Yanubagi	Project Officer, Assets Management, Operations, TVET, National Department of Education
Vali Guise	Senior Project Officer, Resource Management, Operations, TVET, National Department of Education
Noke Peng	Senior Budget Officer, Operations, TVET, National Department of Education
Damon Tiromky	Senior Curriculum Officer, Mechanical, TVET, National Department of Education
Markus Aemi	Curriculum Officer, Primary Industry, TVET, National Department of Education
Godna Koner	Curriculum Officer, Building & Allied Trades, TVET, National Department of Education
Florence Bana Bouraga	Curriculum Officer Business Studies-Tourism & Hospitality, TVET, National Department of Education
Stanley Kagl	Curriculum Officer, Building & Allied Trades, TVET, National Department of Education,
Kabal Banne	Curriculum Officer, Engineering & Related & HIV/AIDS, TVET, National Department of Education,
Rossa Apelis	Senior Curriculum Officer, Business, TVET, National Department of Education,
Assenrth Tugiau	Superintendent, Vocational Education Branch, TVET, National Department of Education
Dr William Tagis	Director, Office of Higher Education

Junita Goma	Assistant Project Director, Office of Higher Education
Dr Penelope Murphy	Senior Higher Education Policy Adviser, Office of Higher Education
George Bori	Managing Consultant, TVET Scholarship Programme, Office of Higher Education
Dr Trevor Davison	Director, Star Mountains Institute of Technology, Tabubil
Capt. Dabang Kiong	Deputy Principal, Papua New Guinea Maritime College
Benson Collins	Head of Department, Engineering, Papua New Guinea Maritime College
Br. Alfred Tivinarlik	Director- Academic Research, Divine Word University, Madang
Catherine Nongkas	Dean of Faculty of Education, Divine Word University, Madang
Lianus Yamona	Faculty of Education, Divine Word University, Madang
Paul Pasingan	Faculty of Education, Divine Word University, Madang
Samoa Mariko	Faculty of Education, Divine Word University, Madang
Charith Silva	Systems Administrator, Divine Word University Campuses
Donald Shipman	Central Workshop Manager, Ramu Agri Industries
Alan McLay	Lae Chamber of Commerce Inc
Toma Djirtov	General Manager, Lae Builders & Contractors Ltd
David Faunt	General Manager,Innov8 Projects Ltd
Ian Wallwork	Training Manager, Hastings Deering
Julien Betts	Training Manager Exxon Mobil Training Centre
Andrew Robertson	Office/Finance Manager, APTC PNG campus
Rose Raka – Koyama	Assistant Secretary, Social Sector, Social & Administration Division, Department of National Planning & Monitoring
Joshua Himina	Senior Programme Officer – Education, Department of National Planning & Monitoring
Lawrence Waiman	Assistant Director, Occupational Skills Standards Developments, NATTB
Peter Coventry	Program Director, Education, Port Moresby, AusAID
Gabriel Pillay	First Secretary, Education, Port Moresby, AusAID
Charles Mabia	Office of Higher Education

Joseph Morimai	Assistant Director, Student Support and Scholarships, Office of higher Education
Ruth Philip	Assistant Director, Finance and Administration, Office of Higher Education
Guni Isaiah	Accounts Clerk TESAS, Office of Higher education
Maria Kopkop	Chair, Governing Council, Port Moresby Technical College
Meli Kivung	Director, NATTB (Deputy Chair, Governing Council, Port Moresby Technical College
Craig Fergusson	Business Management Adviser, Port Moresby Technical College
Alan Tira	Principal (Acting), Port Moresby Technical College
Rufino Rivera	Deputy Principal (Academic), Port Moresby Technical College
Dominic Kusinngi	Deputy Principal, Administration, Port Moresby Technical College
Port Moresby Technical College	Staff and students (30)
Peter Itzap	Chair , Governing Council, Port Moresby Business College
John August	Principal, Port Moresby Business College
Camelito Angeles	Deputy Principal, Academic, Port Moresby Business College
Carmel Mokulabeta	Deputy Principal, Administration, Port Moresby Business College
John Karis	Deputy Principal, Kokopo Business College
Ronnie Ham	Director, Kokopo Open Campus, UPNG, (member of Kokopo Business College Governing Council)
Nelson Eddie Paulias, OBE	Director East New Britain Provincial Administration, (member of Kokopo Business College Governing Council)
John Dinbi	Principal Mt Hagen Technical College
Henry Manbil	Deputy Principal Mt Hagen Technical College
Pius Mark	Chair Governing Council, Mt Hagen Technical College
	Staff and students (30) Mt Hagen Technical College
Graham Bidang	Principal, NPIPNG
Joselito Marcus	Deputy Principal, (Academic), NPIPNG
Lawrence Parry	Deputy Principal, (Administration), NPIPNG

Kila Vunagi	Chair Governing Council, NPIPNG
Mathew Pobaya	Deputy Chair, Governing Council, NPIPNG
Patrol Maino	Principal, Madang Technical College
Jeanette Lee	Deputy Principal, Madang Technical College
Alex Paira	Chair, Governing Council, Madang Technical College
Francis Kalip	Deputy Chair, Governing Council, Madang Technical College
Peter Neimani	Member, Governing Council, Madang Technical College
Staff and Students (25)	Madang Technical College
Sogerifa Lutogo	Principal, Goroka Technical College
Johnson Luhuvae	Deputy Principal, Goroka Technical College
Peter Hoyato	Chair, Governing Council, Goroka Technical College
Raymond Jagie	Deputy Chair, Governing Council, Goroka Technical College
Professor Michael Mel	Pro Vice Chancellor Academic, University of Goroka
Eron Hagunama,	Section Head, Design and Technology, University of Goroka
Edward Wamgasekera	Section Head, TVET, University of Goroka
Alex Gedia	Assistant Secretary, Human Resources Branch, Department of Works
Niko Alipi	Manager, Works Institute of Technology, Department of Works

Table B: Stakeholders consulted in Phase Two

Dr Michael Tapo	First Assistant Secretary, National Department of Education
J.B.Jayasundara	Acting Assistant Secretary, TVET, National Department of Education
Pedro Cortez	Superintendent, Curriculum, TVET, National Department of Education
Monica Maluan	Acting Superintendent, Operations, TVET, National Department of Education
Stellina Segius	Senior Project Officer, Operations, TVET, National Department of Education
Robin Amagi	Executive Officer, Operations, TVET, National Department of Education
Agatha Simango	Project Officer, Operations, TVET, National Department of Education

Yali Yanubagi	Project Officer, Assets Management, Operations, TVET, National Department of Education
Vali Guise	Senior Project Officer, Resource Management, Operations, TVET, National Department of Education
Noke Peng	Senior Budget Officer, Operations, TVET, National Department of Education
Damon Tiromky	Senior Curriculum Officer, Mechanical, TVET, National Department of Education
Markus Aemi	Curriculum Officer, Primary Industry, TVET, National Department of Education
Godna Koner	Curriculum Officer, Building & Allied Trades, TVET, National Department of Education
Beatrice Sinla	Curriculum Officer, Primary Industry, TVET, National Department of Education
Florence Bana Bouraga	Curriculum Officer Business Studies-Tourism & Hospitality, TVET, National Department of Education
Stanley Kagl	Curriculum Officer, Building & Allied Trades, TVET, National Department of Education,
Kabal Banne	Curriculum Officer, Engineering & Related & HIV/AIDS, TVET, National Department of Education,
Rossa Apelis	Senior Curriculum Officer, Business, TVET, National Department of Education,
Thomas Aiye	Curriculum Officer, Electrotechnology, TVET, National Department of Education,
Daniel Tovu	Senior Inspector, Building & Allied Trades, TVET, National Department of Education,
Lino Bakaka	Senior Inspector Business Studies & Tourism & Allied Trades, TVET, National Department of Education,
Tomaki Atu	Inspector, Western Gulf Region, TVET, National Department of Education,
Baeau Momo	Inspector, Morobe Province, TVET, National Department of Education
Assenrth Tugiau	Superintendent, Vocational Education Branch, TVET, National Department of Education
Alan Tira	Principal (Acting), Port Moresby Technical College

Rufino Rivera	Deputy Principal (Academic), Port Moresby Technical College
Dominic Kunsinngi	Deputy Principal, Administration, Port Moresby Technical College
Bilmore Bulatao	Inspector Mechanical at the TVET Division, National Department of Education
Dr William Tagis	Director, Office of Higher Education
Junita Goma	Assistant Project Director, Office of Higher Education
Dr Penelope Murphy	Senior Higher Education Policy Adviser, Office of Higher Education
George Bori	Managing Consultant, TVET Scholarship Programme, Office of Higher Education
Chey Scovell	Executive Director, Manufacturers Council of PNG
Graham Alnui	Rural Industries Council
Johnny Yep	Consultative Implementation and Monitoring Council and Institute of National affairs
Greg Anderson	Executive Director, PNG Chamber of Mines and Petroleum
Rose Raka – Koyama	Assistant Secretary, Social Sector, Social & Administration Division, Department of National Planning & Monitoring
Joanna Kemp	Senior Policy Officer, , Social & Administration Division, Department of National Planning & Monitoring
Joshua Himina	Senior Programme Officer – Education, Department of National Planning & Monitoring
Meli Kivung	Director, NATTB
Lawrence Waiman	Assistant Director, Occupational Skills Standards Developments, NATTB
Lieutenant Colonel Ray Numa	Training Commander, Papua New Guinea Defence Force
Jon Spargo,	Warrant Officer Class Two PNGDF Civilian Training Advisor
John Halsted	Staff Officer Grade Two – Training (Australian Defence Staff)
Baltasar Saviembi	PNGDF Apprentice Master
Jefford Baea	Director Education & Training, PNGDF
Tony Orwa	Director Training Military, PNGDF

Anna McCarthy	Human Resources Manager, Morobe Mining Exploration JV
Peter Coventry	Program Director, Education, Port Moresby, AusAID
Gabriel Pillay	First Secretary, Education, Port Moresby, AusAID
Morrie Wintringham	Manager, Western Division, APTC
Sonya Casey	Curriculum Adviser, PNG Institute of Public Administration
Ian Wallwork	Training & Development Manager – PNG, Hastings Deering (PNG) Limited
Stanis Motolova	Assistant Director, Policy Development, National Training Council
Joe Rokes	National Training Council
Charles Mabia	Office of Higher Education
Dr Willy Ako	Institutional Development Branch, Office of Higher Education
Peter Itzap	Chair Governing Council, Port Moresby Business College
Staff and students	Port Moresby Business College

Table C: Stakeholders consulted in Phase One

Stan Motolova	Assistant Director, (Policy Development), National Training Council (NTC)
Edward Haung	Coordinator, TVET, NTC
Meli Kivung	Director, National Trade Testing and Accreditation Board (NATTB)
Opo Yangke	National Trade Testing and Accreditation Board (NATTB)
Arthur Geno	National Trade Testing and Accreditation Board (NATTB)
Joseph Morimai	Office of Higher Education
Charles Mabia	Office of Higher Education
Dr William Ako	Office of Higher Education
Dr Michael Tapo	First Assistant Secretary, NDOE
Luke Taita	Deputy Secretary, NDOE
Jo Logha	Assistant Secretary, Policy and Planning, NDOE
Geoff Thompson	Planning Adviser, NDOE
Briaun Mangpu	Senior Recurrent Budget Officer, NDOE
Banda Jayasundary	Acting Assistant Secretary, TVET, NDOE
Monica Maluan	Acting Superintendent, Operations, TVET, NDOE
Pedro Cortez	Superintendent, Curriculum, TVET, NDOE
Wini Leka	Superintendent, Inspections, TVET, NDOE
Ruben Aue	Superintendent, Vocational Education, TVET, NDOE
Dr Nick Waterman	ETHRDD Adviser, (TVET), NDOE
Michael Pearson	Chairman, Teaching Services Commission (TSC)
Jerry Kuhena	Deputy Chairman, Teaching Services Commission (TSC)
Nalini Nandan-Hallt	PNG Chamber of Commerce and Industry
Chey Scovell	CEO, Manufacturers Council of PNG
Peter Itzap	Chair, Governing Council, Port Moresby Business College
John August	Principal, Port Moresby Business College

Carmelito Angeles	Deputy Principal, Academic, Port Moresby Business College
Allan Tira	Acting Principal, Port Moresby Technical College
Rufino Rivera	Deputy Principal, Academic ,Port Moresby Technical College
Dominic Kusinggi	Deputy Principal Administration, Port Moresby Technical College
Graham Bidang	Acting Director, National Polytechnic Institute of PNG (Lae)
Joselito Marcos	Deputy Director, Academic, National Polytechnic Institute of PNG (Lae)
Lawrence Parry	Deputy Director, Administration, National Polytechnic Institute of PNG (Lae)
Andrew Yuants	Head of Department (Electrical), National Polytechnic Institute of PNG (Lae)
Herman Ibarra	Head of Department (Mechanical), National Polytechnic Institute of PNG (Lae)
Rose Manua	Head of Department (Bus. Studies), National Polytechnic Institute of PNG (Lae)
Hannah Kurua	Senior Lecturer, National Polytechnic Institute of PNG (Lae)
Paul Tlogua	Head of Department (Tourism & Hospitality), National Polytechnic Institute of PNG (Lae)
Patrol Maino	Principal (Acting) Madang Technical College
Jeanette Lee	Deputy Principal (Acting), Madang Technical College
John Kiele	Principal, Kokopo Business College
John Karis	Deputy Principal (Acting), Kokopo Business College
Tim Wilson	Chair of Governing Council, Kokopo Business College
Kenneth Tapungu	Head of Department, Kokopo Business College
David Mo	Senior Lecturer, Kokopo Business College
John Dinbi	Principal (Acting), Mt Hagen Technical College
Henry Mambil	Deputy Principal (Acting), Mt Hagen Technical College
Pius Mark	Chair of Governing Council, Mt Hagen Technical College
Marcus Weimeia	Head of Department, Mt Hagen Technical College
Sogerifa Lutigo	Principal (Acting)Goroka Technical College
Peter Hoyato	Chair of Governing Council, Goroka Technical College
Raymond Jagie	Deputy Chair of Governing Council, Goroka Technical College
Noel V. Guillermo	Principal and Head of Technology, Don Bosco Technological Institute
Peter Coventry	Program Director, Education, AusAID, Port Moresby
Lindy Fisher	First Secretary, Higher Education & Training, AusAID, Port Moresby
Penelope Murphy	Senior Higher Education Adviser (OHE & AusAID)
Moale Vagikapi	Sub National Strategy, AusAID, Goroka

Annex 2: Synopsis of Policy and Planning Context and Documents relating to TVET

A: Policy and Planning context for TVET in PNG

The TVET policy framework is articulated in a range of GoPNG planning documents and NDOE policy and planning documents. A comprehensive Policy for TVET was developed in 2005 and the study team has prepared a status report on implementation based on the consultations and college visits.

1. **Vision 2050: 'We will be a Smart, Wise, Fair & Happy Society by 2050'**

Mission: PNG to be ranked in the top 50 in the Un Human Development Index by 2050.

The vision is based on a shift from poverty reduction to a positive wealth creation mindset.

The Vision is based on 7 key pillars. Pillar #1 is Human Capital Development, Gender, Youth & people Empowerment.

Under Pillar 1 the Vision the Vision targets – expansion of technical & business colleges, establishing a technical college in each province, improving terms and conditions of teachers, establishing public-private partnerships and promote and establishing use of ICT.

Access to technical and business colleges is to increase to provide more opportunities for Grade 12 school leavers.

Key messages: PNG must set minimum standards for its service delivery institutions and systems so that integrity is not compromised. Policies, plans and budgets for all colleges to be immediately aligned to *Vision 2050*. Colleges need to develop a rigorous program in entrepreneurial skills development. Infrastructure development is to be a main catalyst to improve service delivery in each college. Each college to develop an infrastructure plan addressing rehabilitation, prioritisation and sustained support. Intervention programs to achieve gender equity with female graduates for HE institutions to increase from 37% to 50%.

2. **Development Strategic Plan 2010-2030: 'Our guide to success'**

Goal: A high quality of life for all Papua New Guineans

Vision: PNG will be a prosperous middle income country by 2030

The key sectors to drive growth will be agriculture, tourism and manufacturing. These sectors will be very dependent on well planned education and infrastructure strategies.

Economic corridors are a key strategy and education programs a key feature of these corridors.

Employment is forecast to increase to 2 million jobs by 2030 with 20% of the population employed.

Higher and technical education is crucial for supplying the skilled workforce. The DSP assumes that 315,000 skilled workers will be required by 2030 and that 295,000 of these will be Papua new Guineans.

Key target deliverable for the colleges is to expand places to 3800 by 2015, to 4900 by 2020, to 5900 by 2025 and to 6800 by 2030.

Key messages: reform of HE and technical education with a focus on autonomy of staffing, teaching and finances. There needs to be external auditing and standardisation of assessment frameworks. There needs to be realignment of funding to target training to meet the demand for skills and students who perform.

Training standards to be aligned to PNG NQF.

A specific SME training institute to be established that promotes modern and dynamic ways of doing business.

Tertiary institutions to forge partnerships with reputed institutions overseas.

Education to be one area that is to be given higher priority in early MTDPs.

3. Medium Term Development Plan 2011-2015 – 'Building the foundations for prosperity'

A policy driven plan, supported by specific targets, sectoral strategies and clarifying agencies responsible for delivering results.

Emphasis is not on expenditure priorities.

Key theme is to improve the governance and institutional capacity and essential infrastructure and policy mix.

There is a focus on improving the efficiency and governance of relevant institutions.

The plan tackles key enablers – supply constraints with higher and technical education a priority.

The goal for higher and technical education is to develop the higher skills needed for PNG's prosperity. The quantity and quality of graduates is far short of what is needed due to inadequate resources and a range of governance and service delivery issues.

A national manpower plan is required.

Key message: the plan is clear that before investing in the expansion of the colleges, the GoPNG will fund the recapitalisation of existing institutions and ensure they have the management capacity to oversee expansion. The focus is to be on raising the quality of graduates.

Later plans will have a priority on expansion of the colleges.

Forging partnerships with stakeholders and engaging in twinning arrangements will be encouraged.

4. Achieving a Better Future: A National Plan for Education 2005-2014

This is the current 10 year plan for the NDOE. It sets out a situation analysis at the commencement of the plan and a set of targets and priorities for each sector. The targets for TVET to be:

- Enrolment (FTE) to increase from 2605 in 2005 to 4041 in 2014

- All courses to be modularised by 2007 and the NQF to be in place by 2007

- 95% localisation of staff by 2014

- An increased priority to staff development in headquarters and the colleges.

- A leadership and management program at UOG for managers to be developed and implemented.

- Teacher/student ratio to be 1/15

- Greater accountability at institutional level with enhanced autonomy.

- Principals to encourage entrepreneurial activities

5. TVET Policy: Rationale & Action Plan, July 2005

This was the first comprehensive policy developed by the NDOE for the TVET sector. A status report based on the analysis and consultations from the needs analysis study on implementation is included as Annex 2b

6. TVET Strategic Management Plan: 2011-2020

This 10 year plan is currently in draft form and has not been endorsed by NDOE. It is the TVET Division response to Vision 2050. The plan forecasts FTE enrolments in the colleges to increase from 3838 in 2011 to 5038 in 2020. Localisation of staff is to increase from 90% to 95% and the number of PNG lecturers is to increase from 230 to 327.

B: Status of TVET Action Plan 2005 as at 2011

Action	Implemented	Partially Implemented	Not Implemented	No Longer Applicable
The TVET Division shall implement best management practices in all of its administrative, management and leadership roles.			X	
The Curriculum Branch shall take a leading role in ensuring that business, industry and community have greater ownership of content and standards			X	
The Curriculum Branch shall work with other providers towards the establishment of a national curriculum			X	
The Vocational Support Services shall ensure that curriculum review is given a high priority in the vocational reform in the vocational reform charter			X	
The TVET Superintendents shall develop a plan for the strengthening of administrative systems and consider a plan of devolving operational functions to TVET institutions			X	
The Operations Branch shall develop a capital works plan in consultation with NDOE managers, other TVET divisional managers and senior field personnel. The plan shall give regard for the directions from the National Education Plan and the NTC's national training plan.			X	
The TVET Division shall develop a policy to increase the level of delegation to Principals and Managers			X	
The Operations Branch shall conduct an analysis to determine the actual delivery costs occurring across TVET sites as a measure of performance on the cost and effort of delivery			X	
The Operations Branch shall support the development of a National Training Plan which will list areas of unmet demand as well as opportunities for development of new and emerging industries such as aquaculture, tourism, hospitality and IT.			X	

The Operations Branch shall consider and develop a plan to increase enrolments of students and disadvantaged groups into TVET program, with special attention to intervention strategies to increase the number of females in non-traditional programs			X	
The Operations Branch shall conduct a survey on student satisfaction on the programs offered by TVET institutions			X	
The TVET Division shall implement priorities that will work towards better coordination in the TVET sector, the strengthening of TVET Division and its institutions including reform of Vocational Centres and the establishment of a leadership development program.			X	
The Curriculum Branch shall ensure that appropriate discussions are held with stakeholders and teaching staff on special reference to an increased role for business and industry on curriculum content and standards			X	
The Curriculum Branch shall ensure that major stakeholders have the opportunity to comment on the final draft of the handbook			X	
The Curriculum Branch shall ensure that the handbook meets national curriculum requirements and especially that processes take into account the needs of all providers.			X	
The duties of the curriculum officers shall be reviewed and there shall be an increased role for business, industry and community. This review will prioritize the importance of curriculum relevance, content and standards as well as the new relationships with business, industry and community.			X	
The work placements for curriculum officers and teachers will be supported and facilitated where ever possible.			X	
The Curriculum Branch shall ensure that the redevelopment of teachers' duty statements takes account of curriculum responsibilities in respect to context, assessment and compliance.			X	

The curriculum process must be "driven" by business, industry and community interests. As such any advisory boards must comprise a clear majority of representatives from private sector interests. The curriculum priorities will be driven by the requirements established by the NTC in the National Training Plan.			**X**	
The Curriculum Branch shall work with NATTB to ensure that curriculum content is relevant, that processes are streamlined and that there is stakeholder ownership of standards. Formal processes within NDOE such as Boards of Study shall be made more effective.			**X**	
The Curriculum Branch shall look to support the development of curriculum for new and emerging industries.		✔		
Th Curriculum ranch shall seek to gain agreement from major stakeholders on the outline of the NQF.		✔		
The Curriculum Branch shall develop the key features of each qualification and then the characteristics of learning outcomes including assessment processes. Th characteristics and distinguishing features for each award are listed in the NQF		✔		
All accredited courses shall be in modular format and packaged in such a way that they are available and designed appropriately to be available as shor courses. Adirectory of all modules shall be compiled by the Curriculum branch and made freely available.		✔		
The curriculum officers shall give a priority to working with the POSSP team to support the further development and recognition of skills.			**X**	
The Curriculum Branch shall develop policies and processes for RPL. The changes to teacher methodology as a result of the development of learner-centred learning shall be given a higher priority in the TVET staff development plan.			**X**	
Colleges shall develop support mechanisms to assist and support persons to meet Trade Testing requirements by offering of short or special courses on a user pay basis.			**X**	

The Curriculum Branch shall work with the NATTB in the review and implementation of trade courses.		✔		
The Curriculum Branch shall consult with authorities and other institutions for the accreditation of courses localy and internationally			X	
NDOE shall work with the NATTB and NTC to improve coordination within and across the sctor			X	
The Curriculum Branch shall strive to develop articulation procedures that take into account cross sector articulation			X	
The NDOE shall give a priority for funding to support the establishment of TVET learning centres in rural and remote areas		✔		
The duties and priorities for the Superintendent Operations shall be reviewed. The role shall become more strategic in nature and one which further develops and advocates the TVET College system. Operational matters must be left to the Colleges		☐	X	
The Operations Branch shall develop a pro-forma for the College quarterly report. This pro-forma shall require information to be provided on staffing (establishment, vacancies and other issues), finance and budget, student enrolments, short course provision, activity of council as well as the College's continuous improvement program			X	
The Operations Branch shall develop a pro-forma which will require Principals, as part of their quarterly report, to provide an accurate summary of staff numbers, vacant positions and details of student enrolment. Particular emphasis shall be given to short courses, student attrition and certification. Principals shall attest to the accuracy of these reports.			X	
The Operations Branch shall establish the executive operations team to produce a clear set of statements (or agreements/directives) which identify the areas of policy, procedures, guidelines and priority for activities. These shall include the development of learning resources and materials, priorities for staff development, ways to promote TVET as a brand name and other ways to share resources.			X	

The Principals must control and encourage staff participation and involvement in decision making processes. The TVET Human Resource Development Plan shall provide for in-service programs for principals and managers to provide them with the confidence and skills to lead staff through the above changes.			X	
The Principal through the College management team shall provide leadership in the development of a process to ensure that continuous improvement philosophies and plans are understood and implemented. Opportunities for local publicity could be gained through the active distribution and promotion of the CMP.			X	
The Operations Branch shall work with Principals to establish guidelines and benchmarks for class sizes and teacher numbers in each TVET program area. This process shall acknowledge and recognize the variation program to program.			X	
The Principals shall ensure that teachers teach the required teaching load. This is set by the TSC at 23 hours per week. Each Principal shall provide the Superintendent Operations with a list of existing staffing and identify areas underutilized or excess teaching capacity.			X	
Each expatriate contract officer shall develop an associate program plan so that nationals are able to be trained and skilled to progress into positions wherever possible.			X	
The Operations Branch shall work with the TVET Assistant Secretary and other Superintendents to develop a project which will produce a statement of values and ethics which on the one hand meet public sector guidelines and are also relevant to TVET's policy requirements.			X	
The Operations Branch, working closely with other Superintendents and Principals, shall develop policy directions on how recruitment processes can be streamlined and also develop processes for merit based selection.			X	
Each Principal shall produce a Staffing Plan which will highlight ways that the staffing complement can be structured to become more efficient.			X	

The Operations Branch shall discuss ways to improve teacher productivity and the concept of annual teaching hours with other Superintendents and Principals and then approach the TSC so that processes may commence for changes to be put in place.			X	
The Operations Branch shall seek TSC to review the policy on teachers teaching outside normal hours			X	
The Operations Branch shall seek TSC to review the leave entitlements for nonteaching professional staff such as Principals and Managers. This would provide more time for planning, resource managers, recruitment and any number of other duties associated with leadership positions.			X	
The Operations Branch shall implement the Performance-Based Duty Statements in all technical and business colleges and the Superintendent Inspections shall monitor its implementation.			X	
The Operations Branch and Principals shall work towards the recruitment of teachers who are competent in more than one teaching area. Efforts shall be made to provide in-service training for those currently employed so as to broaden their teaching capacity. All new teachers must provide evidence of Level 3 Trade Test as a minimum requirement prior to appointment.			X	
The Principals shall provide leadership to enhance the college's capacity to generate additional funds.		✔		
The Operations Branch shall seek an immediate review to establish the actual costs of boarding students and set benchmarks.			X	
The Principals shall develop and implement innovative ways to work with industry in staff release, the customisation of training, sharing of equipment and collaboration.			X	
The Principals shall develop strategies that will strengthen staff skills in the customisation of courses, the identification of business opportunities; the development of consultancy services the analysis of industry needs, as well as market research and promotional materials.			X	

The Principals shall use of staff and student expertise in the maintenance of building and equipment with careful planning so that it is to be done as part of the curriculum.		✔		
The Operations Branch shall work with the College Principals, the Staff Development Officer to produce an analysis of teahing staff qualifications and age profile			X	
The Operations Branch shall recommend to the TSC where extraordinary circumstances apply, that a selected appointee shall commence on a higher salary point than would normally be the case, this would serve to increase the attractiveness of teaching positions.			X	
The Operations Branch shall liaise with the University of Goroka for the appropriate consultations on the proposed degree program for teacher training for TVET institutions.			X	
The Operations Branch shall work with Principals to identify opportunities for twinning in overseas countries such as New Zealand, Australia, Indonesia, Malaysia, Thailand and the Philippines. Appropriate opportunities and arrangements need to be followed up at the college level.			X	
The Principals shall work to optimise the use of institutional resources and the "Home College" concept to be the national centre of excellence for professional programs for staff, for the development of learning materials as well as offering the higher level or Advanced Diploma level programs.			X	
The Operations Branch shall publish the students' selection criteria and procedure for full time TVET college programs.			X	
The Principals shall work closely with the Governing Council members to promote good governance and high standards for the institution.		✔		
The Vocational Support Services shall work with Provincial Authorities to develop and agree upon criteria for the registration of Vocational Centres. The criteria will be published and bodies wishing to be registered will apply through Provincial authorities.			X	
The Vocational Support Services shall facilitate the review and reformation of the vocational system with Provincial Authorities.		✔		

The Curriculum Branch shall ensure that the core curriculum covered in the sector needs to be reviewed with more emphasis on life-skills, sustainability, community development; development of learning-to-learn capabilities, social and health issuessuch as HIV/AIDS awareness.		✔		
The Vocational Support Services shall develop national performane indicators so that system performance may be measured and improved.			X	
The vocational centre Board of Management shall work with the manager andstaff in the development of plans for the Centre, consistent with the Provisional Education Plan.				
The vocational centre Managers shall work to develop links with technical and business colleges.				
The Vocational Support Services shall review the job description for vocational centre managers for increased authority and accountability.				
The Vocational Support Services shall initiate a review of the Job Descriptions for teachers in Vocational Centres.				
The Vocational Support Services shall make a recommendation to NDOE to make the provincial vocational coordinators as staff of TVET Division.				
TVET Division shall make approaches to the PNG Education Institute and the University of Goroka in respect to the formulation of mechanisms to increase access to teacher training opportunities with special emphasis on the development of strategies to increase numbers from remote areas.			X	
The Provincial Vocational Coordinators and College Principals shall meet to discuss ways to further develop links between the Centres and the Colleges, to enhance sharing of educational and physical resources, further development of student pathways and opportunities for articulation.				
Vocational Centre managers shall assess their communities in respect to their training needs as all short course offerings will be demand driven and seek to meet the needs of the local community, business and industry. A particular emphasis will be on sustainability and the development of small scale enterprises				

The Vocational Support Services shall develop guidelines for selection of students for vocational centres.				
The Superintendent VSS shall develop a Financial and Asset Management Manual for vocational centres				
The Curriculum Branch shall develop a one-year course designed for Grade 8 school leavers, and will apply nationally across all registered Centres.				
The Inspections Branch shall conduct a review of the vocational education inspection system in line with the initiatives being undertaken with the review of Secondary Inspectors.			X	
The Inspections Branch shall ensure a high level of accountability and standards in the monitoring and evaluation of teacher's performance and implementation of the curriculum.			X	
The Inspections Branch shall develop manuals, checklists and forms for the identification of key performance areas in the measurement of teacher performance.			X	
The Staff Development Officer shall develop and maintain a data base of all study approvals and shall check each recipient at least twice per year on academic progress.			X	
The Inspections Branch shall develop a National Teachers Standards Framework to ensure sufficiently qualified teachers for TVET institutions.			X	
The TVET Superintendents shall consider and agree upon a leadership development program.			X	
The TVET Superintendents shall provide leadership and model best practice for change to be effective.			X	

Annex 3A: Port Moresby Technical College (POMTECH) Situation Report

1: Institutional profile

The oldest of the seven colleges, POMTECH was opened as a training centre – the Ibubuda Technical High School in 1947 and became the Port Moresby Technical College in 1968.

POMTECH offers a wide range of pre-apprenticeship and apprenticeship training in traditional trades. It is the national provider of apprenticeship training in the electrical area and also in Printing and Graphic Arts afield in which it has enrolled significant numbers of students from neighbouring Pacific countries in the past. With current enrolment of 501 in semester 1 for 2011 and an academic staffing ceiling of 54, and 35 Council employed ancillary staff, POMTECH is the main apprenticeship training facility in PNG in the electrical and other allied trades.

The College also offers National Certificates 1 and 2, the PETT courses in panel beating and stray painting and Council approved Basic Trade Certificate courses. Most of the buildings are from the colonial era and it is evident that they have been poorly maintained. In 2011, 297 or 59% of students are day students with 204 or 41 % living in student dormitories on campus. Two of the dormitories were destroyed by fire in 2009. The gender breakdown of enrolments is 88% male and 12% female. Approximately 60% of students are self sponsored, 26% company sponsored and 14% HECAS sponsored. With 44 teachers (excluding the College administration) at post in March 2011 the overall ratio of students to teachers is 11.4/1.

The establishment of the PNG campus of the Australia Pacific Technical College (APTC) in 2007 and the Exxon Mobil LNG Training facility in 2010 both on parts of POMTECH's campus have created a unique set of opportunities and constraints in terms of governance, programming and physical planning and asset utilisation.

2: Purpose (what is the mission or business of this college?)

POMTECH is an important national institution in technical training. Its mission has changed little over the last two decades. Without an active internal planning process or culture POMTECH has operated in a reactive mode to changes in policies and curriculum initiated by TVET headquarters. The product mix has seen very little change.

POMTECH currently offers three broad streams of programs or courses: i) TTC courses for Grade 12 school leavers; ii) 'extension' courses for students undertaking apprenticeship training administered by the NATTB; Basic Trade Certificate (BTC)courses of six months in a range of areas. These are referred to as 'Council approved' courses.

3: Governance, administration, management and planning

POMTECH is in a chronic state of decline with fractured relationships with stakeholders, both internal and external. Staff morale is reported to be low by both staff and management. While the construction of the APTC and Exxon Mobil training facilities present an important set of opportunities for POMTECH's future development, the current impoverished state of POMTECH has been made very clear to internal (students, teachers, management) and external stakeholders as a result of these developments. How these stakeholder expectations and concerns are managed over the short to medium term will be crucial to POMTECH's survival.

Administration & management: POMTECH is currently struggling with an extended period of poor management in the past. The Principal and one of the Deputies are both in acting positions, the Principal actually holding only a substantive position of Departmental Head at one of the other colleges. His appointment to the Acting Principal role was not of his own choosing. The current arrangements are not conducive to strong and stable management and leadership. The Principal

reports a battle to win the confidence of staff and the Council. Early in 2011 a Management Adviser funded by AusAID took up his position.

Governance: The Council enjoys good representation and involvement with local communities and with the key government agencies working in TVET. APTC is a member of the Council but attendance has been irregular. The LNG Training Facility has been offered membership on the Governing Council but no response has been received. For the last two years there has been no private sector involvement on the Council. The Chair feels that industry has abandoned the Council in frustration with time spent 'being a waste of time' as decisions and policies are not acted upon by the College or headquarters administration. The Council feels a sense of disempowerment with lack of consultation by government authorities on key inputs and critical decisions being made by others.

Neither the Council chair nor Acting Principal reports a strong partnership between Council and management. Frustration levels are high. The Chair and Deputy rate the issue of institutional leadership as the key concern or challenge for the POMTECH. Many of the other day to day problems stem from this. The Council is looking for high quality experienced leadership for POMTECH. It is currently in a position where it has to live with whatever appointment is made by TVET headquarters. Stakeholder expectations for POMTECH are high.

Planning: There is no current strategic, business or annual plan or set of targets for POMTECH despite requests from the Council for the College administration to prepare these documents. Contributing to this situation is a critical skill gap within POMTECH management and planning skills and in promoting active stakeholder engagement in planning processes. Without a suite of key planning documents and policies decision-making is mainly ad hoc and reactive in nature.
Note: During the consultations on the draft Report in May 2011 the POMTECH administration reported that with the help of the AusAID adviser, a strategic plan was now under development.

Management and the Council report that personal agendas dominate considerations relating to the good management and welfare of the College. As a result the level of cohesion amongst managers and between management and staff is low.

4: Educational Programs

Training is delivered by four Departments, Building and Allied Trades; Mechanical; Electrical and Printing. Courses offered include a range of college and nationally recognised courses which includes Pre-employment Technical Training Certificate (PETT); Basic Trade Certificates (BTC); Technical Training Certificates (TTC); Extension Programs (Apprenticeship Blocks 1, 2 & 3) and National Certificates 1 and 2 (NC1 and NC2). The Electrical and Printing Departments are in the unique position in which they are the only public provider offering electrical and printing training in PNG.

A new college based IT (CISCO) initiative, in collaboration with DATEC has recently commenced within the Electrical Department. With the support of the College Council, a special purpose 30 computer laboratory (with server and air conditioning), has been established in a renovated dormitory building. The course is coordinated by a college member of staff and jointly taught by DATEC staff and is attracting high enrolments.

Commencing in 2008, NC1 competency based training (CBT) courses are progressively being implemented to replace older BTC and TTC courses. However, anticipated implementation of NC1 across the college is limited to the Electrical Department. Insufficient workshop and classroom accommodation together with inadequate budgets for materials, necessary equipment and learning resources is severely limiting the implementation process. Apprenticeship block training is being delivered in 8 week block extension courses at Levels 1, 2 & 3 using existing curriculum.

Discussions with teaching staff across all disciplines revealed a number of issues which continue to affect successful implementation of new national competency based training packages:

- Inadequate staff development to explain content and assessment requirements of packages.
- Lack of management support to facilitate implementation
- No reduction in teaching loads to allow the development of associated new learning materials.
- Insufficient computers (quality or quantity) including access to internet, and other robust office equipment are available for teaching staff to develop necessary paper based learning resources.
- No additional budget for equipment and consumable materials needed or identified in training packages.

The same issues also affect the delivery and outcomes of the other continuing courses, with the result that students are not able to achieve the desired knowledge or skills expected in more rigorous training programs. Teachers, although keen to improve both delivery and assessment skills, are inadequately prepared to apply the range of emerging training and assessment tasks that are necessary. As a result, students also are ill prepared.

During the mission, discussions with teachers and students revealed that the training both delivered and received, does not contain the range or rigour that is necessary for successful outcomes, either in CBT or existing courses. Discussions with other international trainers revealed that graduates from the PNG TVET system were unable to gain a high level of transferable skills or knowledge when subjected to a Recognition of Prior Learning (RPL) process.

College admission policies require enforcement and updating. Teachers expressed concern that students were being inappropriately admitted. This included not having satisfactory prerequisites or receiving other preferential treatment for entry. Teachers were unable to rely on assumed pre knowledge and ability and have to devote more time to remedial work, which in a climate of increasing competing demands for teachers' time, realistically, they are unable to provide. Teachers believed that current new high school entrants being enrolled in POMTECH courses demonstrated poorer scholastic abilities that previous cohorts.

The need for increased assessments in CBT is also affecting teaching and learning. CBT assessment emphasises the inclusion of industry and employers, specifically supervisors, to certify that students have demonstrated the designated skills, to an appropriate standard. Accordingly, students need to be organised into on-the-job attachments and continuing liaison maintained. This is not happening.

Table 4.1 – Port Moresby Technical College Enrolments by Course

Port Moresby Technical College	Male	Female	Total	Level	Field
TTC Electrical	30	9	39	T	T
TTC 1 Printing	8	3	11	T	T
TTC 2 Printing	3	3	6	T	T
National Certificate 1 Electro technology	82	10	92	N	T
National Certificate 1 Auto Body Repair & Finishing	7	0	7	N	T
National Certificate 1 Auto Electrical	21	2	23	N	T
National Certificate 1 Motor Vehicle Mechanic	42	3	45	N	T
National Certificate 1 Metal Fabrication & Welding	39	2	41		
Extension Electrical	32	5	37	E	T
Extension Refrigeration	8	1	9	E	T
Extension Carpentry & Construction	15	0	15	E	T
Extension Maintenance Fitting & Machining	14	0	14	E	T
Extension Metal Fabrication & Welding	17	5	22	E	T
Extension Motor Vehicle Mechanic	24	1	25	E	T
Basic Trade Certificate Printing	13	7	20	C	T
Basic Trade Certificate Carpentry/Construction	11	2	13	C	T
Basic Trade Certificate Electronics	56	3	59	C	T
Basic Trade Certificate Refrigeration	11	1	12	C	T
PETT Panel Beating and Spray Painting	10	1	11	T	T
Total number of Students	**443**	**58**	**501**		
Percentage	**88.4**	**11.6**			

Table 4.2 – Level & Field Legend

CODES FOR LEVELS	CODES FOR FIELDS
D=Diploma	B=Business Studies
T=TTC	H=Tourism & Hospitality
E=Extension	A=Applied Science
N=National Certificate (NC)	T=Trade Technology
C= Council approved courses	

Table 4.3: Enrolments by Level & Field

	Diploma	TTC	NC	Extension	Council Approved	Total
Totals	0	56	212	129	104	501
Percentage	0	11.2	42.3	25.8	20.8	100
	Business Studies	**Tourism & Hospitality**	**Applied Science**	**Trade Technology**		**Total**
Totals				501		501
Percentage				100		100

5: Teaching and ancillary staff

At March 2011 POMTECH had 51 teaching staff engaged (including the College administration). A Business Systems Adviser has recently (February 2011) been engaged by AusAID. The Council engaged 25 ancillary staff.

Overall 93% of teaching staff at POMTECH hold at least a Diploma qualification. There are 8 staff with a Bachelors or Masters degree. 96% of teaching staff (including the administration) are male and 4% female. The teaching staff at POMTECH is definitely ageing with 43% aged 50 or more and 38% aged between 41 and 50. Over 80% of teachers had a teaching qualification.

A key issue at POMTECH is the ageing of the teaching workforce with many of the older teachers only holding a Certificate level trade qualification. The Deputy Principal (Academic) has developed a training plan for staff upgrading of qualifications.

Staff morale was reported by both teachers and management to be very low.
The following tables and charts depicting the teacher profile at POMTECH are based on responses to questionnaires collected during the college visit. 36 teachers (including Principal and Deputies) responded.

Table 5.1: Age Distribution of Teaching Staff

Age Range	Numbers	Percentage
20 – 30	2	6
31 - 40	4	11
41 – 50	14	39
51+	16	44
Totals	**36**	**100**

Chart 5.1: Age Distribution of Teaching Staff

Age Range in Years of Teachers at POMTECH (2011)

Legend:
- 20 - 30
- 31 - 40
- 41 - 50
- 51+

6%, 11%, 39%, 44%
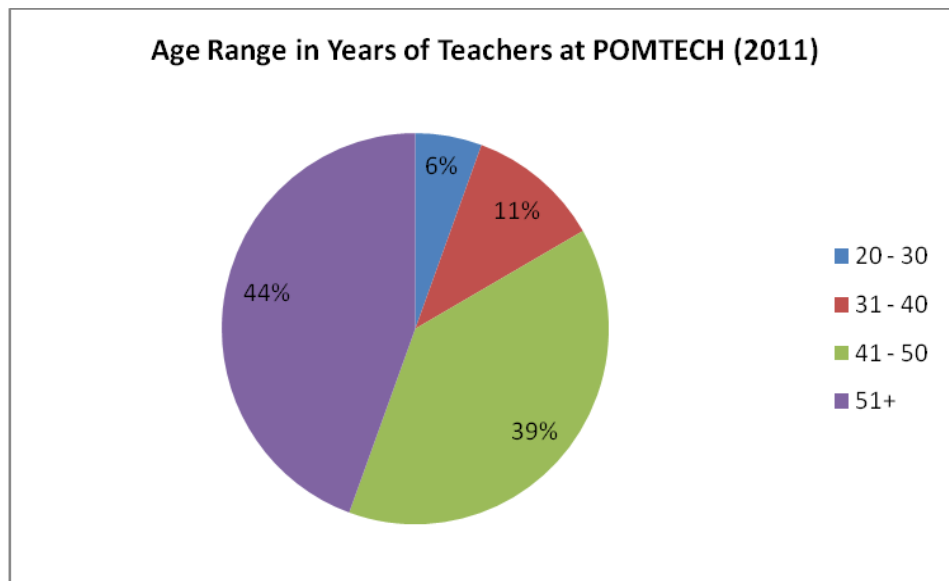
Table 5.2: Gender Distribution

Gender	Numbers	Percentage
Female	1	3
Male	35	97
Total	**36**	**100**

Chart 2: Gender Distribution
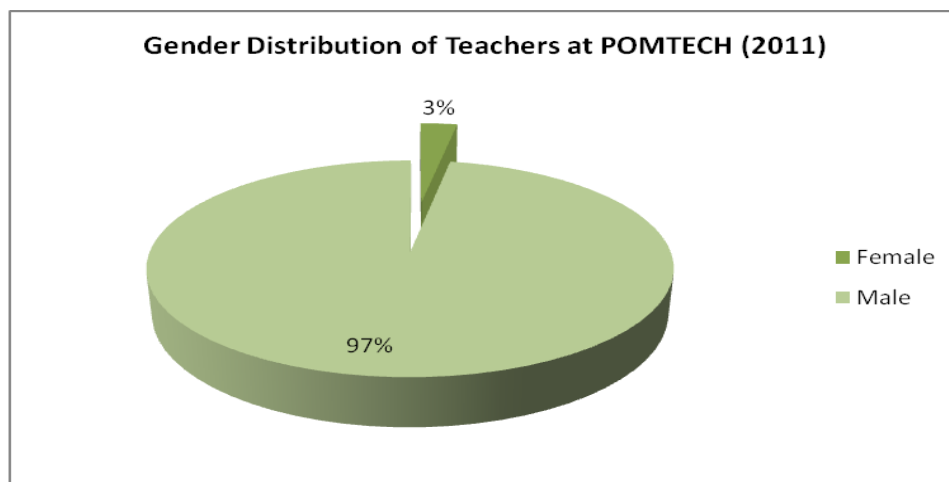
Gender Distribution of Teachers at POMTECH (2011)

3%, 97%

Legend:
- Female
- Male

Table 5.3: Highest Qualification

Highest Qualification	Male	Female	Total	Percentage
Masters	1		1	3
Post Graduate Diploma	1		1	3
Bachelors Degree	10		10	28
Diploma	18		18	50
Certificate	5		5	14
Blank		1	1	3
Total	**35**	**1**	**36**	**100**

Chart 5.3: Highest Qualification
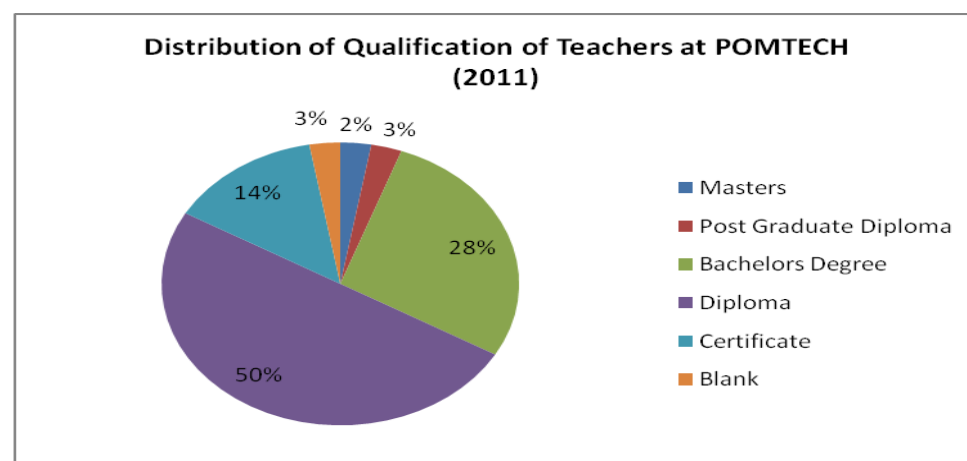
Distribution of Qualification of Teachers at POMTECH (2011)

- Masters 2%
- Post Graduate Diploma 3%
- Bachelors Degree 28%
- Diploma 50%
- Certificate 14%
- Blank 3%

Table 5.4: Percent of teachers with Teacher Training

Teacher Training Qualification	Numbers	Percentage
With Teacher Training	34	94
No Teacher Training	2	6
Total	**36**	**100**

Chart 5.4: Percent of teachers with Teacher Training
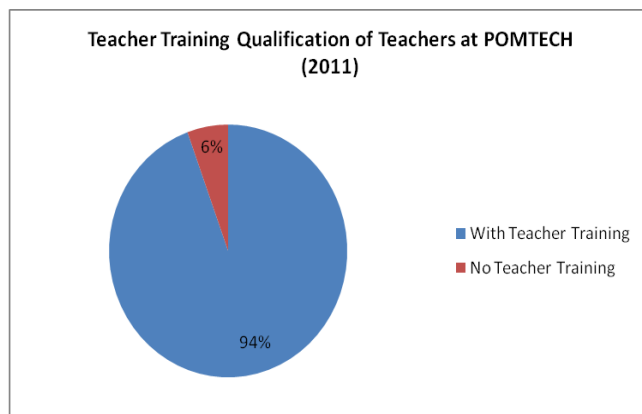
Table 5.5: Access to Internet

Access to Internet After Hours	Numbers	Percentage
Yes	9	25
No	26	72
Blank	1	3
Total	**36**	**100**

Chart 5.5: Access to Internet
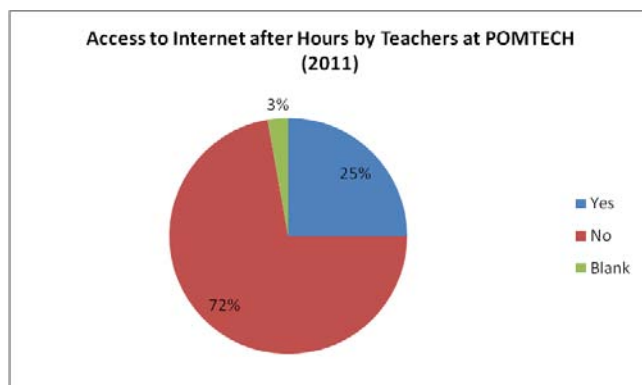
Table 5.6: Occupancy of College Houses by Teachers

College House Occupancy by Teachers	Numbers	Percentage
No	9	25
Yes	25	69
Blank	2	6
Total	**36**	**100**

Note: There are 54 houses located at POMTECH. Only 36 teachers, including the College Proncipal and Deputies responded to the questionnaire.

Chart 5.6: Occupancy of College Houses by Teachers
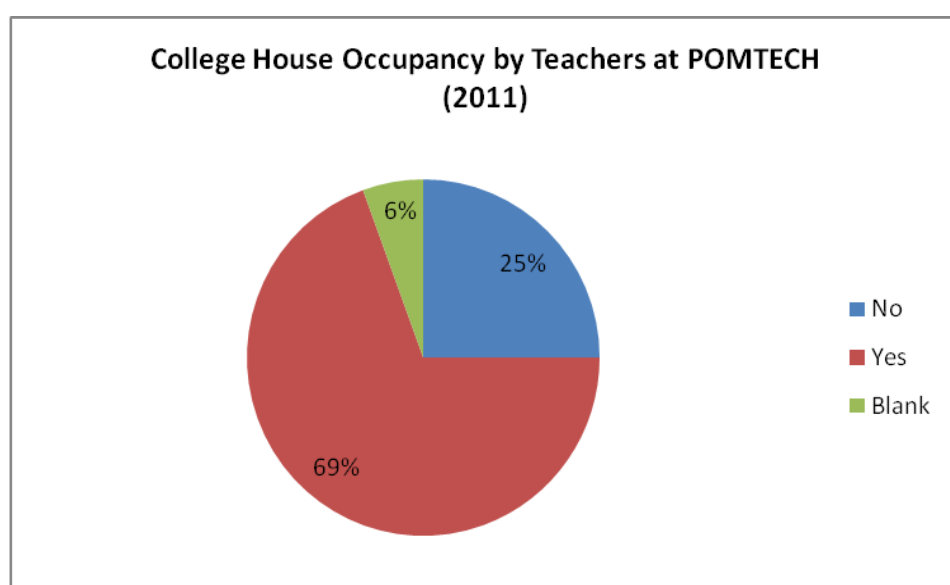
College House Occupancy by Teachers at POMTECH (2011)

Table 5.7: Teacher Assessment of Quality of Housing

Quality of Teachers' Houses	Numbers	Percentage
Excellent	0	0
Good	1	3
Fair	9	25
Poor	7	19
Did not answer	19	53
Total	**36**	**100**

Chart 5.7: Teacher Assessment of Quality of Housing

Quality of Teachers Houses POMTECH (2011)

0% 3%
25%
53%
19%

- Excellent
- Good
- Fair
- Poor
- Did not answer
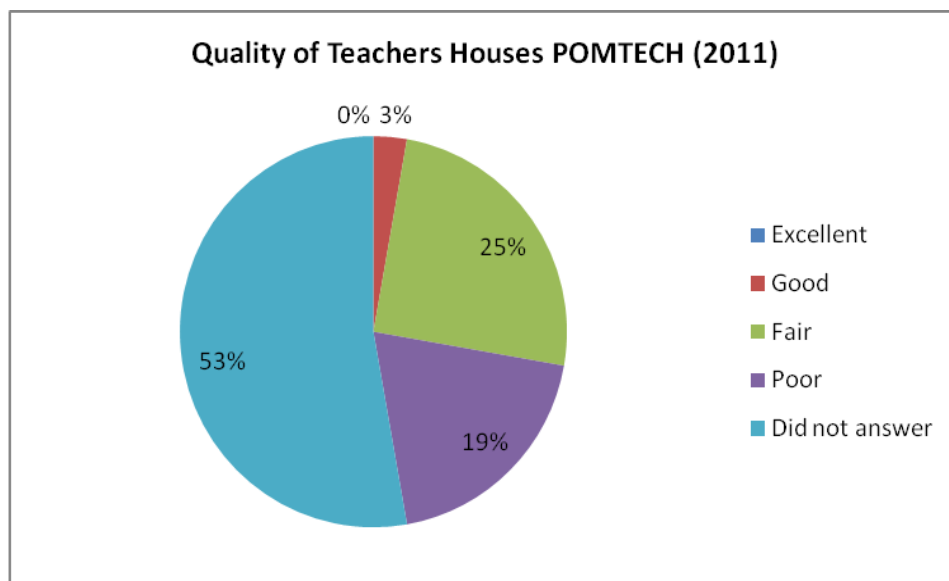
6: Learning Resources

Workshops and Equipment

At POMTECH, most training workshops were constructed post WWII and continued lack of any routine maintenance has severely reduced the efficiency for continued use.

Electrical School

The Electrical trades purpose built facility at POMTECH was constructed and equipped with funding from AusAID during the 1980s. Since then, lack of routine maintenance has converted them into training facilities in poor condition and renovation and expansion is required to satisfy increasing enrolment numbers. Continued lack of funding has meant that teaching equipment and tools have not been replaced or updated. Teaching and assessment is unable to keep pace with changing technology in the electrical/electronic industry. Unless significant funding is injected to maintain and expand the Electrical School and to update tools and equipment, the expected implementation of CBT is in jeopardy.

Mechanical School

The Mechanical trades workshops are in a similarly parlous state. Years of neglect have reduced the effectiveness of most workshops. Shared use of the F&M and MF by APTC has resulted in some upgrading and replacement of major equipment and hand tools to acceptable quality and quantity. Breakdowns are now referred to APTC for repair because no funding is available in POMTECH for repair. Classrooms have been located within workshops because of unsatisfactory maintenance on classroom buildings.

Motor Vehicle Workshops

The workshops are fragmented and not connected. The body repair workshop is reasonably fit for educational purpose, depending on number of classes required. One automotive workshop is functional, but the top automotive workshop needs replacing and is beyond its educational use. Equipment and hand tools stocks are poor in all workshops and insufficient to operate effectively. Storage capacity is inadequate and would be insufficient to store a suitable range of equipment and tools required for CBT. There is no focus on modern techniques in evidence.

Building and Allied Trades School

This school currently consists of carpentry only and delivers training in TTC and extension courses. Plumbing and Gas fitting was moved out when "Home Colleges" were set up and the buildings continue to deteriorate. Staffroom/Classroom building is unfit for use and is falling apart. Staff moved to the carpentry building, but space is cramped. An extra classroom has been set up in the open workshop.

There is insufficient storage space for timber, tools and small portable equipment, and the building floods regularly during heavy rain. Carpentry hand tools are kept in locked wooden tool boxes on the workshop floor. The adjacent fixed machinery workshop is filled with very old static cabinet making machinery and is unsuitable for use in a modern carpentry workshop. Many units do not operate because parts are no longer available, even if funds were provided. An old student built building constructed in a space between the two workshop buildings provides some additional storage, but otherwise is of no other practical use. Access doors on all buildings need replacing.

Printing School

Originally built for printing functions, this building is used to offer courses in printing and graphic design, but urgently needs updating. The print shop houses two old Heidelberg colour presses and one other press. Only one machine operates, but only because teachers have propped up a paper feed table. Parts are no longer available and this makes the printers unusable. Air-conditioning has ceased to operate and never repaired or replaced. Storage is inadequate. Upper level classrooms (one contains computing equipment used for Graphic Arts) are functional. Software is out of date and replacements have not been funded.

Library

Each department struggles to develop student notes and students have to supply their own technical text/reference books, because the Library has very limited text or reference stock for student use. There has been no continuing budget allocated for library purchases, so there is a strong dependence on donations, but this is infrequent and not reliable.

The library is currently staffed by two people. The librarian in charge of the library (trained prior to employment), also undertakes a full teaching load and attends the library only on a part time basis. Otherwise there is a library assistant who provides supervised access for students during the hours of 8am to 4pm. The library is closed during the lunch hour. There is no provision for after-hours access by students. Additional library staff has not been engaged because of budget restrictions.

Book stock is predominately old novels and these outnumber any technical book stock. There are some reference/AS/NZ standards books that were acquired for the Electrical Department and are kept under restricted use, to prevent continuing loss. Some texts are specifically identified in electrical training package modules and standards. They are vital for student development and assessment processes. Students can only access and use the reference books in the library, and because of current security arrangements, they must make advance arrangements for use.

There is no current technical/reference book stock for other departments. Although there is book stock which relates to other departments, it is well past its use by date and need replacing. There is no computer controlled stock control system in operation. Books are manually recorded in a hand written stock book.

Student notes for older courses are generally out of date and there are limited examples of any recent updating. With regard to student notes to accompany CBT implementation, this has been slow, because of the competing demand for teachers' time. The training packages which have initially been supplied by the central government comprise the industry standards and training module structure for each qualification, which does not include student handouts/notes. There appears to be no capacity for any central development of student resources.

Information Technology

There are two computer laboratories with modern desk top computers; one is devoted exclusively to the DATEC course. The other laboratory contains 21 computers which were provided with funds from AusAID, is available for general student use. There is no general after-hours access, unless by prior arrangement and there is no internet connection. Further, the Printing Department has a computer lab with 15 computers for Graphic Design. These computers were procured by a lease which represents approximately 500% mark-up on the cost of these computers and software and exemplifies previous opaque and mismanaged procurement processes.

Teachers have limited use of computers to develop learning resources, student notes, or general administrative tasks. Most departments and sections have a few desk top models, but these are old and need updating. Software is outdated and also needs updating. None has internet connected. Virus infection and removal is a real problem. No specific computer training has been arranged and teachers have either been self taught or assisted by colleagues to acquire appropriate basic skills. There are few printers or photocopiers and these are predominately domestic, not office models. Few computers or reproduction hardware are located in air conditioned spaces and are subjected to dusty, humid environments. There is a central photocopying section to produce the student handout requirements for all departments.

There is no indication of any modern teaching equipment in current use, so teaching methodology is confined to board work or paper based activities.

7: Student Activities

The main concern for the students at this college was the general state of the buildings and the classes they were attending. The students expressed disappointment on the general state of the buildings, workshops, dormitories and equipments. Overcrowding in the dorms, classrooms and workshop was experienced by the students. The ratio of students to materials and equipment was also too high according to the students.

The students that were interviewed expressed that the SRC had not yet been established. Others said the SRC does not work closely with the administration. The students that were interviewed said most of the grievances, concerns, issues and requests brought to the administration by the SRC are usually turned down by the administration.

The orientation for the students has been described by the students as non-existent. The students described it as 15 minute meeting where the Code of Conduct book was given after a welcome speech.
The students complained about the unavailability of water and the food served at the mess. They reported that a total of 4 female students are sharing a cubical that is fit for one person only.

There is a clinic that has been closed for some time. All students who are sick are usually taken to the main hospital by the school van. The students also reported that there are no first aid kits in the workshops and no safety gear, materials and equipments.

The students indicated they were determined to get a certificate. They expressed a determination in spite of the grim situation they faced.

8: Financial Resources

The College managed an operating budget 3,242,930Kina in 2010 of which 64% of the revenue was generated by School fees (tuition and boarding) and 28% from hire of facilities including rent received from APTC. 8% of revenues were sourced from grants from OHE (HECAS) and TVET division of NDOE. The College has operated on a balanced budget approach with no provision for contingency or building up reserves.
The following table provides a picture of the revenue collected at POMTECH in 2010 (from the 2010 College budget report) along with an estimate of the level of expenditure. The expenditure includes

an estimate of the teacher salary expenditure and associated costs incurred by the GoPNG through the TSC.

Table 8.1 – Revenue & Expenditure, POMTECH

POMTECH		
Revenue		
Revenue Stream	**Total Revenue (Million Kina)**	**Percentage of Revenue**
School Fees	2.07	64.11
Grants NDOE	0.16	4.83
Grants OHE	0.1	2.94
Grants Other	0	0.03
Other Income	0.91	28.09
Total Income	**3.23**	**100**
Expenditure		
Expenditure	**Total Expenditure (Million Kina)**	**Percentage of Expenditure**
Salaries ancillary staff	0.53	10
Salaries teachers	1.30	24
Contract officer entitlements	0.80	15
Operational Expenditure	1.01	19
Operational Materials	0.89	16
Office Materials & Supplies	0.09	2
Maintenance	0.19	4
Utilities	0.43	8
Transport	0.09	2
Capital Expenditure	0	0
Other	0.07	1
Total expenditure	**5.4**	**100**

9: Physical Infrastructure (assessment conducted on 01-03 March 2011)

Facilities Management

Planning: The College has a Campus Development Plan, which is two years old. It has not been followed. The Campus Development plan is not linked to any Business Plan. An AusAID-funded Business Management Adviser, Mr Craig Fergusson is now assisting the College to prepare such a Plan.

Operations: Operational management of the facilities comes under the purview of the DP Admin. There are no policies or guidelines on maintenance, or timetabling to maximise utilization. There is no maintenance manager or staff person charged with the maintenance program. The DP Admin has two apprentices and one cleaner reporting directly to him, to undertake maintenance. Physical evidence suggests that even zero-budget maintenance is not being done, e.g.: no cleaning of gutters, roofs; digging of a drain to prevent the Mess back alley from flooding.

New Project Implementation: The College has not implemented any new buildings. It has undertaken some refurbishment of dormitories, including conversion of new dormitories into IT labs. These seem to have been undertaken to a reasonable standard, and it would seem the College has the capacity to undertake refurbishment, thought they do not have the expertise in house to undertake new projects.

Finances

Capital: The College has no dedicated capital budget, and has had limited new infrastructure since the early 1980s. The library was built under the AusAID funded trade testing project in the late 1990s and in 2010 a new mess hall was built to replace the old mess hall which was demolished when the adjacent Exxon Mobil training facility was constructed.

Maintenance: There is no regular or planned maintenance budget. The College says its maintenance budget as received from the NDOE is "zero". Contact with NDOE is minimal: once a year the A/Sec comes by to deliver the budget, and explain the program for the year.

Health infrastructure

This section summarises some of the detail in sections below in so far as they relate to health.

Water Supply: The water supply is original, and has extensive leakage. The water bill is very high. There are backup tanks in place on some buildings. The College used to use bore water as well, but this is no longer functioning.

Sanitation: Sewerage from the College is going directly into the sea, untreated. Some nearby villages have reported cholera. Houses have septic tanks but these not maintained properly: lack of scheduled maintenance.

Dormitory Ablutions: The dormitory Ablution Blocks are in state of bad repair, are not clean, and have floors that are constantly wet.

Kitchen/Mess: The Kitchen/Mess is newly constructed by Exxon-Mobil, as the old one was demolished to make way for the Exxon-Mobil Construction Training Facility. The facility is in good condition. However, water chillers and student wash taps are already unserviceable, and have not been repaired. The Kitchen surrounds are subject to flooding, and no moves have been made to divert drainage.

Clinic: There is no Clinic, and no registered nurse.

Day Toilets and Drinking Water: There is no provision of toilets for day students or boarders when they are far from their dormitory. Day students are using the dormitory toilets, which overloads them, and makes cleaning more difficult to control. Drinking water points in the Mess are not working. There is drinking water in some workshops.

Exercise: There is one playing field, which is not mowed or used. Most of the playing fields have been used for the construction of the Exxon-Mobil Construction Training Facility and the APTC.

Other services

Telephone: External supply to administration. Quality drops when it rains. There is no internal switch.

Internet: There is no internet.

Power: Electrical supply is cut off periodically during load shedding. The College has a functioning backup generator, which supplies teaching facilities but not houses.

Solid Waste: NCDC uses contractors to collect solid waste from both College and housing area. College collection works well. Different contractor assigned to housing area, does not work. House garbage is being burned in drums and open pits.

Industrial Waste: Industrial waste regularly picked up by NCDC specialist contractor.

Grounds

Security: The perimeter fence is incomplete. There are gaps, corrosion: probably not securable without major investment. Nonetheless, staff view the campus as safe, due to good relationship with local landowners.

Access: Roads mostly unsealed and unmaintained. Main campus road was sealed for APTC. There are few paths, with most access to buildings over grass.

Expansion: Most open space has been taken by two new training facilities; one sports field remains, undeveloped; limited expansion space available on sloped land behind Electrical Department.

Open Space: There are no sports or exercise facilities. Originally there were three playing fields: one taken for APTC; one taken for POM CTF.

Drainage: Site is vulnerable at bottom of a valley. No drainage in many parts. The main road drains into the area around the Mess. Roads and fields flood ankle-deep during heavy rain, impeding pedestrian links.

Landscaping: Landscaping is poorly maintained.

Building Stock

Stock is mostly very old: from 1973, with some appearing to be even earlier. Many buildings are obsolete for near future use. Most have not been maintained in decades. Some have been abandoned. One has been condemned. Many of the buildings that are in use are dangerous. The campus is near the sea, exacerbating corrosion.

Core Resources: Administration is a large building, but has serious structural problems that need urgent correction. Library is too small, poorly equipped, and not available after hours.

Teaching: Workshops and classrooms are segregated functionally, rather than grouped flexible spaces. There is a poor spatial relationship between classrooms and workshops. Generally, the Electrical Department has good workshops and classrooms. The rest of the building stock is in very poor condition. Classrooms are workable in the medium term, if repaired. Workshops on the whole are not fit for purpose, but usable in the short term.

Student Accommodation: Housing and dormitories are generally in terrible condition. Male dormitories are overcrowded (2:1) as are female dormitories (3:2). The female dormitories have a small common room; the male dormitories do not. The ablution blocks are poorly built, maintained, and cleaned, and are significant health hazards.

Staff Housing: With a few exceptions, the existing staff houses are not worth investing in. Every aspect of the houses—from cladding to bathrooms to kitchen fit out to footings—needs repair. Some of the teaching and ancillary staff are living in converted classrooms in among the dormitories and classrooms.

Informal: There are a few informal settlers in one corner of the campus. There are several small trade stalls on campus, which appear to provide a useful social function.

Building Data

Note: Due to the absence of building asset or condition registers, the data recorded here are approximate, and require further inspection and investigation.

	TYPE	QTY	CONDITION		
			Fair	**Poor**	**Very Poor**
			Needs minor R&M	Needs major R&M	Not worth investing in
Core Resources					
Admin	2-storey	1	1		
Mess	1-storey	1	1		
Library	1-storey	1	1		
Teachers Room	Room	1	1		
Lecture/Assembly	-	-			
Clinic	-	-			
Store		1			1
Teaching Spaces					
Classroom Blocks	1,2-storey	12	5	5	4
Workshops	Varied	15	4		11
Student Accommodation					
Dorms, Male	2-storey	5		4	1
Ablutions, Male	1-storey	1			1
Dorms, Women	1-storey	1	1		
Staff Housing					
IMQ, L40		19			19
H65 etc		25		4	21
New		2	2		
Head Office		2	2		
Informal					

	TYPE	QTY	CONDITION		
			Fair	**Poor**	**Very Poor**
			Needs minor R&M	Needs major R&M	Not worth investing in
Markets		2	One store, some outdoor stalls		
Settlements		1	Old teacher's house + other dwellings		

10: POMTECH – Summary SWOT (strengths, weaknesses, opportunities and threats)

Strengths	Opportunities
- Location and site - Strong Electrical Dept, potential model for reform, strong leadership - IT Course with Datec - APTC partnership - Gender mix with increasing female numbers - High level of tolerance and resilience under extreme circumstances. Staff value the college mission - Quality new mess hall - POMTECH Brand (and History)	- Create an integrated learning complex with articulation and stair casing. - New Government emphasis on TVET - Positive donor environment - High student and industry demand - New adviser to assist with management systems strengthening
Weaknesses	**Threats**
- Partnership not strong between executive and GC - Partnerships not strong between executive and teachers - Leadership instability in recent years - Lack of industry involvement - Terrible infrastructure – old, poorly maintained, not fit for purpose - Ageing Teaching equipment with critical gaps for CBT - Overcrowding in workshops making CBT of limited effectiveness - Low staff morale - Ageing workforce - Silos (factions) of teachers with low level of team work - High Student/Equipment Ratios - Library facilities inadequate to meet existing or emerging requirements - Shortage of computers for staff and students, very limited internet access - Very limited student activities/pastoral support - Security - Transportation to and from Port Moresby (all stakeholders) - Week Asset Management practices and systems - Internal resistance to change	- Competition for staff and students - Inadequate funding (funding insecurity) - Dysfunctional and ineffective TVET headquarters - Slow pace of implementation of TVET reforms - Lack of systemic leadership - College not in control of its own destiny (key decision makers outside the college) - Dysfunctional and fragmented TVET sector - External recruitment process - Low wages based on the TSC system - Brand is fading

Annex 3B: Port Moresby Business College (POMBUS) Situation Report

1: Institutional profile

Port Moresby Business College (POMBUS) is located on a 2.5 hectare site in the '5 mile' precinct of Port Moresby. Until 1986 it operated as a secretarial studies college. Over the last 15 years enrolments have steadily increased and it now offers Diploma programs in Business studies as well as Tourism and Hospitality. In 2005, responding to the TVET Corporate Plan to more heavily engage with stakeholders, POMBUS established an MOU with St Mary's Lemakot Vocational Centre and also opened the Kopkop Training Centre both in Kaveing. Students in these pilot projects are predominantly Grade 10 school leavers undertaking TTC programs. These articulate into the Diploma programs offered at Port Moresby.

In 2011 the staff ceiling for teachers was 48 positions. In addition the Council engaged 17 ancillary staff. All students are day students and there are no plans for development of student accommodation. The enrolment for Semester One in 2011 was 810 students of whom 746 were undertaking courses in Port Moresby and 64 at Kaveing. 68% of students were enrolled in the Diploma courses. POMBUS enjoys a good reputation for quality in the community and has negotiated accreditation arrangements for students undertaking the business studies Diploma programs in both Accounting and Management. 94% of students are self sponsored with 6% HECAS sponsored.

2: Purpose (what is the mission or business of this college?

POMBUS is a business college for day students. It enrols students from all over Papua New Guinea with approximately 75% of students originating for Port Moresby district. The College offers courses in Business Studies and Tourism and Hospitality up to Diploma level. The College has also established two vocational and training centres in Kaveing which run pre-Diploma courses.

3: Governance, administration, management and planning

The Governing Council comprises 16 members and records indicate that attendance of Council members has been regular. The Chair and Deputy Chair advised the mission that the Council includes a core group of very active and committed members. A strong partnership was evident between the Council Chair and Principal each of whom had been in their positions of over a decade. Although the Council is intended to be primarily a policy making body for the College, council members interviewed indicated that they saw their role as making decisions on the day to day running of the College and to be actively engaged in forward planning.

The main problem with the effective operation of the Council has been the lack of representation in recent years from business stakeholders.

The administration of POMBUS comprising Principal and two Deputies displays a high level of professionalism which is acknowledged by staff, students and the Council. The Principal has been in the position for 16 years providing valued and strong leadership acknowledged by all stakeholders consulted during the mission. Although the most recent Strategic Management Plan was for the period 2006-2010, the mission was advised that a new five year plan is currently being developed aligned to *Vision 2050* and associated planning documents. Budget planning and control is managed closely by the Principal with oversight (and approval of the College budget) from the Council Finance Committee.

4: Educational Programs

The College operates with a five Department structure in Port Moresby and six teaching positions in Kaveing involved in the Technical Training Certificate.

Diploma in Accounting Department: The Diploma in Accounting course was first offered in 2005 and is now accredited with UPNG. In addition to teaching the Diploma program the five teachers service other courses. The key need expressed by the HOD and other teachers was the need to review the curriculum which has not been reviewed for over 10 years. Every effort is made to provide a one month placement for students in industry during their second year.

Diploma in Management Department: The Department (with 8 TSC positions) is responsible for the Diploma majors in both Management (63 students in Stage 3) and Office Administration (7 students in Stage 3). The key issue identified by the HOD is the need to give students more industry exposure. In addition the Department experiences difficulty in servicing all subject areas with discipline specialists. In addition as with the other programs, the increase in student numbers is putting considerable strain on facilities and classrooms. Another issue is the shortage in PNG of contextualised textbooks and learning materials.

Diploma in Computing Department: In Semester One there were 39 students undertaking a major in Computing in the Business Studies Diploma program. Preliminary planning is underway to develop dual streams: i) Information technology stream; and ii) Computing technician stream. The Department also acts as a service department in computing for other courses. The Department's (with six TSC positions) most critical need is equipment and internet access for teachers and students. With the overall growth in college enrolments the student /computer ratio has risen and the college is scheduling some classes from 3 to 5pm to increase student access to computers.

Tourism and Hospitality Department: The Diploma in Tourism and Hospitality Department commenced in 2004 with JICA providing support for the classrooms and hospitality training facilities. The Department (six staff positions within TSC approved ceiling) is offering the Diploma program (80 students in Semester One) and some short courses for industry. A training restaurant and conference centre is operational and is a small but important source of revenue for the College. With the rapid global changes occurring in T&H, the HOD reported that the key issue/constraint impacting on effective training delivery is the very outdated curriculum (not reviewed since 1997). Little progress is apparent in implementation of the NQF and NC and Diploma courses in T&H. A further issue is the difficulty in sourcing and recruiting staff with recent international experience.

TTC Department: Although the TTC course in Business studies (80 weeks over 2 years) has not been reviewed for over 20 years, the Acting HOD indicated that it still played a key role at POMBUS. Students enrolled in the program are predominantly Grade 10 school leavers and successful students are eligible for exemption of Stage One of the Diploma in Business studies. The College reported a high success rate of TTC students in the Diploma compared to the Grade 12 school leavers.

Table 4.1 – Port Moresby Business College Enrolments by Course (Semester One 2011)

Port Moresby Business College	Male	Female	Total	Level	Field
Diploma in Business Studies Stage One	150	159	309	D	B
Diploma in Business Studies Stage Three – Accounting	42	47	89	D	B
Diploma in Business Studies Stage Three – Management	30	33	63	D	B
Diploma In Business Studies Stage Three – Computing	23	26	39	D	B
Diploma in Business Studies Stage Three - Office Administration	2	5	7	D	B
Diploma in Tourism and Hospitality Stage One	11	43	54	D	H
Diploma in Tourism and Hospitality Stage Three	4	22	26	D	H
TTC Business Studies 1 Grade 10	10	35	45	T	B
TTC Business Studies 2 Grade 10			22	T	B
TTC Business Studies Grade 12	42	50	92	T	B
TTC Business Studies 1 Grade 10 Kaveing	15	13	28	T	B
TTC Business Studies 2 Grade 10 Kaveing	19	17	36	T	B
Total number of Students	**348**	**462**	**810**		
Percentage	**43**	**57**			

Table 4.2 – Level & Field Legend

CODES FOR LEVELS	CODES FOR FIELDS
D=Diploma	B=Business Studies
T=TTC	H=Tourism & Hospitality
E=Extension	A=Applied Science
N=National Certificate (NC)	T=Trade Technology
C= Council approved courses	

Table 4.3: Enrolments by Level & Field

	Diploma	TTC	NC	Extension	Council Approved	Total
Totals	587	223				810
Percentage	72.5	27.5				100
	Business Studies	**Tourism & Hospitality**	**Applied Science**	**Trade Technology**		**Total**
Totals	730	80				810
Percentage	90.1	9.9				100

5: Teaching and ancillary staff

In March 2011 POMBUS had 35 teaching staff (including Principal and Deputies) at Port Moresby and 3 staff at Kaveing making a total of 38 positions. POMBUS has the highest percentage of Contract

staff of all the Colleges with 12 positions (35%) of the Port Moresby component of the staff ceiling filled with Contract staff. Most of these positions are section heads and other senior staff. The Contract staff have higher levels of academic qualifications than the PNG nationals. Overall 88% of academic staff at Port Moresby hold a Bachelors or Masters degree. 42% of the teaching staff are female, the second highest percentage of all of the Colleges. The teaching staff is ageing with 29% aged 50 or more and 35% aged 41-50. 60% of teachers had a teaching qualification.

A key issue at POMBUS is its difficulty in recruiting and retaining appropriately qualified PNG nationals to positions in areas such as computing and accounting where there is high competing industry demand. In this context the management reported that the relatively high numbers of Contract staff provided an important measure of stability to the overall staffing profile.

Student evaluation of teachers has been operating effectively since 2009.

Many of the expatriate staff have significant industry experience. However most of this experience occurred more than 10 years ago and staff indicated that there is a major need for all staff to have exposure to current practices in business and tourism and hospitality.

The Council engaged 16 ancillary staff. There is currently no staff development plan for the College.

The following tables and charts depicting the teacher profile at POMBUS are based on responses to questionnaires collected during the college visit. 31 teachers (including Principal and Deputies) responded. Some teachers did not respond to all questions.

Table 5.1: Age Distribution of Teaching Staff

Age Range	Numbers	Percentage
20 – 30	4	13
31 - 40	7	23
41 – 50	11	35
51+	9	29
Totals	**31**	**100**

Chart 5.1: Age Distribution of Teaching Staff
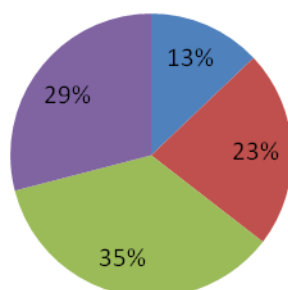
Table 5.2: Gender Distribution

Gender	Numbers	Percentage
Female	13	42
Male	18	58
Total	**31**	**100**

Chart 5.2: Gender Distribution
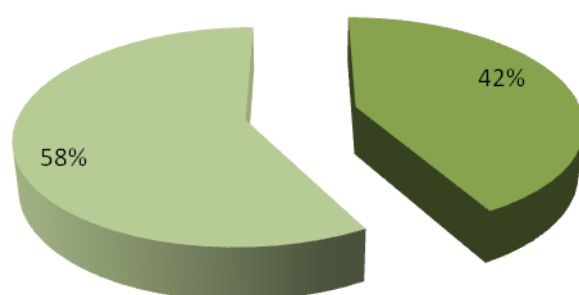
Table 5.3: Highest Qualification

Highest Qualification	Male	Female	Total	Percentage
Masters	1		1	6
Post Graduate Diploma			0	6
Bachelors Degree	9	9	18	44
Diploma	7	4	11	44
Certificate	1		0	0
Total	**18**	**13**	**31**	**100**
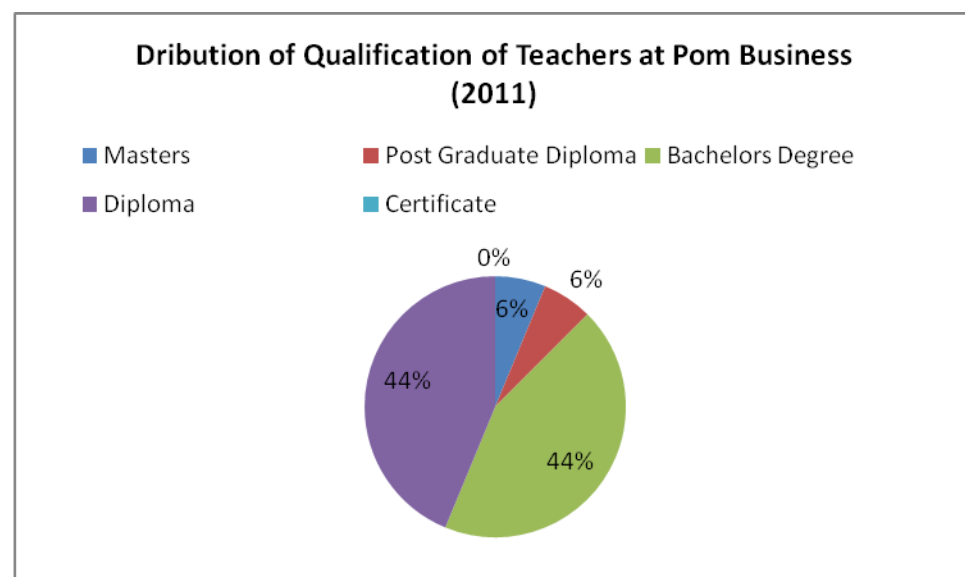
Dribution of Qualification of Teachers at Pom Business (2011)

Table 5.4: Percent of teachers with Teacher Training

Teacher Training Qualification	Numbers	Percentage
With Teacher Training	18	56
No Teacher Training	11	31
Did not answer	2	13
Total	**31**	**100**

Chart 5.4: Percent of teachers with Teacher Training
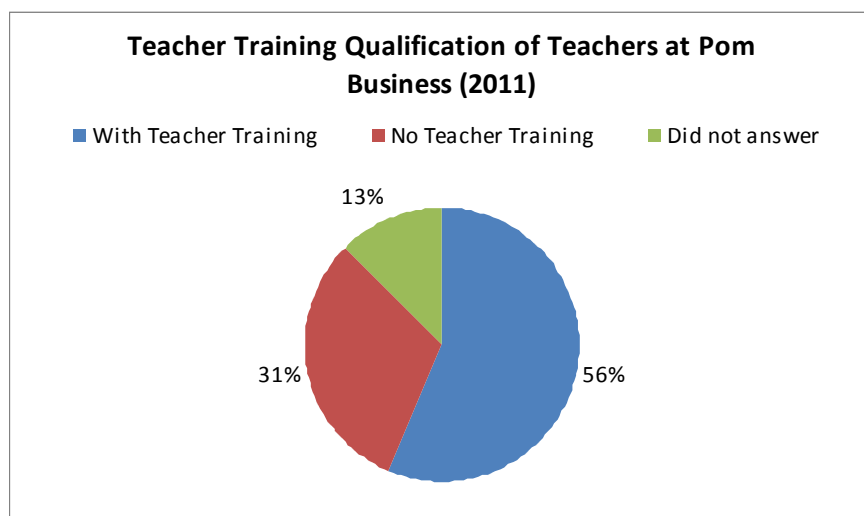
Teacher Training Qualification of Teachers at Pom Business (2011)

■ With Teacher Training ■ No Teacher Training ■ Did not answer

13%

31%   56%

Table 5.5: Access to Internet

Access to Internet After Hours	Numbers	Percentage
Access to Internet	14	45
No Access to Internet	17	55
Total	**31**	**100**

Chart 5: Access to Internet
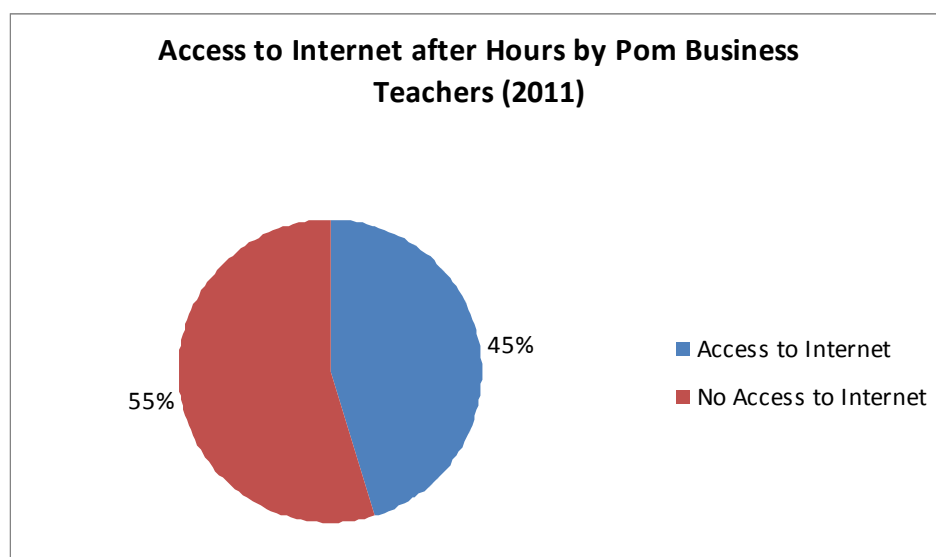
Access to Internet after Hours by Pom Business Teachers (2011)

45%

55%

■ Access to Internet

■ No Access to Internet

Table 5.6: Occupancy of College Houses by Teachers

College House Occupancy by Teachers	Numbers	Percentage
Do not live in College House	16	52
Live in College House	15	48
Total	**31**	**100**

6: Learning Resources

Students, teachers and management identified the lack of recent and relevant teaching and learning resources as a key factor impacting on quality of delivery. Pedagogy is very teacher centred with students spending long periods of time copying teacher notes from whiteboards. Students receive very little print material.

The Tourism and Hospitality Department has a training kitchen, restaurant and small centre for workshops which provides a workable setting for authentic learning. The facility was funded by JICA.

Teachers at POMBUS are proactive in curriculum development. However there is a strong perception amongst the staff and management that curriculum review and reform has stalled in the areas of business studies and tourism and hospitality. Boards of Studies have not been convened since 2007.

Library

A library facility has been operating in two converted classrooms for a number of years. Because of the pressures of enrolment growth a decision was made by the college to convert the library space back to classrooms and relocate the library into the student pavilion. At the time of the mission the library resources were being boxed up and as a result the library facility itself was in a state of transition. The College librarian advised that the library book stock comprised approximately 1000 lending books with an additional reference collection of 200 books. Teachers, the management and students all confirmed that the collection was very outdated and that significant additions to the collection were needed. The library has been open from 8am to 3:30pm and closed on weekends. At the time of the consultations on the draft Report (June 2011) the renovation work on the new library was almost complete.

Information technology

There are four computer laboratories available for student use each with 30 computers (120 computers in total) which were provided by AusAID in 2010 under the ECBP. The facility for the Computer laboratories was funded by the Korean Government. Student access to the computer laboratories is restricted to their classroom schedule. There is no internet access currently available for students and internet access for staff is restricted to the College administration. All teaching staff have access to a desktop computer. These are not networked and the mission was advised that virus protection is a major problem.

A strong need exists to engage a College employed computer technician.

7: Student Activities

Resources for student activities and welfare are very limited at POMBUS. Although it is a College for day students only, there is no student canteen, counselling service and limited recreation activities. The pavilion is being converted temporarily into a library while a new administration and resource centre building is being constructed. There is no clearly designated counsellor for the college. But the home room teacher (class patron) usually provides some sort of guidance and time for the students to express their collective concerns.

The college does not have a proper area for sports like rugby, soccer, basketball court or volleyball. Students are involved in sports and recreations outside of the college. The students that were interviewed expressed that the SRC had not as yet been established. Others said the SRC does not work closely with the administration.

The student orientation was described by the students as good and this involved registering and assignment of the timetable and classes. The study team visited the college at the time of orientation and observation showed that the registration of the students was very long and frustrating. There is no school canteen but there is a sprawling local market outside the gate where students can get a snack. Students stated that they pay a lot of money for food purchased outside and that the college should serve lunch for them.

Some teachers also confirmed that many students who are staying with extended family or friends are attending class without proper breakfast and lunch. This has also caused students to miss classes. Another reason for missing class identified by the teachers was that students are usually attending PNG Traditional practices like funeral and compensation payments.

The students were pleased that the college has a pathway to university and that the college has a good brand in the job markets.

8: Financial Resources

The rapid growth in student enrolments over the last five years has impacted positively on College revenue and expenditure with Revenue collected in 2010 comprising K2,339,537 and expenditure K2,391,955. Major cost pressures have been experienced in utilities, operational expenditure and routine and substantial maintenance. 91% of revenue is sourced from school fees with just under 9% from grants from TVET and OHE. Approximately K50, 000 was raised from Catering Services in the Tourism and Hospitality Department. The College has reasonable cash reserves deposited in an income bearing deposit.

The following table provides a picture of the revenue collected at POMBUS in 2010 (from the 2010 College budget report) along with an estimate of the level of expenditure. The expenditure includes an estimate of the teacher salary expenditure and associated costs incurred by the GoPNG through the TSC.

Table 8.1 - Revenue & Expenditure, Port Moresby Business College

Port Moresby Business College		
Revenue		
Revenue Stream	**Total Revenue (Million Kina)**	**Percentage of Revenue**
School Fees	2.13	91
Grants NDOE	0.06	2.66
Grants OHE	0.02	0.9
Grants Other	0.08	3.3
Other Income	0.05	2.14
Total Income	**2.34**	**100**
Expenditure		
Expenditure	**Total Expenditure (Million Kina)**	**Percentage of Expenditure**
Salaries ancillary staff	0.18	4
Salaries teachers	1.05	23
Contract officer entitlements	1.26	27
Operational Expenditure	0.7	15
Operational Materials	0.1	2
Office Materials & Supplies	0.44	9
Maintenance	0.34	7
Utilities	0.25	5
Transport	0.05	1
Capital Expenditure	0	0
Other	0.28	6
Total	**4.65**	**100**

9: Physical Infrastructure (assessment conducted on 05 March 2011)

Facilities Management

Planning: The College has a plan to build a new Administration building, but otherwise there is no documented plan for the physical development of the campus.

Operations: Operational management of the facilities comes under the purview of the DP Administration, though the Principal also takes a very active role. Most of the buildings are in good condition. Maintenance and improvements are on a responsive basis, though there is ongoing monitoring of key infrastructure such as the backup generator.

The College excels in two areas: (a) engaging staff in volunteering for maintenance and operations, and (b) multi-skilled use of paid staff. As an example of the former, teaching staff agreed to paint their own houses, and to paint classrooms, on their own time, using paint supplied by the College. As an example of the latter, the security guards also maintain the gardens.

The College adopts a staged approach to the use of contactors: its first port of call for any work is College staff. If staff are not able to do the work because of the scale, or the skills required, the

College calls upon individual skilled tradespersons whom it has used earlier. Only if the work is beyond individual tradespersons, will it call upon corporates or contractors.

New Project Implementation: The College has not implemented any major works. However, in preparing for its new Administration block, it engaged a local architect to prepare designs.

Finances

Capital: The College has no dedicated capital budget. As with most colleges, it accumulates funds from its operating budget in order to undertake small infrastructure initiatives, listed above. The College is waiting for K1m from the NDOE to undertake its new administration block.

Maintenance: Council approves maintenance on an ad hoc basis. However, funds seem to flow freely and appropriately, judging from the state of maintenance of buildings and grounds.

Health infrastructure

This section summarises some of the detail in sections below in so far as they relate to health.

Water Supply: The College depends on town water, which is adequate.

Sanitation: The College sanitation depends on a system of septic tanks. These are well managed, and present no problems.

Dorm Ablutions: The College is unique in the public TVET college system in having no onsite student accommodation. This makes it much easier to manage and maintain. Although onsite student accommodation has a long history in PNG secondary and tertiary education, the quality of this site is good argument for investigating the option of developing relationships with offsite accommodation suppliers to develop affordable and appropriate student accommodation.

Kitchen/Mess: Similarly, there is no Kitchen/Mess.

Clinic: There is no clinic, and no registered nurse.

Day Toilets and Drinking Water: There is one set of day toilets, in good condition.

Exercise: There are extensive grounds, with room for informal exercise. However, since this is a day college only, there is arguably limited need for such facilities.

Other services

Telephone: There is an external line to Administration, and an internal switch connects to all departments.

Internet: The College has Internet access only to two offices in the Administration block.

Power: Supply is adequate, and the College has a functioning backup generator.

Solid Waste: Solid waste is collected by the NCDC.

Industrial Waste: There are no activities generating industrial waste.

Grounds

Security: The perimeter fence is secure to the front of the college (facing the road) but only chain link to the back.

Access: The campus is well located on a main trunk road. Internal vehicle circulation and paths are in good condition.

Expansion: The campus has a large area of unused land. A survey was not available. With good planning this land could accommodate substantial expansion.

Open Space: The campus has extensive, well-cared for open space.

Drainage: The site is well-drained on the whole, with no flooding.

Landscaping: Landscaping is well maintained.

Building Stock
The building stock is generally in good condition. As a Business College, the buildings are generally classrooms. There are no trade workshops.

Core Resources: Administration is adequate. The library was recently closed down and the books moved into storage, to allow for the conversion of the space back to its original use: classrooms. This is typical of the way in which in all campuses, over-enrolment is leading to the ad hoc conversion of specialist teaching or learning space into classrooms or staff accommodation.

Teaching: Classrooms are well grouped around courtyards, with efficient circulation between them. They are two-story buildings, which make good use of limited land area. The College has started a Tourism and Hospitality course, which is poorly served by an old motel unit. However, there is a more modern kitchen dining area, which is also part of the T&H course. The College plans to move this near the road, to make it accessible to the public.

Student Accommodation: None.

Staff Housing: In general, the staff houses are in good condition, except two, which require extensive renovation. These two were later additions, AusAID-funded, and reportedly were not adequately supervised during construction, with the result that poor quality materials were used for decking and in bathrooms. These have now rotted out.

Informal: There are no informal structures on campus.

Building Data
Note: Due to the absence of building asset or condition registers, the data recorded here are approximate, and require further inspection and investigation.

	TYPE	QTY	CONDITION		
			Fair	**Poor**	**Very Poor**
			Needs minor R&M	Needs major R&M	Not worth investing in
Core Resources					
Admin	2-storey	1	1		
Library	-	-	-		

	TYPE	QTY	CONDITION		
			Fair	**Poor**	**Very Poor**
			Needs minor R&M	Needs major R&M	Not worth investing in
Teachers Room	Room	1	1		
Clinic	-	-			
Day Toilet	Building	1	1		
Canteen	Building	1	1		
Bulk Store	Building	1		1	
Teaching Spaces					
Classrooms	Buildings	6	6		
Motel	Building	1		1	
Staff Housing					
Units	2-bed	4	4		
Houses	Med Cov	9	7	2	

10: Port Moresby Business College – Summary SWOT (strengths, weaknesses, opportunities and threats)

Strengths	Opportunities
- Buildings in good order, well maintained using local resources - Grounds very well maintained - Council and executive working in partnership - Strong stable leadership at executive and Council levels - Professionalism of staff acknowledged by students - Contract staff provide stability and underpin quality - Strong strategic vision - Strong brand – reputation for quality - Partnerships – UPNG and professional associations - High demand for courses - Dedicated staff with high levels of teamwork - Staff value the college mission	- Site can accommodate increased usage with good physical planning - New Government emphasis on TVET - Positive donor environment - High student and industry demand e.g. tourism and hospitality, diversification of course mix
Weaknesses	**Threats**
- No master plan for physical developments - No current strategic plan - Lack of industry involvement on Council - Working with outdated curriculum - Problems in retaining qualified PNG national staff - Limited opportunities for staff to update skills with OJT - Overcrowded curriculum - Overcrowding in classrooms and library - Staff office accommodation - Lack of IT infrastructure - Library facilities inadequate to meet existing or emerging requirements - Lack of student resources - Student amenities inadequate - High Student/Equipment Ratios - Very limited internet access - Very limited student activities/pastoral support - Issues of poverty affecting ability to maximize learning	- Highly competitive environment with many private providers - High reliance on expatriate contract staff for Departmental leadership – unsustainable - Competition for staff and students - Inadequate funding (funding insecurity) - Government policy to phase out Contract officer employment in TVET - Dysfunctional and ineffective TVET headquarters - Overcrowding may impact negatively thus reducing College reputation in market - Slow pace of implementation of TVET reforms - Lack of systemic leadership - Dysfunctional and fragmented TVET sector - External recruitment process - Low wages and poor conditions based on the TSC system - Location presents security problems in terms of staff and student travel - Economic environment impacting on ability to pay fees

Annex 3C: Mt Hagen Technical College Situation Report

1: Institutional profile

Mt Hagen Technical College (MHTC) was established in 1973 and is located on a 27 hectare site 3 kilometres from Mt Hagen town centre. The College lost a wide range of programs under the home college policy introduced in 1996 including electrical, carpentry, welding, fitting and machining, bricklaying and business studies. The college currently offers courses at sub Diploma level in Automotive, Carpentry Construction, Diesel Fitting, Auto-Electrical, Motor Vehicle Mechanic and Business studies. The GOPNG has announced that MHTC will become the Highlands Region Polytechnic in 2014.

In 2011 the College had an approved staff ceiling of 32 teaching staff positions and 24 ancillary staff. From the establishment of 32 TSC positions, in March 2011 there were two vacancies and two staff on study leave. In semester 1 the College enrolled 371 students of which 36 were enrolled in Apprenticeship extension programs. Of total enrolment 87% (324) of students were male. The majority (60%) of students were self sponsored with 27% OHE sponsored and 13% company sponsored. 73% of students were boarders with 27% day students.

2: Purpose (what is the mission or business of this college?)

The College is currently a trade college offering apprenticeship training and TTC, NC and local developed courses for Grade 10 and Grade 12 school leavers. The College Council is working on a two year lead time (2013 onwards) to develop a range of Diploma programs. The Polytechnic decision in respect of Mt Hagen is a major challenge for the College. To meet community expectations the College will need to diversify and increase the depth of courses. This has major implications for infrastructure and human resource development.

3: Governance, administration, management and planning

Governance: The Governing Council comprises 12 members and records indicate that attendance of Council members has been regular. The majority (10 out of 12 positions) of Council members have joined the Council since 2008. The sub-committees are active particularly the Finance sub-Committee. The Chair has held the position for over 30 years. A key issue/concern for the Council has been the lack of industry membership and involvement over the last five years. The Council Chair and Principal reported that Council decisions are often not being properly minuted. Secretaries of Councils need some structured training in this area.

Administration and management: The management structure comprises the Principal (since 2010) and one Deputy position. An additional Deputy position is included in the Polytechnic plan as a result of the increase in enrolment projected.

Planning: The College has developed a very ambitious ten year plan for the full implementation of the Polytechnic structure. The Plan involves increasing the number of Departments from 2 to 9 and increasing staffing each year by 10 positions to 122 by 2020. In terms of programs, the Plan is based on introducing 11 new CAT courses, 27 new NC courses and 16 new diploma courses. With these additional courses the enrolment is projected to increase to 1635 in 2015. The Polytechnic proposal is being coordinated by one of the Section heads and consultations conducted during the mission confirmed a positive sense of empowerment and ownership with the planning process.

4: Educational Programs

Training is delivered by two Departments. I)Motor Vehicle Mechanic, which combines four sections- Motor Vehicle Mechanic; Automotive Electrical, General Studies and Business Studies and ii) Diesel Heavy Equipment Fitting, which also combines four sections – Diesel Fitting; Heavy Equipment Fitting; Carpentry and Construction and Extension Studies in MVM and DHEF.

Courses offered include a range of College Council and nationally recognised courses which includes Certificate in Applied Technology (CAT 1); Technical Training Certificates (TTC 1 & 2); Extension Programs (Apprenticeship Blocks 1, 2 & 3) and National Certificate (NC1). **Mt Hagen Technical College is the only public provider to offer apprenticeship training in Heavy Diesel and Motor Mechanic.** The concept of the CAT courses was developed in 2003 by staff as a response to the phasing out of the PETT program and the introduction of the TTC by TVET division for Grade 12 school leavers. These developments created a gap in course provision for Grade 10 school leavers. The program of CAT courses, supported by the College council became operational in 2005/06 and has been an important source of revenue used to help fund needed infrastructure projects.

Motor Vehicle Mechanic Department: Responding to TVET directives to commence CBT delivery in 2008, a new MVH NC1 program was commenced this year. Subject to completion of learning materials, the college expects to commence NC1 HED and NC2 MVH next year. The DHEF training package is not yet developed. Impediments to implementation are expected because:

- Only one teacher actively involved in developing learning resources
- Inadequate staff development to prepare teachers for CBT delivery and assessment
- Lack of systemic support to facilitate implementation
- No procedure for teaching staff to undertake unpaid (salary continues) work attachments to upgrade knowledge and skills
- No reduction in teaching loads to allow the development of new learning materials
- Insufficient computers (quality or quantity) including access to internet, and other robust office equipment are available for teaching staff to develop necessary paper based learning resources
- No budget to purchase the range of training equipment, tools and materials needed or identified in training packages
- No recognition or funding for suitable texts/reference materials

Discussions with teachers and students revealed that the training both delivered and received, does not contain the range or rigour that is necessary for successful outcomes, either in CBT or existing courses. Discussions with a prominent employer of HED apprentices spoke of some teachers not attending classes and apprentices being engaged on manual labour tasks around the college and not receiving much appropriate training, yet at the end of the block still receiving a satisfactory result.

Business Studies Section:

MHTC started running business studies in 2009. These courses were initially the Council approved courses – CAT 1. In 2011 MHTC is teaching the NC 1 Course in Office Administration to 27 students. The Department is also servicing other Departments in Computing, Communication skills and HIV/AIDS. The HIV/AIDS program involves 2 hours of instruction each week for each Year One class.

The following table provides a picture of the revenue collected at Mt Hagen TC in 2010 (from the 2010 College budget report) along with an estimate of the level of expenditure. The expenditure includes an estimate of the teacher salary expenditure and associated costs incurred by the GoPNG through the TSC.

Table 4.1 – Mt Hagen Technical College Enrolments by Course

Mt Hagen Technical College	Male	Female	Total	Level	Field
TTC 1 Mechanical	77	5	82	T	T
TTC 2 Mechanical	49	2	51	T	T
National Certificate 1 Office administration	12	15	27	N	B
National Certificate 1 Motor Vehicle Mechanic	64	4	68	N	T
Extension HEF	32	4	36	E	T
Certificate in Applied Technology (CAT)1 - Business Studies	10	15	25	C	B
Certificate in Applied Technology (CAT)1 - Carpentry Construction	8	0	8	C	T
Certificate in Applied Technology (CAT) 2 - Diesel fitting	41	0	41	C	T
Certificate in Applied Technology (CAT) 2 - Auto Electrical	17	2	19	C	T
Certificate in Applied Technology (CAT) 2 - Motor Vehicle Mechanic	14	0	14	C	T
Total number of Students	**324**	**47**	**371**		
Percentage	**87.5**	**12.5**	**100**		

Table 4.2 – Level & Field Legend

CODES FOR LEVELS
D=Diploma
T=TTC
E=Extension
N=National Certificate (NC)
C= Council approved courses
CODES FOR FIELDS
B=Business Studies
H=Tourism & Hospitality
A=Applied Science
T=Trade Technology

Table 4.3: Enrolments by Level & Field

	Diploma	TTC	NC	Extension	Council Approved	Total
Totals	0	133	95	36	107	371
Percentage		35.9	25.6	9.7	25.8	100
	Business Studies	Tourism & Hospitality	Applied Science	Trade Technology		Total
Totals	52			319		371
Percentage	14			86		100

5: Academic and non-academic staff

All of the staff are PNG nationals and 5 (16%) are female.

Staff turnover is increasing with five staff lost in recent years to LNG and associated developments.

Staff morale was reported by teachers and management to be high with a high level of teamwork and a cooperative environment in terms of relationship with management. The teaching force is ageing at Hagen with 78% of teachers aged 40 years or more. Approx. 80% of teachers have a teacher qualification with only 20% of teachers holding a Bachelors degree or post graduate qualification.

The following tables and charts depicting the teacher profile at Mt Hagen TC are based on responses to questionnaires collected during the college visit. 21 teachers (including Principal and Deputies) responded. Not all teachers responded to each question.

Table 5.1: Age Distribution of Teaching Staff

Age Range	Numbers	Percentage
20 – 30	1	5
31 - 40	4	19
41 – 50	13	62
51+	3	14
Totals	**21**	**100**

Chart 5.1: Age Distribution of Teaching Staff
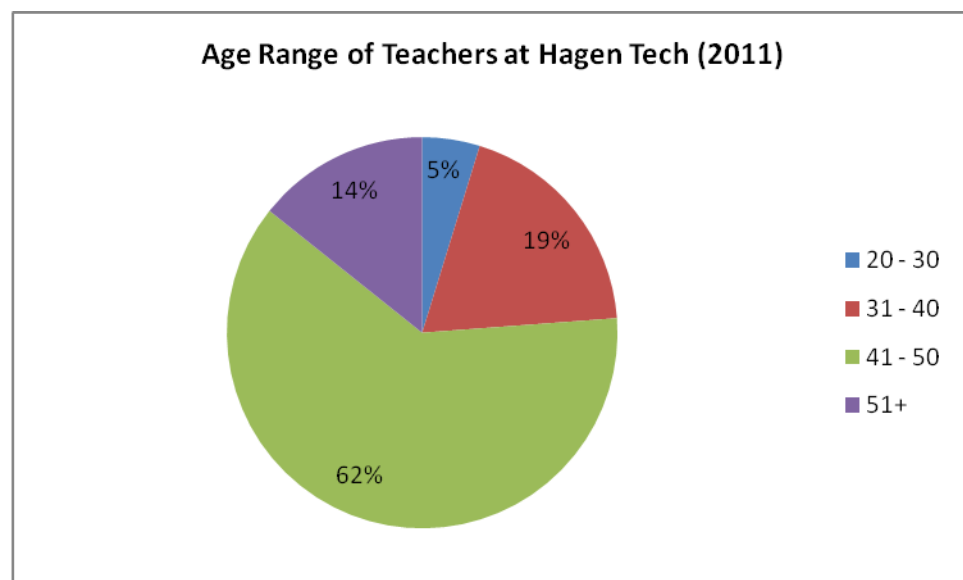
Table 5.2: Gender Distribution

Gender	Numbers	Percentage
Female	5	24
Male	16	76
Total	**21**	**100**

Chart 5.2: Gender Distribution
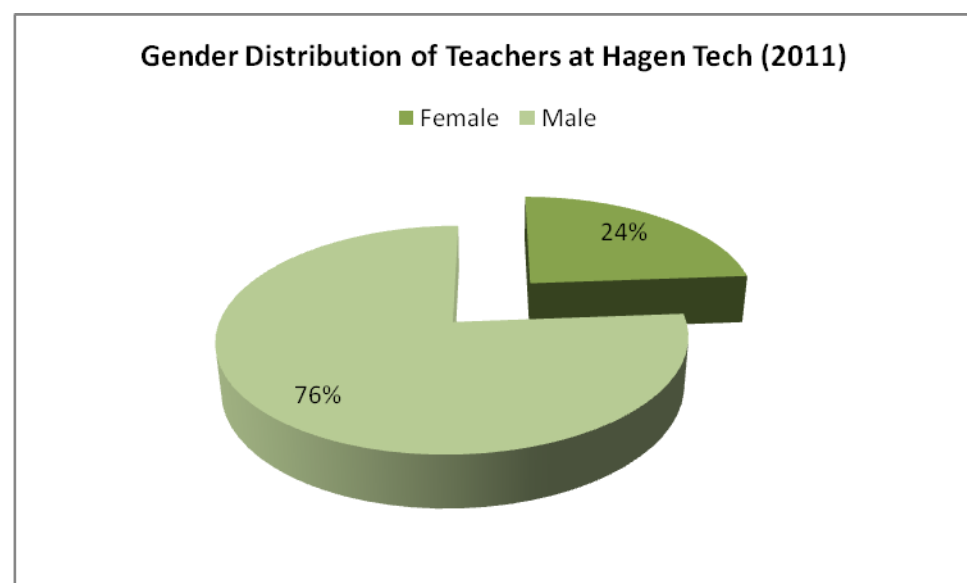
Gender Distribution of Teachers at Hagen Tech (2011)
■ Female ■ Male
24%
76%

Table 5.3: Highest Qualification

Highest Qualification	Male	Female	Total	Percentage
Masters			0	0
Post Graduate Diploma	1		1	5
Bachelors Degree	3		3	14
Diploma	10	4	14	67
Certificate	1	1	2	10
Did not answer			1	5
Total	**16**	**5**	**21**	**100**

Table 5.3: Highest Qualification
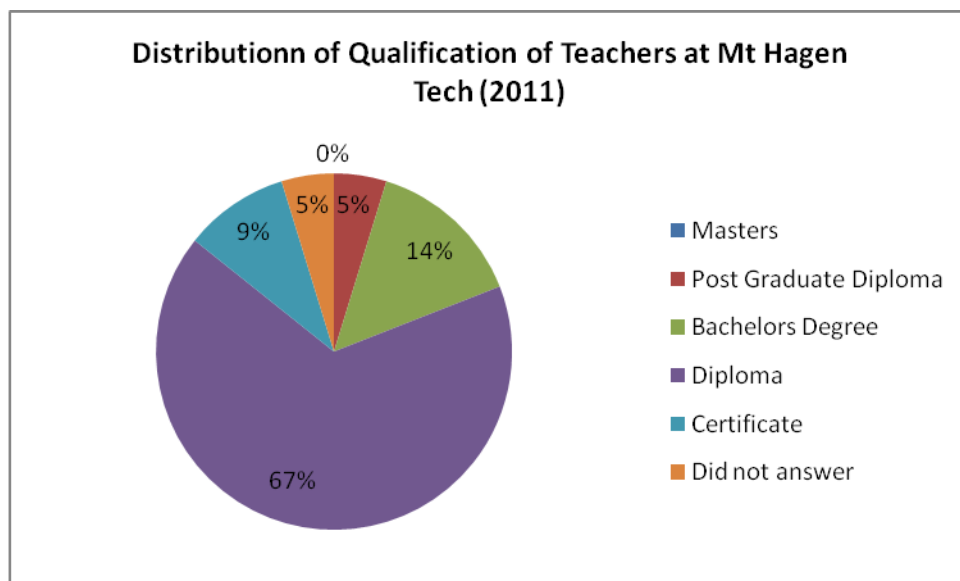
Distributionn of Qualification of Teachers at Mt Hagen Tech (2011)

- Masters
- Post Graduate Diploma
- Bachelors Degree
- Diploma
- Certificate
- Did not answer

Table 5.4: Percent of teachers with Teacher Training

Teacher Training Qualification	Numbers	Percentage
With Teacher Training	17	81
No Teacher Training	3	14
Did not answer	1	5
Total	**21**	**100**

Chart 5.4: Percent of teachers with Teacher Training
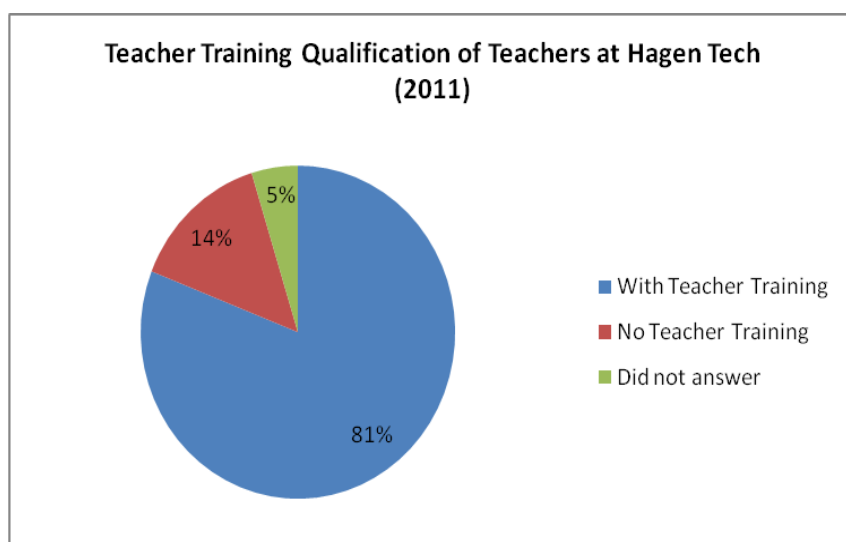
Teacher Training Qualification of Teachers at Hagen Tech (2011)

- With Teacher Training
- No Teacher Training
- Did not answer

Table 5.5: Access to Internet

Access to Internet After Hours	Numbers	Percentage
Access to Internet	5	24
No Access to Internet	16	76
Total	**21**	**100**

Chart 5.5: Access to Internet
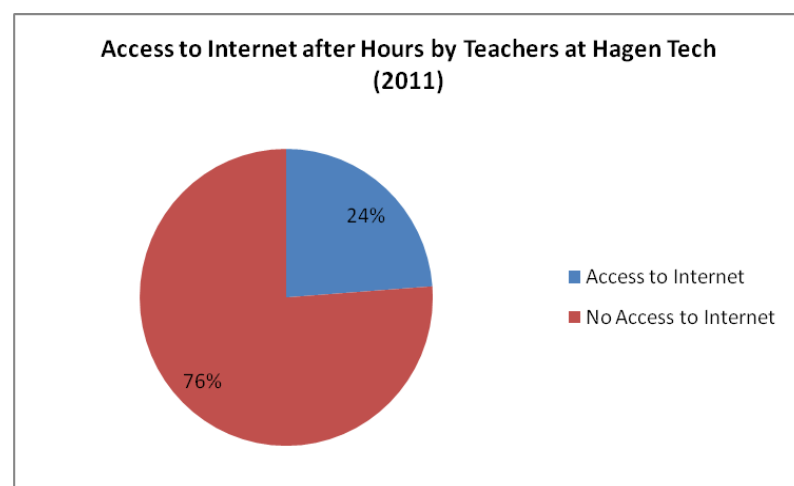
Access to Internet after Hours by Teachers at Hagen Tech (2011)

Table 5.6: Occupancy of College Houses by Teachers

College House Occupancy by Teachers	Numbers	Percentage
Do not live in College House	20	95
Live in College House	1	5
Total	**21**	**100**

Note: There are 30 houses at Mt Hagen. Only 21 teachers, including the College administration completed the questionnaire. The Principal advised that all College houses are occupied by College staff.

Chart 5.6: Occupancy of College Houses by Teachers
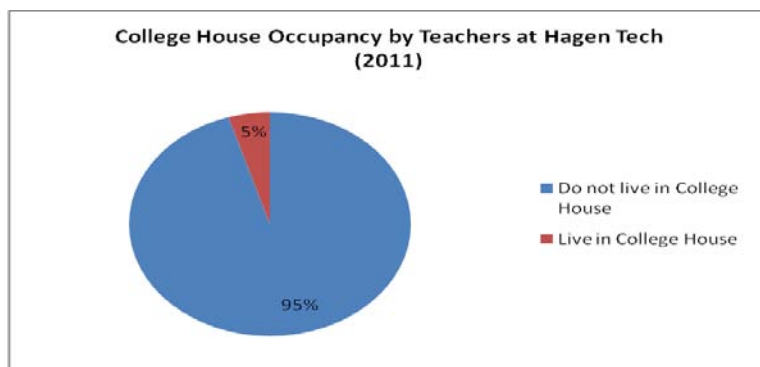
College House Occupancy by Teachers at Hagen Tech (2011)

- 5% Live in College House
- 95% Do not live in College House

Table 5.7: Teacher Assessment of Quality of Housing

Quality of Teachers' Houses	Numbers	Percentage
Excellent	0	0
Good	4	19
Fair	11	52
Poor	3	14
Did not answer	3	14
Total	**21**	**100**

Chart 5.7: Teacher Assessment of Quality of Housing

Quality of Hagen Tech Teachers' Houses (2011)

- Excellent
- Good
- Fair
- Poor
- Did not answer

0%
14%
19%
14%
53%
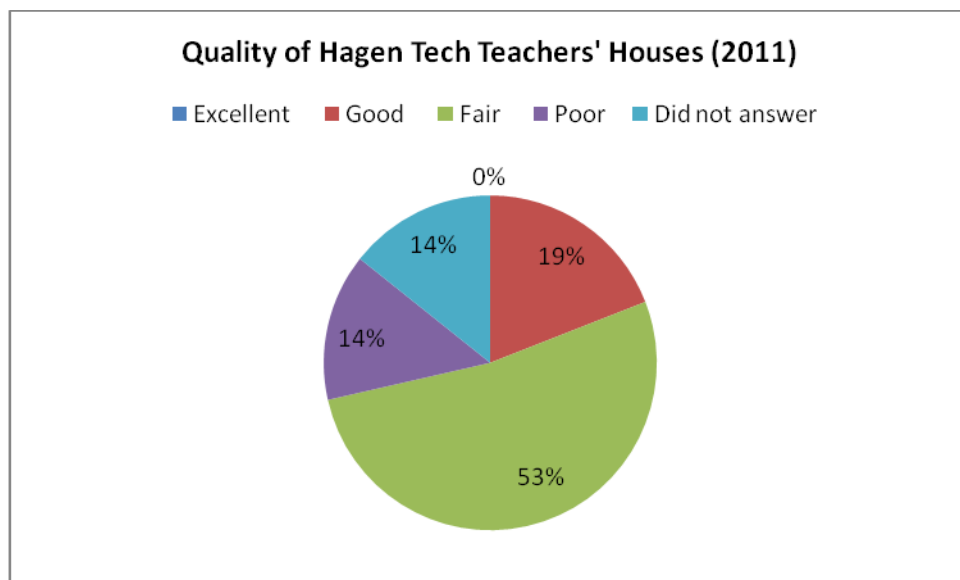
6: Learning Resources

Workshops and Equipment

Motor Vehicle

There are several training workshops for motor vehicles but none have suitable area, appropriate specialised equipment or sufficient hand tools for all students. There has been no attempt to match equipment and hand tools with the lists required in the NC training packages. There is insufficient storage capacity and poor control of tools. A lot of time is lost in checking existing tools out and in again at the end of class. There are no current vehicle techniques or practices being addressed, and no modern vehicles or components in evidence. A single compressor is available for pumping up tyres, but there is no reticulated air supply. There are no separate parts washing area or waste products storage which would comply with current environmental requirements. There is no electronic diagnosis testing equipment with which engine operation can be analysed. There are no pollution control measures being used for exhaust emissions. Safety procedures are not being suitably implemented.

DHEF

There are several DHEF training workshops dispersed along the western side of the driveway and all in the same generally poor condition. There is insufficient educational equipment, hand and specialised tools and equipment to address the requirements of an effective HED service workshop. A teacher identified one component which they could not dismantle because the college did not possess the necessary special tool. Students had to visualise the operation from a teacher explanation.

Metal Fabrication Workshop

Insufficient gas welding equipment and metal arc welding machines are available for use. No welding bays with flash curtains exist and no smoke removal system is installed.

Auto Electrical Workshop

Jointly used by MVW and DHEF students, but only light vehicle systems are used. There are no modern electrical/electronic training undertaken and there is only one teacher remaining, two have resigned. Major and minor equipment is inadequate and there are insufficient hand tools for student use. Teachers have constructed three light vehicle electrical simulators out of timber and metal and there are no HED systems in use.

Library

These can be in the form of published works or paper based resources developed by teaching staff which are supplied to students or the college library. In Mt Hagen each department undertakes the development of student notes and where required, students supply their own technical text/reference books, because the Library has very limited text or reference stock for student use.

A library facility was established about 9 years ago, but there are insufficient suitable or required text/reference books. Library hours are 7.45am to 4.00pm (closed for lunch) and sometimes 7-9pm on request. Borrowing is not permitted outside the library. All reference books are held in the reference section and strictly controlled by the librarian. There is one qualified librarian employed, but she also teaches 6 hours HIV/AIDS classes per week. Books available for student borrowing are very old stock. The librarian has a computer, but it is not used to record book stock.

An annual budget of $20,000 has been allocated for library purchases, but was not fully expended in its first year of operation. The librarian indicated that there is no book store in PNG that sells suitable text/reference books.

Information technology

There are two computer laboratories (one old and one new) available for student use with 60 computers in total and three new desktop computers being set up in the library. The new computer laboratory is installed with 36 computers supplied with AusAID funding and is used by Business

studies students. After hours use is by arrangement. There is no internet connected and there is only one printer available. To avoid virus problems, students are not permitted to use flash drives. Local computer companies are periodically employed to clean viruses if infected.

Six desk top computers (4 currently work) are available in the teachers' staff room. One printer and a flatbed scanner are also installed. 27 new laptops have recently been supplied to teachers by the Council at a subsidised price (25% discount). However, no internet connection is available for general staff use. Software upgrades and virus protection are continuing concerns.

7: Student Activities

Security is a concern for the college as a whole but is more pressing for the students and their personal effects. The concern for security stems from the currently hired security personnel and the people of the surrounding community - that is the land owners and the families of the police personnel who have a residence that shares the fence with the college.   There have been several instances of these outsiders coming into the college and intimidating and threatening the students and walking away with the students' and college equipment and material. Students felt that the security personnel from the villagers who called themselves land owners are policing the students only and not providing security for the college.

Security from the landowners is more an ongoing threat to the college and its residents as the land owners are seen to behave in a way as if they are owners of the college.

There is no clearly designated counsellor for the college. But the home room teacher usually provides some sort of guidance and time for the students to express their collective concerns. There are rugby playing and soccer fields and a basketball court. The students do not organize sports formally.   The students that were interviewed expressed that the SRC had not been established for 2011. Others said the SRC does not work closely with the administration.

The orientation for the students has been described by the students as very limited. Students were picked up at the airport but not properly informed by the administration as to the dates of the start of the term, what to bring, what to expect and the condition of the college. The teachers who were interviewed stated that the students who were not orientated were mainly the HECAS students who had their travels and arrangements organised by the Commission of Higher Education. A teacher noted that one HECAS student arrived at the time of writing the report (7th March) five weeks into the program.

The students complained about the unavailability of water, the quality of food served at the mess and the food preparation practices of the cooks. The students also complained about the dilapidated state of the dormitories, the ablutions blocks and the toilets. The male students stated that 64 students resided in one dormitory alone and had to use 4 toilets of which only 1 was working. They said that the toilets are usually blocked and the stench was putrid in the evening. The students confirmed diarrhoea was quite frequent resulting in a major health issue.

The students were fortunate to be given information on HIV/AIDS in class by one of the teachers. The female students were confident and outspoken.

8: Financial Resources

The College has been accumulating cash reserves from the CAT courses since 2006. In 2010 the College council approved an Expenditure Budget of K3.2M which included approximately K90,000 of capital expenditure. The revenue budget of K3.3M included a carry forward of K1.4M from the College general account. The actual budget outturn resulted in a significant shortfall due to a decrease in government grants from TVET and a fall in enrolments (reduction of 100 compared to 2009). Excluding the carry forward balance student fees represented 96% of College revenue. Food

for the student mess has been the major cost pressure in recent years with local industry developments putting upwards pressure on food prices. The actual outturn expenditure in 2010 was K1.527M and actual income K2.0M resulting in net income (surplus) of K0.476M.

The following table provides a picture of the revenue collected at MHTC in 2010 (from the 2010 College budget report) along with an estimate of the level of expenditure. The expenditure includes an estimate of the teacher salary expenditure and associated costs incurred by the GoPNG through the TSC.

Table 8.1 - Revenue & Expenditure, Mt Hagen Technical College

Mt Hagen Technical College		
Revenue		
Revenue Stream	**Total Revenue (Million Kina)**	**Percentage of Revenue**
School Fees	1.82	90.92
Grants NDOE	0.08	4.09
Grants OHE	0	0
Grants Other	0	0
Other Income	0.1	4.99
Total Income	**2**	**100**
Expenditure		
Expenditure	**Total Expenditure (Million Kina)**	**Percentage of Expenditure**
Salaries ancillary staff	0.18	7
Salaries teachers	0.83	34
Contract officer entitlements	0.12	5
Operational Expenditure	0.16	6
Operational Materials	0.56	23
Office Materials & Supplies	0.04	2
Maintenance	0.15	6
Utilities	0.1	4
Transport	0.05	2
Capital Expenditure	0	0
Other	0.28	11

9: Physical Infrastructure (assessment conducted on 07-09 March 2011)

Facilities Management

Planning: The College has developed a number of plans aimed at transforming it into a Polytechnic. These include the polytechnic proposal, which was successful, and a five-year funding request. The College has secured new land for expansion. It has commissioned a survey. Once the survey is complete, it will prepare a Physical Plan.

Operations: Operational management of the facilities comes under the purview of the DP Administration. The DP Admin has secured a graduate of Lae Polytechnic, Mr Bob Sepune, to act as Project Manager (PM) for assessment and costing of maintenance, and design and costing of new facilities. He has diplomas in building, architecture, and drafting. The PM has been on site for three years, and is in charge of maintenance and new construction. The PM has two assistants reporting to him.

Implementation of maintenance seems slow: Household steps have been prioritised over gutters and water tanks; none of the Department of Health recommendations for the kitchen, mess and student ablutions have been implemented; maintenance is ad hoc and spasmodic, and appears to be prioritised after expansion.

New Project Implementation: Two new buildings were recently procured through external contractors. The designs of both buildings have significant shortcomings.

The Classroom Block was successfully completed, with only minor errors. The Administration block was very poorly built, has not been completed, and the contractor has abandoned the project. The Governing Council selected the contractor on the basis of cheapest price, without evaluating technical capacity, financial capacity, or experience. There is no proper capital works procurement process in place.

The PM wishes in future to bring all construction in-house. Though this can produce good results, the failure to correctly choose and manage and external contractor suggests that the College would require increased project management capacity and structure, and additional personnel, facilities and equipment to manage a program of the size envisaged.

Finances
Capital: The College has funded two new buildings (a four-classroom block, and a new Administration block) from Council funds. It has prepared proposals totalling K94M over five years, for physical development up to the level of a Polytechnic. The College has also been allocated K4M in the Provincial budget, and has now to prepare a proposal on how to spend that allocation.

Maintenance: There is no regular or planned maintenance budget. It was allocated K4M for maintenance under the RESI program, but these funds failed to materialise.

Health infrastructure
This section summarises some of the detail in sections below in so far as they relate to health.

Water Supply: Water supply is a major problem at the College, with supply being both intermittent and inadequate. Householders are carrying water to their houses from various sources, in Jerri cans. Toilets in the dormitories are not operating properly. The College, together with the Water Board, is exploring options to correct the problem, including (a) a new pipeline, (b) bores. It has also procured new water tanks for rainwater collection, but not all of these have been installed, and guttering is not connected to others.

Sanitation: Sanitation is by septic tank. The drainage fields often stop functioning, and have to be dug out. This indicates a lack of scheduled maintenance.

Dorm Ablutions: The dormitory Ablution Blocks are in state of bad repair, are not clean, and have floors that are constantly wet. The Ablution Blocks have been implicated by the Department of Health in a suspected outbreak of typhoid.

Kitchen/Mess: The Kitchen is not properly equipped for sanitary operation, is in a state of bad repair, is unclean, and has no running water. The Kitchen and Mess hall have also been implicated by the Department of Health in a suspected outbreak of typhoid.

Food is nutritionally unvaried and unbalanced. There are no signs of food production on site other than by teachers for their own consumption.

Clinic: There is no Clinic, and no registered nurse.

Day Toilets and Drinking Water: There is no provision of toilets, or drinking water points, for day students, or boarders when they are far from their dormitory. Day students are using the dormitory toilets, which overloads them, and makes cleaning more difficult to control.

Exercise: There are two large, apparently well-used playing fields.

Other services
Telephone: External supply to administration, and then switchboard access to heads of department.

Internet: The following have access: Admin, Heads of Department, one shared by the teachers.

Power: Electrical supply is adequate, and the College has a functioning backup generator.

Solid Waste: The College collects and transports its own solid waste to the dump. However, there is evidence that this system is not working: the girls dormitories have burned cans and plastic bags in an incinerator meant to be for sanitary pads only; the kitchen has garbage outside in piles, not contained in bins. There is no composting.

Industrial Waste: Minimal, and is sent to dump.

Grounds
Security: The College has a very long perimeter. The perimeter fence is rudimentary and insecure. Staff and students report cross-traffic, and there has been one incident of invasion by drunken youths. Students do not feel secure. Relationship with local landowners is strong, but complicated.

Access: Roads are mostly sealed and in good condition. Some need proper drainage dug. There is an extensive network of footpaths, with some breakage, but easily trafficable.

Expansion: The College has secured new land around its perimeter, for the expansion required by its mandate to become a Polytechnic.

Open Space: There is adequate open space between buildings, and for sports fields at the perimeter. New construction will not impinge on these.

Drainage: No reports of flooding during rain: the campus sits on a high point, and the entire area appears well-drained.

Landscaping: Well developed shrubs, trees, and lawns in an around the classrooms and core resources. In the housing area, some teachers have planted food gardens.

Building Stock
Most of the stock is very old: from 1970.

Core Resources: Administration, and Library (a converted classroom) are minimally catered for. There is a Teachers' Room and IT Room.

Teaching: The classrooms are old, and basic, but sound and functional. They would benefit from minor repairs and improvements, such as whiteboards. The workshop buildings are mostly obsolete for future use; are small and crowded; have inadequate adjacent classroom space. There is a very basic Lecture Hall for large groups.

<u>Student Accommodation</u>: Rooms are too small: they have room for two beds, with no door, no space for desk, chair, or storage. The male dormitories are overcrowded (2:1) in the male dormitories. The female dormitory is underutilized. The female dormitory has a small common room; the male dormitories do not. The ablution blocks are poorly built, maintained, and cleaned, and are significant health hazards.

<u>Staff Housing</u>: Most houses are in fair condition though all require repainting and other maintenance. One house is slated for demolition, for structural reasons.

<u>Informal</u>: Some ancillary staff have built kunai houses at the edge of the College. These will be removed when the College expands.

Building Data

Note: Due to the absence of building asset or condition registers, the data recorded here are approximate, and require further inspection and investigation.

	TYPE	QTY	CONDITION		
			Fair	**Poor**	**Very Poor**
			Needs minor R&M	Needs major R&M	Not worth investing in
Core Resources					
Admin	1-storey	1	1		
Library	Room	1	1		
IT Room	Room	1	1		
Teachers Room	Room	1	1		
Clinic	-	-			
Bulk Store		1	1		
Teaching Spaces					
Classrooms		12	12		
Workshops	Varied	10		10	
Lecture/Assembly	Hall	1	1		
Student Accommodation					
Dorms, Male	2-storey	5			5
Ablutions, Male	1-storey	2			2
Dorms, Female	2-storey	1			1

	TYPE	QTY	CONDITION		
			Fair	**Poor**	**Very Poor**
			Needs minor R&M	Needs major R&M	Not worth investing in
Ablutions, Female	1-storey	1			1
Mess	1-storey	1			1
Staff Housing					
Low and high covenant		30		29	1
Informal					
Kunai houses		5			5

10: Mt Hagen Technical College – Summary SWOT (strengths, weaknesses, opportunities and threats)

Strengths	Opportunities
- Well laid out site with room for expansion - Local Facility Projects manager - Functional/useable buildings - Council and executive working in partnership - Council and management proactive - Thoughtful strategic and business plans with ownership of staff - Strong stable leadership - Core group of dedicated staff with high levels of teamwork - Laptop and internet initiative - Self help culture - CAT program - HIV/AIDS program - Provincial government commitment - Vocational centre linkages	- Government decision to establish Highlands Polytechnic at Hagen with three year window to plan for - Provincial Government financial commitment - Site can accommodate increased demand with good physical planning - Opportunity to rethink sustainability of services provision (water, sewerage, waste and maintenance) - Rapidly expanding extractive industries sector - High student demand - NDOE budget allocation for TVET colleges - New Government emphasis on TVET may lead to staff development - Opportunity for new TVET structure - Positive donor environment
Weaknesses	**Threats**
- Staffing problems - difficulties in filling vacancies - Critical staffing gaps - Policy gaps in key areas - Management information systems - Lack of industry involvement on Council - No ongoing industry involvement in programs and courses - Reluctance to source external expertise - Facilities management task allocation Quality of learning environment – not meeting workplace expectations - Library resources - Major equipment gaps and control - Storage and security for equipment - High Student/Equipment Ratios - Lack of student resources - Very limited internet access amongst teaching staff - Very low capacity to run CBT - Limited opportunities for staff to update skills with OJT - Insufficient attention to safety - Management of vehicle waste - Student accommodation and welfare including management response to critical issues	- Water supply problem - Landowner issues - Typhoid and cholera - Quality of student intake - Economic environment impacting on ability to pay fees - Emergence of alternative training providers - Competition for staff and students - Unreliable Government funding (funding insecurity) - Dysfunctional and ineffective TVET headquarters - Slow pace of implementation of TVET reforms - Lack of systemic leadership - External recruitment process - Low wages and poor conditions based on the TSC system

Annex 3D: Kokopo Business College Situation Report

1: Institutional Profile

Kokopo Business College (KBC) began as Tavui College in the 1960s. After moving to Rabaul in 1975 it was renamed Rabaul Secretarial College. The College was renamed Rabaul Business College in 1990. Following the volcanic eruption in 1994 with assistance from AusAID the College was rebuilt in 2000 on a new site at Kokopo.

KBC has experienced rapid enrolment growth over the last six years from 225 in 2005 to a preliminary enrolment level of 685 in 2011. Approximately two thirds of students in 2011 are enrolled in the Diploma programs in Accounting, Management, Office Administration and Hospitality Management. The TSC approved staffing ceiling was increased by 10 positions to 32 in 2011 reflecting the recent enrolment growth. At the time of the mission the College had 26 teaching staff in employment with six vacancies. The Council employs 25 ancillary staff. KBC has been advised by TVET Division of NDOE that it will be converted to Islands Region Polytechnic in 2013. KBC has been advised that the NEB has determined that KBC will become the PNG Islands Region Polytechnic in 2013.

2: Purpose (what is the mission or business of this college?)

KBC has developed a strong profile in the region as a business College offering courses in accounting, management, business computing, office administration and hospitality to Diploma level. The Council has recently established a sub-committee to commence the task of preparing a pathway for the Polytechnic status which will be granted in 2013. A study tour to New Zealand is being considered. The College is holding back on detailed planning in terms of course provision pending further information from TVET on the policy frame for Polytechnics.

3: Governance, administration, management and planning

Governance: The Governing Council comprises 19 members including two student representatives and records indicate that attendance of most Council members has been regular. The Council has had the one chair since 2000. Involvement and attendance from the NDOE representative(s) had become less regular in recent years. Turnover of Council membership has been limited. Despite the regular attendance of Council members, consultations during the mission revealed significant weaknesses in terms of stakeholder engagement. Council members reported that the partnership with Management could be strengthened considerably. They expressed a feeling of disempowerment. Council members indicated that the future of Colleges such as Kokopo could be strengthened considerably through institutional partnerships or twinning arrangements with other tertiary institutions.

Administration and management: The College Administration comprises the Principal (at Kokopo since 2010) and one Deputy (at Kokopo since 2004). Staff and students during the consultations expressed high levels of frustration with internal communication.

Planning: The College has developed a Strategic Management Plan for the period 2011-15 with clear vision and mission statements and a coherent set of objectives. The objectives, priorities and outputs have been informed by a SWOT analysis. Consultations with staff and Council affirmed a high level of engagement and ownership of the Plan. Assistance was provided by one of the two NZ volunteers in developing the plan.

4: Educational Programs

An interim restructuring of the Academic departments has recently been approved for 2011 by TVET along with ten additional TSC positions. This is a reflection of the large growth in student numbers that has occurred and will strengthen academic capacity during the planning phase towards the Polytechnic status. In 2011 the College comprised three Departments: i) Accounting – 7 staff, ii) Management – 11 staff; and iii) TTC – 5 staff-which also includes Office administration.

The College is currently offering four groups of Courses: i)Diploma courses; ii) TTC courses; iii)National Certificate 1 and 2 courses in Office administration and Hospitality Operations and iv) short Diploma Foundation courses (10 weeks).

Students undertaking a two year Diploma in Business Studies undertake a common program in the first semester before specialising in either Accounting, Office Administration, Business Computing or Management. In 2011 the enrolment in Stage One of the Diploma program was 220 students.

Accounting Department: Accreditation was secured for the accounting program in 2008 with the University of Papua New Guinea and this is seen by the HOD to be a major 'pull' factor in terms of student demand. The HOD reported that six out of the seven staff do not have a teacher training qualification. Staff morale is being adversely affected by protracted delays in delays in staff being placed on the Departmental payroll.

Management Department: The largest Department with 13 positions (including 2 vacancies). A staffing restructure has been implemented in 2011 in which three sections – hospitality, management and office administration have been established. This is seen as an interim arrangement towards the Polytechnic status for KBC. In addition to the specialisations in Management, and Office Administration, the Department also is responsible for the programs in Hospitality. A separate Diploma Program in Hospitality Management is also offered in which 37 students were enrolled in Stage 1 in 2011. For the first time in 2011 the NC2 Course in Hospitality operations is being offered. The Department has initiated discussions with UPNG, DWU and Pacific Adventist University (PAU) in terms of some accreditation for courses offered but nothing has been secured at this stage. The Department is also working on establishing linkages with a number of vocational centres.

TTC Department: This is the smallest of the three Departments with only 2 out of the 5 staff having teacher training qualifications. In addition to servicing subjects in the Diploma program the TTC Department is responsible for the NC1 course in Office administration. Although the NC1 course is intended to be a competency based program, the students are not provided with any industry exposure and in essence the delivery of the course is centred on theory only at this stage. The NC1 was offered for the first time in 2009 but the College decided not to run the program again in 2010 as nothing was in place in terms of the equipment and teaching resources required. Students completing the NC1 in 2009 were channelled into the Diploma program majoring in Office administration. At the direction of TVET Division the Department is offering the NC1 course again in 2011 – 19 students in Semester One. The HOD expressed a strong view that more teachers need training in CBT if implementation of the NC programs is to be effective. In addition staff need to have opportunities for staff attachments to industry.

Table 4.1 – Kokopo Business College Enrolments by Course

Kokopo Business College	Male	Female	Total	Level	Field
Diploma in Business Studies Stage One	119	101	220	D	B
Diploma in Business Studies Stage Three – Accounting	30	22	52	D	B
Diploma in Business Studies Stage Three – Management	30	22	52	D	B
Diploma In Business Studies Stage Three – Computing	13	4	17	D	B
Diploma in Business Studies Stage Three - Office Administration	15	25	40	D	B
Diploma in Tourism and Hospitality Stage One	14	23	37	D	H
Diploma in Tourism and Hospitality Stage Three	4	14	18	D	H
Diploma Foundation studies	20	25	45	D	B
TTC Business Studies 1 Grade 10	11	24	35	T	B
TTC Business Studies 2 Grade 10	15	36	51	T	B
TTC Business Studies Grade 12	51	36	87	T	B
National Certificate 1 Office administration	4	15	19	N	B
National Certificate 2 in Hospitality Operations	2	10	12	N	H
Total number of Students	**328**	**357**	**685**		
Percentage	**48**	**52**	**100**		

Table 4.2 – Level & Field Legend

CODES FOR LEVELS	CODES FOR FIELDS
D=Diploma	B=Business Studies
T=TTC	H=Tourism & Hospitality
E=Extension	A=Applied Science
N=National Certificate (NC)	T=Trade Technology
C= Council approved courses	

Table 4.3: Enrolments by Level & Field

	Diploma	TTC	NC	Extension	Council Approved	Total
Totals	481	173	31	0	0	685
Percentage	70.2	25.3	4.5	0	0	100
	Business Studies	**Tourism & Hospitality**	**Applied Science**	**Trade Technology**		**Total**
Totals	618	67				685
Percentage	90.2	9.8				100

5: Academic and non-academic staff

As at March 2011 the teaching strength was 26 positions (including Principal and Deputy) of whom 8 (30%) are female. All positions are filled by PNG nationals. Teacher turnover at KBC has been high.

More attractive opportunities in industry and limited housing at KBC were cited as the main factors affecting the high turnover. Staff morale was reported by the Deputy Principal and a number of staff to be very low. Kokopo has a relatively young staff with 66% of teachers aged less than 40. Approximately 58% of teachers are female, the highest of any college. Approx. 40 % of teachers do not have any teacher training, the highest percentage of any college.

The following tables and charts depicting the teacher profile at Kokopo BC are based on responses to questionnaires collected during the college visit. 21 teachers (including Principal and Deputies) responded. Not all teachers responded to each question.

Table 5.1: Age Distribution of Teaching Staff

Age Range	Numbers	Percentage
20 – 30	7	33
31 - 40	7	33
41 – 50	5	24
51+	2	10
Totals	**21**	**100**

Chart 5.1: Age Distribution of Teaching Staff
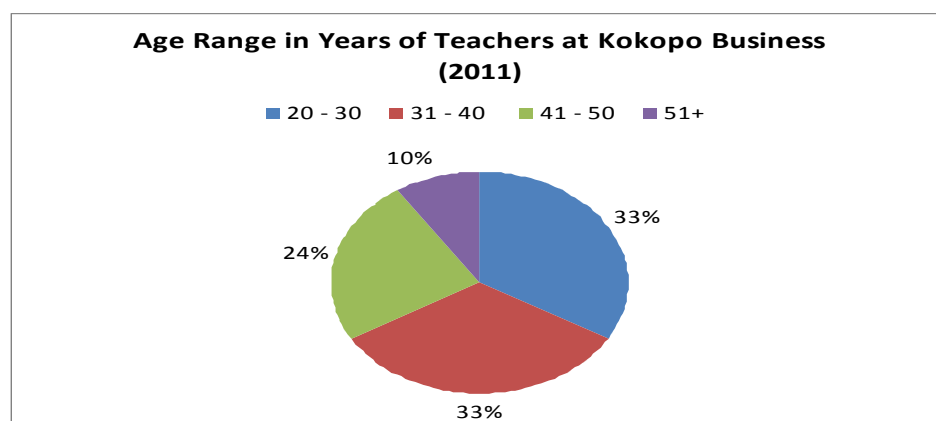
Table 5.2: Gender Distribution

Gender	Numbers	Percentage
Female	11	52
Male	10	48
Total	**21**	**100**

Chart 5.2: Gender Distribution
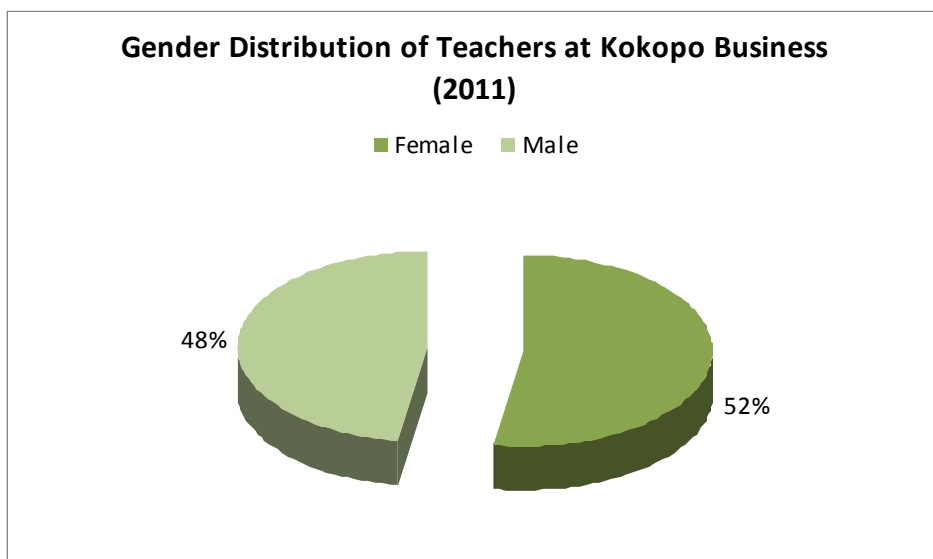
Gender Distribution of Teachers at Kokopo Business (2011)

Female Male

48% 52%

Table 5.3: Highest Qualification

Highest Qualification	Male	Female	Total	Percentage
Masters			0	0
Post Graduate Diploma	2		2	10
Bachelors Degree	7	5	12	57
Diploma	1	6	7	33
Certificate			0	0
Total	**10**	**11**	**21**	**100**

Chart 5.3: Highest Qualification
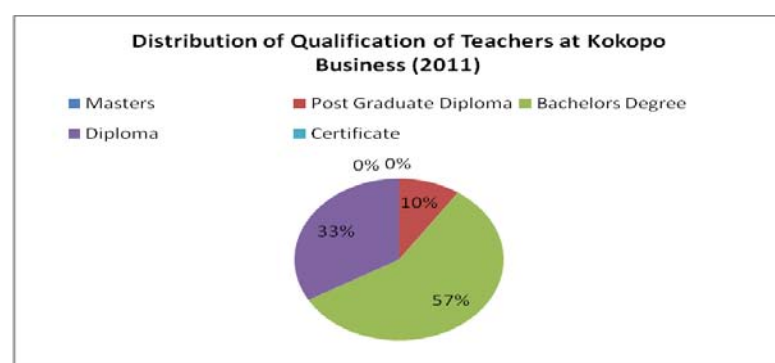
Distribution of Qualification of Teachers at Kokopo Business (2011)

Masters Post Graduate Diploma Bachelors Degree
Diploma Certificate

0% 0%
10%
33%
57%

Table 5.4: Percent of teachers with Teacher Training

Teacher Training Qualification	Numbers	Percentage
With Teacher Training	13	62
No Teacher Training	8	38
Total	**21**	**100**

Chart 5.4: Percent of teachers with Teacher Training
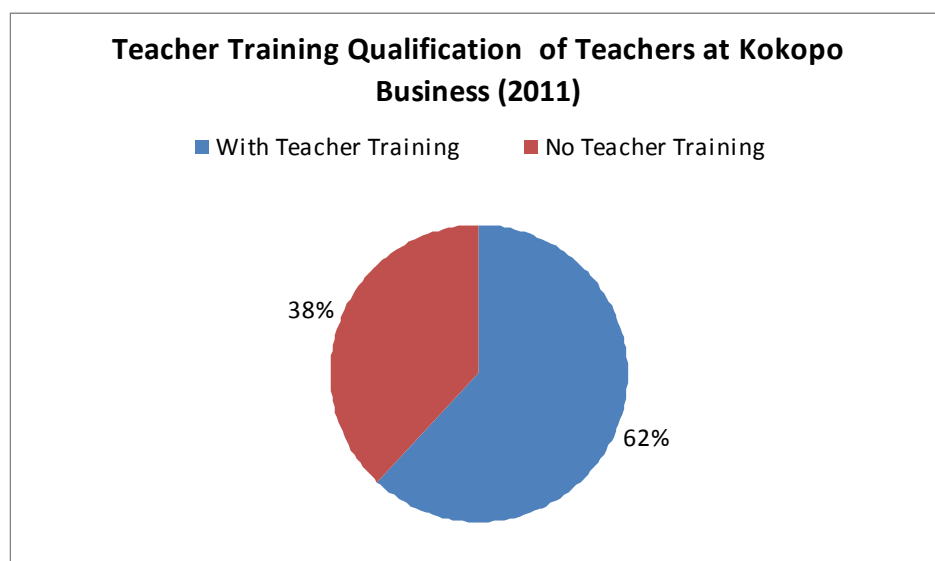
Teacher Training Qualification of Teachers at Kokopo Business (2011)

- With Teacher Training
- No Teacher Training

38%

62%

Table 5.5: Access to Internet

Access to Internet After Hours	Numbers	Percentage
Access to Internet	6	29
No Access to Internet	15	71
Did not answer		
Total	**21**	**100**
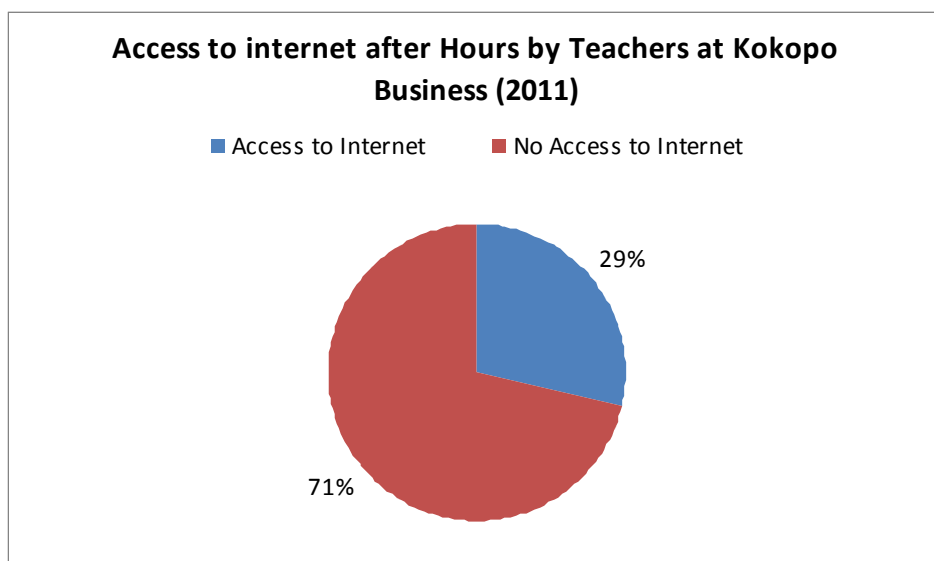
Chart 5.5: Access to Internet

Access to internet after Hours by Teachers at Kokopo Business (2011)

■ Access to Internet   ■ No Access to Internet

29%

71%

Table 5.6: Occupancy of College Houses by Teachers

College House Occupancy by Teachers	Numbers	Percentage
Do not live in College House	4	19
Live in College House	17	81
Did not answer		
Total	**21**	**100**

Chart 5.6: Occupancy of College Houses by Teachers
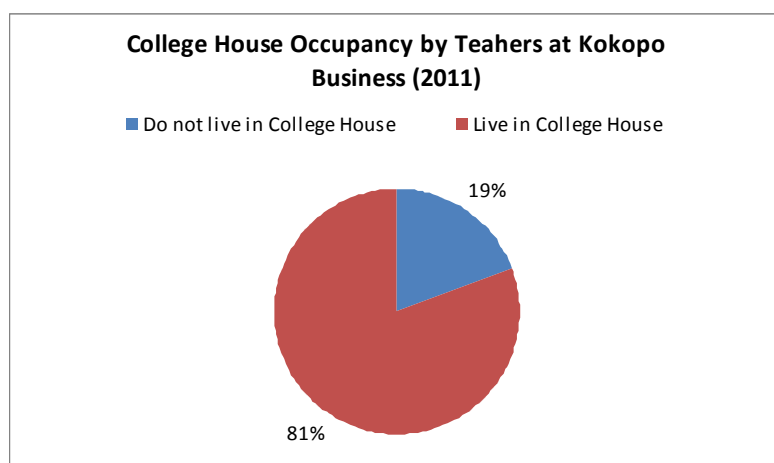
College House Occupancy by Teahers at Kokopo Business (2011)

■ Do not live in College House   ■ Live in College House

19%

81%

Table 5.7: Teacher Assessment of Quality of Housing

Quality of Teachers' Houses	Numbers	Percentage
Excellent	0	0
Good	2	10
Fair	10	48
Poor	7	33
Did not answer	2	10
Total	**21**	**100**

Chart 5.7: Teacher Assessment of Quality of Housing

Quality of Kokopo Business College's Teachers' Houses (2011)

Excellent Good Fair Poor Did not answer
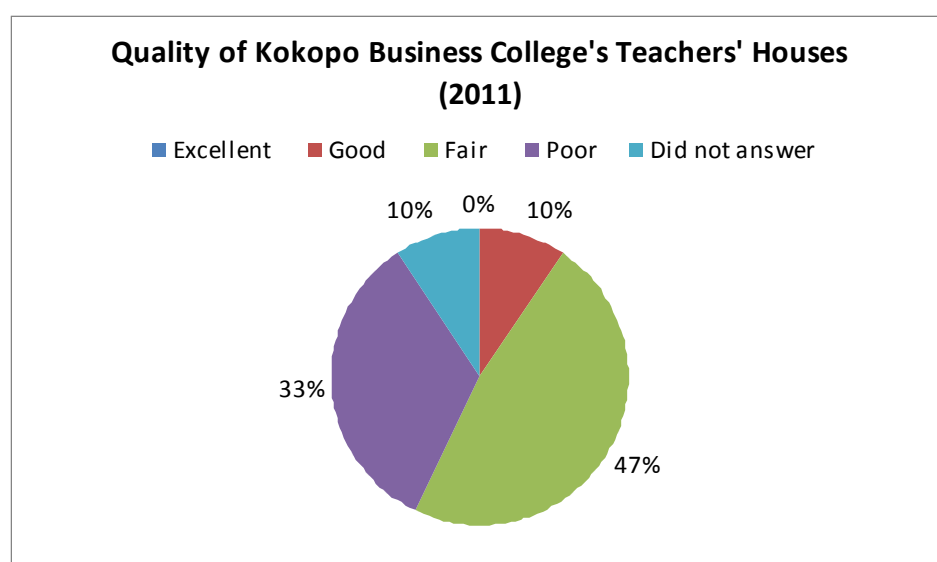
6: Learning Resources (including Library and IT)

Student learning resources are predominantly printed notes produced by teachers. Teachers are beginning to utilise multi media as a result of the laptop for teachers program. KBC is an accredited trade testing centre for Office Administration. However the centre has very little of the required equipment for trade testing in this area.

Library: a purpose built library was part of the infrastructure when the College was rebuilt. The current collection of books is approximately 5700 titles with students able to borrow one book each week. A scanner is not in working order leading to a significant number of books lost. Five computers are available for student use, each with internet access. The library is open from 8am to 4pm and also for two hours in the evenings from Tuesday to Thursday. With the growth in student enrolments the key need in the library is to increase the number of textbooks for student use. This is the priority within the limited annual budget made available.

Information Technology (IT): The College currently has five computer laboratories each with 25 computers (135 supplied by AusAID under the ECBP). The rapid enrolment growth has severely limited individual student access to the computers in the last three years. A laptop program for teachers was introduced in 2010 and consultations affirmed that the program has been very effective.

7: Student Activities

Security is a concern for the college especially on the part of the personal effects of the students. The students reported that there had been cases of outsiders accessing the college premises. This was at night time and the students were held up and their possessions were taken. The security issue also limits the study time for the female students. The students could not study in their rooms because of overcrowding.

There is a designated counsellor for the college who is a Uniting Church Pastor. The students reported that they have not met him and do not know where to find him. The home room teacher usually provides some sort of guidance and time for the students to express their collective concerns. There are rugby and soccer fields and a basketball court. The students do play these games but only to pass the time or recreationally.

The students that were interviewed expressed that the SRC had not yet been set up for 2011. Others said the SRC does not work closely with the administration. The students that were interviewed said most of the grievances, concerns, issues and requests brought to the administration by the SRC are usually turned down by the administration.

The orientation for the students was described by them as very limited or non-existent. The teachers who were interviewed stated that the students who were not orientated were mainly the HECAS students who had their travels and arrangements organised up by the Commission of Higher Education.

The students complained about the availability of water, the food served at the mess and the food preparation practices of the cooks. The students also complained about the overcrowding in the dormitories and the classrooms. They reported that a total of 4 male students are sharing a cubical that is fit for one person only. In a double dormitory, a total of 96 students at the top and 96 at the bottom. A total of only 4 toilets and 4 showers. The toilets are usually blocked and the septic tank has been giving off the smell of faeces since last year.

The SRC in this college was very well managed. In fact the consultation meeting was arranged by the students. The SRC have organized excursions, sports, religious and other cultural activities for the students for the term. The SRC representatives reported that their issue is that the administration does not communicate with them. The student leaders at the meeting reported that as leaders, they have not yet met the college principal.

There is a clinic but has been closed since the previous year. All students who are sick are usually taken to the main hospital by the school van. The students indicated they were fortunate to be given information on HIV/AIDS in class by the teachers. The female students were very confident and outspoken in the consultations.

8: Financial Resources

The rapid growth in student enrolments over the last five years has impacted positively on College revenue and expenditure with Revenue collected in 2010 comprising K3,053,897 and expenditure K2,995,715. Major cost pressures have been experienced in food for the students mess, utilities in particular water supply, and maintenance of dormitories. The approved budget for 2011 is based on projected Revenue of K3,105,700 and expenditure of 3,102,953. The College financial management function is the responsibility of the Registrar and Assistant Registrar who both hold Diploma qualifications in accounting. The College has built up cash reserves to finance small capital improvement projects. At March 2011 the College held an IBD with K100,000. A key weakness within the College identified by the Registrar was the poor asset recording, management, and control practices.

The following table provides a picture of the revenue collected at Kokopo BC in 2010 (from the 2010 College budget report) along with an estimate of the level of expenditure. The expenditure includes an estimate of the teacher salary expenditure and associated costs incurred by the GoPNG through the TSC.

Table 8.1 - Revenue & Expenditure, Kokopo Business College

Kokopo Business College		
Revenue		
Revenue Stream	**Total Revenue (Million Kina)**	**Percentage of Revenue**
School Fees	2.75	90.06
Grants NDOE	0.08	2.69
Grants OHE	0.12	3.97
Grants Other	0	0
Other Income	0.1	3.28
Total Income	**3.05**	**100**
Expenditure		
Expenditure	**Total Expenditure (Million Kina)**	**Percentage of Expenditure**
Salaries ancillary staff	0.34	9
Salaries teachers	0.71	19
Contract officer entitlements	0.10	3
Operational Expenditure	0.63	17
Operational Materials	0.67	18
Office Materials & Supplies	0.1	3
Maintenance	0.09	2
Utilities	0.39	10
Transport	0.08	2
Capital Expenditure	0.49	13
Other	0.19	5
Total	**3.79**	**100**

9: Physical Infrastructure (assessment conducted on 11-12 March 2011)

Facilities Management

Planning: There is a Strategic Management Plan for 2011-2015 which has been approved by the College Council. There is however no clear physical plan linked to the strategic plan.

Operations: Operational management of the facilities comes under the purview of the DP Administration. The DP Administration is not provided with a fixed budget, and puts requests through to the Principal, who in turn submits to Council, for approval. This leads to delays on critical items, such as water and sanitation.

However, most of the buildings are in good condition, dating from the early 2000s. Of all the Colleges, Kokopo's buildings are in the best condition, because they are the newest.

Note: Kokopo's administration block was destroyed by fire in June 2011 following an incident involving police and students.

New Project Implementation: Since 2000, the College has undertaken a number of small new projects, including:

- construction of 3 x Kwikbuilt staff houses: successfully completed
- attempt to roof a basketball court: abandoned after a safety incident
- contracting of a 6 new teacher accommodation units: design is not functional, and design and procurement process did not ensure value for money; drainage not done properly, and units threatened by overland flow
- conversion of a girls dormitory into staff housing, resulting in extremely low quality of accommodation mixing singles and a family with children into one household, sharing former student ablutions
- conversion of principal's house into accommodation for the matron and the warden: not inspected

Finances

Capital: The College has no dedicated capital budget. As with most colleges, it accumulates funds from its operating budget in order to undertake small infrastructure initiatives, listed above.

Maintenance: Council funds maintenance on an ad hoc basis. All requests are individually considered and approved. At the time of the visit, the College's bore pump was not working, and repair had not been approved, leading to unnecessary expense of purchasing town water. College also reports many problems with septic tanks, detailed below.

Health infrastructure

This section summarises some of the detail in sections below in so far as they relate to health.

Water Supply: Kokopo has a large header tank, a bore, and a pump system that allows it to subsist without paying for water from the town supply. When this breaks down, town supply is available as a backup.

Sanitation: The College sanitation depends on a system of septic tanks. These are not pumped out in a scheduled basis, with the result that they overflow into the absorption trenches. The College then builds new trenches, but has now run out of space to build trenches in some areas. These problems are due to lack of operational knowledge and maintenance planning and financing.

Overcrowding of the dormitories has also led to breakdown of the septic systems, resulting in at least one incident of raw sewerage flowing down public streets. The College responded by installing additional septic capacity.

Dormitory Ablutions: The female dormitory ablutions are in a reasonable state. The male dormitory ablutions are in a poor state.

Kitchen/Mess: The Kitchen/Mess is in reasonable working order. Much of the equipment is not working. Because of enrolment pressure the Mess has been transformed into a lecture hall, with the result that students eat outside and in shifts. There are apparently no arrangements for eating when it rains.

Clinic: There is no clinic, and no registered nurse.

Day Toilets and Drinking Water: There is one set of day toilets, in good condition. There is no systematic approach to drinking water for students.

Exercise: There are extensive grounds, with room for informal exercise. There is no sports field. There is a volleyball/basketball court.

Other services
Telephone: There is an external line to Administration, and an internal switch connects to all departments.

Internet: The College does not have internet to its IT classrooms.

Power: Supply is adequate, and the College has a functioning backup generator.

Solid Waste: Solid waste is collected by the Kokopo Urban Level Local Government.

Industrial Waste: There are no activities generating industrial waste.

Grounds
Security: The perimeter fence is chain link only, and full of holes. There is no perimeter lighting. Students and staff complain of lack of security.

Access: The campus is well located on a main road overlooking Kokopo town. Internal vehicle circulation and paths are in good condition.

Expansion: The campus has a large area of unused land to the East. A survey was not available. The land is approximately 10 metres lower than the existing campus, and integration of this land into campus operations will present major challenges. There are however, major areas of unused land within the existing fence line, and with good planning this land could accommodate substantial expansion.

Open Space: The campus has extensive, well-cared for open space.

Drainage: The site is well-drained on the whole, with no flooding, but lack of civil engineering has led to the new six-unit teacher accommodation being put at risk.

Landscaping: Landscaping is well maintained.

Building Stock

The building stock is generally in good condition. As a Business College, the buildings are generally classrooms. There are no trade workshops.

Core Resources: Administration and Library buildings are large, in excellent condition. There is a canteen which was operated by the students, but made a loss, and was then shut down.

Teaching: Classrooms are well grouped around courtyards, with efficient circulation between them. They are two-story buildings, which make good use of limited land area. The College has started a Tourism and Hospitality course. This is poorly accommodated in a single classroom. The College has plans to build a Conference Centre on site, but no business plan or competitive analysis has been undertaken for such a venture. No connection has been made between Tourism and Hospitality, and the Canteen.

Student Accommodation: There are four female dormitories, but one of these has been converted to staff accommodation, for which it is not fit for purpose, leaving three. There is one male dormitory. Due to enrolment pressure, all dormitories are now overcrowded 2:1.

Staff Housing: The original staff houses are in good condition. However attempts to expand the housing stock have been poorly planned and executed:

- six poorly designed and executed units
- conversion of the Principal's house to two units, with the Principal moving off campus
- 7 teacher households being housed in a wholly inappropriate converted dormitory.

Informal: There are no informal structures on campus.

Building Data

Note: Due to the absence of building asset or condition registers, the data recorded here are approximate, and require further inspection and investigation.

	TYPE	QTY	CONDITION		
			Fair	**Poor**	**Very Poor**
			Needs minor R&M	Needs major R&M	Not worth investing in
Core Resources					
Admin	1-storey	1	1		
Library	1-storey	1	1		
Teachers Room	Room	1	1		
Clinic	-	-			
Day Toilet	Building	1	1		
Canteen	Building	1	1		
Bulk Store	Building	1	1		

	TYPE	QTY	CONDITION		
			Fair	**Poor**	**Very Poor**
			Needs minor R&M	Needs major R&M	Not worth investing in
Teaching Spaces					
Classrooms	Rooms	17	17		
IT Rooms	Rooms	4	4		
Workshops	-	-			-
Lecture/Assembly	Mess	1	1		
Student Accommodation					
Dorms, Male	2-storey	1		1	
Ablutions, Male	to match	1		1	
Dorms, Female	2-storey	3	3		
Ablutions, Female	1-storey	1	3		
Kitchen	1-storey	1		1	
Staff Housing					
Matron/Warden	Units	2	2		
Housing	Med Cov	8	8		
Units	1-storey	6		6	
Converted Dorm	2-storey	7			7

10: Kokopo Business College – Summary SWOT (strengths, weaknesses, opportunities and threats)

Strengths	Opportunities
- Well laid out site with room for expansion including adjacent land - Functional/useable buildings in fair to reasonable condition - Library resources and building - Thoughtful Strategic Management plan with ownership of staff - Qualifications and experience of Council members - Core group of dedicated senior staff - Academic qualifications of staff - Laptop initiative - Accreditation agreement with UPNG in accounting - Recognition from professional bodies - KPC 'brand' has strong recognition in PNG Islands Region - SRC - HIV/AIDS program - Vocational centre linkages	- Government decision to establish Islands Region Polytechnic at Kokopo - Local industry environment – strong business community - High student demand - Further accreditation with other higher education institutions - Offer short courses to meet local needs - Initiate commercial opportunities to promote sustainability - NDOE budget allocation for TVET colleges - New Government emphasis on TVET may lead to staff development - Opportunity for new TVET structure - NZ volunteer program - Positive donor environment
Weaknesses	**Threats**
- Shortage of staff housing - Extreme overcrowding in dormitories - Poor quality facilities interventions - Maintenance and operations (services) - Management of security - Nature of Council/management partnership - Delegations and communication - High turnover of staff - Critical staffing gaps - Few staff have teaching qualifications - Low staff morale - Some staff and students not adhering to approved Codes of Conduct - Very high Student/Teacher ratios - Limited student access to computers - Lack of student counselling and student welfare (female students) - Very limited internet access amongst teaching staff - Quality of learning environment – not meeting workplace expectations (e.g. Office administration) - Very low capacity to run CBT - Limited opportunities for staff to update skills through OJT & industry attachments	- Quality of student intake - Economic environment impacting on ability to pay fees - Emergence of alternative training providers (private RTOs) - Competition for staff - Staff resistance to implementation of TVET reforms - Students revolts and strikes resulting from greater awareness and scrutiny of College expenditures - Health risks from overcrowding in dormitories leading to possible closure of College - Quality of output declining threatening reputation - Unreliable Government funding (funding insecurity) - Dysfunctional and ineffective TVET headquarters - Slow pace of implementation of TVET reforms - Lack of coherent systemic leadership - External recruitment process - Low wages and poor conditions based on the TSC system

Annex 3E: National Polytechnic Institute of Papua New Guinea (NPIPNG), Lae Situation Report

1: Institutional Profile

One of the oldest technical training institutions in PNG, Lae Technical College was established in 1953 and relocated to its present site in 1954. As the first of the four regional polytechnics National Polytechnic Institute of Papua New Guinea (NPIPNG) was launched in December 2009 following a decision of the National Education Board. The Polytechnic has experienced steady enrolment growth in recent years with a total enrolment in Semester One of 1292 students (70% male) and 876 (68%) boarding. Approximately 75% of students are self sponsored, 23% HECAS sponsored and only 2% sponsored by employers.

In 2011 the Institute was allocated a staffing ceiling of 70 TSC positions of which 64 were filled. In addition the Council employs 38 ancillary staff and 15-20 casual staff (teaching and ancillary). The Institute offers a wide range of 20 separate courses across six Departments. Twelve of these courses are at Diploma level. **The Institute is the sole provider in PNG of apprenticeship training in butchery**.

2: Purpose (what is the mission or business of this college?)

NPIPNG is the only Polytechnic Institute formally established at this stage. It has the largest enrolment and has the most diverse range of courses (20 in total). The decision by the NEB to designate the then Lae Technical College as a Polytechnic Institute was made following a fact finding mission to New Zealand initiated by the College Council. Visits were made to a number of NZ polytechnics and discussions held with key government agencies involved with funding, quality assurance and regulation. The Principal and Chair of Council reported that community expectations in terms of the polytechnic status are already quite high. Specifically there is an expectation of new courses at diploma and degree levels and an upgrade of facilities, curriculum and staff qualifications. The management and council of the College feels it is not adequately prepared to respond to these stakeholder expectations.

3: Governance, administration, management and planning

Governance: The Governing Council comprises 16 members and records indicate that attendance from a core group of Council members has been regular. Consultations during the mission revealed a solid working relationship and partnership between Council and management. The Principal did indicate that there was a tendency for Council at times to step into administrative matters which compromises its role as a policy/governance body. Industry involvement on the Council has been strong in the past with the previous Chair having a strong industry background. Council members indicated that the Councils of Polytechnics need to be restructured with a far greater representation from industry and tertiary institutions. Council members felt that induction programs for Council members were lacking and that the demarcation of responsibilities between the Colleges, the NDOE and NEB was not adequately defined.

Administration and management: The Institute management team comprises a Director and Deputy Director (Academic) and Deputy Director (Administration). Following the fact finding mission to NZ the College prepared draft policies and procedures in areas of Student Conduct, Services and affairs, Council Constitution, Financial regulations and Human Resource Development. A Zero Tolerance policy regarding drugs and alcohol was approved by Council in 2010.

Planning: Following the NEB decision to establish the NPIPNG, the Council developed a ten year plan based on a major upgrading of facilities, staff qualifications, staff numbers and enrolments and introduction of an expanded number of Diploma programs and a range of degree programs. The Plan involves establishing Five Schools within the Institute – Arts, Tourism and Hospitality, Science

and Technology, Engineering, and Business Studies as well as a Student Services Division. The plan also involves a proposal to establish a Technology Teacher Education Department to train technical teachers in technical colleges, vocational centres, and community colleges. The Plan has been submitted to TVET Division with as yet no response.

4: Educational Programs

Training is delivered by six Departments, Building and Civil; Mechanical Engineering; Electrical Engineering; Business Studies and Tourism and Hospitality. Courses offered include a range of nationally recognised courses which includes Diploma Programs of 80 weeks duration (12 courses) Pre-Employment Technical Training (PETT) Butchery; Technical Training Certificate (TTC1 & 2) in Business Studies and Drafting; Science Technology, Tourism & Hospitality; National Certificate 1 in Metal Trades (MFM & MFW); Extension Program (Apprenticeship Blocks 1, 2 & 3) Cookery, and Diplomas in Building, Architectural Drafting, Civil Engineering, Electrical Engineering (Power & Electronics), Mechanical. The Lae Polytechnic Institute (NPIPNG) is the only Public Provider offering apprenticeship training in Cookery, PETT in Butchery, TTC training in Drafting, Science Technology, Tourism & Hospitality, and Diploma level programs in Architectural Drafting, Building, Civil Engineering, Electrical Engineering, Mechanical Engineering, Applied Science, Hospitality Management,

As part of the national qualifications roll out, NPIPNG commenced delivery in NC1 competency based training (CBT) courses in metal trades and phased out delivery of TTC1. Discussions with teaching staff revealed a number of issues which continue to affect successful implementation of new national competency based training package:

- Inadequate staff development to explain content and assessment requirements of packages.
- Lack of management support to facilitate implementation
- No reduction in teaching loads to allow the development of associated new learning materials.
- Insufficient computers (quality or quantity) including access to internet, and other robust office equipment are available for teaching staff to develop necessary paper based learning resources.
- No additional budget for equipment and consumable materials needed or identified in training packages.

Electrical Department

The Electrical Department offers two strands to its Electrical Diploma, Electronics and Power across 2 years and delivered in 4 stages. The first three stages are common and classes are combined. Stage four is specialised, when students select either of the two streams. The Diploma syllabus was developed in the late 80s and there have been two restructures since then. In 2004 a substantial restructure was initiated by college staff and in 2007 a Board of Studies was established to undertake a further restructure. Lack of funding for either facility or equipment maintenance has resulted in many equipment breakdowns and failure to keep up with current technology. Lack of funding has also resulted in teachers being unable to realign their knowledge or skills with changing trends and technology by way of work attachments or specialised training. Diploma teachers have no formal teacher training and increasing enrolments continue to add extreme pressure to satisfactory teacher recruitment selection. The college is now employing recent university graduates as part time teachers, but these do not enjoy suitable work experience or levels of knowledge or skills, which is exacerbated by a salary cap problem.

Teachers have initiated a final year practical project in which all students undertake electrical maintenance around the college. By using the sponsored mature students who have electrical licences to lead working teams to carry out identified tasks, all students gain valuable experience.

The department has a computer laboratory, with only 8 currently working and all using different operating systems. The Instrumentation Laboratory has 5 work stations installed with analogue

equipment. There has been no budget to update with digital control equipment. The machines laboratory is fitted with original non working motors and equipment. Student learning consists of being shown specific components and teachers explain the operation.

Mechanical Engineering Department

A two year Diploma in Mechanical Engineering has been operating since 2000, still using the original syllabus. Current enrolments are Stage 1 30 Stage 3, 20. The Department still offers both TTC and NC courses. The TTC courses have been retained because of OHE funding support. NC programs do not attract OHE funding, so community pressure has forced the college to continue offering. Two programs in Metal Fabrication and Fitting and Machining are currently duplicated in TTC 1 and 2 and NC 1 and 2. Current enrolments in each TTC stream is 70 each, which is placing pressure on facilities and teaching staff. Current enrolments in NC programs have been limited to 15 and 13.

Training equipment is obsolete and has been in operation since originally installed in the late 70s and parts are no longer available to repair the failing number of lathes and other associated items of equipment. The radial drill and surface grinder no longer function. Apart from personal protective equipment (ppe) for students, there is little evidence of workshop safety practice being observed. Staff are not provided with ppe. Welding equipment is failing and there is not extraction system installed in the metal fabrication workshop. Equipment that was installed in the Trade Testing work areas that were provided by AusAID during the NATTB project in 1998, is now failing. Trade testing in Metal Fabrication can now only be undertaken in Level 1 because of a broken brake press. The original press was of Taiwanese manufacture and can no longer be repaired. Funding for maintenance and replacements has not been available. Lack of maintenance in all training facilities has reached a stage where they are now considered unfit for continued use.

There is no heat treatment or fluid/hydraulic laboratory remaining in use and there is no materials laboratory where students can carry out materials testing.

Building and Civil Engineering Department

Courses operating are three Diplomas in Architectural Drafting (two years), Building (two years) and Civil Engineering (2 years). All three require year 12 entry applicants who can apply for OHE support. There is also a TTC 1 and 2 Drafting program, which currently operates for two years. Current enrolments Diploma in Architectural Drafting Year 1 - 60 and Year 2 − 38, Civil Engineering Year 1 enrolments 70 and TTC 1 enrolments 45 and TTC2 enrolments 38. Work attachment applies to TTC 2 Term 3 only.

All facilities, classrooms, studios and laboratory are all very old and some unsuitable for continued use. Two crowded classrooms have ceilings falling down, decayed insect screening and very dirty (no evidence of any cleaning). Studios are poorly furnished and equipped, insufficient drawing boards and tee squares are in use. Two computer rooms with old computers are fitted with outdated Autocad (2004 software) with incompatible operating platforms make networking impossible. Less than 50% of computers are functioning and there are no UPS connected. The constant power interruptions are reducing the effectiveness of remaining working machines. Only one printer is available and still operating. There is no additional technical support technician to manage the computers or prepare materials. There is no internet connected and any working machines are being constantly infected with viruses. Curriculum is old and outdated. Teachers participated in an industry workshop in 2006 to review curriculum and to develop new competency standards, and they understand that Curriculum Branch is developing a new training package, but nothing has been released. Drafts were completed approx 5 years ago, but there is no knowledge as to when it will be available. The Department has a limited number of old unsuitable textbooks (1969 − 1970 editions) which students share. There are no Autocad texts for students to borrow to refer to when using Autocad.

The materials laboratory is currently being used as an additional classroom, as all equipment is no longer operating. There is no supporting laboratory technician to prepare or maintain the laboratory. There is no opportunity for students to undertake materials testing experiments or to consolidate knowledge of blending different aggregates or concrete mixes. The surveying and levelling equipment is out of date and of insufficient quantity.

To overcome teacher shortages, classes are combined for compatible subjects, but this together with large enrolments is generating large classes and overcrowding.

Applied Science Department

Two courses are currently being offered. Since 2000 the college has offered the Diploma of Applied Science, which covers chemistry, physics and microbiology in two years which requires year 12 entry. Since 1999 a TTC in Science Technology has also been offered. It is also offered over two years and requires year 12 entry. Currently there are insufficient classrooms, or laboratories available to accommodate the large number of enrolled students. New curriculum has not been introduced since the course commenced, but a syllabus committee was formed with representation from Unitech, industry, TVET and college staff to approve appropriate changes. Equipment and instrumentation is obsolete or not operating. Staff are not provided with opportunities to upgrade knowledge and skills in either techniques or qualification. There is a newly developed NQF NC3 available, but learning resources have not been developed, nor have funds been made available for necessary equipment.

All laboratories are in very poor condition and in need of replacement. Safety procedures are not being observed, there is no fire fighting protection and chemicals are original stock. The chemical store does not have a protective extractive system installed and louvre windows open onto a pedestrian walkway. All laboratory workbenches are in very poor condition, with laminated plastic surfaces lifting at the edges and are considered to be a safety hazard.

Text books are out of date and teachers supplement student learning with printed handouts, but students can do research using old reference books. Teachers indicated that security in the library is unreliable and recently 10 textbooks went missing.

Business Studies Department: The largest Department with 20 staff and 315 students – 274 doing Diploma programs and 41 studying the TTC course. The Department experiences very high student demand for these courses with the number of students enrolled based on the number of computers in the computer laboratories as computing is a core compulsory subject. The HOD reported that teacher turnover has not been great and certainly less than elsewhere in the Institute.

Students studying the Diploma in business studies undertake a common program in Stage One after which they specialise in either Accounting, Management, Computing, or Office Administration. The Stage One program is also offered in the evening for students currently in the workforce. The curriculum for the Diploma programs has not been reviewed since the mid 1990s. The Department has initiated discussion with Divine Word University to negotiate accreditation arrangements for the Diploma courses. Preliminary discussions have also taken place with the Institute of Chartered management Accountants (ICMA) in terms of professional recognition.

The TTC course is being phased out in 2011 with the new NC1 courses to start in Semester Two. Teachers and Section heads consistently reported a steady deterioration in quality of student intake over the last decade despite most students coming to the Department with 'As' and 'Bs' in the Grade 12 examination results.

Tourism and Hospitality Department: Four courses are currently offered; i) Diploma in Hospitality Management – 80 weeks; Technical Training Certificate (TTC) - 80 weeks; Pre Employment Training Certificate (PETT) in Meat Processing– 40 weeks; and iv) Extension blocks for apprenticeship in

Cooking. The Department is not currently running any new NC courses in Tourism and Hospitality due to staffing constraints. Discussions are well advanced with the NATTB for the Department to offer apprenticeship programs in Bakery and Pastry n the near future.

A TSC ceiling of 10 positions has remained unchanged for several years despite a surge in enrolments in the Diploma program. The Department has experienced significant staffing difficulties resulting in the need to defer courses at times. Little staff turnover has occurred since 2006/07. The current staff have a high level of industry experience but advised the mission that opportunities to update skills with attachments to industry are not currently available. The current structure of curriculum and course content in the Diploma and TSC courses does not meet student expectations and appears to be not in line with industry requirements. The poor condition and status of the teaching equipment results in an excessive teacher centred pedagogy. The facilities being used by the Department were constructed in 1972. Lack of funding for maintenance and replacement of equipment has resulted in the majority of equipment intended for teaching currently out of order and now working.

Most of the equipment on the training kitchen has been out of service for over 15 years and needs replacing. To cope with the significant enrolment increase the Department has converted a number of specialist teaching spaces (bakery room, conference room, front office) to general purpose classrooms. Despite these gaps and constraints with facilities, the mission was advised that feedback from industry on the organisation of the programs was positive and student morale was high with s a strong emphasis, on discipline, dress and grooming appropriate to the industry environment.

HIV/AIDS: There is no distinct HIV/AIDS program for students. The Director advised that teachers have been asked to include where appropriate in personal development programs.

Assessment: The Deputy Director (Academic) indicated that consistency in assessment remains a major challenge for the Institute. Transparency is lacking which impacts negatively on the quality of the credential. Failure rates are reported to be very high during the first term. No analysis of end of year failure and completion rates across the various courses has been undertaken.

Table 4.1 – National Polytechnic Institute - Lae Enrolments by Course

National Polytechnic Institute – Lae	Male	Female	Total	Level	Field
Diploma in Business Studies Stage One	68	79	147	D	B
Diploma in Business Studies Stage Three – Accounting	16	14	30	D	B
Diploma in Business Studies Stage Three – Management	23	25	48	D	B
Diploma In Business Studies Stage Three – Computing	13	8	21	D	B
Diploma in Business Studies Stage Three - Office Administration	16	14	30	D	B
Diploma in Tourism and Hospitality Stage One	33	16	49	D	H
Diploma in Tourism and Hospitality Stage Three	10	15	25	D	H
Diploma in Applied Science	81	31	112	D	A
Diploma in Architectural Drafting & Building Stage 1	20	5	25	D	A
Diploma in Architectural Drafting & Building Stage 3	13	8	21	D	A
Diploma in Building	54	5	59	D	A
Diploma in Civil engineering	99	17	116	D	A
Diploma in Electrical Engineering	74	10	84	D	A
Diploma in Mechanical Engineering	43	7	50	D	A
TTC Business Studies Grade 12	19	22	41	T	B
TTC Tourism & Hospitality	30	53	83	T	H
TTC 2 Applied Science	73	32	105	T	T
TTC Drafting	60	12	72	T	T
TTC Metal Trades	149	12	161	T	T
PETT Butchery	5	8	13	T	H
Total number of Students	**899**	**393**	**1292**		
Percentage	**69.5**	**30.5**	**100**		

Table 4.2 – Level & Field Legend

CODES FOR LEVELS
D=Diploma
T=TTC
E=Extension
N=National Certificate (NC)
C= Council approved courses
CODES FOR FIELDS
B=Business Studies
H=Tourism & Hospitality
A=Applied Science
T=Trade Technology

Table 4.3: Enrolments by Level & Field

	Diploma	TTC	NC	Extension	Council Approved	Total

Totals	817	475	0	0	0	1292
Percentage	63.2	36.8		0	0	100
	Business Studies	**Tourism & Hospitality**	**Applied Science**	**Trade Technology**		**Total**
Totals	317	170	467	338		1292
Percentage	24.5	13.2	36.1	26.2		100

5: Academic and non-academic staff

As the largest institution, Lae has the largest workforce.   80% of teachers are male. And 64% are aged 40 years or more. Over 60% of staff hold a Bachelors degree or post graduate qualification and at least 60 % hold a teaching qualification. **Staff turnover is very high and the college is struggling to retain qualified staff.**

The following tables and charts depicting the teacher profile at NPIPNG are based on responses to questionnaires collected during the college visit. 63 teachers (including Principal and Deputies) responded. Not all teachers responded to each question.

Table 5.1: Age Distribution of Teaching Staff

Age Range	Numbers	Percentage
20 – 30	5	8
31 - 40	18	29
41 – 50	25	40
51+	15	24
Totals	**63**	**100**

Chart 5.1: Age Distribution of Teaching Staff

Age Range in Years of Teachers at National Polytech (2011)

- 20 - 30: 8%
- 31 - 40: 28%
- 41 - 50: 40%
- 51+: 24%
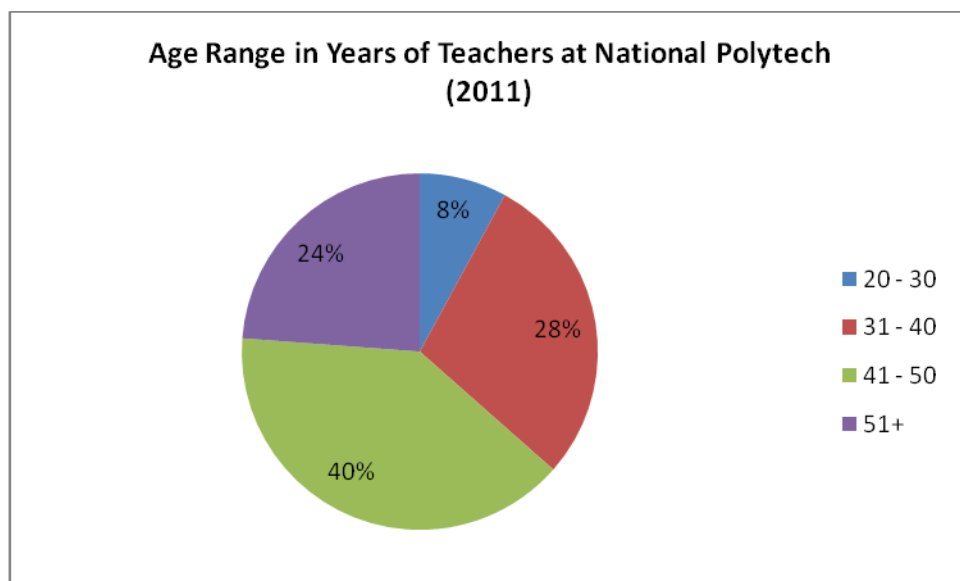
Table 5.2: Gender Distribution

Gender	Numbers	Percentage
Male	50	79
Female	13	21
Total	**63**	**100**

Chart 5.2: Gender Distribution
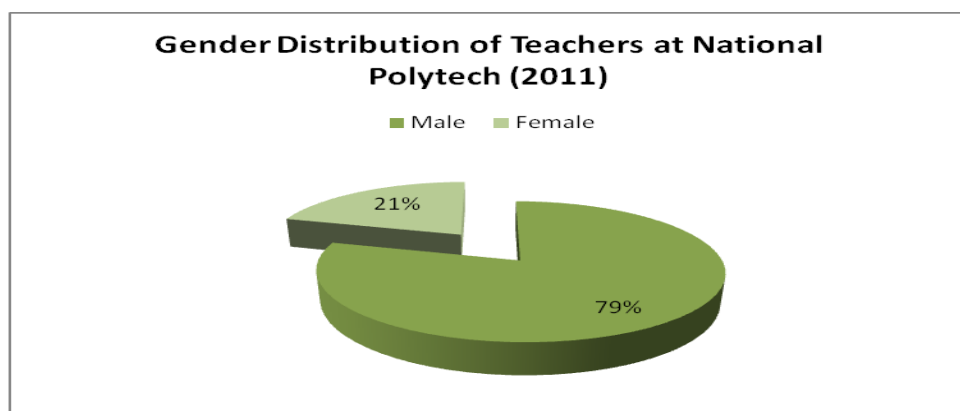
Gender Distribution of Teachers at National Polytech (2011)

- Male: 79%
- Female: 21%

Table 5.3: Highest Qualification

Highest Qualification	Male	Female	Total	Percentage
Masters	2	1	3	5
Post Graduate Diploma	4		4	14
Bachelors Degree	25	8	33	44
Diploma	17	3	20	32
Certificate			0	0
Did not answer	2	1	3	5
Total	**50**	**13**	**63**	**100**

Chart 5.3: Highest Qualification
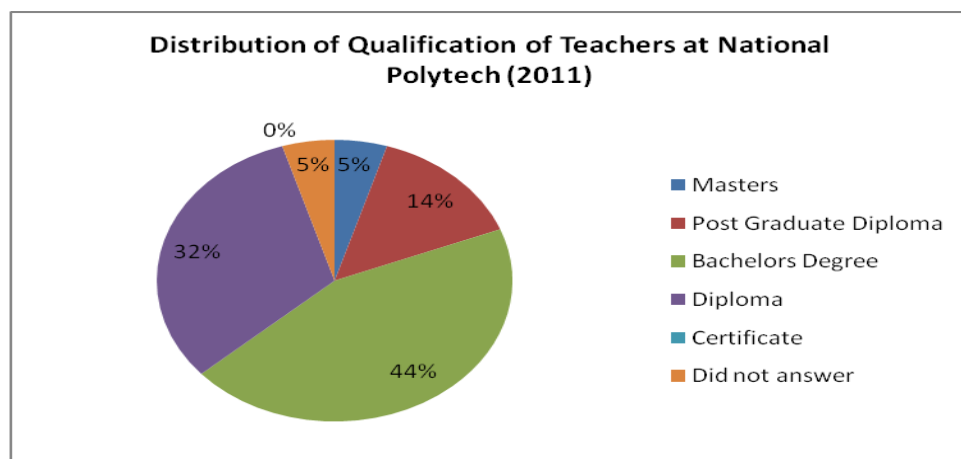
Distribution of Qualification of Teachers at National Polytech (2011)

Table 5.4: Percent of teachers with Teacher Training

Teacher Training Qualification	Numbers	Percentage
With Teacher Training	38	60
No Teacher Training	20	32
Did not answer	5	8
Total	**63**	**100**

Chart 5.4: Percent of teachers with Teacher Training
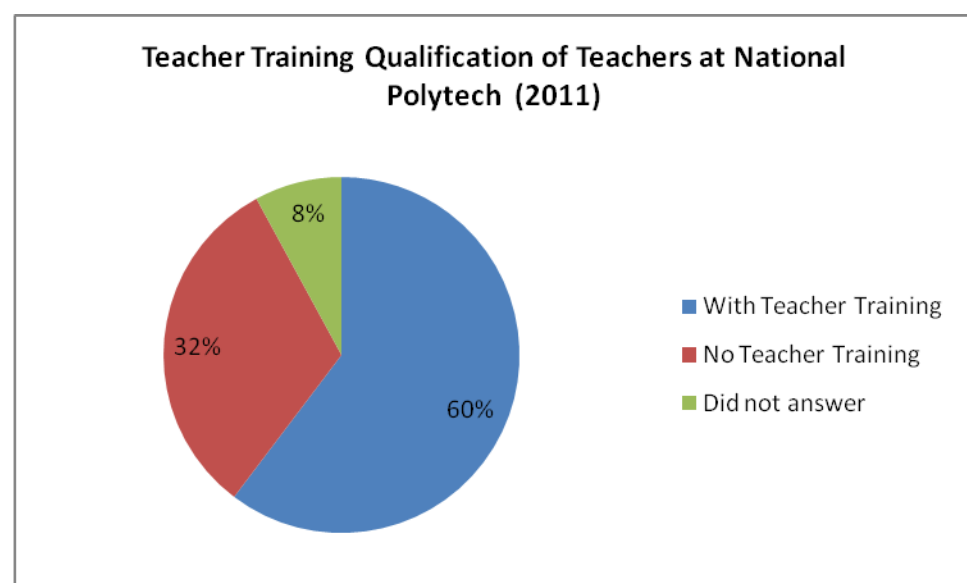
Teacher Training Qualification of Teachers at National Polytech (2011)

- With Teacher Training
- No Teacher Training
- Did not answer

Table 5.5: Access to Internet

Access to Internet After Hours	Numbers	Percentage
Access to Internet	19	30
No Access to Internet	43	68
Did not answer	1	2
Total	**63**	**100**

Chart 5.5: Access to Internet
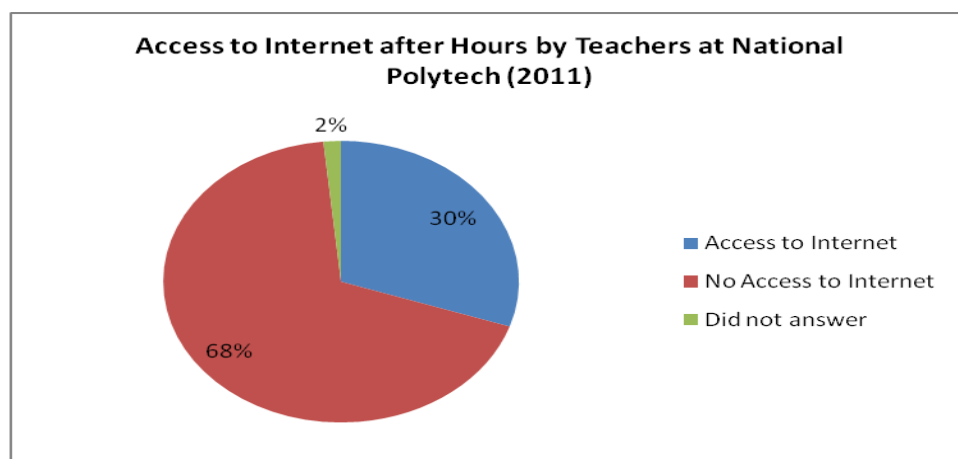
Access to Internet after Hours by Teachers at National Polytech (2011)

Table 5.6: Occupancy of College Houses by Teachers

College House Occupancy by Teachers	Numbers	Percentage
Do not live in College House	24	38
Live in College House	37	59
Did not answer	2	3
Total	**63**	**100**

Chart 5.6: Occupancy of College Houses by Teachers
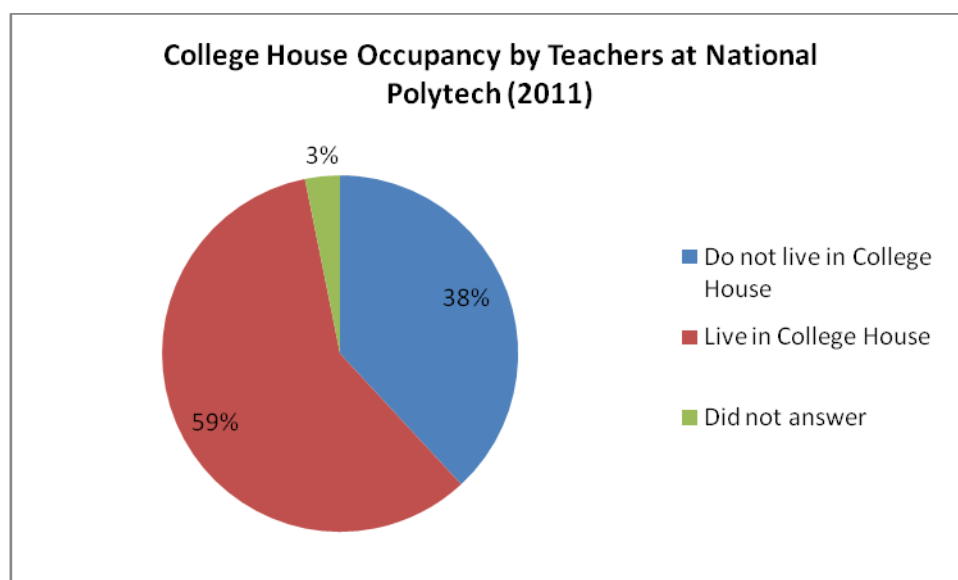
College House Occupancy by Teachers at National Polytech (2011)

Table 5.7: Teacher Assessment of Quality of Housing

Quality of Teachers' Houses	Numbers	Percentage

Excellent	1	2
Good	5	8
Fair	17	27
Poor	29	46
Did not answer	11	17
Total	**63**	**100**

Chart 5.7: Teacher Assessment of Quality of Housing
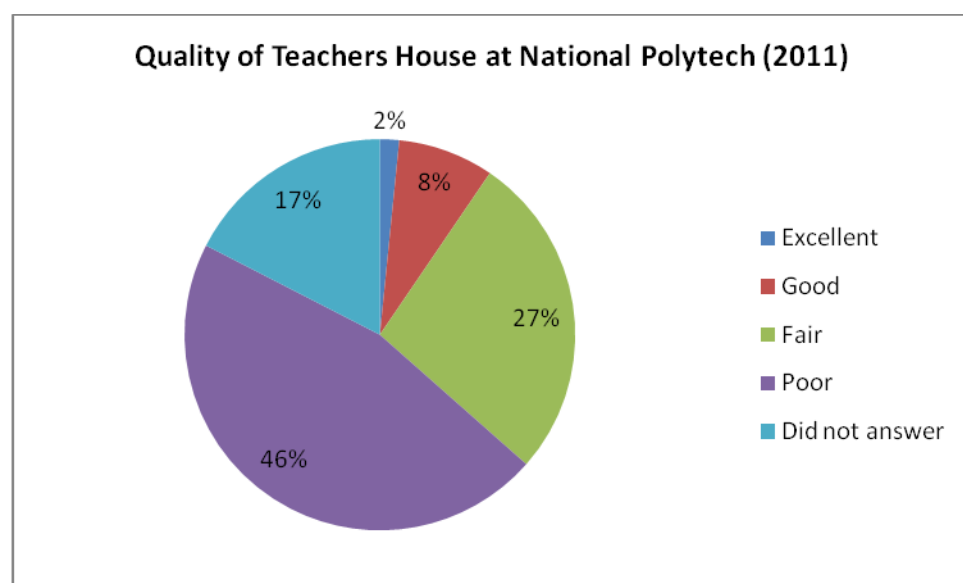
6: Learning Resources (including Library and IT)

Library

In TVET institutions learning resources can be in the form of physical workshops; fixed equipment items; minor items of equipment such as portable power and hand tools; computer based electronic (IT); paper based resources and published text and reference books.

Because of the inability to provide specific text books for student use, each department struggles to develop appropriate student handout materials to support learning. In some cases students are required to provide their own text books. Otherwise, some departments do hold several reference books which provide suitable materials for students to. In addition, the library holds alternative suitable reference books for students which have been either purchased or donated.

Although the library holds approximately 10,000 books in its collection, the majority comprise old donated novels, which are not accessed by students. Library hours are Mon-Thurs 9am – 10pm, Fri 9am – 3pm Sat and Sun 6pm – 10pm. Students can borrow up to 3 books from the general collection but, the reference collection can only be used in the library.

The library was originally established with AusAID funding in late 80s, but because of no ongoing maintenance the centre is in need of renovation and restocking. The air conditioning system is still operational but the book detection system is no longer working and books are at risk. There are four computers available for student use and are in heavy use until the constant power failures stop operation. There is no internet and virus infection is only managed by constant control of flash drive and cd use. Software upgrade is an issue. Last year, the library was allocated a K60,000 budget,

rising from a previous budget of K10,000. Book purchase is difficult in PNG, but through linkages with Unitech bookshop the college and students can purchase there.

The librarian has been 12 years in the position and is very dedicated to his responsibility. He has seen a gradual decline in the state of the library because of inadequate building and equipment maintenance or updating, but the library is still heavily used by students. The photocopier has been in operation for about 7 years and continued heavy use requires constant servicing. Increased student enrolments are now generating pressure on library space and students sometimes have to sit on the floor.

Information Technology

The Polytechnic currently has six computer laboratories with 150 computers in total including 72 provided by AusAID under the ECBP. Because of the recent enrolment growth computer hardware and software in all Departments at Lae is inadequate. No internet is available. There are insufficient working desktop computers available for full class use. Continuing breakdown and non replacement have now resulted in several students having to use one computer. Furthermore, the continuing power failure is clearly shortening the life of all electronic equipment even the life of UPS, many of which need replacing. Software is obsolete and requires updating, but without connection to internet, this is not easy to achieve. Continuing virus infection is a further impediment to efficient operations and use USB memory drives increases the risk of damage. In the Architectural Drafting computer laboratory, AutoCad software if an old version and prevents students from experiencing current versions of what local design and building companies use. There are no networked systems in operation and insufficient printers attached to produce drawings. There is no appointed Technician to manage and repair faults as they continue to occur.

There is insufficient access for staff use, only recycled computers and teachers usually have to wait for colleagues to complete individual tasks in order to prepare learning materials and assessment records. No internet access is available and there are no multimedia projectors in use in any classroom. Teachers and students are denied a valuable teaching/learning method.

The library has four working computers for student use, but constant power failures make continuing operation difficult. There is no internet available for student use, even on a user pay basis. The librarian arranges virus upgrade at the end of each semester, but this does not provide adequate protection. Also, the librarian has installed Encarta for student use, but this is long outdated and cannot be upgraded unless new versions are purchased.

The Polytechnic plans to introduce courses in IT as part of its Polytechnic academic plan.

7: Student Activities

Security is something the students at this college enjoy. The students reported that the zero tolerance policy, the fence and the diligent security guards make them feel safe in the campus. There is a clinic with a certified and registered nurse who is always in the campus. There is a corner trade store that was busy and active. This is owned and run by an outsider. The food at the mess is reasonable. The messing staff members are well trained in the area.

There is no clearly designated counsellor for the college. But the home room teacher usually provides some sort of guidance and time for the students to express their collective concerns. There is a sporting field, a basketball and volley ball court. The SRC organizes sports, cultural; and social events for the students. The SRC is also involved is organizing religious activities with the different church groups.

Some students complained that the SRC does not work closely with the administration. These students stated that most of the grievances, concerns, issues and requests brought to the administration by the SRC are usually turned down by the administration.

The orientation for the students has been described by the students as very minimal. It was simply registering and being given a timetable. The students also complained about overcrowding in the classrooms, mess hall, workshops and lecture rooms.

The students that were present in the consultations were happy to be at Lae and were determined to get a qualification.

8: Financial Resources

After a period of poor financial management a few years ago funds are now well managed at NPIPNG. A range of measures and strategies were progressively implemented by the previous Principal and Registrar (still at NPIPNG) to restore the state of College finances. Prudent financial management has enabled the College to fund two new buildings from locally raised funds.

The rapid growth in student enrolments over the last five years has impacted positively on Institute revenue and expenditure with Revenue collected in 2010 comprising K5,351,221 and expenditure K5,010,059. Major cost pressures have been experience in food for the students mess, utilities in particular water supply, and maintenance of dormitories. The approved budget for 2011 is based on projected Revenue of K8,185,701 and Recurrent and Capital expenditure of K8,185,701. The Revenue projection includes a fixed term deposit of K2,206,856. The estimated Expenditure includes Capital expenditure of K2,403,000 and Recurrent Expenditure of K5,782,701.

The Institute is served by a very experienced and qualified Registrar with prior experience in a multinational corporation. At the time of the mission the balance in the Institute Working account was K4.5M. In addition, the Institute had an IBD with a balance of K0.9M. Sound revenue collection systems are in place with approximately 80% of student fees collected at the start of the year and from 2010 as a measure designed to collect outstanding student debts, a 'No permit, No exam' policy has been approved by the College Council.

The following table provides a picture of the revenue collected at NPIPNG in 2010 (from the 2010 College budget report) along with an estimate of the level of expenditure. The expenditure includes an estimate of the teacher salary expenditure and associated costs incurred by the GoPNG through the TSC.

Table 8.1 - Revenue & Expenditure, National Polytechnic Institute – Lae

National Polytechnic Institute – Lae		
Revenue		
Revenue Stream	**Total Revenue (Million Kina)**	**Percentage of Revenue**
School Fees	4.43	83.31
Grants NDOE	0.06	1.13
Grants OHE	0.44	8.26
Grants Other	0	0
Other Income	0.39	7.3
Total Income	**5.32**	**100**
Expenditure		
Expenditure	**Total Expenditure (Million Kina)**	**Percentage of Expenditure**
Salaries ancillary staff	0.51	7
Salaries teachers	1.78	23
Contract officer entitlements	0.87	11
Operational Expenditure	0.18	2
Operational Materials	2.37	31
Office Materials & Supplies	0.17	2
Maintenance	0.5	7
Utilities	1.07	14
Transport	0.05	1
Capital Expenditure	0	0
Other	0.19	2
Total	**7.69**	**100**

9: Physical Infrastructure (assessment conducted on 14-16 March 2011)

Facilities Management

Planning: The DP Admin has a clear idea of what new facilities need to be done next, in what order, and in what locations. Future planned works are documented in a 22 project prioritised list of capital improvements: "Outline of LTC - Project Proposals".

There are also overall policies: to replace single storey buildings with two-storey, in order to allow for the growth of the Polytechnic, and to replace timber with concrete block, in order to reduce maintenance and damage from a termite colony which has many sub-colonies in this part of Lae. These policies are not yet documented.

Operations: Operational management of the facilities comes under the purview of the DP Administration. The DP Administration is an architect, and the DP Academic is a Civil Engineer. This gives the Senior Management Team (SMT) more infrastructure expertise than in the SMT of any other College. However, this situation is uniquely possible for NPIPNG, because only it has Civil Engineering and Architecture faculties. The DP Administration also has 12 years industry experience, which is critical to the broad range of knowledge required to run a facility.

There are no policies or guidelines on maintenance, or timetabling to maximise utilization. Classrooms are grouped on a faculty basis, rather than being administered collectively and used as needed. However, informally, the DP Administration applies a "students first" policy, in part as

response to student unrest at Unitech. This policy aims to improve student morale by focussing refurbishment expenditure on student dorms and facilities. The policy is also applied to staff housing, with teaching staff prioritised over management staff.

There is no maintenance manager or staff person charged with the maintenance program. As with most public TVET campuses, the DP Administration undertakes this role personally. He undertakes a monthly inspection of facilities, and submits a maintenance list to the Council, who approves, typically, about half of it. In addition, the DP Administration undertakes routine and scheduled maintenance. The Polytechnic maintains a small maintenance staff, but contracts out most of the maintenance work to local contractors. There is a full time plumbing team on call to respond to plumbing problems seven days a week.

New Project Implementation: The Polytechnic has implemented two teaching infrastructure projects: a two-storey classroom block, completed, and a new Administration block, currently under construction. Both were designed in-house. An external architectural firm was engaged to provide supervision. The buildings were tendered out, and the final selection approved by the appropriate tenders board (in this case, the Provincial Tenders Board.)

The Polytechnic has also recently built new housing duplexes for teachers and ancillary staff. These appear neat, clean, well-designed, and appreciated by the staff.

The College seems to have the capacity to carry out building works at this level of scale.

Finances
Capital: The Polytechnic has no dedicated capital budget, and has had no major externally financed new infrastructure since the early 1980s. The new buildings have been financed out of the Council budget. On the one hand, this shows initiative. However, capital expenditure secured in this way 'robs Peter to pay Paul': it forgoes important maintenance, refurbishment and repair in order to build capital budget. It is therefore not a viable strategy to recapitalise or grow the Polytechnic, and those TVET campuses with high quality infrastructure (outside the public system) have achieved this through capital funding from outside their capital budget.

Maintenance: There is an annual maintenance budget. The process for drawing on this budget is described above under "Facilities Management: Operations". Generally, there is strong evidence throughout the campus of ongoing maintenance and improvement. However, the quantum if investment in maintenance is not sufficient given the scale of the campus, and much work remains undone.

Health infrastructure
This section summarises some of the detail in sections below in so far as they relate to health.

Water Supply: Lae has periodic blackouts. The Polytechnic water supply is dependent on a Water Board pump, which stops working when there is a blackout. The Polytechnic has responded by purchasing some water tanks. Water Board laws prohibit the use of rainwater tanks in areas where there is mains supply. However, this could be worked around by using mains water to fill the water tanks.

Sanitation: The Polytechnic is connected to Lae's town sewerage system, which works well. However, parts of the housing area are located downhill from the town mains, and are on septic system. The Polytechnic would like to build pumps to connect these and future houses to the mains.

Dorm Ablutions: The boys dormitory Ablution Blocks are in a bad state of repair, are not clean, and have floors that are constantly wet. The girls dormitory toilets are recently renovated, and are in a good and clean state.

Kitchen/Mess: The Kitchen/Mess is in good condition. As the Polytechnic grows, it will either have to be expanded or double-shifting will have to be introduced. The Polytechnic is considering the later, and this would seem to be the more capital-efficient option.

Clinic: There is a Clinic, staffed by registered nurse. The Polytechnic wishes to replace this, as the current building was originally designed as a storehouse.

Day Toilets and Drinking Water: There is one set of day toilets, but this is not sufficient given the level of student enrolments. There is no drinking water supply for students outside the Mess and the Dormitories.

Exercise: There is one large playing field, and a number of smaller activities areas scattered throughout the college.

Other services
Telephone: External supply to Administration, and an internal switch connects to all departments.

Internet: The Polytechnic has contracted with Telikom to provide Internet access to a number of computers on campus. However, this arrangement is not proving reliable.

Power: Electrical supply is cut off periodically during load shedding. The College has a functioning backup generator, which supplies teaching facilities but not houses.

Solid Waste: Lae City Council uses contractors to collect solid waste from both College and housing area. College collection works well.

Industrial Waste: Industrial waste is picked up by an LCC specialist contractor.

Grounds
Security: The perimeter fence is complete, high quality steel picket, built by Polytechnic students. In addition, the Polytechnic has hired an external security firm that maintains internal patrials. It has also instituted a 'neighbourhood watch' system.

Access: The campus is centrally located on a main road. Internal roads are mostly unsealed and unmaintained, but seem adequate for the low traffic they maintain. There is a path network, with some parts of (drain crossings in particular) not safe.

Expansion: In order to expand, the campus has the following strategies:

- move the sports field to lower ground near the river
- take legal action to displace squatters on land to the North end of the campus, outside the current fence (they have already been given legal notice)
- in future, build only two storey buildings
- in future, build apartments for staff, instead of free-standing buildings.

Open Space: The campus has one sports field, and a number of recreational open spaces scattered around the campus.

Drainage: The site is well-drained, and is not flooded by the nearby Bumbu River.

Landscaping: Landscaping is well maintained.

Building Stock
Much of the building stock is sound and in good condition, barring additional maintenance. Some timber structures, such as the Administration block, and the Civil Engineering complex, have been invaded by termites. Others, such as the Hospitality and Tourism complex, are too old to be worth investing further in.

Core Resources: There is a new, two-storey Administration building under construction. The current library is too small for the size of the campus. The Polytechnic is renovating a hall as Student Recreation Centre, and plans to build a special building for student counsellors, and SRC. The Polytechnic has outsourced the operation of a canteen and a stationery store.

Teaching: Workshops and classrooms are segregated functionally, rather than in grouped flexible spaces. There is a poor spatial relationship between classrooms and workshops. There is a range of quality in the workshop and laboratory facilities, with Mechanical having some of the worst, and the Science Technology department having some of the best. The Polytechnic is making an effort to upgrade and renew all of its teaching facilities within the limited funds available.

Student Accommodation: Student accommodation also varies. Girls accommodation has largely been recently renovated, and is in good shape, though overcrowded 2:1. The boys accommodation has been only cosmetically relocated, and is similarly overcrowded.

Staff Housing: The staff houses are generally in fair condition, with some major exceptions. A refurbishment program is making small improvements in staff housing. Some boys dormitory has been converted to staff housing: this is completely unsuitable for family life.

Informal: There are several small trade stalls on campus, which appear to provide a useful social function.

Building Data
Note: Due to the absence of building asset or condition registers, the data recorded here are approximate, and require further inspection and investigation.

	TYPE	QTY	CONDITION		
			Fair	**Poor**	**Very Poor**
			Needs minor R&M	Needs major R&M	Not worth investing in
Core Resources					
New Admin	Building	1	1		
Old Admin	Building	1			1
Library	Building	1	1		
Student Services	Building	-	-		

	TYPE	QTY	CONDITION		
			Fair	**Poor**	**Very Poor**
			Needs minor R&M	Needs major R&M	Not worth investing in
Clinic	Building	1	1		
Day Toilet	Building	1	1		
Bulk Store	-	-	-		
Departments					
Staff Rooms					
• Hospitality	Room	1	1		3
• Science Tech	Room	1	1		
• Mechanical	Room	2	2		
• Building/Civil	Room	1			1
• Business	Room	1	1		
• Electrical	Room	1		1	
Classrooms					
• Tourism and Hospitality	General				3
• Science Tech	General	-			
• Mechanical	IT	2	2		
	General	7	7		1
• Building, Civil, Architecture	General	6			6
	IT	4			2
• Business	Rooms	9	9		
• Electrical	Rooms	3	3		
Workshops, Labs					
• Hospitality	Buildings	4	1		3

	TYPE	QTY	CONDITION		
			Fair	**Poor**	**Very Poor**
			Needs minor R&M	Needs major R&M	Not worth investing in
• Science Tech	Buildings	1	1		
• Mechanical	Buildings	4	1		3
• Building/Civil	-	-	-		
• Business	IT Rooms	2	2		
• Electrical	IT Rooms	5	5		
Lecture Room	Building	1		1	
Student Accommodation					
Dorm + TAL (M)	~24 bed	14	8		6
Dorm + TAL (F)	~24 bed	7	5		2
Mess	Building	1		1	
Recreation	Building	1		1	
Staff Housing					
• Principal	House	1	1		
• Duplex Units	2-bed	8	8		2
• Matron	Apt	1			1
• Staff houses	House	28	25	2	1
• Dorm units	Slum	15			15
Informal					
Small stores	As hoc	3-4			

10: National Polytechnic Institute of PNG (Lae)– Summary SWOT (strengths, weaknesses, opportunities and threats)

Strengths	Opportunities
- Location and accessibility of site Physical planning capability with in house professional design expertise - Security system - Maintenance program and budget (recent introduction) - Use of outside professionals - Robust procurement process - Financial management - Bottom up prioritisation - Consistent and stable leadership - Management skills and experience - Qualifications of staff - Zero tolerance policy - No permit, no exam policy - Student services - Library (professional staff and student access) - High demand for courses - Council and executive working in partnership	- Government decision to establish NPIPNG - High student and industry demand - Opportunity to link with industry – Lae the manufacturing hub of PNG - Opportunities to strengthen tertiary education linkages and also private providers - Site can accommodate increased demand with good physical planning - New Government emphasis on TVET - Positive donor environment
Weaknesses	**Threats**
- Overcrowding in student dormitories - Overcrowding in classrooms, laboratories and library - Many buildings beyond useable life - Lack of a safety culture - Obsolete equipment with much not in working order - High Student/Equipment Ratios - Lack of maintenance of equipment - IT: lack of support & system - Very limited internet access - Working with outdated curriculum in Diploma courses - Problems in retaining qualified PNG national - Many staff without teacher training - Limited opportunities for staff to update skills with OJT - Lack of student resources - Student selection process - Industry linkages not strong	- Stakeholder expectations in terms of Polytechnic - Lack of policy parameters to guide planning for Polytechnic development - Highly competitive environment with many private providers - Continuing loss of industry confidence with public TVET - Competition for staff - Low wages and poor conditions based on the TSC system - Funding insecurity from government - Slow pace of implementation of TVET reforms - Dysfunctional and fragmented TVET sector

Annex 3F: Madang Technical College: Situation Report

1: Institutional profile

Madang Technical College (MTC) is one of PNG's oldest technical colleges having started its life as a junior technical school in 1957 taking Grade 6 school leavers into Form 1 and 2 technical school studies. In 1972 the institution was changed to a technical college enrolling Form3 and 4 school leavers. With the 1996 rationalisation of Colleges under the home college policy Madang became a Building and Allied Trade College. The areas of mechanical, welding and secretarial studies were lost to other colleges and boat building was lost completely from the College system. MTC suffered acute enrolment decline from the mid 1990s to 2006 to a point where its viability was being seriously questioned. The total enrolment in 2007 was only 120 students and several of the courses enrolling less than 10 new students.

Since 2008 the College has recovered in terms of enrolment growth primarily driven by growth in business studies which from 2011 has been established as a separate Department as part of a recently approved new staffing structure. Enrolments have also recovered in the areas of Building and Construction and plumbing.

Early in 2010 an experienced Registrar was transferred from another College and late in 2010 a new Principal and Deputy were appointed by the NEB with clear accountabilities to develop a recovery strategy for MTC. At the time of the mission a new five year plan for the College was being developed under the guidance of the Principal. New courses are being planned in the areas of fibreglass boats and small engines and automotive/heavy equipment. In 2011 MTC was provided with an increased staff ceiling of 32 positions. At March there were two vacancies. In addition there were 23 ancillary staff engaged by the Governing Council. The confirmed enrolment for Semester One was 360 of which approximately 212 were boarding students. 89% of students are self sponsored with 7% HECAS sponsored and 4% company sponsored.

2: Purpose

With the Home College Policy introduced by TVET in 1996, Madang Technical College became the 'building trades' College.   In the early 2000s enrolments fell away and the viability of the College was being questioned. With the introduction of a business studies in 2008 enrolments recovered. Although the college enrols some students from each region in PNG, the majority of students are from Madang, Sepik and Manus.

3: Governance, administration, management and planning

Governance: The Governing Council comprises 16 members and records of meeting papers for the last three years indicate that attendance of Council members has been regular. Consultations during the mission with Council members revealed a solid working relationship and partnership emerging between Council and the new management. Council members indicated that the relationship with the previous administration was not an effective partnership.   The lack of follow up and implementation of Council decisions was a major concern. In addition the linkage with the TVET Division of NDOE through Council membership has lacked consistency and has been ineffective.

Administration and Management: During 2010 a crisis developed at MTC in terms of management and administration of the institution. Late in 2010 a new Principal (transferred from another College) was appointed by TVET Division with an internal staff member elevated to the one Deputy position.

Financial management had been a problem for a number of years resulting in chronic shortage of funds as the calendar year came to an end. Council papers recorded major problems with student and staff discipline. There was high rate of vandalization of College property and during the year two dormitories were destroyed by fire. It was clear that there was a major breakdown in terms of

implementation of policies, systems and procedures. There was evidence gathered by the mission that the new administration headed by a highly experienced College Principal is now making important progress in building staff morale and uniting the College community towards a shared vision of improvement. A Zero Tolerance Policy in terms of drugs and alcohol has been enacted in 2011.

Planning: A Management Plan for MTC was developed in 2010 for the period 2010-2015. The new Principal identified a number of flaws in the planning assumptions and structure and has recommended that a new plan be developed. The new five year plan (for the period 2011-2016) aligned to *Vision 2050* and associated planning documents and policies is currently under development.

4: Educational Programs

The four Departments are currently involved in delivery of four groups of courses: i) Diploma courses of 80 weeks duration – 2 courses; ii) Technical Training Certificate Courses (TTC) of 80 weeks – 4 courses; iii) National Certificate (NC) courses of 20 weeks – 7 courses; iv) Extension block courses in Cabinet Making and Cabinet Sheet Metal and v) Short courses of one to four weeks tailored to needs of local industry.

The Madang Technical College is the designated "Home College" for Construction Trades. Trade Training is delivered by 3 Construction trade related departments, Building Construction, including Carpentry and Joinery, and Block laying, Painting and Sign writing Sections; Plumbing and Sheet metal, and Furniture and Timber Trades.

Courses offered include a range of Technical Training Certificates (TTC 1 & 2) in Plumbing, Carpentry and Joinery, Painting and Decorating; Extension Programs (Apprenticeship Blocks 1, 2 & 3) in Plumbing, Cabinet Making and Carpentry, and Basic Cabinetmaking (BCM). In response to TVET directives, CBT National Certificate (NC 1 and 2) programs were commenced in 2009 in Carpentry and Joinery, and Plumbing. As part of the AusAID NATTB project during 1998, a trade testing centre was established for plumbing and subject to there being sufficient applicants, accredited college teachers carry out trade testing on behalf of NATTB.

Staff are unclear about the operation of CBT delivery and assessment and are struggling to prepare suitable learning materials for use by students. Although TVET Curriculum Branch has not developed any NTPs in Cabinetmaking for implementation, the Cabinetmaking teachers have been developing their own set of modules for NC1 and NC2, which are nearing completion and are of equal standard compared with other completed packages. Equipment and tools in all trade departments are well out of date or not working and in need of replacement.

In common with other colleges, discussions with teachers and students revealed that training does not contain the range or rigour that is necessary for successful outcomes, either in CBT or existing courses. Adequate occupational health and safety procedures are not being practiced. There are no safety guards provided over rotating equipment. Rainwater entering workshops through holes in roof and gutter systems are creating large pools of water on floors and are creating unsafe work environments for staff and students when operating equipment. There is no extraction equipment operating in any of the woodworking areas and machine operators wrap themselves in clothing masks and safety glasses for some form of protection.

The only available text books are substantially outdated and student handouts are prepared from old versions of Australian Basic Trade Manuals.

Discussions with HODs, senior instructors and technical teachers highlighted the following major issues:

- Inadequate staff development to prepare teachers for CBT delivery and assessment.
- Lack of systemic support to facilitate implementation.
- No procedure for teaching staff to undertake unpaid (salary continues) work attachments to upgrade knowledge and skills.
- Inadequate salary and conditions and high teaching contact hours.
- No opportunity for staff development.
- Insufficient preparation for implementation of National Training Package qualifications.
- No reduction in teaching loads to allow the development of new learning materials.
- Insufficient computers (quality or quantity) including access to internet, and other robust office equipment are available for teaching staff to develop necessary paper based learning resources.
- No budget to purchase the range of training equipment, tools and materials or text materials needed or identified in training packages.
- No recognition or funding for suitable texts/reference materials.
- No recognition or payment for excess hours over the 23 hr limit.

Business Studies Department
The largest Department with 11 staff and 200 students – 71 undertaking Diploma programs and 119 studying the NC 1, 2 and 3 courses in Office Administration and Tourism and 10 students studying Commercial cookery. MTC first started to offer Diploma and NC courses in Business studies in 2008 and the Department was formally established as part of the College organisation structure in 2011. The first cohort of graduates completed the Diploma program in 2010.

Students studying the Diploma in business studies undertake a common program in Stage one after which they specialise in either Accounting, or Office Administration. Plans are underway to offer two more Diploma streams depending on staffing and infrastructure availability in particular classrooms.

The curriculum for the Diploma programs has not been reviewed since the mid 1990s. Short courses for the local industries are also offered in arrange of areas. The Department has initiated discussion with Divine Word University to negotiate accreditation arrangements for the Diploma courses. The Department is also linking up with Vocational Centres with a view to these centres taking responsibility for the NC1 courses. The Department is experiencing a shortage of classrooms given the rapid increase in enrolments. Some classes are held in the evening to relieve classroom pressure.

Table 4.1 – Madang Technical College Enrolments by Course Semester One 2011

Madang Technical College	Male	Female	Total	Level	Field
Diploma in Business Studies Stage One	26	21	47	D	B
Diploma in Business Studies Stage Three – Accounting	7	10	17	D	B
Diploma in Business Studies Stage Three - Office Administration	3	4	7	D	B
Diploma Foundation studies	10	5	15	D	B
TTC Building Construction 1	28	1	29	T	T
TTC Building Construction 2	23	1	23	T	T
TTC Painting & Sign Writing 1	9	1	10	T	T
TTC Painting & Sign Writing 2	1	2	3	T	T
TTC Plumbing Sheet Metal Trade 1	16	1	17	T	T
TTC Plumbing Sheet Metal Trade 2	8	0	8	T	T
National Certificate 1 Office administration	14	29	43	N	B
National Certificate 2 Office administration	6	14	20	N	B
National Certificate 1 Carpentry/Construction	18	1	19	N	T
National Certificate 2 Carpentry/Construction	15	0	15	N	T
National Certificate 1 Plumbing Sheet Metal	29	3	33	N	T
National Certificate 2 Tourism Operations and Travel	5	18	23	N	H
National Certificate 3 Tourism Tour Guide	1	5	6	N	H
Tourism Commercial Cookery	7	3	10	C	H
Extension - Cabinet making	7	0	7	E	T
Extension – Plumbing and sheet metal	7	0	7	E	T
Total number of Students	**240**	**119**	**359**		
Percentage	**67**	**33**	**100**		

Table 4.2 – Level & Field Legend

CODES FOR LEVELS	CODES FOR FIELDS
D=Diploma	B=Business Studies
T=TTC	H=Tourism & Hospitality
E=Extension	A=Applied Science
N=National Certificate (NC)	T=Trade Technology
C= Council approved courses	

Table 4.3: Enrolments by Level & Field

	Diploma	TTC	NC	Extension	Council Approved	Total
Totals	86	99	160	14	10	359
Percentage	30	27.5	44.6	3.9	2.8	100
	Business Studies	Tourism & Hospitality	Applied Science	Trade Technology		Total
Totals	149	39		171		359
Percentage	41.5	10.9		47.6		100

5: Academic and non-academic staff

All of the 30 teaching staff are PNG nationals with 7 (25%) female. Only 28% of staff had a Bachelors degree or post graduate qualification. Approximately 80% of teachers have a teaching qualification. The following tables and charts depicting the teacher profile at Madang TC are based on responses to questionnaires collected during the college visit. 29 teachers (including Principal and Deputies) responded. Not all teachers responded to each question.

Table 5.1: Age Distribution of Teaching Staff

Age Range	Numbers	Percentage
20 – 30	4	14
31 - 40	11	38
41 – 50	8	28
51+	6	21
Totals	**29**	**100**

Chart 5.1: Age Distribution of Teaching Staff

Age Range of Teachers at Madang Tech (2011)
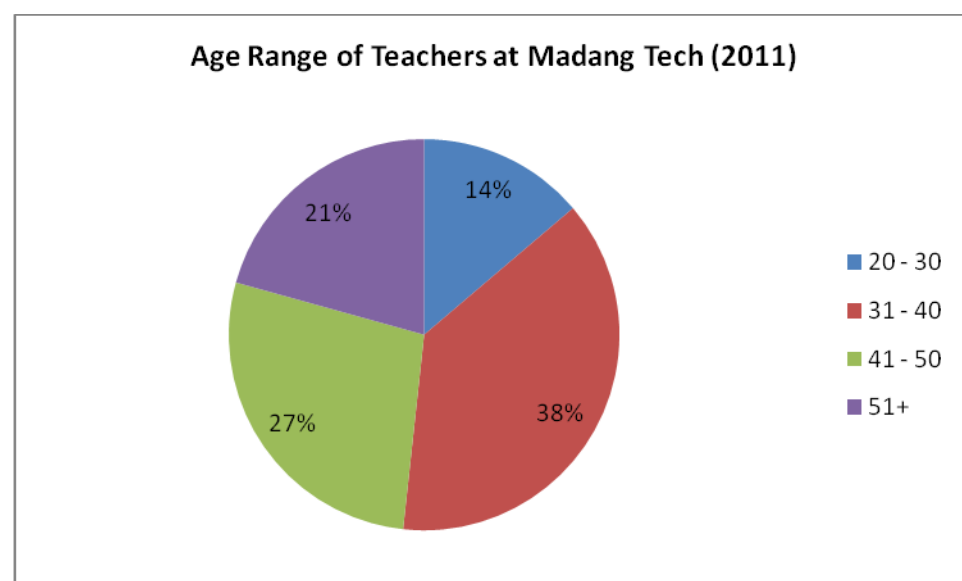
Table 5.2: Gender Distribution

Gender	Numbers	Percentage

Male	22	76
Female	7	24
Total	**29**	**100**

Chart 5.2: Gender Distribution
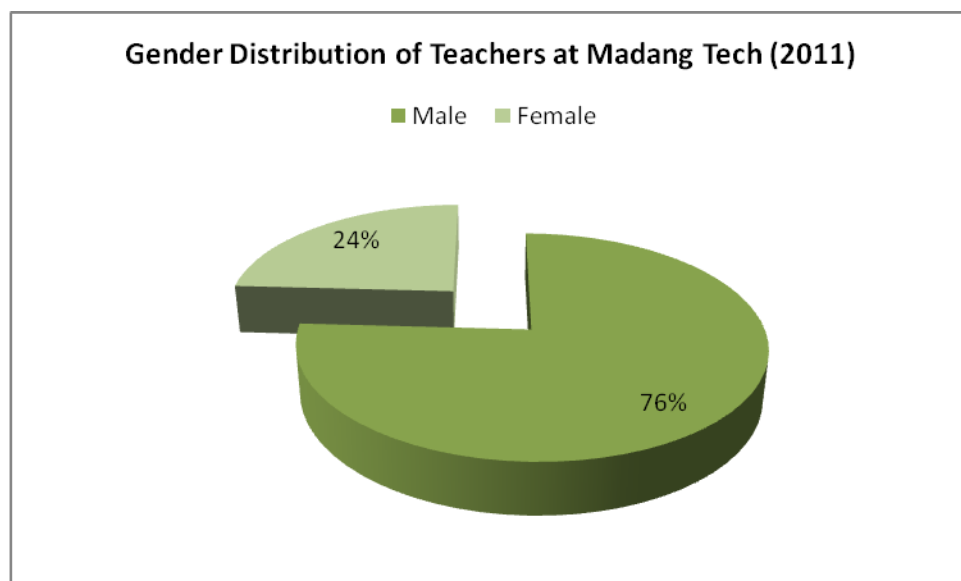
Gender Distribution of Teachers at Madang Tech (2011)

■ Male ■ Female

24%

76%

Table 5.3: Highest Qualification

Highest Qualification	Male	Female	Total	Percentage
Masters			0	0
Post Graduate Diploma	1	1	2	7
Bachelors Degree	4	3	7	24
Diploma	14	2	16	55
Certificate			0	0
Did not answer	3	1	4	14
Total	**22**	**7**	**29**	**100**

Chart 5.3: Highest Qualification
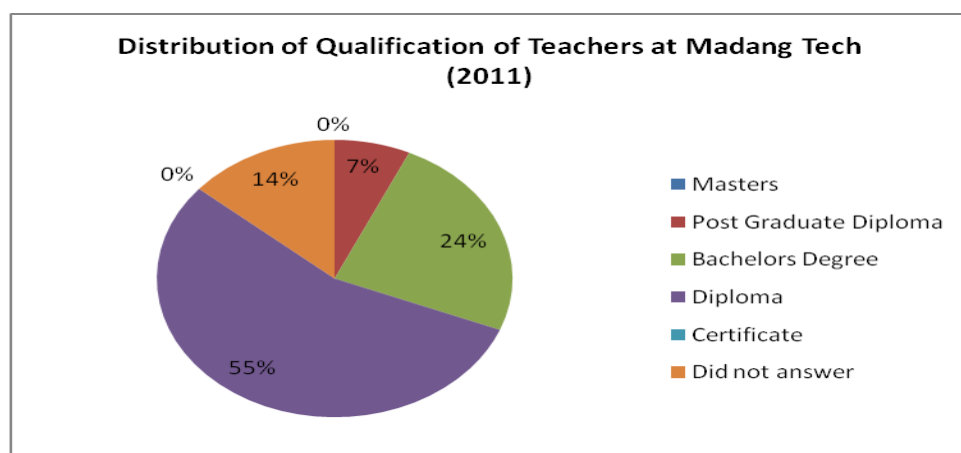
Distribution of Qualification of Teachers at Madang Tech (2011)

0%
0%
14%
7%
24%
55%

■ Masters
■ Post Graduate Diploma
■ Bachelors Degree
■ Diploma
■ Certificate
■ Did not answer

Table 5.4: Percent of teachers with Teacher Training

Teacher Training Qualification	Numbers	Percentage

With Teacher Training	24	83
No Teacher Training	4	14
Did not answer	1	3
Total	**29**	**100**

Chart 5.4: Percent of teachers with Teacher Training
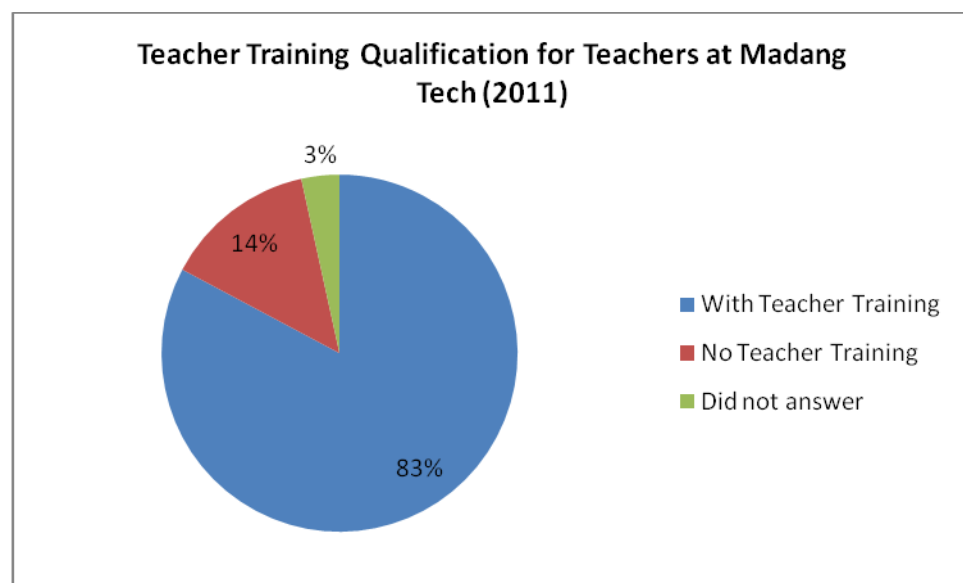
Teacher Training Qualification for Teachers at Madang Tech (2011)

- With Teacher Training
- No Teacher Training
- Did not answer

Table 5.5: Access to Internet

Access to Internet After Hours	Numbers	Percentage
Access to Internet	9	31
No Access to Internet	20	69
Total	**29**	**100**

Chart 5.5: Access to Internet
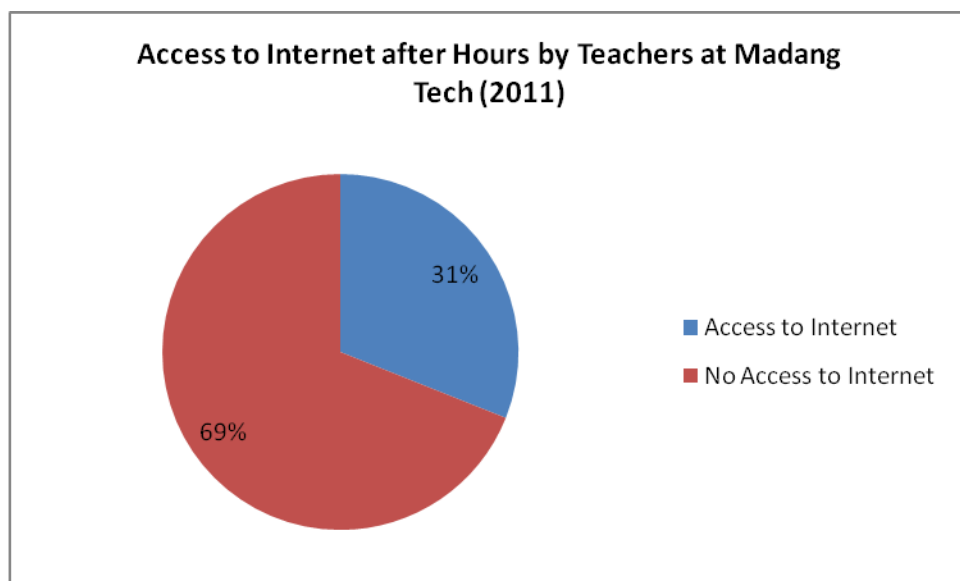
Access to Internet after Hours by Teachers at Madang Tech (2011)

- 31% Access to Internet
- 69% No Access to Internet

Table 5.6: Occupancy of College Houses by Teachers

College House Occupancy by Teachers	Numbers	Percentage
Do not live in College House	6	21
Live in College House	21	72
Did not answer	2	7
Total	**29**	**100**

Chart 5.6: Occupancy of College Houses by Teachers
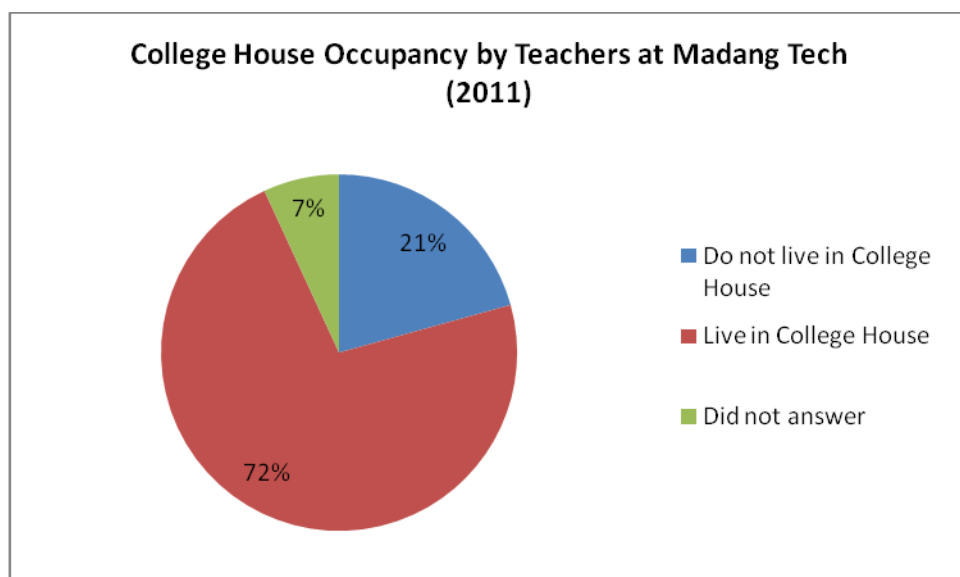
College House Occupancy by Teachers at Madang Tech (2011)

- 21% Do not live in College House
- 72% Live in College House
- 7% Did not answer

Table 5.7: Teacher Assessment of Quality of Housing

Quality of Teachers' Houses	Numbers	Percentage
Excellent	0	0
Good	1	3
Fair	16	55
Poor	11	38
Did not answer	1	3
Total	**29**	**100**

Chart 5.7: Teacher Assessment of Quality of Housing
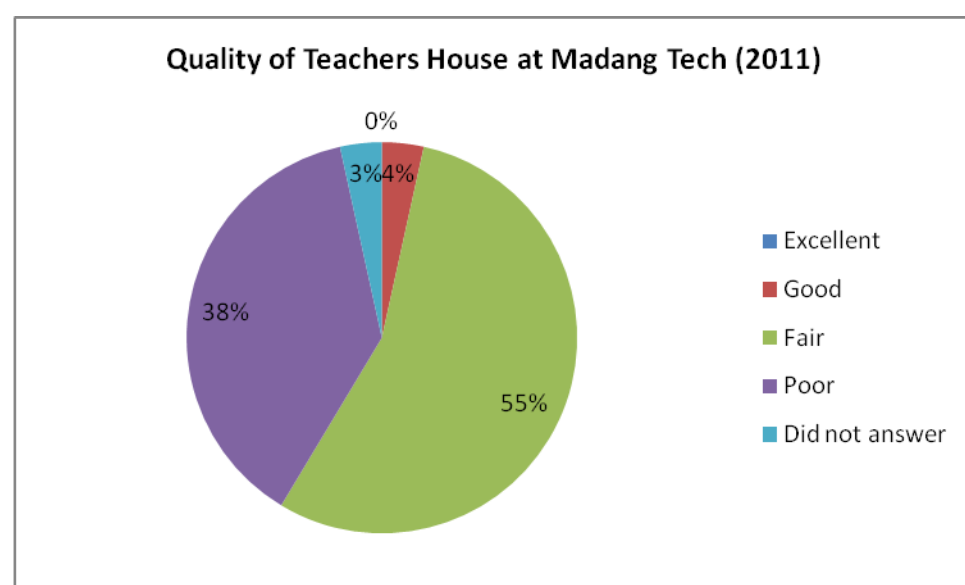
6: Learning Resources

Workshops and Equipment

Carpentry

Infrastructure consists of the original buildings and lack of continuing maintenance has resulted in all being in poor condition. Rusted roof sheeting and gutters results in rainwater entering workshops and disrupt activities and generally creates an unsafe working environment for teachers and students.

Equipment and tools are in limited quality and quantity and do not reflect current needs. There are no suitable text books in use and teachers make use of any old versions that they may have acquired. There are several copies of Australian Basic Trade Manuals which were previously provided during the NATTB project in 1998, but these are now outdated and do not reflect current techniques and practices, nor do they fully cover the skills presented in the Carpentry NTP. However, teachers must use the BTMs to develop student handouts, as there is no other option. There are insufficient computers available for all teachers so the remaining units still operating have to be shared. Valuable teacher time is wasted waiting for a working computer to become available.

Teachers undertake trade testing on behalf of NATTB which range through Levels 1, 2 or 3 depending on demand. This occurs approximately 4 times a year and if at least 10 suitable applicants are available.

In response to staff housing shortages on campus, the Building Department has developed a student project to progressively construct several duplex units. Progress is slow and plans were not available for inspection. However carpentry and plumbing students should benefit from the range of construction activities that are required. The college will have to employ contractors to undertake components for which they do not have coverage e.g. electrical installation.

Sign writing

This is the only College in which sign writing is offered. However, it is low demand and there are two teachers on staff. Only one style of sign writing is taught, hand written enamel paint. Whilst the signs produced are of good quality, there are no other sign techniques delivered, so students are not exposed to other forms of signs manufactured in the sign industry (e.g. computer generated and vinyl formed).

Equipment is very basic and does not reflect current industry use. Solvent used to clean equipment and brushes is mineral turpentine, which is not disposed of in an environmentally friendly manner. There is no fume extraction system operating and occupational health and safety procedures are not practiced.

Block laying

Block laying is not taught as a separate course, but as a unit of the Building TTC program. The workshop, equipment, hand tools and materials are adequate to allow students to undertake individual practical activities. Poor roof maintenance results in substantial water penetration when it rains. Limited section budgets have resulted in blocks being made by students, but this has only produced a very limited range of blocks and limited skill development of students.

Plumbing and Sheet metal

Whilst this department enjoys the largest number of workshops, all buildings are of poor quality and require substantial maintenance to restore to working condition. Much of the equipment and hand tools are not working or long outdated. There has been no new equipment or facilities supplied since the NATTB project in 1998. In common with all trade teaching areas, there is an acute shortage of suitably trained teaching staff cover classes and it is necessary to engage part time teachers.

The college has implemented the national NC1 and NC2 programs, they continue with the TTC programs as well. There is no clear understanding of CBT delivery and assessment. There is little evidence of any training process which relates to CBT and training delivery reflects the same skill range as the TTC content. Student handouts are the same as prepared for students in TTC classes. There has been insufficient preparation of teaching staff in advance of NTP implementation. The college is planning to enrol NC1 graduates in the TTC program on their return from work experience.

Library: A small collection of very old books is kept in one classroom. However the Library as such has not been functioning and the room is used as a classroom and area for student study. The impoverished state of library resources at MTC was identified by staff, students and management as a key issue and the Principal has identified the library as a priority in the new five year plan under development.

Information Technology (IT): MTC currently has three computer laboratories each with 20 computers. One of these laboratories contains the 20 computers provided by AusAID under the ECBP. The computers are maintained by an Instructor (with a degree in computing from Unitech)

from the Business studies Department. Broadband access to the internet is currently restricted to four senior staff of the College. The IT coordinator currently has plans to establish a college network and an internet cafe for students. There is no laptop program for teachers at present. Council is considering phasing in a program staring with Heads of Departments.

7: Student Activities

Accommodation was the main issue affecting the livelihood of the students this year at the college. A total of 8 male students were sharing a cubical not more than 2.5 by 3 meters by 2.5 (fit only for one person). The female dormitories were described as old and leaking when it rained and the electrical wirings smelt of burning and smoke was sometimes observed. Due to the sharing of the dormitories, students expressed concern that the security of their belongings were not guaranteed.

The students who are doing business studies had text books and more support while those doing the trades got their safety overalls late and were not given text books. The classes started on the 4th week. The late start was due to the fact that the HECAS students were late in getting their tickets and arrangements were not done at the Office of Higher Education level. This issue was also shared by the other colleges.

Classrooms and class size was another issue brought up by the students. The students complained about the overcrowding in the classrooms, workshops, dormitories and the mess hall. One class is usually made up of 56 students with a teacher and faulty (obsolete) machines. The students reported that the teachers are usually late for classes and some do not turn up at all.

There is no clearly designated counsellor for the college. But the home room teacher usually provides some sort of guidance and time for the students to express their collective concerns. There is a rugby and soccer field and a basketball court. The students confirmed that they are involved in town competition and use these fields both formally and informally. The students that were interviewed expressed that the SRC had just been set up. The SRC does not work closely with the administration.

Despite the issue raised, the students indicated that are present are happy to be at Madang and are determined to get a Certificate/Diploma.

8: Financial Resources

The rapid growth in student enrolments since 2007 has impacted positively on Institute revenue and expenditure with Revenue collected in 2010 comprising K1,913,056 and expenditure K1,986,426. The financial position of the College is much improved since the 2008-10 period. The draft budget for 2011 was still under development at the time of the college mission. The College has no accumulated cash reserves. On the revenue side the key issue is collection of outstanding school fees.

Despite the recent growth in enrolments MTC has suffered from acute financial mismanagement. Over the last three years the College has been severely depleted of funds in the second half of the calendar year. TVET has had to assist with provision of supplementary funds so that outstanding bills have been able to be paid.

The College has been advised by TVET Division that it will receive a funding allocation in 2011 of K1.6M for replacement of the two dormitories that were destroyed by fire and an allocation of K0.25M for teaching equipment.

The bookkeeping function is filled by an experienced Registrar with a Diploma in Accounting with experience in Quickbooks. The mission was advised that the key cost drivers are messing, students training materials and utilities.

The following table provides a picture of the revenue collected at Madang TC in 2010 (from the 2010 College budget report) along with an estimate of the level of expenditure. The expenditure includes

an estimate of the teacher salary expenditure and associated costs incurred by the GoPNG through the TSC.

Table 8.1 - Revenue & Expenditure, Madang Technical College

Madang Technical College		
Revenue		
Revenue Stream	**Total Revenue (Million Kina)**	**Percentage of Revenue**
School Fees	1.28	67.12
Grants NDOE	0.24	12.32
Grants OHE	0.08	4.3
Grants Other	0.16	8.39
Other Income	0.15	7.87
Total Income	**1.91**	**100**
Expenditure		
Expenditure	**Total Expenditure (Million Kina)**	**Percentage of Expenditure**
Salaries ancillary staff	0.22	8
Salaries teachers	0.83	28
Contract officer entitlements	0.12	4
Operational Expenditure	0.5	17
Operational Materials	0.67	23
Office Materials & Supplies	0.06	2
Maintenance	0.08	3
Utilities	0.28	10
Transport	0.03	1
Capital Expenditure	0.07	2
Other	0.06	2
Total	**2.92**	**100**

9: Physical Infrastructure (Assessment conducted on 18-22 March 2011)

Facilities Management

Planning: There is no formal business plan, and no formal campus development plan. When the current management team took over (late in 2010), the College was about to go bankrupt. Part of the recovery has been the opening of a new Business Studies department, including Tourism and Hospitality, in a converted dormitory. The College has considered the following new works: new Administration Building; convert current Administration building to motel and restaurant for Tourism and Hospitality, and to generate College income (part of a plan to make Tourism and Hospitality into its own Department); new staff housing.

Operations: There is currently only one DP, who has to cover both Administration and Academic. For infrastructure advice and implementation, she calls upon Heads of Department to organise. Teachers have just been assigned duties, and one has been assigned to maintenance. The College avoids using outside contractors.

New Project Implementation: The College, prior to current management team, did attempt to build four units of staff housing using its own management and resources. The project is fully inhabited, despite the fact that it was not completed, and staff live in one of the units without power or water. (They run extension leads from the unit next door.)

Finances

Capital: The College is now emerging from a period of long decline, during which student numbers dropped, and the College sank into debt. Though now on the upswing, finances are still tight, and the College has no funds available for new construction.

Maintenance: Maintenance is carried out on an ad hoc basis according to need, paid for with Council funds. Maintenance requirements are exacerbated by the proximity to the sea, which accelerates corrosion.

Health infrastructure

This section summarises some of the detail in sections below in so far as they relate to health.

Water Supply: Water supply is from the town supply, and is adequate. There does, however, seem to be much internal leaking in the system, and water bills are high.

Sanitation: Sanitation is by septic tank, which are pumped regularly, and working well.

Dorm Ablutions: The dormitory Ablution Blocks are in state of bad repair, are not clean, and have floors that are constantly wet.

Kitchen/Mess: The Kitchen is not properly equipped for sanitary operation, and is in a state of bad repair, with many items of equipment not working.

Clinic: There is a Clinic building, but no registered nurse.

Day Toilets and Drinking Water: There is no provision of toilets for day students, or boarders when they are far from their dormitory. There are no facilities for drinking water. There were water coolers in the Mess and in the dormitories, but they have been "smashed" by unruly students.

Exercise: There is a large playing field near the student accommodation, which is used for rugby, soccer and volleyball.

Other services

Telephone: External supply to administration, and then switchboard access to heads of department, except for Plumbing.

Internet: None.

Power: Electrical supply is adequate, and the College has a functioning backup generator. Last year, the College had to endure two months without power due to unpaid bills. Like other PNG towns, Madang does have blackouts and power cuts. Generally, the College finds the power supply acceptable.

Solid Waste: Solid waste from the College is collected by Madang LLG. For the housing area, collects and transports its own solid waste to the dump, using the College truck, and staff and student volunteer labour.

Industrial Waste: Minimal, and is sent to the dump, except for sawdust, which is sold as fuel.

Grounds

Security: The College is split between three sites, two of which are in use. The College employs an outside security firm; however that firm has been unable to supply a report on the Christmas burning of a dormitory. The guards have no torches, and no radios.

Access: The College is well-located near the centre of Madang. Madang's roads are poorly maintained, and the road outside the College is in a poor state. Internal roads are unsealed and in poor condition, with many potholes and puddles.

Expansion: The College has three separate allotments: (a) the housing allotment, which has three open areas—the playing field, the "swamp", and the teacher's playing field—the last could be used for expansion without much expense; (b) the block the by the sea, with most of the classrooms—this block has little scope for expansion; the block near Kusbau Primary—this is as yet unbuilt upon, though the College has no map of its boundaries.

Open Space: There is adequate open space between buildings, and a sports field in the student housing area.

Drainage: Drainage is reportedly poor, including: the "swamp" area between student and staff housing areas; puddling on roads; flooding through lawns; standing water. However, water is not intruding into buildings.

Landscaping: Very little landscaping has been done. There are no paths in the housing area.

Building Stock
Generally, the building stock is very, old, some of it dating back to the 1960s. The College started as a high school, and was only later converted to a Technical College.

Core Resources: The Administration block is small but functional. The staff room has been newly refurbished. The library is in a converted classroom, and not fit for purpose.

Teaching: The workshops are old but functional. They suffer from leaking roofs and guttering, which could be fixed. Otherwise, slabs and frames are in good condition, and spans are good. More recent buildings include AusAID-funded TTCs. The classrooms are very old, but by virtue of that many are constructed from very durable hardwoods, and still have life in them if renovated and repaired. Throughout, electrical fixtures such as fans need replacement, due in part to the corrosion caused by proximity to the sea. Business Studies is operating out of converted dormitories. Tourism and Hospitality is operating out of classrooms, but has no facilities for practical training.

Student Accommodation: The design of the female dormitories is perhaps the best of all dormitories in the public system. Through hallways, which provide cross-ventilation, join four rooms, each for two females. There is no overcrowding in the females dormitories. However, roofs leak, and during heavy rain the female students turn off the mains power because they smell burning. This is a dangerous situation, which should be rectified. (This was explained to the DP Administration.)

The male dormitories are in very poor condition. Two of the male dormitories were burned down in 2010—reportedly by the students. This has resulted in overcrowding, by a factor of 2:1, in the remaining dormitories.

Staff Housing: Staff housing is in very poor condition, and requires extensive work to bring it up to a reasonable standard. Some staff (three females, one male) are living in the female dormitory.

Informal: There are no informal structures.

Building Data

Note: Due to the absence of building asset or condition registers, the data recorded here are approximate, and require further inspection and investigation.

	TYPE	QTY	CONDITION		
			Fair	**Poor**	**Very Poor**
			Needs minor R&M	Needs major R&M	Not worth investing in
Core Resources					
Admin	1-storey	1	1		
Library	Room	1	1		
IT Room	Room	2		2	
Teachers Rooms	Room	1		1	
Clinic	Building	1		1	
Bulk Store	-	-			
Teaching Spaces					
Classrooms	Buildings	9	9		
Workshops	Varied	9		9	
Student Accommodation					
Dorms, Male	2-storey	2			2
Ablutions, Male	1-storey	3			2
Dorms, Female	2-storey	1		1	
Ablutions, Female	1-storey	1		1	
Kitchen/Mess	1-storey	1			1
Staff Housing					
Houses		20		19	1
Units		4		4	
In dorms		4			4

10: Madang Technical College – Summary SWOT (strengths, weaknesses, opportunities and threats)

Strengths	Opportunities
- Location of site in Madang seafront and close to other education institutions - Ample land for future expansion - Buildings - adequate number of workshops - Teaching buildings in structural workable condition - New leadership team with experienced Principal - Strong leadership and commitment within Council - Core group of dedicated staff - Centre for National Trade testing - Unique offerings in building trades – plumbing, sign writing and cabinet making - New courses in Business Studies and Tourism and Hospitality attracting strong demand - Recovery in student enrolments - Small business initiatives - Zero tolerance policy	- Site can accommodate increased demand with good physical planning - New Government emphasis on TVET - High student and industry demand e.g. tourism and hospitality, - New courses in small boats and engines - Local economic environment and developments in mining and tourism should generate significant training opportunities - Opportunities for staff to upgrade qualification through flexible learning at DWU - Learning from DWU and Maritime College - PNG ARnet, Data Centre and *elibrary* and IT Department at DWU - Local community rich in education resources - Local income generation - Positive donor environment
Weaknesses	**Threats**
- Student and staff accommodation in poor condition - Some buildings dangerous - Overcrowding in classrooms and dormitories - Lack of industry involvement on Council - Not a cohesive leadership team - Legacy of last ten years - Limited trust between teachers and students - Teacher punctuality and attitude - Working with outdated curriculum - Problems in retaining qualified PNG nationals - Limited opportunities for staff to update skills with OJT - Lack of IT infrastructure - Obsolete and not functioning training equipment and resources - Safety procedures inadequate - Lack of student learning resources - State of College library - High Student/IT Ratios - Library facilities inadequate to meet existing or emerging requirements - Very limited internet access - Very limited student activities/pastoral support - Very limited cash reserves - Industry linkages – limited	- Highly competitive environment with many private and industry providers - Competition for staff - Inadequate funding (funding insecurity) - Slow pace of implementation of TVET reforms (NTPs) - Dysfunctional and fragmented TVET sector - External recruitment process for teachers - Low priority attached by headquarters to teacher training and upgrading - Wages and conditions based on the TSC system not competitive - Economic environment impacting on ability to pay fees - OHE sponsorship arrangements

Annex 3G: Goroka Technical College: Situation Report

1: Institutional Profile

Goroka Technical College (GTC) has had a varied background as an educational institution. It started as a junior high school before becoming a technical school and during the 1960s was converted to a technical college. It remained as a technical college until the home office rationalisation of the colleges during the mid 1990s. At this time the Building Trades courses and equipment were transferred to Madang, Electrical trade was transferred to POMTECH, Metal Fabrication was transferred to Lae and Motor Vehicle was transferred to Mt Hagen. The College offered only secretarial studies until 2001 and the narrow enrolment base placed the College's viability under question. In 2004 Diploma Programs were introduced in Accounting and the name was changed back to Goroka Technical College. At this time Courses in automotive trades were reintroduced.

Over the last five years enrolments at the College have increased significantly from 290 in 2007 as a result of the expansion of secondary schools and the increases in the number of secondary school leavers at Grade 12. In Semester One 2011 the enrolment was 774 students and many more students were turned away because of shortage of dormitory and classroom space. The staffing of the College in 2011 comprised a teaching staff ceiling of 32 positions, with staff on strength at 29 positions which includes a number of part time staff. In addition the Council employs 18 ancillary staff.

2: Purpose

The College currently offers courses in Business studies and Mechanical/Automotive. Although students are enrolled from each province in PNG, over 75% of students are from the highlands region. Over the next 5 years the College plans to offer new courses in tourism and hospitality (2012), computing studies (2012) and automotive engineering (2014). In addition additional NC courses are planned in Office Administration and Motor Vehicle.

3: Governance, administration, management and planning

The Governing Council comprises 13 members with three vacancies including a representative from Commerce and industry and records of meeting papers for the last three years indicate that attendance of Council members has been regular. Consultations during the mission with the Council Chair and Principal revealed a solid working relationship and partnership between Council and the past and current management.

Late in 2010 the Principal of GTC was transferred by TVET Division to Madang Technical College and the Deputy Principal was appointed as Acting Principal with one of the business studies teachers appointed as Acting Deputy. An inclusive management approach is being followed by the new Principal. A Zero Tolerance Policy in terms of drugs and alcohol has been enacted since the second half of 2010.

A new five year plan (for the period 2011-2016) aligned to *Vision 2050* and associated planning documents and policies is currently under development. A preliminary draft prepared by the Acting Principal was provided to the mission. The approach being taken was pragmatic with a focus on realistic targets for improvement and expansion into new course areas.

4: Educational Programs

The three Departments are currently involved in delivery of three groups of courses: i) Diploma courses of 80 weeks duration – 3 courses; ii) Diploma foundation in Business Studies; iii) Technical Training Certificate Courses (TTC) of 80 weeks – 1 course; iv) National Certificate (NC) courses of 20 weeks – 2 courses. There are currently no extension block courses for apprentices at the College.

Diploma Business Studies Department

The largest Department with 13 staff and 548 students – 533 undertaking Diploma programs (including Diploma Foundation) and 15 studying the NC 1 course in Office Administration.

The Diploma program at GTC commenced in 2004. Most teachers are now graduates in their various disciplines and this was reported by the Head of Department as the Department's greatest strength. Students studying the Diploma in business studies undertake a common program in Stage One after which they specialise in either Accounting, Management or Office Administration. There are currently no specialist staff in Computing which prevents the Department offering the Computing Stream. The curriculum taught in the Diploma programs is the same as that taught in the other Colleges and it has not been reviewed since the mid 1990s. The Department has initiated discussions with Divine Word University to negotiate accreditation arrangements for the Diploma courses.

The Department also offers the Diploma Foundation program which is a 10 week bridging course for Grade 10 school leavers. The course which started in 2004 includes units in introductory mathematics, keyboarding, introductory accounting and English for Diploma studies. The Foundation course is offered three times a year.

The Department is also linking up with a number of Vocational Centres with a view to these centres taking responsibility for the NC1 course. The NC1 course (15 Grade 10 school leavers) has been offered since 2008 and staff reported that students completing the course have quickly found jobs. The significant delay with the completion of the NC2 course and curriculum is a major concern.

The HOD reported that staff turnover has been high citing limited opportunities for professional development as a major factor. Another concern raised was the need for more consistent assessment across the Colleges. External exams were discontinued in 2009 and since then Colleges have developed their own exams. The HOD reported that GTC has a core group of experienced teachers in preparing examinations and vetting exams and in ensuring consistency in assessment. However this has placed an additional workload on staff as GTC is the only college that has a mid-year graduation and enrols a new cohort in the Diploma program in Semester Two.

Technical Training Certificate (TTC) Business Department: The TCC program in Business Studies has been offered for several years initially for Grade 10 school leavers but since 2004 a one year program was offered for Grade 12 school leavers. Most of the students enrolled received HECAS scholarship funding. From 2011 OHE is now sponsoring students in the Diploma program and for this reason the TTC program is not currently offered. Staff in the Department perform a cross servicing role for the Diploma program and other courses in the College.

Mechanical department

Trade related training is delivered by one Mechanical Department which combines three sections, motor vehicle light (MVL), heavy equipment diesel (HED) and Auto electrical.

Courses offered include a range of nationally recognised courses which includes Technical Trade Certificates (TTC 1 & 2) and National Certificates (NC 1 & 2). The college does not undertake any trade testing, but negotiations are underway with NATTB for approval to set up a motor trade testing centre for Level 1 only.

Although the college says that it was not provided with copies of the NTPs for National Certificate Courses in Automotive – Light Vehicle Mechanic (Servicing) NC1 and NC2, and in response to the TVET directive to implement NC programs, NC1 training was commenced in 2008. This implementation was achieved by reference to a single page copy of each qualification, which simply lists the module titles. Delivery has been adapted from the existing TTC syllabus and students are supplied with the same handouts. Teachers claim that they were not provided with any in-service staff development to assist with implementation. Teachers were unable to demonstrate adequate knowledge or understanding of CBT delivery or assessment and it is believed that rather than deliver student centred training and assessment prescribed under the NC module implementation, it is a

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"business as usual" teacher centred approach that resulted. There is no breadth of coverage and no rigour in content, and assessment continued to be presented in percentages.

To date, no NC2 delivery has been attempted, because there appears to be too much repetition in the NC2 structure. This is because teachers have looked only at the module titles and have not analysed the changed range of learning outcomes and assessment criteria that accompany similar module names appearing in all qualification levels. Further, the college prefers to offer the TTC programs because they still attract OHE scholarships for students. This year TTC1 attracted 109 enrolments, whereas NC1 attracted 23. Because implementation of the only completed NQF NTPs commenced before the NC3 was available, students graduating from NC2 cannot proceed to the next level and now have to mark time until it is completed by the TVET Curriculum Branch.

Discussions with teachers and students revealed that the training both delivered and received, does not contain the range or rigour that is necessary for successful outcomes, either in CBT or existing courses.

Table 4.1 – Goroka Technical College Enrolments by Course Semester One 2011

Goroka Technical College	Male	Female	Total	Level	Field
Diploma in Business Studies Stage One	112	102	204	D	B
Diploma in Business Studies Stage Two – Accounting	42	19	61	D	B
Diploma in Business Studies Stage Three – Accounting	46	27	73	D	B
Diploma in Business Studies Stage Four – Accounting	19	5	24	D	B
Diploma in Business Studies Stage Two – Management	22	7	29	D	B
Diploma in Business Studies Stage Three – Management	25	15	40	D	B
Diploma in Business Studies Stage Four– Management	9	9	18	D	B
Diploma in Business Studies Stage Two - Office Administration	9	7	16	D	B
Diploma in Business Studies Stage Three - Office Administration	16	17	33	D	B
Diploma Foundation studies	20	15	35	D	B
TTC 1 Mechanical	102	5	107	T	T
TTC 2 Mechanical	89	7	96	T	T
National Certificate 1 Office administration	6	9	15	N	B
National Certificate 1 Motor Vehicle Mechanic	23	0	23	N	T
Total number of Students	**530**	**244**	**774**		
Percentage	**68**	**32**	**100**		

Table 4.2 – Level & Field Legend

CODES FOR LEVELS
D=Diploma
T=TTC
E=Extension
N=National Certificate (NC)
C= Council approved courses
CODES FOR FIELDS
B=Business Studies
H=Tourism & Hospitality
A=Applied Science
T=Trade Technology

Table 4.3: Enrolments by Level & Field

	Diploma	TTC	NC	Extension	Council Approved	Total
Totals	533	203	38			774
Percentage	68.9	26.2	4.9			100
	Business Studies	**Tourism & Hospitality**	**Applied Science**	**Trade Technology**		**Total**
Totals	548			226		774
Percentage	70.8			29.2		100

5: Academic and non-academic staff

All current teaching positions are filled by PNG nationals. One third of the 27 teachers on staff at the time of the mission were women. The staffing ceiling has not kept pace with the growth in enrolments leading to very high teaching loads in the Business Studies Department. In recognition of these high loads staff are paid 25K/hour for each hour of teaching above the standard maximum of 23 hours.

Goroka is another of the colleges that has an ageing workforce - 54% of teachers are aged 40 years or older. 46% of teachers hold a Bachelor degree or post graduate qualification. Almost all teachers have a teaching qualification.

The following tables and charts depicting the teacher profile at Goroka TC are based on responses to questionnaires collected during the college visit. 24 teachers (including Principal and Deputies) responded. Not all teachers responded to each question.

Table 5.1: Age Distribution of Teaching Staff

Age Range	Numbers	Percentage
20 – 30	3	13
31 - 40	8	33
41 – 50	8	33
51+	5	21
Totals	**24**	**100**

Chart 5.1: Age Distribution of Teaching Staff

Age Range in Years of Teachers at Goroka Tech (2011)

13%

21%

33%

33%

- 20 - 30
- 31 - 40
- 41 - 50
- 51+
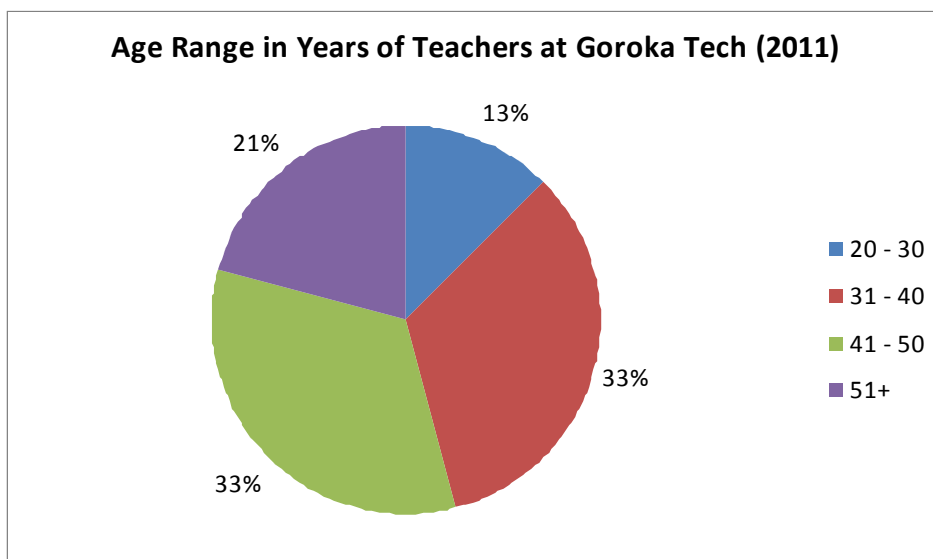
Table 5.2: Gender Distribution

Gender	Numbers	Percentage
Female	7	29
Male	17	71
Total	**24**	**100**

Chart 5.2: Gender Distribution
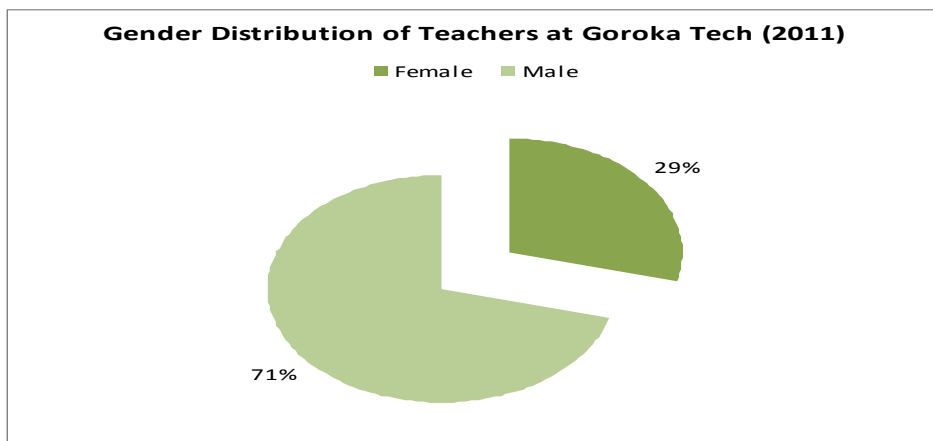
Gender Distribution of Teachers at Goroka Tech (2011)

■ Female ■ Male

29%

71%

Table 5.3: Highest Qualification

Highest Qualification	Male	Female	Total	Percentage
Masters			0	0
Post Graduate Diploma	4	0	4	17
Bachelors Degree	4	3	7	29
Diploma	7	4	11	46
Certificate	1		1	4
Did not answer	1		1	4
Total	**17**	**7**	**24**	**100**

Chart 5.3: Highest Qualification
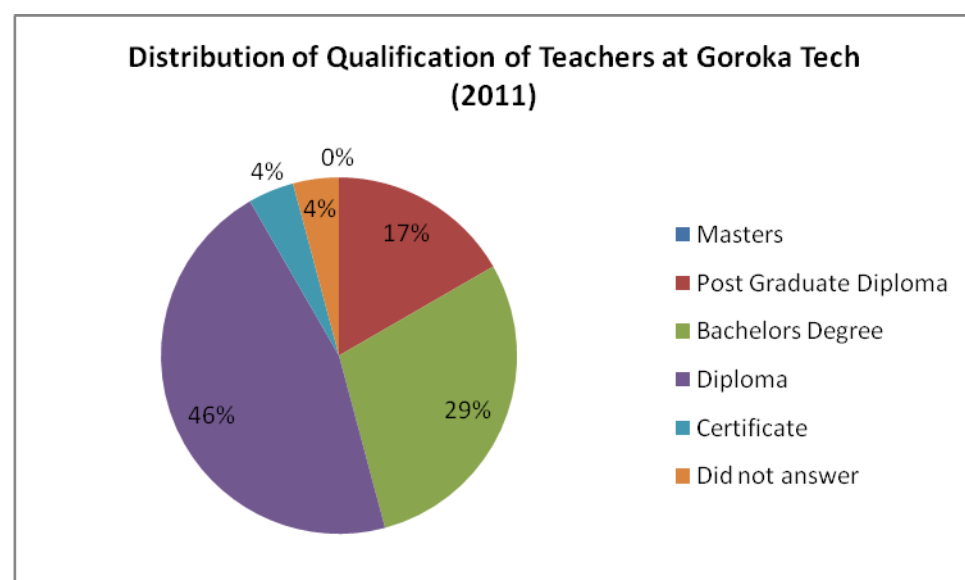
Distribution of Qualification of Teachers at Goroka Tech (2011)

- Masters
- Post Graduate Diploma
- Bachelors Degree
- Diploma
- Certificate
- Did not answer

Table 5.4: Percent of teachers with Teacher Training

Teacher Training Qualification	Numbers	Percentage
With Teacher Training	24	100
No Teacher Training	0	0
Total	**24**	**100**

Table 5.5: Access to Internet

Access to Internet After Hours	Numbers	Percentage
Access to Internet	3	13
No Access to Internet	17	71
Did not answer	4	17
Total	**24**	**100**

Chart 5.4: Access to Internet
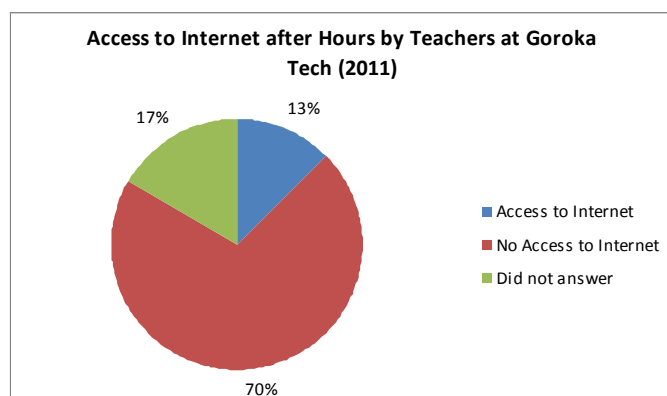
Access to Internet after Hours by Teachers at Goroka Tech (2011)

- 13% Access to Internet
- 70% No Access to Internet
- 17% Did not answer

Table 5.6: Occupancy of College Houses by Teachers

College House Occupancy by Teachers	Numbers	Percentage
Live in College House	21	88
Do not live in College House	2	8
Did not answer	1	4
Total	**24**	**100**

Table 5.7: Teacher Assessment of Quality of Housing

Quality of Teachers' Houses	Numbers	Percentage
Excellent	0	0
Good	2	8
Fair	8	33
Poor	12	50
Did not answer	2	8
Total	**24**	**100**

Chart 5.5: Teacher Assessment of Quality of Housing

Quality of Teachers Houses at Goroka Tech (2011)

- Excellent
- Good
- Fair
- Poor
- Did not answer
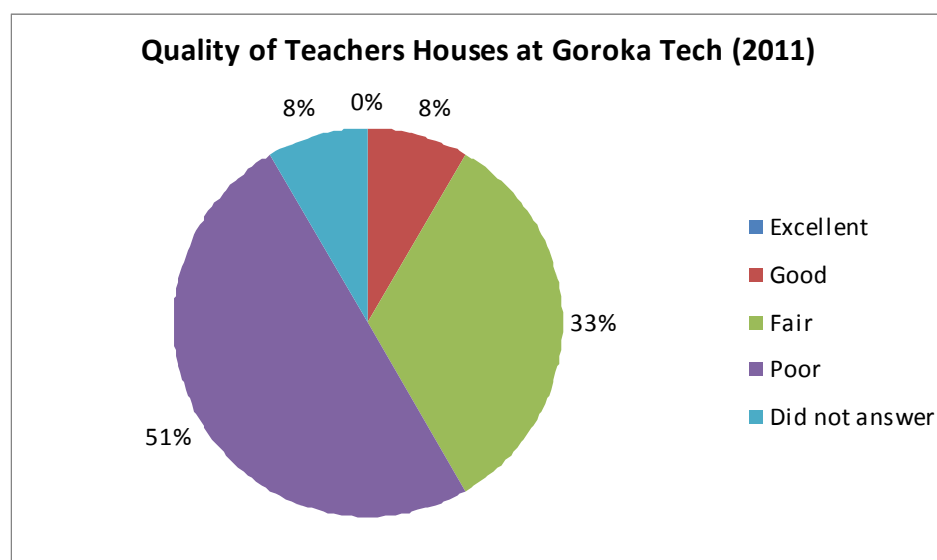
6: Learning Resources

Workshops and Equipment

Motor Vehicle Mechanic

Facilities for motor vehicle training include one single workshop which is hardly large enough to accommodate classes of 23 students. The building is open with chain wire fitted over a timber structure. There is insufficient secure storage capacity and poor control of tools and small equipment. There was no class in the workshop at the time of inspection, but it was clear that there is insufficient space. Equipment is very limited and there are insufficient tool sets available, so students must share. What tools are available are kept in toolboxes and teachers indicated that it is difficult to ensure that tools are always returned after use. It is unlikely that students would be provided with the full range of training identified in the latest NTP. There is a vehicle ramp, but no hoist and there is no wheel balancing or alignment equipment. Even if the college was able to acquire appropriate equipment and tools to meet the needs of a modern training facility, the existing workshop would be unable to adequately store or accommodate it all.

There are insufficient classrooms available with adequate furniture (chairs and desks) and students have to stand or sit on the floor. New classrooms are planned but no accurate timeframe is

available. There is no manual drawing room or equipment. The HOD indicated that students learn drawing techniques in theory classes and they are shown a range of drawing instruments and teachers show drawing techniques on the board. Students do not have an opportunity to do any drawing, which is a specific requirement of both NC1 and NC2 programs.

An old workshop has been established as a classroom for TTC1 students in which 109 students are accommodated for theory and taught by one teacher. Students indicated that it is very difficult to hear and see from the back of the room and they miss most of what the teacher discusses. The college has set up six computer classrooms, one of which is available for Mechanical students and is fitted with Autocad 2006, which is used to train students to a basic level.

There is no parts washing area and cleaning liquids and oils are simply discharged around the workshop building. There is no fire fighting equipment available, in case of fire and occupational health and safety practices are inadequate. Teachers indicated that students are not permitted in the workshop unless they are wearing overalls and safety boots, but this is the extent of safety practice.

Heavy Equipment Diesel

A similar building has been set up for training diesel mechanics, but this too is of poor quality and of insufficient area to provide adequate training which would comply with a modern diesel workshop. There is insufficient secure storage available and insufficient major and minor equipment and appropriate tools available to adequately train students to repair or service heavy diesel equipment. Part of the workshop has been set up as a workshop classroom which absorbs valuable workshop space.

There are insufficient classrooms available in the college and rooms have to be shared. Classrooms are of poor standard, are dirty and not all are fitted with whiteboards. Many whiteboards need replacing as the remains of permanent markers make it difficult to read.

Auto Electrical Workshop

This workshop is jointly used by MVW and DHEF students, but only light vehicle systems appear to be used. There is no modern electrical/electronic training undertaken and there is only one teacher. Major and minor equipment is inadequate and there are insufficient hand tools for student use. An old wiring simulator is available for training, but would be unsuitable and inadequate to address modern vehicle electrical/electronic techniques.

Library

The library at Goroka was one of the better libraries visited. It has a staff of one who is a trained librarian who has been at Goroka for three years. The library is too small for the number of students using it and book stock is very limited to address the range of study areas delivered at the college. Because business studies enjoys a major position in the college, most of the stock relates to business studies study areas. There are none suitable for any of the mechanical sections. Because of poor book control, all suitable books are kept in the reference section and are not available for student use other than in the library.

There are no working computers remaining in the library so students are unable to use. The librarian plans to dismantle the old computer room and extend the library. The librarian does not enjoy a computer and all stock is manually entered in a stock book. There is no phone in the library and no internet is connected. An electronic surveillance machine is installed but no longer operates. Students have requested more fiction or novels, but he has been instructed to buy only technical materials.

The library is well used and seems to be well run. Business hours provide good coverage for student use. Opening hours are:

Monday   8am - 5pm and not closed for lunch

Tuesday   8am - 5pm, closed for one hour and reopens 6pm-8pm for boarding students

Wednesday   As for Tuesday

Thursday   As for Tuesday

Friday   8am – 5pm with lunch break 12.30 – 1.30

Sunday   12.00 – 5pm

The librarian lives off campus and finds it difficult to travel to the college. The library receives an annual budget of K20,000 which commenced in 2010 and all is expended either on books or library furniture. The librarian reports that he is unable to control book loss and because there is no librarian assistant or security guard on duty when he is called away, he knows that books are being removed.

Information Technology (IT): One of the teachers in the Business Studies Department has responsibility for the College's IT resources which currently comprise five computer laboratories with 150 desktop computers. 75 of these computers were provided by AusAID under the ECBP. All of the laboratories are networked. However the teacher reported that she needs training in managing the server. The major growth in student enrolments over the last three years has resulted in students often sharing a computer; the laboratories are often overcrowded with several students without chairs and forced to stand or sit on the floor during lessons. There is currently no internet access in the College for staff or students. The Council late in 2010 bulk purchased 30 laptops for staff use and these have been offered to staff for purchase at as 50% price discount. Take-up has been high.

7: Student Activities

Security of the students, their personal effects and the school properties were the main concern expressed by the students. The students reported that the security guards who are providing the services are afraid of the local landowners who loiter in the school grounds and walk away with various goods. The female students are especially afraid to access the service of the nearby Health Clinic (only 200 meters away) because of security. The school clinic closed its doors in 2004. It was week 6 at the time of the visit by the study team and the students reported that the SRC had not been formed. The students said that the SRC did very little last year. They said they do not have organized sports, organized cultural and social events they expected.

Shortage of accommodation was another issue especially for those who are day students. Many of these students have come from outside of the provincial town and have been accommodated by relatives, and friends. The boarding students also complained of overcrowding even though only two are sharing a cubicle. The over-crowding is also reported in the classroom and the workshops. The students reported that the orientation was very long. The registration of the students took up to 5 weeks.

The students reported that discipline was another ongoing issue. The Zero Tolerance policy was not implemented and policed. Both the teachers and the students were reported to be drinking. There was no clearly designated counsellor for the college. The home room teacher usually provided some sort of guidance and time for the students to express their collective concerns. Despite the issues raised the students indicated that they were happy to be here and were determined to get a certificate despite the challenges at Goroka.

8: Financial Resources

The rapid growth in student enrolments since 2007 has impacted positively on College revenue and expenditure with Revenue collected in 2010 comprising K2,999,512 and expenditure K2,480,081. The draft budget for 2011 was still being prepared at the time of the mission. The College had approximately K300,000 in accumulated cash reserves. 94% of revenue was sourced from student fees.

The College has been advised by TVET Division that it will receive a funding allocation in 2011 of K1.0M towards construction of a new administration block. The bookkeeping function is filled by an experienced Registrar with a Diploma in Accounting with some limited experience in Quickbooks. However Quickbooks is not currently being used and the Registrar reported training is needed. The Registrar advised that the role needs to be a full time role in all colleges with no teaching duties.

The following table provides a picture of the revenue collected at Goroka TC in 2010 (from the 2010 College budget report) along with an estimate of the level of expenditure. The expenditure includes an estimate of the teacher salary expenditure and associated costs incurred by the GoPNG through the TSC.

Table 8.1 - Revenue & Expenditure, Goroka Technical College 2010

Goroka Technical College		
Revenue		
Revenue Stream	**Total Revenue (Million Kina)**	**Percentage of Revenue**
School Fees	2.81	93.65
Grants NDOE	0.08	2.74
Grants OHE	0.09	2.94
Grants Other	0	0
Other Income	0.02	0.67
Total Income	**3**	**100**
Expenditure		
Expenditure	**Total Expenditure (Million Kina)**	**Percentage of Expenditure**
Salaries ancillary staff	0.25	5
Salaries teachers	0.08	2
Contract officer entitlements	2.40	48
Operational Expenditure	0.42	8
Operational Materials	1.21	24
Office Materials & Supplies	0.08	2
Maintenance	0.12	2
Utilities	0.2	4
Transport	0.05	1
Capital Expenditure	0.14	3
Other	0	0
Total	**4.95**	**100**

9: Physical Infrastructure (Assessment conducted on 24-25 March 2011)

Facilities Management

Planning: The Principal has a clear idea for the development of the buildings around the central "quadrangle" of the College, but as yet there is no documented plan for the College physical development, nor Business Plan. The College does however have: a list of planned new buildings; and a list of buildings to be demolished.

<u>Operations</u>: Operational management of the facilities comes under the purview of the DP Administration. The DP Administration is also the DP Academic, doubling his workload. He also teaches. The College has applied for a DP Academic, with as yet no response from NDOE. DP Administration is assisted operationally by: 1 x cleaner; 1 x groundsman; 4 x casuals; 2 x carpenters; 1 x painter.

The DP Administration has blanket approval to undertake regular maintenance such as pumping of septic tanks. He is also undertaking refurbishment of Ablution blocks and dormitories. He has a student and staff welfare focus in the way he allocated funding. Funding beyond routine repair and maintenance requires approval of Council.

The College has ongoing problems managing the dormitories, especially the installation of illegal power points to power radios or mobile phones. (This is an indication that the original designs are not fit for modern purposes.)

<u>New Project Implementation</u>: To consider growth of the College, the College has established a Project Committee (DP + HODs + 1-2 senior staff), which identifies where to locate new buildings, and which buildings are to be demolished. The Council then commissions a local architect to produce sketch designs. The architect has so far developed designs for Administration block, dormitories, double classrooms, housing. The College expects that they will have inputs to, but not themselves undertake, tendering and supervision of construction. They expect that TVET Division of NDOE will do this.

Finances
<u>Capital</u>: The College has no dedicated capital budget, and has no new infrastructure since AusAID built three new dormitories in the 1990s (under the trade testing project). The college management and Council is waiting on funding promised through the Government's five year, K50M recapitalisation plan. They are very sceptical about the way in which these funds will be allocated, and find it non-transparent and difficult to understand.

<u>Maintenance</u>: Maintenance is funded by Council. The maintenance process is user-driven, with building users initiating maintenance requests, which go to the supervising carpenter for inspection and report, then to DP Administration, then to quotation, and finally to Council for approval. The College has made some significant advances in improving staff housing, and is constrained primarily by funding.

Health infrastructure
This section summarises some of the detail in sections below in so far as they relate to health.

<u>Water Supply:</u> Goroka's town water comes from the river, and in times of rain the water supply becomes dirty. Furthermore, Goroka's population is growing, without commensurate investment in town infrastructure. As a result, the College is also finding it has inadequate pressure at some points on campus. It is responding by installing tanks for staff houses and student dormitories.

Merchants at neighbouring Chinatown (an historical label, not necessarily current ownership) sometimes do not pay their bills. Water Board cuts off their water, and in doing so cuts off Goroka Tech, which is on the same branch. The College is in the process of negotiating a change to this practice.

Sanitation: The College sanitation depends on a system of septic tanks dating back to the colonial times. These have not been well maintained throughout the intervening period, and many have compacted sediment that cannot be pumped out. The College wants to replace all of these old concrete tanks with new 'Tuffa' tanks.

Dormitory Ablutions: The boys dormitory Ablution Blocks are in a poor state, and are not clean. The girls dormitory toilets are in a better state.

Kitchen/Mess: The Kitchen/Mess is old, and most of the equipment is not working.

Clinic: There is no clinic, and no registered nurse.

Day Toilets and Drinking Water: There is one set of day toilets, but these have been taken over by staff who are living in nearby converted classrooms. There is no drinking water for students.

Exercise: There is one large playing field, and two smaller courts, though the latter are overgrown. The students organise competitions with the adjacent University of Goroka.

Other services
Telephone: There is an external line to Administration, and an internal switch connects to all departments.

Internet: The College used to have Internet access, but not currently. It is considering approaching the University of Goroka re shared access.

Power: Supply is adequate, and the College has a functioning backup generator.

Solid Waste: Solid waste is supposed to be collected by the Eastern Highlands Capital Authority, which is supposed to come twice a week. In practice, this EHCA comes perhaps once a month. Instead, the College is using its own truck to deliver waste to the dump.

Industrial Waste: There are no special arrangements for industrial waste.

Grounds
Security: The perimeter fence is chain link only, and full of holes. The front gate is staffed by a private firm, but seems ineffectual in stopping access to outsiders with no business on the Collage grounds. The College has had problems of theft from dormitories and houses, including IT from a classroom, and chairs from a classroom.

Access: The campus is well located adjacent to the University of Goroka. Internal roads mostly unsealed and unmaintained, but seem adequate for the low traffic they maintain. There is a path network.

Expansion: The campus seems to have substantial land for future expansion. However, this expansion needs to be carefully planned if the land is to be used efficiently.

Open Space: The campus has one sports field, and abundant open space, much of it currently planted as food garden. The College sees the food gardens as a security risk, because of the way in which they interfere with sight-lines, and wants them removed.

Drainage: The site is well-drained on the whole, with no flooding, but local drainage is not good, with many muddy patches.

Landscaping: Landscaping is well maintained, in part due to the extensive food gardening.

Building Stock

The building stock is generally in poor condition. Some buildings date back to the 1950s and 1960s. Some of the staff housing is IMQs—"Indigenous Married Quarters". The most recent buildings are three dormitories funded by AusAID in the 1990s.

Core Resources: The block and library are both small, but functioning.

Teaching: Workshops are very basic, some with only cyclone wire walls. Some appear to be originally designed as utility sheds, rather than as teaching spaces. Spans are narrow. Ceiling and roof heights are low. The better workshops have been converted to classrooms. Many of the older classrooms have been converted to teacher housing. This extensive change of use makes it difficult to determine what should be considered classroom, what should be considered housing, what should be considered workshop. (In general, current use is recorded.)

Student Accommodation: Goroka is the only College not to have yielded to pressure to overload dormitories, and so none of its dormitories are overcrowded. Enrolment has increased, and students who have paid for accommodation and arrive after dormitories are filled are refunded their moneys, and told to find accommodation in town. It is apparently "tough" to find decent accommodation and food in town, and such accommodation as exists does not provide a good study environment.

Staff Housing: The staff houses are generally in poor condition. The worst are the IMQs, one of which has been renovated, and the buildings in which old classrooms have been converted to accommodation. The best are probably the two storey units: also an efficient use of land.

Informal: There are no informal structures.

Building Data

Note: Due to the absence of building asset or condition registers, the data recorded here are approximate, and require further inspection and investigation.

	TYPE	QTY	CONDITION		
			Fair	**Poor**	**Very Poor**
			Needs minor R&M	Needs major R&M	Not worth investing in
Core Resources					
Admin	1-storey	1	1		
Library	1-storey	1	1		
Teachers Room	Room	1	1		
Clinic	-	-			
Bulk Store	-	-			
Teaching Spaces					
Classrooms	Buildings	7		7	
IT Rooms	Rooms	6	1		
Workshops	Buildings	5			5
Lecture/Assembly	Hall	1	1		
Student Accommodation					
Dorms, Male	2-storey	4		3	1
Ablutions, Male	to match	4		3	1
Dorms, Female	2-storey	1		1	
Ablutions, Female	1-storey	1		1	
Kitchen/Mess	1-storey	1		1	
Staff Housing					
Principal	High Cov	1		1	
Housing	Low Cov	12		1	
Converted ex Classrooms	Units	7		1	
Units		16		1	
Informal					

	TYPE	QTY	CONDITION		
			Fair	**Poor**	**Very Poor**
			Needs minor R&M	Needs major R&M	Not worth investing in
Abandoned		4	A number of very old buildings, some partially demolished		

10: Goroka Technical College – Summary SWOT (strengths, weaknesses, opportunities and threats)

Strengths	Opportunities
- Well located large site with good proximity to UOG - All staff accommodated in housing on campus - No overcrowding in dormitories - Use of outside of consultants for facilities planning - Maintenance program underway - Bottom up prioritisation - Ample number of workshops - New Leadership team - Council and executive working in partnership - Business studies leadership - Professionalism and dedication of staff - Gender balance - Proactive policies to retain staff - High demand for courses - Pragmatic plan for future growth	- Site can accommodate increased demand with good physical planning - Access to UOG for staff development and sharing of services (e.g. internet) - Self sufficiency through market gardening - Potential partnerships with key NGOs & industries - High student demand - Develop new niche areas of training e.g. sustainable technologies - New Government emphasis on TVET - Positive donor environment
Weaknesses	**Threats**
- Many students living in sub-standard accommodation off-campus - Very old building stock - Staff housing, workshops and classrooms in poor condition and sub-standard - Boundary fence not secure and security ineffective - Inadequate water pressure - Ineffective asset management - Working with outdated curriculum - High staff turnover - Limited opportunities for staff to update skills with OJT - High Student/Staff Ratios - IT infrastructure inadequate given student load - Limited IT systems support - High Student/Equipment Ratios - Equipment & tools outdated - Library resources inadequate - Lack of student resources - Student amenities inadequate - No internet access - Very limited student activities/pastoral support - Limited success with zero tolerance policy - Staff discipline and morale still an issue	- Landowner issues - Water and power security - Highly competitive environment with many emerging private providers - Funding insecurity) - Dysfunctional and ineffective TVET headquarters - Slow pace of implementation of TVET reforms (curriculum) - Dysfunctional and fragmented TVET sector - Competition for staff - External recruitment process - Wages and conditions based on the TSC system - Economic environment impacting on ability to pay fees

Annex 4: Baseline Enrolment Data Semester One 2011

Table 1 – TVET Enrolments in all Colleges

	POMBUS	POMTECH	KOKOPO	MT Hagen	Madang	Lae	Goroka	Total	Level	Field
Diploma in Business Studies Stage One	309		220		47	147	204	927	D	B
Diploma in Business Studies Stage Two – Accounting							61	61	D	B
Diploma in Business Studies Stage Three – Accounting	89		52		17	30	73	261	D	B
Diploma in Business Studies Stage Four – Accounting							24	24	D	B
Diploma in Business Studies Stage Two – Management							29	29	D	B
Diploma in Business Studies Stage Three – Management	63		52			48	40	203	D	B
Diploma in Business Studies Stage Four– Management							18	18	D	B
Diploma In Business Studies Stage Three – Computing	39		17			21		77	D	B
Diploma in Business Studies Stage Two - Office Administration							16	16	D	B
Diploma in Business Studies Stage Three - Office Administration	7		40		7	30	33	117	D	B
Diploma in Tourism and Hospitality Stage One	54		37			49		140	D	H
Diploma in Tourism and Hospitality Stage Three	26		18			25		69	D	H
Diploma in Applied Science						112		112	D	A
Diploma in Architectural Drafting & Building Stage 1						25		25	D	A

								Total		
Diploma in Architectural Drafting & Building Stage 3						21		21	D	A
Diploma in Building						59		59	D	A
Diploma in Civil engineering						116		116	D	A
Diploma in Electrical Engineering						84		84	D	A
Diploma in Mechanical Engineering						50		50	D	A
Diploma Foundation studies			45		15		35	95	D	B
TTC Business Studies 1 Grade 10	45		35					80	T	B
TTC Business Studies 2 Grade 10	22		51					73	T	B
TTC Business Studies Grade 12	92		87			41		220	T	B
TTC Business Studies 1 Grade 10 Kaveing	28							28	T	B
TTC Business Studies 2 Grade 10 Kaveing	36							36	T	B
TTC Tourism & Hospitality						83		83	T	H
TTC Electrical		39						39	T	T
TTC 1 Printing		11						11	T	T
TTC 2 Printing		6						6	T	T
TTC Drafting						72		72	T	T
TTC Metal Trades						161		161	T	T
TTC Applied science						105		105	T	T
TTC Building Construction 1					29			29	T	T
TTC Building Construction 2					23			23	T	T
TTC Painting & Sign Writing 1					10			10	T	T
TTC Painting & Sign Writing 2					3			3	T	T
TTC Plumbing Sheet Metal Trade 1 & 2					25			25	T	T
TTC 1 Mechanical				82			107	189	T	T
TTC 2 Mechanical				51			96	147	T	T
National Certificate 1 Office administration			19	27	43		15	104	N	B
National Certificate 2 Office administration					20			20	N	B
National Certificate 2 in Hospitality Operations			12					12	N	H

Course							Total		
National Certificate 1 Electrotechnology		92					92	N	T
National Certificate 1 Auto Body Repair & Finishing		7					7	N	T
National Certificate 1 Auto Electrical		23					23	N	T
National Certificate 1 Motor Vehicle Mechanic		45		68		23	136	N	T
National Certificate 1 Maintenance Fitting and Machining		41					41	N	T
National Certificate 1 Metal Fabrication and Welding							0	N	T
National Certificate 1 Carpentry/Construction					19		19	N	T
National Certificate 2 Carpentry/Construction					15		15	N	T
National Certificate 1 Plumbing Sheet Metal					33		33	N	T
National Certificate 2 Tourism Operations and Travel					23		23	N	H
National Certificate 3 Tourism Tour Guide					6		6	N	H
Extension Electrical		37					37	E	T
Extension Refrigeration		9					9	E	T
Extension Carpentry & Construction		15					15	E	T
Extension Maintenance Fitting & Machining		14					14	E	T
Extension Metal Fabrication & Welding		22					22	E	T
Extension Motor Vehicle Mechanic		25					25	E	T
Extension HEF				36			36	E	T
Extension Plumbing Sheet Metal					7		7	E	T
Extension Cabinet Making					7		7	E	T
Basic Trade Certificate Printing		20					20	C	T
Basic Trade Certificate Carpentry/Construction/Printing		13					13	C	T
Basic Trade Certificate Electronics		59					59	C	T
Basic Trade Certificate Refrigeration		12					12	C	T
Tourism Commercial Cookery					10		10	C	H
Certificate in Applied Technology (CAT)1 -				25			25	C	B

									Level	Field
Business Studies										
Certificate in Applied Technology (CAT)1 - Carpentry Construction				8				8	C	T
Certificate in Applied Technology (CAT) 2 - Diesel fitting				41				41	C	T
Certificate in Applied Technology (CAT) 2 - Auto Electrical				19				19	C	T
Certificate in Applied Technology (CAT) 2 - Motor Vehicle Mechanic				14				14	C	T
PETT Panel Beating and Spray Painting		11						11	T	T
PETT Butchery					13			13	T	H
Total number of Students	**810**	**501**	**685**	**371**	**359**	**1292**	**774**	**4792**		
Percentage	**17**	**10**	**14**	**8**	**7**	**27**	**16**	**100**		

CODES FOR LEVELS

D=Diploma

T=Technical Trade certificate (TTC)

E=Extension

N=National Certificate (NC)

C= Council approved courses

CODES FOR FIELDS

B=Business Studies

H=Tourism & Hospitality

A=Applied Science

T=Trade Technology

Table 2 – Level of Courses

Level of Courses	Enrolments	Percentage
Diploma	2504	53%
Technical Trade Certificate (TTC)	1364	28%
National Certificate	531	11%
Extension	172	3%
Council Approved.	221	5%
Total	**4792**	**100%**

Table 3 – Field of Study

Field of Studies	Enrolments	Percentage
Business	2414	51%
Tourism & Hospitality	356	7%
Applied. Science	467	10%
Trade Technology	1555	32%
Total	**4792**	**100%**

Annex 5: Teacher Baseline Data

Table 1 – Staff Average Age

Averages	Numbers	Averages in Years
Average Age of Principals	5	44
Average Age of Principals, Acting Principals, Deputy Principals	15	50
Average Age of Principals, Acting Principals, Deputy Principals and Heads of Departments	41	48
Average. Age of all Teachers (including Principals and Deputies)	221	43
Average. Age of Female Teachers	55	43
Average. Age of Male Teachers	155	43

Table 2 – Staff Age Range

Age Range	Numbers	Percentage
20 – 30	26	12
31 - 40	58	26
41 – 50	83	37
51+	56	25
Blanks	2	1
Totals	**225**	**100**

Table 3 – Staff Gender

Gender	Numbers	Percentage
Female	57	25
Male	168	75
Total	**225**	**100**

Table 4 – Qualifications of Teaching Staff

Highest Qualification	Male	Female	Total	Percentage
Masters	5	2	7	3
Post Graduate Diploma	13	2	15	5
Bachelors Degree	59	31	90	40
Diploma	74	20	94	42
Certificate	8	2	10	4
Did not answer			9	4
Total	**168**	**57**	**225**	**100**

Table 5 – Teacher Training

Highest Qualification	Numbers	Percentage
With Teacher Training	171	76
No Teacher Training	45	20
Blanks	9	4
Total	**225**	**100**

Table 6 – Staff Internet Access

Internet Access	Numbers	Percentage
Access to Internet	64	28
No Access to Internet	154	68
Did not answer	7	3
Total	**225**	**100**

Table 7 – Teacher Housing

Teaching Staff Housing	Numbers	Percentage
Do not live in College House	63	28
Live in College House	159	71
Did not answer	3	1
Total	**225**	**100**

Table 8 – Quality of Teacher Housing

Quality of Teacher Housing	Numbers	Percentage
Excellent	1	0
Good	14	6
Fair	70	31
Poor	69	31
Did not answer	71	32
Total	**225**	**100**

Annex 6: Situation audit of Learning Resources in TVET business and technical colleges

This Annex provides baseline quantitative and qualitative data on the state of learning resources in the colleges.

A.   **Information Technology (IT) Resources**

POMTECH

There are two computer laboratories with modern desk top computers; one (with 26 computers) is devoted exclusively to the DATEC course. The other laboratory contains 21 computers which were provided with funds from AusAID, is available for general student use. There is no general after-hours access, unless by prior arrangement and there is no internet connection.   Under the Printing Department there are a further 15 student desktops funded through lease (at an extremely high lease rate which equals approximately a 500% mark up). These graphic design computers are in a poor state of repair with outdated graphic design soft ware.

Teachers have limited use of computers to develop learning resources, student notes, or general administrative tasks. Most departments and sections have a few desk top models, but these are old and need updating. Software is outdated and also needs updating. None have internet connected. Virus infection and removal is a real problem. No specific computer training has been arranged and teachers have either been self taught or assisted by colleagues to acquire appropriate basic skills. There are few printers or photocopiers and these are predominately domestic, not office models. Few computers or reproduction hardware are located in air conditioned spaces and are subjected to dusty, humid environments. There is a central photocopying section to produce the student handout requirements for all departments.

There is no indication of any modern teaching equipment in current use, so teaching methodology is confined to board work or paper based activities.

POMBUS

There are four computer laboratories available for student use each with 30 computers (120 computers in total) which were provided by AusAID in 2010 under the ECBP. The facility for the Computer laboratories was funded by the Korean Government. Student access to the computer laboratories is restricted to their classroom schedule. There is no internet access currently available for students and internet access for staff is restricted to the College administration. All teaching staff have access to a desktop computer. These are not networked and the mission was advised that virus protection is a major problem.

A strong need exists to engage a College employed computer technician.

KOKOPO Business College

The College currently has five computer laboratories each with 30 computers (135 supplied by AusAID under the ECBP). The rapid enrolment growth has severely limited individual student access to the computers in the last three years. A laptop program for teachers was introduced in 2010 and consultations affirmed that the program has been very effective.

MT Hagen Technical College

There are two computer laboratories (one old and one new) available for student use with 60 computers in total and three new desktop computers being set up in the library. The new computer laboratory is installed with 36 computers supplied with AusAID funding and is used by Business studies students. After hours use is by arrangement. There is no internet connected and there is only one printer available. To avoid virus problems, students are not permitted to use flash drives. Local computer companies are periodically employed to clean viruses if infected.

Six desk top computers (4 currently work) are available in the teacher's staff room. One printer and

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a flatbed scanner are also installed. 27 new laptops have recently been supplied to teachers by the Council at a subsidised price (25% discount). However, no internet connection is available for general staff use. Software upgrades and virus protection are continuing concerns.

NPIPNG – Lae

The Polytechnic currently has six computer laboratories with 150 computers in total including 72 provided by AusAID under the ECBP. Because of the recent enrolment growth computer hardware and software in all Departments at Lae is inadequate. No internet is available. There are insufficient working desktop computers available for full class use. Continuing breakdown and non replacement have now resulted in several students having to use one computer. Furthermore, the continuing power failure is clearly shortening the life of all electronic equipment even the life of UPS, many of which need replacing. Software is obsolete and requires updating, but without connection to internet, this is not easy to achieve. Continuing virus infection is a further impediment to efficient operations and use USB memory drives increases the risk of damage. In the Architectural Drafting computer laboratory, AutoCad software is an old version and prevents students from experiencing current versions of what local design and building companies use. There are no networked systems in operation and insufficient printers attached to produce drawings. There is no appointed Technician to manage and repair faults as they continue to occur.

There is insufficient access for staff use, only recycled computers and teachers usually have to wait for colleagues to complete individual tasks in order to prepare learning materials and assessment records. No internet access is available and there are no multimedia projectors in use in any classroom. Teachers and students are denied a valuable teaching/learning method.

The library has four working computers for student use, but constant power failures make continuing operation difficult. There is no internet available for student use, even on a user pay basis. The librarian arranges virus upgrade at the end of each semester, but this does not provide adequate protection. Also, the librarian has installed Encarta for student use, but this is long outdated and cannot be upgraded unless new versions are purchased.

Madang Technical College

MTC currently has three computer laboratories each with 20 computers. One of these laboratories contains the 20 computers provided by AusAID under the ECBP. The computers are maintained by an Instructor (with a degree in computing from Unitech) from the Business studies Department. Broadband access to the internet is currently restricted to four senior staff of the College. The IT coordinator currently has plans to establish a college network and an internet cafe for students. There is no laptop program for teachers at present. Council is considering phasing in a program starting with Heads of Departments.

Goroka Technical College

One of teachers in the Business Studies Department has responsibility for the College's IT resources which currently comprise five computer laboratories with 150 desktop computers. 75 of these computers were provided by AusAID under the ECBP. All of the laboratories are networked. However the teacher reported that she needs training in managing the server. The major growth in student enrolments over the last three years has resulted in students often sharing a computer; the laboratories are often overcrowded with several students without chairs and forced to stand or sit on the floor during lessons. There is currently no internet access in the College for staff or students. The Council late in 2010 bulk purchased 30 laptops for staff use and these have been offered to staff for purchase at as 50% price discount. Take-up has been high.

Summary Computer data and ratios

	No. computers for student use	Student/computer ratio
POMTECH	50	10/1
POMBUS	120	7.1/1
Kokopo BC	150	4.3/1
Lae Polytechnic	150	8.6/1
Mt Hagen TC	60	6.1/1

Madang TC	60	6.0/1
Goroka TC	150	5.2/1
Total	**740**	**7.5/1**

B. Library Resources

POMTECH

The library is currently staffed by two people. The librarian in charge of the library (trained prior to employment), also undertakes a full teaching load and attends the library only on a part time basis. Otherwise there is a library assistant who provides supervised access for students during the hours of 8am to 4pm. The library is closed during the lunch hour. There is no provision for after-hours access by students. Additional library staff has not been engaged because of budget restrictions.

Each department struggles to develop student notes and, students have to supply their own technical text/reference books, because the Library has very limited text or reference stock for student use. There has been no continuing budget allocated for library purchases, so there is a strong dependence on donations, but this is infrequent and not reliable.

Book stock is predominately old novels and these outnumber any technical book stock. There are some reference/AS/NZ standards books that were acquired for the Electrical Department and are kept under restricted use, to prevent continuing loss. Some texts are specifically identified in electrical training package modules and standards. They are vital for student development and assessment processes. Students can only access and use the reference books in the library, and because of current security arrangements, they must make advance arrangements for use.

There is no current technical/reference book stock, for other departments. Although there is book stock which relates to other departments, it is well past its use by date and need replacing. There is no computer controlled stock control system in operation. Books are manually recorded in a hand written stock book.

Student notes for older courses are generally out of date and there are limited examples of any recent updating. With regard to student notes to accompany CBT implementation, has been slow, because of the competing demand for teachers' time. The training packages which have initially been supplied by the central government comprise the industry standards and training module structure for each qualification, which does not include student handouts/notes. There appears to be no capacity for any central development of student resources.

POMBUS

A library facility has been operating in two converted classrooms for a number of years. Because of the pressures of enrolment growth a decision was made by the college to convert the library space back to classrooms and relocate the library into the student pavilion. At the time of the mission the library resources were being boxed up and as a result the library facility itself was in a state of transition. The College librarian advised that the library book stock comprised approximately 1000 lending books with an additional reference collection of 200 books. Teachers, the management and students all confirmed that the collection was very outdated and that significant additions to the collection were needed. The library has been open from 8am to 330pm and closed on weekends. Note: At the time of the consultation on the draft Report (June 2011) the renovations to the library at POMBUS were almost complete.

KOKOPO Business College

A purpose built library was part of the infrastructure when the College was rebuilt. The current collection of books is approximately 5700 titles with students able to borrow one book each week. A scanner is nit in working order leading to a significant number of books lost each lost. Five computers are available for student use, each with internet access. The library is open from 8am to 4pm and also for two hours in the evenings from Tuesday to Thursday. With the growth in student

enrolments the key need in the library is to increase the number of textbooks for student use. This is the priority within the limited annual budget made available.

MT Hagen Technical College

A library facility was established about 9 years ago, but there are insufficient suitable or required text/reference books. Library hours are 7.45am to 4.00pm (closed for lunch) and sometimes 7-9pm on request. Borrowing is not permitted outside the library. All reference books are held in the reference section and strictly controlled by the librarian. There is one qualified librarian employed, but she also teaches 6 hours HIV/Aids classes per week. Books available for student borrowing are very old stock.

The librarian has a computer, but it is not used to record book stock.

In Mt Hagen each department undertakes the development of student notes and where required, students supply their own technical text/reference books, because the Library has very limited text or reference stock for student use.

An annual budget of $20,000 has been allocated for library purchases, but was not fully expended in its first year of operation. The librarian indicated that there is no book store in PNG that sells suitable text/reference books.

NPIPNG – Lae

The library was originally established with AusAID funding in late 80s, but because of no ongoing maintenance the centre is in need of renovation and restocking.

Because of the inability to provide specific text books for student use, each department struggles to develop appropriate student handout materials to support learning. In some cases students are required to provide their own text books. Otherwise, some departments do hold several reference books which provide suitable materials for students to. In addition, the library holds alternative suitable reference books for students which have been either purchased or donated.

Although the library holds approximately 10,000 books in its collection, the majority comprise old donated novels, which are not accessed by students. Library hours are Mon-Thurs 9am – 10pm, Fri 9am – 3pm Sat and Sun 6pm – 10pm. Students can borrow up to 3 books from the general collection but, the reference collection can only be used in the library. The air conditioning system is still operational but the book detection system is no longer working and books are at risk. There are four computers available for student use and are in heavy use until the constant power failures stop operation. There is no internet and virus infection is only managed by constant control of flash drive and CD use. Software upgrade is an issue. Last year, the library was allocated a K60,000 budget, rising from a previous budget of K10,000. Book purchase is difficult in PNG, but through linkages with Unitech bookshop the college and students can purchase there.

The librarian has been 12 years in the position and is very dedicated to his responsibility. He has seen a gradual decline in the state of the library because of inadequate building and equipment maintenance or updating, but the library is still heavily used by students. The photocopier has been in operation for about 7 years and continued heavy use requires constant servicing. Increased student enrolments are now generating pressure on library space and students sometimes have to sit on the floor.

Madang Technical College

A small collection of very old books is kept in one classroom. However the Library as such has not been functioning and the room is used as a classroom and area for student study. The impoverished state of library resources at MTC was identified by staff, students and management as a key issue and the Principal has identified the library as a priority in the new five year plan under development.

Goroka Technical College

The library at Goroka was one of the better libraries visited. It has a staff of one who is a trained librarian who has been at Goroka for three years. The library is too small for the number of students using it and book stock is very limited to address the range of study areas delivered at the college.

Because business studies enjoys a major position in the college, most of the stock relates to business studies study areas. There are none suitable for any of the mechanical sections. Because of poor book control, all suitable books are kept in the reference section and are not available for student use other than in the library.

There are no working computers remaining in the library so students are unable to use. The librarian plans to dismantle the old computer room and extend the library. The librarian does not enjoy a computer and all stock is manually entered in a stock book. There is no phone in the library and no internet is connected. An electronic surveillance machine is installed but no longer operates. Students have requested more fiction or novels, but he has been instructed to buy only technical materials.

The library is well used and seems to be well run. Business hours provide good coverage for student use with library open during most weekday evenings and also Sunday afternoon.

The librarian lives off campus and finds it difficult to travel to the college. The library receives an annual budget of K20,000 which commenced in 2010 and all is expended either on books or library furniture. The librarian reports that he unable to control book loss and because there is no librarian assistant or security guard on duty when he is called away, he knows that books are being removed.

C. PNG TVET Photo selection workshops and equipment, March 2011

Carpentry machinery many no longer working and no extraction system connected.

TIG and MIG welding machines no longer operable

Inefficient light vehicles workshop, insufficient space and roof badly leaking. Building at right top floor classroom condemned.

Adequately equipped functional fitting and machining workshop

Useable Electrical Dept buildings, but in need of substantial upgrade, extension and urgent maintenance

Crowded automotive workshop building, impromptu classroom area taking valuable space

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Crowded small automotive workshop, insufficient workspace for students

Trade testing centre being established

Automotive electrical testing equipment no longer working

Crowded classroom

Poorly maintained classroom

Dangerous pathways

50% of lathes no longer operate, parts no longer available

Permanent equipment signs

Valuable workshop area used to store obsolete equipment

As above

Severely corroded fume cabinet, not working

Hazardous chemical laboratory benches in urgent need of repair/upgrading

Masonry saw no longer operable

Badly leafing roof and box gutters

Large band saw no longer operable, needs replacing

Dangerous rip saw bench. No guards, riving knife or extraction system

Impromptu drawing room set up in workshop

Termite damage in teacher's office

Poorly maintained, inadequate classroom. Many chairs in dangerous condition. Excess students either sit on the floor or stand

Empty tool shadow board. Tools have gone progressively missing

Inadequate tools and storage

Crowded classroom

Dangerous exposed wiring. Buai spit on walls and floor

Poorly maintained classroom building

Typical poorly stocked library

D. A representative description of what was observed by the study team in the workshops, classrooms and laboratories

WORKSHOP

This once was a fully operational woodworking workshop with all equipment working. Now most of the equipment has ceased working and cannot be repaired as parts are no longer manufactured. Two students are operating a planning machine (they both are wearing overalls, safety boots and safety goggles, but no dust masks). One is feeding timber in and the other is tailing out. However, there is no extraction equipment fitted to the outlet chute (there never has been), and the shavings and dust are being sprayed over the student who is tailing out. To protect himself, he has his head wrapped with a cloth which he has over his nose and mouth. Around them, the floor is still wet and pools of water still lie on the concrete floor, caused by a recent heavy rainstorm which leaked through holes in the box gutters and roof sheeting.

An adjacent ripsaw sits idle and not in use. However, the blade is exposed because there is no protective cover over the blade and no riving knife appears behind the blade. A riving knife is used to prevent timber from binding on the blade and cause throwback onto the person feeding timber onto the blade.

There are no safety signs fitted around the workshop and there is no safety pathway painted on the concrete floor.

CLASSROOM BLOCK

Externally, the single level, double classroom is in a poor state of repair. Gutters are rusted and leaking and filled with growing plant life. Fascias are rotten. All insect screening over louvre windows need replacing.   Surrounding concrete pathways are broken and hazardous. The two classrooms are separated by a small store room which is filled with dusty old furniture which could have been used for replacement parts on other broken furniture in nearby classrooms. Having requested the door be opened, I was informed that there was no key and the room had never been opened for at least ten years.

Inside, was no better. Walls surfaces and roof trusses were mouldy and it was clear that the room and furniture had never been cleaned or dusted. The timber floor was very dusty and judging from the muddy footmarks on the floor, it was clear that the floor had not been swept for a long while. Few lights (fluorescent) lights or ceiling fans worked.   Ceilings were not lined and ceiling sisalation hung down from the ceiling obstructing the view through the classroom.

CLASSROOMS, LIBRARY, COMPUTER ROOMS, LABORATORIES

During a tour of the College Campus, I noticed that a number of students were carrying chairs and I thought that a teacher may have organised a shift from one room to another. On inspecting several classrooms, library and computer rooms, I noticed that there was something missing in each room, but it took me a while to work it out. Apart from desks and shelves, there were no chairs to be seen in any room. Apparently, pilfering chairs was a common practice perpetuated by passing landowners through the campus, who just removed what they wanted. The solution was to personally issue a designated chair to each student when he or she arrived at the campus and make them individually responsible for transporting and storing the chair. If the chair went missing, students were charged K50 for a replacement. Consequently, student and chair became inseparable. They even were required to keep their chairs in their small bedrooms, with already insufficient space.

Annex 7: A note on the lessons learned from implementation of CBT in Australia.

This paper was prepared by the Technical Trade Curriculum Specialist and was presented as part of the Aide Memoire debrief at the National Research Institute (NRI) on 31 March 2011. It details the complicated process of implementing CBT in the Australian context, demonstrating that even in a well resourced technical training context, the introduction of CBT was protracted and complex. Implementing an effective CBT system in PNG will continue to face significant hurdles, required sustained effort and commitment by both GoPNG and donors.

Most formal vocational education and training (VET) in Australia is now competency-based. When competency-based training (CBT) first became government VET policy in the early 1990s, there was heated and acrimonious debate about its desirability. During the last few years, debate about CBT has all but disappeared, and VET teachers and trainers have been struggling with the implementation of CBT with, often, little support, and certainly with little interest from the VET research community. A research project examined, in late 1996, the effects of CBT on teaching and learning. A number of creative responses to CBT were discovered, with a major effect of the change to CBT appearing to be an impetus for teachers to re-examine what they do with their students. Despite changes in teaching methods, CBT nevertheless allows teachers to exercise their skills, although the skills needed are in some respects different from pre-CBT teaching. This paper reports on the project findings, and looks at the changes in teachers' activities and roles using definitions of teaching propounded by Fenstermacher, and Miller and Sellar.

Competency-based training in its current form was introduced in Australia from the late 1980s onwards. The basis of CBT is three-fold.

- The focus of the training is on the outcome of the training.
- The outcome is measured against specific standards not against other students (i.e. norm referenced rather than criterion referenced).
- The standards relate to industry. (Smith & Keating, 1997, 102)

National competency standards were the basis of CBT in the 1980s and 1990s, but various reviews of the VET system (e.g. Allen Consulting Group, 1994) identified some problems with the system. In particular a disjunction between competency standards and VET curriculum was identified. However, curriculum and teaching staff in TAFE have sometimes viewed a disjunction as positive, in that flawed competency standards, in their view, needed extra curriculum content added to them (Smith, et al., 1997). These opposing views are symptomatic of a much wider debate about the desirability and efficacy of CBT, which raged throughout the 1990s in Australia and elsewhere (Smith & Keating, 1997).

The Australian National Training Authority (ANTA) determined, in late 1996, as a result of a decision by the Ministerial Council for Employment, Education, Training and Youth Affairs, to introduce Training Packages. National Industry Training Advisory Bodies (ITABs) were asked to produce lists of Training Packages which would cover their industry areas (Lewis, personnel communication, 2001). The WRAPS (Wholesale, Retail and Personal Services) ITAB, for example, proposed seven Training Packages (Retail, Wholesale, Hairdressing, Beauty, Funerals, Floristry and Community Pharmacy) which have now all been developed. Some ITABs might have fewer Training Packages on their list; others, for example Business Services or Community Services, preferred a small number of Packages, each covering several related industry areas (Lewis, personnel communication, 2001).

Each Training Package consists of a number of units of competence (competency standards), and instructions as to how they can be packaged to make qualifications. The Training Packages also include details on assessment and, in the support materials (formerly called 'non-endorsed components'), may include learner guides, resources for teachers and so on. Around eighty Training Packages are now in existence and may be viewed on the National Training Information Service web site (www.ntis.gov.au) which is managed by ANTA. Training Package qualifications are national qualifications, and training providers can no longer accredit courses in industry areas covered by a Training Package except under a restricted range of circumstances. Thus the number of available courses in the VET sector is rapidly being reduced.

The process of Training Package development is usually carried out in two phases. The first phase scopes the industry and makes general recommendations. The second phase develops the competency standards and eventually produces the complete Training Package. ANTA's National Training Quality Council is required to sign off on both phases. There are strict guidelines as to how the Package is developed and how it looks (Allen, personnel communication, 2001); these guidelines are produced by ANTA and have changed over time (Lewis, personnel communication, 2001). Both phases of development involve extensive consultation both nationally and in States and Territories. Usually State ITABs are asked to assist in identifying relevant people to contribute to consultations in each State. These will include people working in industry and teachers from VET Registered Training Organisations including TAFE (Allen, personnel communication, 2001). Originally RTOs were not invited to be part of this process but are now involved; in addition State Training Authority input will often include an RTO, particularly a TAFE, perspective. Extensive efforts are made to identify appropriate industry people to advise on development and subsequent implementation purposes, sometimes with some difficulty where an industry is not cohesive or where few employers are planning to use the Training Package.

Training Packages are reviewed every three years, which means that the review process (which is similar to the development process) needs to start within eighteen months or so after the original package is endorsed (Misko, 2001; . Revisions to Training Packages may be very extensive, as is the case for the current review of the widely-criticised Training Package for Assessment and Workplace Training. While constant review is meant to ensure that the Packages keep up to date with changes in industry, as well as meeting criticism from those who deliver them, the TAFE Directors Australia (2001) have argued that the three-year review period is too short, since it means that many students, for example apprentices whose courses may run for three years, will graduate with competencies which are already out-of-date.

There have been many critics of Training Packages' perceived narrowness. Wheelahan (2001) for example, suggests that students not only need to know about different ways of doing things but also need to know how to critique ways of doing things. Thus not only are Training Packages likely to be quickly outdated, because they describe current ways of working, they do not offer the chance for people to learn about how things might improve or how workplaces might be arranged differently. By contrast, earlier forms of VET curriculum taught off the job offered a more obvious opportunity for examining different ways of carrying out particular workplace tasks and asking students to compare them.

Some commentators, however, see Training Packages as an opportunity to validate and valorise what working class people do in workplaces. The following statement, from a process industry manager, is typical.

The training program has brought benefits to our employees in the form of the increased self-esteem and confidence which comes with gaining a national qualification. *Australian Training,* 6(4), p.25

Silverman (2001) presses Paolo Friere (whose writings are concerned with adult education in and for social action) into service, saying that Training Packages give the opportunity for 'praxis' which he describes as learning through reflection upon action. Such writers consider that the opportunities to learn within their workplaces might enable workers, assisted by teachers, to effect social or political change. For example, Kell (1999) suggests

The move away from institutionalised learning and the pressure to generate curriculum might release teachers to take up quite different interventions in workplaces to change the lives of workers.

Training Packages can be delivered in the workplace, either by the enterprise itself, if it is a Registered Training Organisation (RTO), or by workplace staff under the supervision of an external RTO such as a TAFE college, enabling workers to learn without leaving their work stations. Moreover, workers who have previously not had their skills acknowledged can be assessed against a qualification without learning anything new. This is regarded as a desirable outcome by ANTA despite the fact that there is no 'added value' (i.e. no additional skills learned) to the system. The workplace focus of Training Packages can make it easy for employers to believe that it is appropriate to train their workers only in what is needed in their own workplace and yet still award a national qualification signifying competence in a field of practice.

There is much to be said for the extension of qualification frameworks into areas of work which were previously unrecognised as skilled. In the past, too many occupations have been regarded as skilled only because of the actions of the associated trade unions in these (usually male) occupations in defining their work as skilled (Shields 1995). However the notion that learning takes place best in workplaces flies in the face of the reality that workplaces are at best busy and focused on production rather than on learning, and at worst exploitative, oppressive and dangerous. Many authors including Billett (2001), Butler (1996) and Casey (1993) have pointed out the disadvantages of learning in workplaces, despite their authenticity as environments for practicing tasks and understanding work in context.

The cries of pain

Teachers

VET teachers, many still reeling from the changes in their work associated with the introduction of CBT (Smith et al., 1997), have been among the critics of Training Packages. They fear the 'thin' curriculum associated with strict adherence to workplace tasks and the lack of opportunity for students to develop underpinning knowledge and reflective and critical approaches to the area of

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study. Teachers, closest to students of all stakeholders, are also aware of students' lack of respect for a curriculum which is based solely in workplace tasks. An ethnographic study of CBT in the UK (Riseborough 1993) and a study (Smith 2000a) of Australian young workers in apprenticeships and traineeships, have both revealed that students consistently want to learn more, and more deeply, than content and skills that relate only to their everyday workplace tasks. However some commentators strongly support a thin curriculum; for example one submission to the recent Senate Inquiry into the Quality of VET stated that

The old system of Training Providers loading up students with great quantities of theory, because this is a Provider's only chance to equip a person for the future, has been replaced by the opportunity for them to tailor learning to the immediate needs of students. (Senate Employment, Workplace Relations, Small Business and Education References (EWRSBE) Committee 2000a, p.159).

As is commonplace when teachers resist educational change (Smith 2000b) teachers and trainers' concerns have mostly been dismissed as the reaction of 'dinosaurs' unwilling to change. They are depicted as being 'wedded to traditional means of training delivery' (Senate EWRSBE Committee 2000a, p.149). Such comments prevent reasoned discussion of the challenges associated with Training Package delivery.

Providers

Cries of pain have not just come from teachers. ACPET, the Australian Council for Private Education & Training, which represents many commercial VET providers, has described Training Packages as 'rigid, uniform and standardised'.

The concerns of ACPET (2000) include the following.

- Universities have 'questioned the academic credibility of Training Packages' and are less likely than under previous curriculum systems to agree to articulated credit.
- Training providers can no longer develop niche qualifications.
- Training Packages are not appropriate for qualifications at AQF level IV and above.
- There are possible legal implications of judging a student 'competent'.

Most VET in Australia is delivered by TAFE (Technical and Further Education), the public provider. TAFE has also expressed grave reservations about Training Packages. A position paper by the TAFE Directors (TAFE Directors Australia 2001) sets out a number of objections. These include

- Training Packages do not cater for students currently unemployed or not employed in related areas to their studies
- generic skills and underpinning knowledge are not sufficiently highlighted in Training Packages
- Training Packages are really only assessment packages, since they do not assist with curriculum development or teaching
- the standard of qualifications across different Training Packages are not equivalent
- Training Packages can lead to very narrow educational outcomes for students, partly (but not only) because funding problems mean that electives cannot be offered.

Employers

While many employers are 'enthusiastic campaigners' for Training Packages, the enthusiasm of some could (by the cynical) be seen to relate to employers' access to government funding associated with Training Package delivery, especially when implemented as part of apprenticeships and traineeships. Moreover, there are voices of dissension. A Tasmanian tulip-farmer gained notoriety in 2000 at an ANTA conference by speaking out against Training Packages (Robert-Thomson 2001). Some of his comments included the following.

- Competencies are primarily statements rather than standards. This, combined with the tremendous flexibility of packages, provides the potential for the outcome to be anywhere between exemplary and hopeless.
- I am concerned that educational input into the development of packages was constrained.
- Staff (in industry) need much more than skills - they need an understanding of the context of their work.
- Training Packages have ... pressured training to become a privilege of employment rather than an open avenue for self-improvement

However, Robert-Thomson does acknowledge that some faults of Training Packages are 'less the fault of the package than the way in which it has been sold, implemented, interpreted and regulated' (Robert-Thomson 2001, 21). It needs also to be noted that the process of Training Package development is continually evolving and many concerns, such as the lack of educational input, are being addressed, at least to some extent (Lewis, personnel communication, 2001).

The enthusiastic campaigner

Curriculum is dead: Long live curriculum

A pronouncement by the then Chief Executive Officer of ANTA five years ago to the effect that following the introduction of Training Packages, curriculum no longer existed, has remained to haunt proponents of Training Packages ever since (Lewis, personnel communication, 2001). In practice of course, no such thing could be true, Even if Training Packages were not called 'curriculum', and 'syllabuses' or 'modules' no longer existed as documents, curriculum in the sense of what was to be taught and how, still existed and always will. In the early days of Training Packages, Sobski (1998), a senior NSW education department official and ex-TAFE Director, was among those who argued for the continuation of curriculum development as a process. She argued that 'it is ... important that, for people who wish to acquire specific skills and knowledge, there is a program of learning available based on a structured learning program - in other words, a curriculum' (Sobski 1998, p.14). Not surprisingly, NSW TAFE has continued to fund the development of centralised 'curriculum' i.e. teaching syllabuses derived from modules which are mapped against Training Packages. However in most cases teachers are expected to develop their own curriculum from the units of competence.

Some writers such as Waterhouse (2000) see the need for teachers to develop curriculum from Training Packages as an 'opportunity'; in Waterhouse's opinion, 'creating space for innovative educators to explore and colonise'. Moira Scollay, the Chief Executive Office of ANTA, has said,

The concept of Training Packages was developed upon the premise that teachers and trainers can recognise what learners know, what more they need to know and how they might learn best. The key to the successful application of Training Packages in any learning environment is the ability of

the teacher/trainer to develop customised learning strategies within the framework of competencies and assessment that the Packages provide (ANTA 2000a, p.3).

Others see this reliance upon individual teachers' or trainers' expertise as a possible route to disaster, with smaller and/or less scrupulous providers perhaps leaving it to under-qualified teachers to struggle as best they can to teach to units of competence. These units, moreover, are written in language which has been described as 'incomprehensible to all but the select club of competency standards developers and workplace assessors'. The Senate Inquiry into the Quality of VET reported receiving submissions that many teachers ' need more assistance than is currently available ... to carry out these tasks effectively, particularly in relation to identifying and/or developing learning strategies and teaching programs' (Senate EWRSBE Committee 2000a, p.150).

Making Training Packages work for those who do not work

As already mentioned, Training Packages are difficult to deliver when students are not employed in the field of practice. This is important because most TAFE students (and TAFE delivers 85% of accredited VET training) are not employed in the field in which they are studying (Hager, 1995). ACPET (2000, p.19) has identified two particular areas of difficulty.

- Individual students who have no access to workplace e.g. the unemployed, pre-employment training, and remote/isolated people.
- Students studying management-related competencies who are not yet working as managers.

These difficulties are generally overcome through a variety of strategies (Boorman 2001): by 'fudging', by work placements - with all their attendant difficulties (Smith & Harris, 2001), or by refusing access to students who are not employed (Boorman 2001). Fudging', however, does not seem a good basis on which to plan a large proportion of VET delivery. Specific 'fudging' strategies include scenarios, role-plays, practice firms, community projects and TAFE restaurants & hairdressing salons (Boorman 2001). While such strategies have some validity and have been in use in the VET sector for many years, they are not the same as 'real' workplaces and carry their own attendant difficulties. Moreover there are varying interpretations of what counts as a 'workplace or simulated workplace'.

Assessment and workplace competence

Following some confusion in the early 1990s, by 1996 some TAFE systems had come to accept that, while they were utilising competency-based training, their students were not necessarily 'competent'; because students had gained a qualification did not mean they were competent in the workplace. At least one State had reverted to the use of the term 'pass' (Smith & Keating 1997, p.160). However, Training Packages threw this carefully worked-out compromise into disarray as there is no doubt that under a Training Package, a student must be deemed workplace competent to 'pass'. This is because the language in the units of competence is so unequivocally rooted in the workplace. For example, an element ('identify client competency needs') of a unit ('analyse competency requirements') in the Training Package for Assessment and Workplace Training contains the following performance criteria.

- The client and stakeholders are consulted to identify and document client competency needs.
- Competency needs are defined using information collected from stakeholders.
- The needs are grouped according to type, priority and possible solutions

It is difficult to imagine being able confidently to assess somebody as competent in this element except by being closely involved with him or her in the workplace over a period of time. Thus institution-based providers become severely disadvantaged compared with enterprises who are RTOs. In South Australia this difficulty is recognised by having two 'pass' grades (Owers, personnel communication 2001). One (AP) is an Academic Pass, given when off-the-job training is completed, but the students cannot be awarded the Training Package qualification until they have been deemed as PA (Pass Achieved). PA can only be given in the workplace and is assessed during placements for institution-based students. For apprentices, it may not be awarded until the end of the apprenticeship, well after the completion of off-the-job training. Undoubtedly other providers will have fixed upon similar compromises with which they feel happy. Partnerships with assessors in the workplace comprise a suggested solution but there are many reasons why this solution might be problematic including lack of control by the provider (who is responsible for awarding the qualification and hence the quality of assessment) over what happens in the workplace.

Quality issues

While Training Packages do not necessarily lead to poor quality training, there is certainly anecdotal evidence from some providers and employers about quality issues. Where there is no specification about delivery methods, and 'nominal hours' cannot be enforced, there is room for unscrupulous providers to tick students off as competent in order to gain funding which may depend partly or wholly on completion. As ACPET (2000) puts it:

'The shift from nominal hours of attendance to competency-based assessment had apparently also created a window of opportunity or possibility for costs to be cut further by substituting face-to-face tuition with self-directed 'home study', with potentially negative implications for the quality of learning.'

Moreover some providers confine their learning resources to those issued as part of Training Package resource materials. For example, it was difficult to find an RTO in South Australia willing to offer a particular Certificate II traineeship until the learners' guides (self-paced materials relating to specific units of competence) became available two years after the Training Package was endorsed. A conclusion that could be drawn from this is that the RTOs did not have staff able, willing, or with sufficient time to devise a curriculum or teaching program (field source 13).

Many concerns about quality in relation to Training Package delivery were raised in submissions to the Senate Inquiry into the Quality of VET in Australia. These included the following.

- RTOs can add Training Packages to their scope of delivery on 'proof of purchase' with no proof of expertise to deliver them (Senate EWSRBE Committee 2000a, p.124).
- Training Packages can be over-customised to suit the needs of particular workplaces meaning the students lack broad-based knowledge and skills (Senate EWSRBE Committee 2000b, p.23).

Some but not all of the concerns about quality have been addressed in the new Australian Quality Training Framework which has been in full use since July 2002. Relevant provisions of importance include the requirements for those delivering as well as assessing Training Packages to possesses certain qualifications or demonstrated equivalence, and the requirement for RTOs to maintain records of teaching and assessment strategies for each qualification offered (ANTA, 2001)

Annex 8: Stakeholder Analysis - Expectations and Concerns

The study team interviewed a wide range of stakeholders in individual meetings and in a number of focus groups. The following responses from stakeholders in terms of their expectations and what they are experiencing with the public TVET colleges are representative of the consultations. Expectations and experiences relating to specific college issues have not been included in the table.

Stakeholder group	Expectations	What stakeholders are experiencing
Principals and management team	A supportive and responsive TVET headquarters Timely implementation of NQF and review and update of curriculum A secure and reliable funding stream especially for equipment, maintenance and staff development Colleges to be networked Training for registrars in financial management and systems Housing to be seen as a priority by Government Consistency in policy development Training for principals in management and leadership More flexible employment and remuneration policies and procedures for teachers A working partnership with the college council Teachers to be cooperative with professional work ethic and supportive of college priorities Teachers to be role models for students A reliable and user friendly management data base system Need for a new authority for TVET Institutional linkages and twinning	TVET still playing second fiddle to general education reforms; only because if LNG project that TVET now receiving some recognition Funding from GOPNG has been reducing in real terms Teacher attitude and morale a major concern in a number of colleges NDOE not providing sufficient support for implementation of CBT; materials development has been very slow Implementation of NQF appears to have stalled Personal agendas of Section and Departmental heads often receiving higher priority than key college priorities Some staff resistance to upgrading of qualifications Staff attendance and punctuality a major concern in a number of colleges Inspection system not working; non-performing staff often recycled

	arrangements with colleges in region	
	Support from NDOE in matters relating to staff discipline	
	GOPNG to fund tracer studies	
Teachers	Regular attendance of students	Student absences due to various family commitments, financial constraints & poverty
	Adequate number of textbooks and learning resource materials that meet contemporary needs of industry	Curriculum reform not receiving the attention it deserves by TVET; Boards of Studies inactive since 2006
	Curriculum to be updated	Limited opportunities to upgrade qualifications
	Class sizes that enable quality of learning	Very limited internet access for staff
	Adequate library/learning resource centres	Libraries inadequate
	Affordable access to the internet	Laptop initiatives subsidised by councils highly valued by teachers
	Prioritisation in training for national teachers; more flexible approaches to teacher upgrading	Many students having language gaps impeding learning
	Opportunities for practical OJT to upgrade skills and knowledge	Quality of student intake has deteriorated
	Equipment and tools of trade to be provided, and maintained to enable proper implementation of CBT	Provision of housing inadequate; very limited maintenance
	More transparency in student selection	Teachers leaving colleges in response to more attractive pay and conditions in industry
	A cooperative work environment	Management often not interested in or focussed on human resource development issues
	A responsive approach from college management in listening to teacher concerns	Management lacking skills in managing people
	A sense of being valued by college administration with sustainable and fair working conditions	Over enrolment leading to excessive teacher contact hours
		Inspection system dysfunctional and irregular
	Pay and conditions attractive enough to pursue a career in TVET teaching	
	Housing that is properly maintained	
Councillors	Proactive college management with follow through on council decisions	Management capabilities of Principals varies greatly
	Principals need to have proper training in	Recruiting and retaining quality staff a key issue

	financial management	for the colleges
	Principals to have required knowledge and experience to guide the Council	Inconsistency in input and advice from NDOE officials on College councils
	Registrars to be qualified and experienced in government accounting systems	Government funding for TVET totally inadequate; teacher staff development has been abandoned
	Succession planning for leadership and management of the colleges	Weak follow up on Council decisions
	Improved coordination of sector	No training or induction programs for councillors on principles of governance
	Need the TVET and NDOE hierarchy to understand the importance of TVET	TVET sections working in silos
	A sense of partnership with TVET Division with consistency in representation on Councils	Colleges not prepared for polytechnic status
	Resources from Government to keep pace with enrolment growth	Industry seeing involvement on councils as a 'waste of time'
	Clarity and consistency on TVET policies	
	A need for 'new blood' in both system and institutional leadership and management	
	Councils to have more say in selection of Principals	
	Training for councillors in principles of good governance	
	A clear policy frame on 'polytechnics'	
	Industry to be actively involved in college governance	
NDOE officials	Looking for a whole-system approach to improvement	An increase in industry and community expectations of TVET
	Principals to show initiative in addressing college operational problems and issues	No diagnostic on system-wide trends and issues
	Colleges to be self sustaining institutions	No action taken on annual staff performance appraisals
	Secure and reliable funding for teacher training and for equipment	Facilities in colleges very run down
		A history of poor management in a number of colleges
		Colleges having difficulty in managing a budget

		Past piecemeal approaches to 'fixing up' TVET not working
NDPM officials	A reform of governance and management of TVET institutions over next 5 years	Many players in TVET with little coordination

A major gap in training in the 'heavy and dirty trades' |
| **Students** | A pathway to a technical career in PNG

Teachers who are punctual

To be taught by teachers who have strong practical knowledge, skills and industry experience; to be taught by teachers who 'have been tradesmen'

Access to the internet

Appropriate living conditions which provide healthy food, appropriate lodgings and recreation facilities; a safe and secure living and learning environment | Teacher absenteeism and lack of punctuality

Want teachers to be resourceful using multi media for teaching

Safety and security a major concern in a number of the colleges

Extreme overcrowding in the dormitories

Overcrowding in libraries and limited access

Not enough tools in workshops, most major equipment not working

Not enough practical work in courses

Workshops not safe

Ablution blocks a health hazard

Facilities run down and much worse than expected

No clear communication channels for addressing concerns

Quality and quantity of food served by kitchens often an issue

Would like basic services in the colleges – student orientation, canteen, transport, internet café, student counsellor |
| **Employers** | There needs to be a TVET coordinating authority

Want genuine involvement of key government boards such as NTC

Transparent student selection procedures in the colleges

Strengthening of primary and secondary education | Too many different agencies in TVET

Training mix not in accord with industry need

Value for money not being obtained with training in the colleges

Quality of training in the colleges has dropped significantly

Major problems with management and logistics |

	Attention to communication, hygiene, numeracy & literacy	relating to extension block training
	Good role modelling from teachers	Extension block training grossly inadequate, just 'ticking the box'
	Strong leadership and management within the colleges with pay linked to performance	
	Training in the colleges that is relevant to the current work environments	

Annex 9 – College Budget Data 2010 calendar year

Table 1 - Revenue & Expenditure, Port Moresby Business College

Port Moresby Business College		
Revenue		
Revenue Stream	**Total Revenue (Kina)**	**Percentage of Revenue**
School Fees	2.13	91
Grants NDOE	0.06	2.66
Grants OHE	0.02	0.9
Grants Other	0.08	3.3
Other Income	0.05	2.14
Total Income	**2.34**	**100**
Expenditure		
Expenditure	**Total Expenditure (Kina)**	**Percentage of Expenditure**
Salaries ancillary staff	0.18	4
Salaries teachers	1.05	23
Contract officer entitlements	1.26	27
Operational Expenditure	0.7	15
Operational Materials	0.1	2
Office Materials & Supplies	0.44	9
Maintenance	0.34	7
Utilities	0.25	5
Transport	0.05	1
Capital Expenditure	0	0
Other	0.28	6
Total	**4.65**	**100**

Table 2 - Revenue & Expenditure, Kokopo Business College

Kokopo Business College		
Revenue		
Revenue Stream	**Total Revenue (Kina)**	**Percentage of Revenue**
School Fees	2.75	90.06
Grants NDOE	0.08	2.69
Grants OHE	0.12	3.97
Grants Other	0	0
Other Income	0.1	3.28
Total Income	**3.05**	**100**
Expenditure		
Expenditure	**Total Expenditure (Kina)**	**Percentage of Expenditure**
Salaries ancillary staff	0.34	9
Salaries teachers	0.71	19
Contract officer entitlements	0.10	3
Operational Expenditure	0.63	17
Operational Materials	0.67	18
Office Materials & Supplies	0.1	3
Maintenance	0.09	2
Utilities	0.39	10
Transport	0.08	2
Capital Expenditure	0.49	13
Other	0.19	5
Total	**3.79**	**100**

Table 3 - Revenue & Expenditure, Mt Hagen Technical College

Mt Hagen Technical College		
Revenue		
Revenue Stream	**Total Revenue (Kina)**	**Percentage of Revenue**
School Fees	1.82	90.92
Grants NDOE	0.08	4.09
Grants OHE	0	0
Grants Other	0	0
Other Income	0.1	4.99
Total Income	**2**	**100**
Expenditure		
Expenditure	**Total Expenditure (Kina)**	**Percentage of Expenditure**
Salaries ancillary staff	0.18	7
Salaries teachers	0.83	34
Contract officer entitlements	0.12	5
Operational Expenditure	0.16	6
Operational Materials	0.56	23
Office Materials & Supplies	0.04	2
Maintenance	0.15	6
Utilities	0.1	4
Transport	0.05	2
Capital Expenditure	0	0
Other	0.28	11
Total	**2.47**	**100**

Table 4 - Revenue & Expenditure, National Polytechnic Institute – Lae

National Polytechnic Institute - Lae		
Revenue		
Revenue Stream	**Total Revenue (Kina)**	**Percentage of Revenue**
School Fees	4.43	83.31
Grants NDOE	0.06	1.13
Grants OHE	0.44	8.26
Grants Other	0	0
Other Income	0.39	7.3
Total Income	**5.32**	**100**
Expenditure		
Expenditure	**Total Expenditure (Kina)**	**Percentage of Expenditure**
Salaries ancillary staff	0.51	7
Salaries teachers	1.78	23
Contract officer entitlements	0.87	11
Operational Expenditure	0.18	2
Operational Materials	2.37	31
Office Materials & Supplies	0.17	2
Maintenance	0.5	7
Utilities	1.07	14
Transport	0.05	1
Capital Expenditure	0	0
Other	0.19	2
Total	**7.69**	**100**

Table 5 - Revenue & Expenditure, Madang Technical College

Madang Technical College		
Revenue		
Revenue Stream	**Total Revenue (Kina)**	**Percentage of Revenue**
School Fees	1.28	67.12
Grants NDOE	0.24	12.32
Grants OHE	0.08	4.3
Grants Other	0.16	8.39
Other Income	0.15	7.87
Total Income	**1.91**	**100**
Expenditure		
Expenditure	**Total Expenditure (Kina)**	**Percentage of Expenditure**
Salaries ancillary staff	0.22	8
Salaries teachers	0.83	28
Contract officer entitlements	0.12	4
Operational Expenditure	0.5	17
Operational Materials	0.67	23
Office Materials & Supplies	0.06	2
Maintenance	0.08	3
Utilities	0.28	10
Transport	0.03	1
Capital Expenditure	0.07	2
Other	0.06	2
Total	**2.92**	**100**

Table 6 - Revenue & Expenditure, Goroka Technical College

Goroka Technical College		
Revenue		
Revenue Stream	**Total Revenue (Kina)**	**Percentage of Revenue**
School Fees	2.81	93.65
Grants NDOE	0.08	2.74
Grants OHE	0.09	2.94
Grants Other	0	0
Other Income	0.02	0.67
Total Income	**3**	**100**
Expenditure		
Expenditure	**Total Expenditure (Kina)**	**Percentage of Expenditure**
Salaries ancillary staff	0.25	5
Salaries teachers	0.08	2
Contract officer entitlements	2.40	48
Operational Expenditure	0.42	8
Operational Materials	1.21	24
Office Materials & Supplies	0.08	2
Maintenance	0.12	2
Utilities	0.2	4
Transport	0.05	1
Capital Expenditure	0.14	3
Other	0	0
Total	**4.95**	**100**

Table 7 – Revenue & Expenditure, POMTECH

POMTECH		
Revenue		
Revenue Stream	**Total Revenue (Kina)**	**Percentage of Revenue**
School Fees	2.07	64.11
Grants NDOE	0.16	4.83
Grants OHE	0.1	2.94
Grants Other	0	0.03
Other Income	0.91	28.09
Total Income	**3.23**	**100**
Expenditure		
Expenditure	**Total Expenditure (Kina)**	**Percentage of Expenditure**
Salaries ancillary staff	0.53	10
Salaries teachers	1.30	24
Contract officer entitlements	0.80	15
Operational Expenditure	1.01	19
Operational Materials	0.89	16
Office Materials & Supplies	0.09	2
Maintenance	0.19	4
Utilities	0.43	8
Transport	0.09	2
Capital Expenditure	0	0
Other	0.07	1
Total expenditure	**5.4**	**100**

Table 8 - Revenue & Expenditure for all colleges

Total - All Colleges		
College	**Total Revenue (Kina)**	**Total Expenditure (Kina)**
Port Moresby Business College	2.34	4.65
Kokopo Business College	3.05	3.79
Mt Hagen Technical College	2	2.47
National Polytechnic Institute – Lae	5.32	7.69
Madang Technical College	1.91	2.92
Goroka Technical College	3	4.95
POMTECH	3.23	5.4
Total	**20.85**	**31.87**

Note: Expenditure exceeds Revenue in this table due to teacher salaries paid centrally being included as part of expenditure

Table 9: – College Expenditure per Student

College	Enrolment 2010	Total Expenditure (Kina)	Expenditure per student	Deviation from Mean	% Deviation from mean
POMTECH	400	5,400,000	13,500	5,727	74%
POMBUS	600	4,650,000	7,750	-23	0%
Kokopo Business College	650	3,790,000	5,830	-1,943	-25%
Mt Hagen Technical College	400	2,470,000	6,175	-1,598	-21%
National Polytechnic Institute – Lae	1100	7,690,000	6,990	-783	-10%
Madang Technical College	250	2,920,000	11,680	3,907	50%
Goroka Technical College	700	4,950,000	7,071	-702	-9%
TOTAL	**4100**	**31,870,000**	**7,773**		

Table 10 - Expenditure per student at TVET colleges, expressed as a percentage deviation from average expenditure per student at TVET colleges
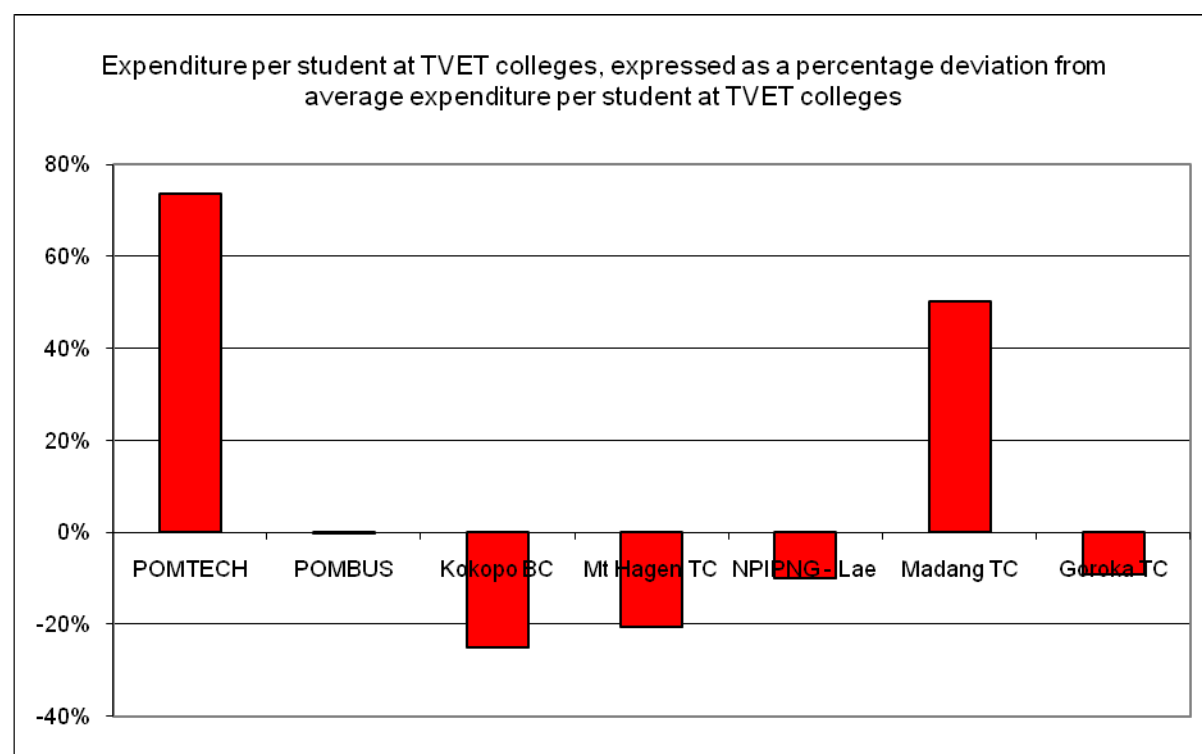
Annex 10: Some notes on Enterprise and Private Providers

In addition to the seven public TVET Colleges (under the NDOE) consultations were also held during the three phases of the Needs Analysis Study with a range (see List below)of current and emerging industry and private providers as well as two universities (UOG and DWU)currently involved in pre and in-service teacher education for TVET teachers.

- Don Bosco Technological Institute

- Hastings Deering Institute of Training

- Star Mountain Institute of Technology (SMIT)

- Australia Pacific Technical College (APTC)

- ExxonMobil Community Training Facility

- Madang Maritime College

- Ramu Sugar Training Centre

- Department of Works – Works Institute of Technology (WIT)

The consultations with these organisations have been most instructive. A training market is emerging in PNG and individuals, public sector enterprises and companies are clearly prepared to pay for quality training. One subsector of the market is clearly focussed on quality and the other sector in which the TVET Colleges are operating is responding much more to community and political and political expectations regarding access.

Don Bosco Technological Institute (DBTI)

DBTI is an affiliate of Divine Word University (DWU) and commenced its programs in Port Moresby in 1999. It offers a Bachelor of Education (Technology) of 4 years duration for teachers of secondary high schools. In addition it offers Diploma in Technology (2 yrs) in computing, electrical, electronics, maintenance, fitting & machining and automotive at technician level. In 2010 it enrolled 110 male boarders and 30 female boarders and 300 day students. The majority of students are Grade 12 school leavers. In 2010 it received 500-600 applications for 180 places, 50% from the provinces. Staffing comprises 15 technical staff (including Principal), 5 academic staff, plus 3 to 5 religious. There are 2 maintenance staff but staff and students are involved in maintenance on a routine basis. Fees are K3900 for day students and K6900 for boarding students. Remuneration is comparable to public TVET colleges. A house is generally provided after one year. The pay scale is qualification based rather than PNG/expat. based. There is an annual performance assessment. The Principal noted that employers value competence and character. As such it is vital that staff model appropriate behaviour.

Buildings and initial equipment were funded by EU. An inventory assessment of equipment is held each year and staff are held accountable for losses/breakages. The Principal feels staff in TVET colleges are overburdened by policy changes.

Hastings Deering Institute of Technology

HD has recently been registered as an RTO through NTC and NATTB and is running training programs for its own apprentices in heavy vehicle and diesel fitting. HD specialises in Caterpillar machinery and have ready access to fully equipped workshops and machinery. The centre also has classrooms and training materials developed by HD. In addition the facilities include simulators for machine operations and problem solving for breakdown and repairs. All trainers are PNG nationals. Students are selected from the TVET colleges – from those that have completed PETT or TTC courses. Students are required to sit for literacy and numeracy and aptitude tests.

The training centre started 7 years ago and approval was granted by NATTB to offer the extension block courses in heavy fitting when Mt Hagen TC, the public TVET provider, was temporarily closed due to landowner problems. At the time HD was dissatisfied with the quality of training at Mt Hagen – very poor equipment and other learning resources, teacher technical skills poor with teachers often not turning up to classes. TVET, NATTB and NTC are seen by HD as not working together and shifting blame for problems identified. A common problem was the insufficient lead time given by NATTB for apprentices to attend the extension block components. The classes each have 14 apprentices each for 8 weeks in extension blocks 1, 2 and 3. On completion of each block the centre arranges with NATTB for trade testing at the appropriate level. HD has been unsatisfied with the quality of apprenticeship training at Mt Hagen and the organisation of the apprenticeship program by the key authorities.

The centre is planning to run courses for other students not currently with HD.

Star Mountain Institute of Technology

The mission visited Tabubil and was given a tour of the current facilities at the OK Tedi Training Centre and a briefing on the establishment of SMIT by the Director, Dr Trevor Davison. The OK Tedi Training Centre has a long history of training apprentices for the mining operation. The centre is now also an APTC partner. Facilities and workshops which are in most cases 30 years old are very well maintained but underutilised. The PNGSDP Board has approved an ambitious visionary business plan for the staged development of SMIT. In the first stage new facilities are to be built at Tabubil, some of the existing OK Tedi workshops are to be converted to training facilities and these new and converted facilities will be integrated with the existing training centre. In subsequent stages SMIT is planned to have a presence in other Western Province locations and elsewhere in PNG. The plan for SMIT is based on a new Vision for Tabubil as a college town and a leading research and conference location. The establishment of SMIT is to be a key element of the sustainability of Tabubil in the context of a revised environment of the mine post-2013.

The new campus is expected to commence construction mid 2011 and will involve expansion into business studies and tourism & hospitality, nursing and teacher education. Key national and international partnerships have been established and partnerships are to be key to the delivery model. The key theme of the training model is 'authentic learning' at international quality standard. Existing trainers at OK Tedi centre will be offered revised contracts for employment under SMIT. The plan is for the existing OTML Training centre to become a national centre of excellence for trades training.

Australia Pacific Technical College (APTC)

The APTC was established in July 2007 with Australian Government funding and with the support of the Pacific Forum leaders. Its purpose is to provide internationally recognised and portable technical

and vocational skills development at the Australian Certificate 3 and 4 levels. Training at APTC is open all Pacific Island Forum countries. There are currently four campuses – PNG, Fiji, Vanuatu and Samoa. The PNG campus is located on POMTECH land adjacent to the existing college. Approximately 3000 students had enrolled in APTC in its first three years. In July 2011 the operation of the APTC will move to its second stage. The APTC itself as run by an Australian Registered Training Organisation (RTO) and students receive an Australian qualification. POMECH and a number of other organisations in PNG are partners in APTC training. The PNG campus offers courses in automotive, construction and electrical and manufacturing. During stage 2 a feasibility study will be undertaken on establishing a hospitality training venue in PNG as part of APTC. APTC also has a role in capacity development of national TVET institutions through delivery of a Certificate 4 in Training and Assessment.

ExxonMobil Community Training Facility (CTF)

A tour of the facility and briefing of programs offered was provided by Julien Betts, Training Manager.

The CTF has a contract with Skills Tech and this is currently being renegotiated. There are 19 national trainers, most with teacher training qualifications. All are currently doing CBTAE. Many staff are ex public TVET teachers. All are provided with laptops. The main module of training at present (March 2011) is at basic skills and covers basic skills, safety for site needs, use of small equipment, hand tools. Students train for 8 weeks then go out for OJT. There are 2 streams at present comprising 12 units which are completed on site and students finish with a Cert 1. After initial training and OJT some will be brought back for training in painting and finishing. The CTF has to date trained 500 students with 80 still to be placed. Priority is given in recruitment to local villages. There is a wide age range and approx 15% drop out on initial health checks. 51% at present are female but the Training Manager has plans to reduce this significantly.

Classes run from 8am to 4pm and students are brought in to the CTF by buses. There is accommodation for 120 at the CTF but at present not used for students.

Madang Maritime College (MMC)

The MMC shifted from POM to Madang in 1974. At that time it enrolled predominantly Grade 10 school leavers. In 1997/98 AusAID funded a major restructuring of the college comprising infrastructure, equipment, curriculum and staff development. The total value of the support was estimated at K8M. The program was coordinated by Australian Maritime College and involved a complete transformation with upgrading of entry to course to Grade 12 school leavers. The majority of current students are sponsored by 2 major shipping companies, a few are self-sponsored.

Teachers are engaged by Public Service as are ancillary staff. All teaching staff are on contract conditions (base salary of approxK52,000 with three year contract plus 25% gratuities). The college employs a local HR manager. Most teachers have undertaken teacher training at Certificate 4 level. Staff development is managed through the SPC regional maritime budget. There are approx 15 ancillary staff including an IT Manager, and Accountant and a Warden (who acts as facilities manager).

All students are boarding and 90% of students are from PNG, the remaining from other Pacific Island countries.

The College is governed by a Board of Governors (9 members), the Chair being a Master Mariner from Australia. The board meets 4 times a year.

The academic structure comprises 2 departments – Deck and Engine each with approx. 10 teaching staff. All staff except the Principal are PNG nationals.

Staff do their sea time during Dec/Jan. Staff undertake a number of consultancies with income generated returned to the college.

Enrolments (vary throughout the year) but are steadily climbing. There is a small number of female students. There are three levels of dormitory accommodation: junior – 4students/room; intermediate – 2 students/room and senior for Master and engineer Class1 – 1 student/room. Overall dormitory capacity is approximately 240 beds.

There is a dedicated library staffed by a qualified librarian. Internet access is provided. There is a computer laboratory for 20 students.

The MMC works very closely with the Maritime Safety Authority and the shipping companies also sponsor capital expenditure.

Ramu Agri Industries Training Centre

The Ramu Agri Industries Group of companies currently has approx. 5500 employees and as such has a large training requirement. It has for many years been involved in the PNG apprenticeship training system predominantly of the auto motive area. The company is extremely dissatisfied with the quality of training provided in the extension blocks of apprenticeship training. It feels most of the training provided is at least 20 years out of date. Apprentices do not learn anything regarding fuel injection systems and computers in an automotive context. Apprentices have to be retaught when they return from extension block courses. The company takes on 15-18 new apprentices each year. Currently there are 153 mechanics in the main workshop. The company has its own training centre with a Training Centre manager. The centre offers a range of short courses. Specialised training on new vehicle models and engines is generally done by sending one or two employers to Australia. Similar to other companies Ramu is losing qualified staff to the mining sector. The agriculture sector cannot compete with the remuneration that mining can offer.

**Department of Works – Works Institute of Technology (WIT)**

A training centre was established in 1971 to cater for the needs of Department of Works (DOW) mainly for the Plant and Transport Branch. During the 1970s DOW and Bougainville copper were the two main providers of apprenticeship training. At its peak the centre was training approximately 100 new recruits each year. Salaries were met by GoPNG. In 1994 the apprenticeship program stopped at DOW. The DOW was in a dilemma in terms of how to utilise the facilities and instructors. Works Institute of Technology (WIT) was established in 2002 as a commercial arm of the Human Resource Development Branch. It became registered as and RTO by NTC. The apprenticeship program was revived with DOW in 2010 based on a NEC decision to revive the Plant and Transport Division. The WIT is currently operating across five campuses. Fees for a 44 week course in 2011 were K23,800 (Engineer Class 2 Full) and k9770 for a 15 week course.

Annex 11: Key References Consulted

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|---|
| Vision 2050: We will be a Smart, Wise, Fair and happy Society by 2050' GOPNG, November 2009 |
| Partnership for development Between the Government of Australia and the Government of Papua New Guinea, August, 2008 |
| Development Strategic Plan: 'Our Guide to Success', 2010-2030, Department of National Planning & Monitoring, GOPNG, March 2010 |
| Medium Term Development Plan 2011-2015: 'Building the Foundations for Prosperity', Department of National Planning and Monitoring, October, 2010 |
| Achieving a Better Future, A National Plan for Education, 2005-2014, NDOE, 2005 |
| TVET Policy Rationale and Action Plan: Lifelong Learning and Training for PNG, NDOE, 2005 |
| TVET Strategic Management Plan 2010-2020, TVET Division, NDOE, draft March, 2011 |
| TVET Progress Report for 2010 and Future Directions, TVET Division, NDOE. November, 2010 |
| Information paper on the Progress of Community College System in Papua new Guinea, Submission to National Education Board (NEB), February, 2011. |
| The State of Education in Papua New Guinea, National Department of Education, June,2008 |
| Guidelines for Institutional Accreditation, National Higher Education Quality Assurance and Accreditation Committee, Commission for Higher Education |
| National Selection for Institutions of Higher education, 2010-2011,Selection guide, Office of Higher Education Research, Science & Technology, 2010 |
| Technical – Vocational Skills development in PNG, ADB and Pacific Islands Forum Secretariat, June 2007 |
| Submission for seed Funding for Highlands Region Polytechnic Institute, Mt Hagen Technical College 2011 |
| Fact finding Mission to New Zealand, Auckland, 4-8 August, 2008, Lae Technical College |
| Organisational Restructuring for 2011 academic year and Onwards, Polytechnic Restructure Working Committee, National Polytechnic Institute of Papua New Guinea (NPIPNG) – Lae, |
| Strategic Management Plan,2011-2015, Kokopo Business College, 2011 |
| Vocational and Technical Skills Development: A Challenge for Papua New Guinea, Development Issues, Policies & Trends, Vol. 5 No. 2, January 2011, National Research Institute (NRI) |
| Labour Market Analysis for Papua new Guinea: Revised Report, K Gannicott, March 2011 |
| Gouy J., Kapa J.,Mokae A., and Levantis T., 'Parting with the past: is Papua New Guinea poised to begin a new chapter towards development?', Pacific Economic Bulletin, Vol. 25 No. 1, 2010 |

Annex 12 Papua New Guinea College Campus Maps

Goroka Technical College – Site Plan
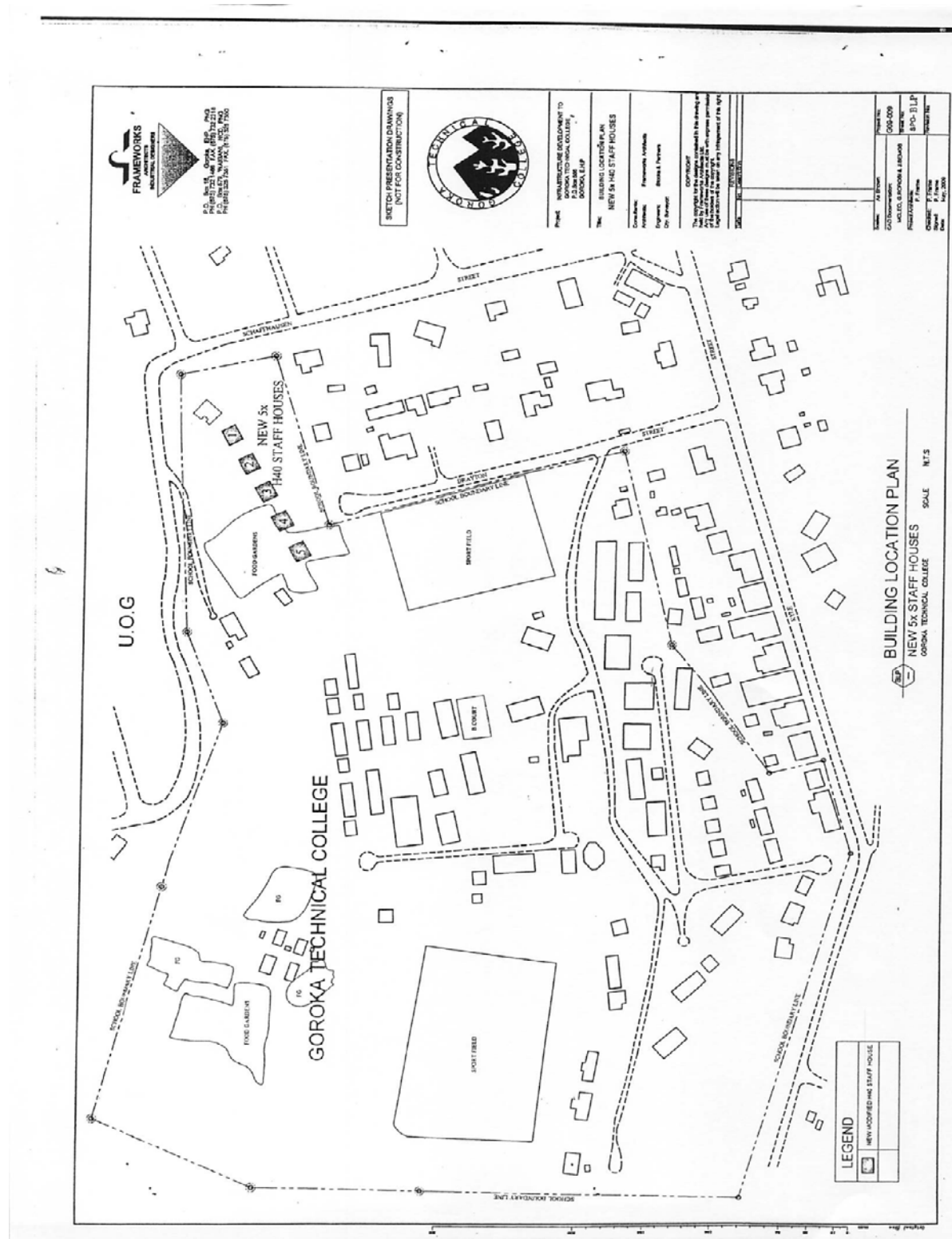
Goroka Technical College – Site Plan

Kokopo Business College – Site Plan
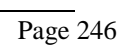
Kokopo Business College – Satellite View

National Polytechnic Institute, Lae – Campus Plan

Digital Terrain Model Survey of Lae Technical College

National Polytechnic Institute, Lae – - Satellite View

Madang Technical College – Campus Map

MAP OF MADANG TECHNICAL COLLEGE
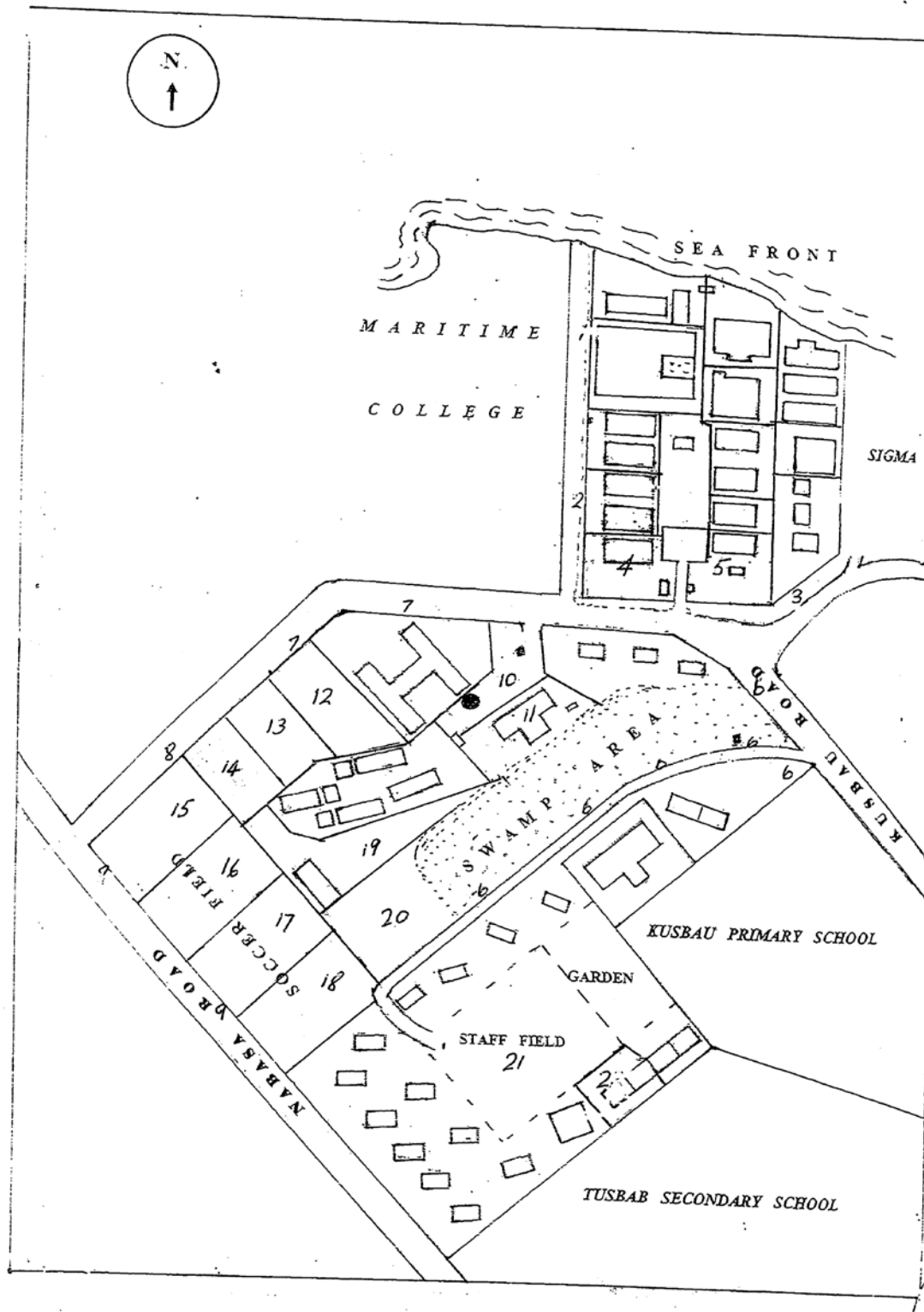
Madang Technical College – Satellite View

Mount Hagan Technical College – Campus Map

Mount Hagan Technical College – Satellite View
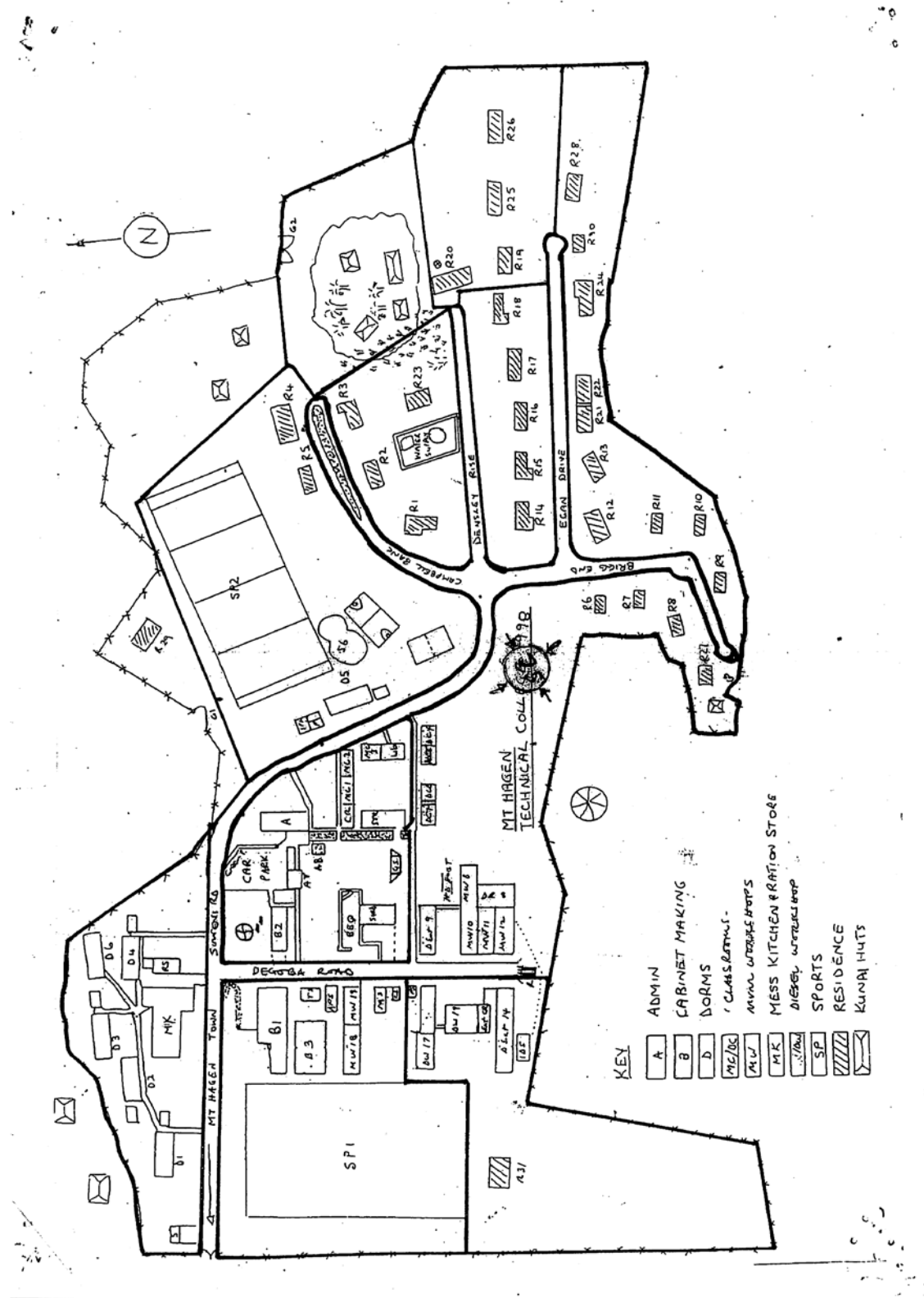
Port Moresby Technical College – Satellite View

Port Moresby Business College – Satellite View

Annex Thirteen: TVET CURRICULUM BRANCH SUMMARY OF RESPONSE TO AUSAID NEED ANALYSIS STRUDY (NAS) REPORT OF THE 7 TVET COLLEGES

The report is a very comprehensive analysis of the current state of the 7 TVET colleges and also provided an overview of the TVET system in PNG. The report has been fair and accurate in its consultation and reporting in a 253-page draft report. It further confirmed past situational reports of the TVET system in PNG.

This report, once finalized, must be presented at the highest level of authority to take the appropriate immediate actions, all these consistent with the Government's Vision 2050. It should be taken up with consultative bodies such as the Consultative Implementation and Monitoring Council (CIMC) that meets regularly on a monthly basis, NATTB, NEB, NTC, Chambers of Commerce and Industry, Trade & Industry, National Planning, etc.

It may advisable to present and openly discuss the issues at a wide industry forums in major centres such as Port Moresby, Lae, Goroka, Madang, Kokopo, etc involving community leaders, industry stakeholders, training institutions, political leaders, churches, non-government organizations, donor government agencies, etc.

After the exhaustive awareness and wider consultations, it should be brought to the attention of the relevant Government Ministers (Labour, Education, National Planning, Treasury, Finance, Trade & Industry, Rural Development, Higher Education, etc) to seek their endorsements and support before any NEC Submission to the Government is prepared.

Annex 7 re: A note on the lessons learned from implementation of CBT in Australia has also been a very useful information to benchmark the introduction of CBT in PNG given the different government policies and support and conditions. From our previous consultations and forums, we have also looked at experiences from other countries in implementing CBT&A policy, however, the realities arising from the introduction of CBT and expectations were not and cannot fully be realized because of many reasons peculiar of PNG government's policies and situations.

If this AUSAID NAS report is given full attention by the National Government, we believe it will make way a new competitive era of TVET in PNG, both locally and internationally.

We, the TVET Curriculum Branch,

1. Agree with the need to increasing the quality and quantity of skills training programs in TVET colleges to support the government's vision of increasing and improving the quality of human capital development of the nation.

2. Understand the purpose of the AusAID NAS Report:- To provide a program of sustained effective support at TVET Skills Training service delivery through the TVET colleges, and; To contribute to baseline data to monitor and measure AusAID's future support to TVET colleges.

3. Support the Systemic Priority for the GOPNG to focus and fund the current & relevant curriculum, recapitalization of existing colleges & ensure there is the management capacity to oversee expansion.

4. Agree with strengthening the capacity & quality of TVET colleges, this is central to the Government's Vision 2050.

5. Agree that the current PNG TVET system is very fragmented (this has been reported in many TVET reports); low in policy development, research & evaluation & strategic planning for the sector. Many reports alluded to these concerns, but very little had been done to address these important issues.

6. Are aware that stakeholders, particularly industry, support the need for reform and reinvestment in TVET to focus on quality, affordability & sustainability. The lack of coordination is hampering all these.

7. Agree that the development of the PNG NQF is at its early stages of implementation. There are hiccups and bottlenecks at competency standards development, curriculum development, and implementation. The alignment of apprenticeship training and qualifications with the NQF requires further discussion and clarifications with the relevant government agency (NATTB). TVET personnel have different levels of understanding and interpretations. But we believe this report should recognize the efforts taken to develop and implement such a framework against the difficult and uneasy support from the TVET Division/Education System.

8. Agree that the PNG TVET trade training has not been effectively sustained since its introduction in the early 2000s. There has been a continuing decline in its credibility and significance for various reasons.

9. Are aware that employers have continually expressed their dissatisfaction to services provided by public TVET institutions and they have emphasized the need for the coordinated authority.

10. Agree that the TVET college's viability is not assured in its current form. Funding has not been effective.

11. Agree of the need to explore new models of TVET service delivery and management PPP. Many years ago it was proposed to have two large polytechnic institutions (Port Moresby and Lae) and the rest of existing TVET institutions are to be satellite campuses of this polytechnic model. The issue of duplication resources and personnel could be addressed as well.

12. Agree that there is still a policy gap in relation to the POLYTECHNIC concept. LTC has moved to becoming a polytechnic but operation as it was before. So what is the significance?

13. Agree that GOVERNANCE is an issue. That it needs major strengthening, both ADMINISTRATION AND GOVERNING COUNCILS. Lack of involvement of important stakeholders adds to loss of confidence.

14. Agree that LEADERSHIP AND MANAGEMENT are important issues. This is in crisis. There is no program to developing potential managers and leaders. Officers are placed in these positions without adequately preparing them. There is no leadership training

15. Are aware that there are CURRICULUM issues. Since the major curriculum reform in 2005 which shifted from the non-CBT to CBT based on standards and NQF, attention was focused in developing the new curriculum in the form of NTPs. Changes to the Education Act and the relevant Regulations have also hampered in the development, such as, National Board of TVET. There had been some support to capacity building of curriculum officers through input from different ECBP advisers but not in a sustained effective manner because they were appointed on ad hoc basis. We continue to build our capacity to developing the new system through pro-active working together with TVET Division.

16. Agree that TEACHER QUALITY is an issue. The TVET teacher training requirements have not been reviewed to address emerging requirements such as CBT and NQF. There is no effective program to training TVET teachers for CBT delivery and assessment. Process of recruitment has not been properly organized. There is no effective return to industry or up skilling of teachers. Morale is low because of many reasons: social (housing), financial (poor wage) and teaching resources (poor facilities), institution management (bad leaders), etc.

17. Agree that LEARNING RESOURCES is a major problem. These have been neglected over years. Lack of maintenance, poor attitude of teachers to do simple maintenance, No self-help programs, outdated tools, equipment, safety equipment.

18. Agree that PHYSICAL INFRASTRUCTURE has been in bad state. No proper Strategic Planning of institutions. Dilapidated facilities.

19. Are mindful that COLLEGES are trying to survive. They over enrol, conduct courses because of income generation at the expense of quality and demand, etc.

20. Agree that FINANCIAL MANAGEMENT is an important issue. There is no sustained financing of TVET institutions. The main source of their income has always been the course fees. There is a need to develop other forms of income generation to better

support the institution's operation. The budget preparation has been inadequate and needs to be effectively implemented. Financial reporting is ad hoc and must be corrected.

21. Agree with the proposals for moving forward the TVET system in PNG:

- Sector Coordination – Establish a high level working party. Raise this matter at Ministerial level, at consultations such as CIMC, CACC, and Forums with industry, NEC submission.

- Policy and planning framework. Develop framework for POMTECH, Polytechnic, and Amalgamation of TVET institutions.

- Leadership and Management – Recruitment from outside the system. Initiate leadership and management programs for current Principals and senior staff, also for future/potential leaders; culture of accountability & honesty; contracts of employment; twinning with both local & overseas institutions.

- College Governance – Develop a Manual (Manual or training package for good governance) for leaders/Managers of TVET institutions.

- Teachers & Support Staff – Develop HRD plan, improve conditions of service, accountability through performance.

- Educational Programs- Develop comprehensive Action Plan for implementation of NQF, Standards development, resourcing of facilities, tools, equipment. Tracer study of graduates, improve apprenticeship training.

- Learning Resources, etc – Initiate a major rehabilitation of equipment, tools & students learning resource materials, libraries, IT, Database system, etc.

- Physical Infrastructure – Develop a five-year strategic plan for every TVET institution.

- Financial resources – Develop new financing model, Principals, D/Principals and HODs given financial management and business planning training, upgrade Registrars to Finance Managers with appropriate qualifications and experience and given training.

In Conclusion, we collectively express these comments and we fully acknowledge the AusAID's intervention and support to improving the skilled human capital development in PNG, consistent with the PNG Government's Vision 2050.

21 June 2011

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