

TVET POLICY



Department of Education
Technical Vocational Education & Training Division
Papua New Guinea



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PNG Employment Oriented Skills Development Project

Message from Minister for Education



Papua New Guinea is rich in natural resources. There are extensive reserves of natural gas and oil. Mineral deposits of gold and copper abound. The waters around PNG are rich in marine life. Forest products are major exports and vast timber resource remains largely untapped. PNG has rich traditions and colorful culture. All these are perfect recipe for a huge economic development. Despite the availability of these ‘raw materials’ for economic development, the economy is limping. The advent of new ways in the contemporary Papua New Guinea has set new targets to reach. Law and order, unemployment, urban drift, corruption, HIV/AIDS, skilled workforce, economy, equal distribution of wealth, etc, are the overarching concerns.

The National Government has outlined its main policies for economic recovery and development including human resource development.

Worldwide the output of the Technical Vocational Education & Training (TVET) sector constitutes the majority of the workforce. This category of human capital is in short supply in Papua New Guinea. There is a need to develop the undeveloped TVET sector that will play a very important role for the economic recovery of Papua New Guinea. Our TVET Policy must pave the way to address these issues immediately. We need to develop our human resources because they are essential for driving forward the economic development of our country.

The need for changes varies in the contemporary Papua New Guinea society considering many different cultures and traditions. However, change is not possible without a complete change of attitudes and level of commitment from people to strive for effective and sustainable development of our human and natural resources.

The development of the TVET Policy is a step forward to enhance commitment to change and to provide continuous direction for growth and progress in the development of TVET sector consistent with the National Education Plan for 2005 to 2014.

It is envisioned that this Policy will eventually see the coordination of a functional TVET system that recognizes the alignment of efforts towards PNG’s economic directions and national training priorities. The ownership of “curriculum content” must be seen as result of participation by stakeholders with effective leadership and direction for national qualification framework, and quality regulatory systems in place for all TVET providers.

The Department of Education will continue to work together with the Department of Labour and Industrial Relations, specifically the National Apprenticeship and Trade Testing Board and the National Training Council, to develop the essential components of a functional and coordinated TVET system.

The Policy supports the charter of reforms for the Vocational System for rationalization and revitalization of vocational centers that will ensure registration and provides clear mandate to bring about stronger and effective community and industry linkages. The reform will provide the essential requirement to have a clear role and status at all levels of both national and community organizations and the functions. The overall TVET professional human resource development is essential as the performance of the system is highly dependent upon the performance and capacity of its leaders.

I am pleased to have been part of the development of such an important document and to witness its completion. The TVET Policy, I believe, has been pending for some time and look forward to its implementation.

I thank all who have contributed towards the development of the Policy and the overall continued growth and development of TVET in the last decade and look forward to your continued support for the next decade and beyond.

HONOURABLE MICHAEL LAIMO, CBE MP
Minister for Education
July 2005

Message from Secretary for Education



The completion of the Technical Vocational Education and Training (TVET) Policy represents a milestone in the development of skilled human resources for Papua New Guinea. It is the first ever National Policy formulated by the National Department of Education for the development of the skilled to technician levels of the workforce. It comes in two parts: The Main Policy Document, and the Policy Rationale and Action Plans.

The Policy presents the vision, rationale, strategies and action plan that would bring the public TVET system to higher levels of quality and efficiency. The development of the competitive and technically skilled and competent workers with positive work values is essential for the economic recovery and growth of the nation.

The Medium Term Development Strategy (2005-2010) is the Government's program for recovery and development and it has three inter-related objectives- good governance, export-driven economic growth and rural development, and poverty reduction.

The Policy implementation poses much greater challenges that will require greater partnerships with every stakeholder in the TVET system. The managers and teachers of the public TVET institutions and head office personnel are expected to play their vital roles with unwavering commitment and support.

I wish to sincerely thank all who provided the guidance and support to complete this Policy, in particular, AusAID and other donor agencies, the line Departments, NGOs, Private and public TVET institutions and Provincial and National Education divisional personnel.

As we move forward to implement this Policy, let us continue to build on our partnerships and collaboration. We create synergy that will propel us to attain the vision of a better quality of life for every citizen of Papua New Guinea.

Dr. Joseph Pagelio
a/Secretary for Education
July 2005

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ECBP Short Term Adviser, TVET Policy Project Team Leader
Mr. Ebe Maeale, PNG Counterpart, TVET Policy Project Team Member

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ABBREVIATIONS

CBT&A	Competency Based Training and Assessment
CMP	College Management Plan
ECBP	Education Capacity Building Program
EOSDP	Employment Oriented Skills Development Project
GoPNG	Government of Papua New Guinea
GPA	Grade Point Average
HSC	Higher Schools Certificate
NATTB	National Apprenticeship and Trade Testing Board
NDoE	National Department of Education
NEP	National Education Plan
NCD	National Capital District
NGO	Non Government Organization
NQF	National Qualifications Framework
NTC	National Training Council
NTTCS	National Trade Testing Competency Standards
OHERST	Office of Higher Education, Research, Science and Technology
PNG	Papua New Guinea
POSSP	Papua New Guinea Occupational Skills Standards Project
RPL	Recognition of Prior Learning
TESAS	Tertiary Education Study Assessment Scheme
TSC	Teaching Service Commission
TVET	Technical Vocational Education and Training
VSS	Vocational Support Services

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1. Introduction

For Papua New Guinea (PNG) to achieve a better future there must be a greater acceptance that its people are its most valuable resource. The forces of globalisation and technological changes are all encompassing and have introduced a new dynamism into the country's society and economy. These forces mean that PNG's workforce and skill requirements are not static. Its people need to continually develop their knowledge and skills so that they can fully participate in the economy and society. This requires the mobilisation of public and private resources. A vibrant, responsive, effective and efficient Technical Vocational Education and Training (TVET) system is an integral part of PNG's development strategy and a necessity for life-long learning. Technical Vocational Education and Training is an essential cornerstone for the socio-economic development as PNG strives to improve the quality of life of its people through improved social and economic conditions.

The PNG system of education and training recognizes the formal and informal aspects of skills development. This Policy reflects the vision of the Papua New Guinea society that defines the formal, urban informal, village economic and other social sub-sectors. The terms used are:

- Technical education and training is the planned acquisition of competencies and related knowledge designed to produce skilled and semi-skilled persons with the attitudes and work ethics appropriate to the modern working environment and current work practices.
- Vocational education and training is the planned acquisition of competencies together with the necessary knowledge defined by community, individual, social and economic needs to the development of material well being in the informal and village economic sectors.

The Technical Vocational Education and Training in Papua New Guinea faces transformational change. It must align planning and provision more closely to economic and social development imperatives. It must formally relate to and take advice from business, industry and community leaders. It must work to improve the performance of institutions as well as the functionality of relationships between them. While TVET is an integral part of the whole education sector it is a basic foundation for the economic and social development of the nation.

1.1 Purpose, Scope and Audience of the Policy

The implementation of the Policy will lead to:

- TVET development plans which reflect the development priorities of Papua New Guinea.
- Partnerships between key stakeholders including the NATTB, NTC, employer and employee associations, and provincial level agencies to ensure adequate planning and access to information and resources.
- Quality TVET programs and services relevant to vocational skill needs of the PNG industries and communities.

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- An effective and efficient TVET Division which focuses on the overall planning, quality, coordination, monitoring and evaluation of TVET for the DoE.
 - A coordinated and seamless Public TVET through the integration of vocational education and technical education.
 - Technical Colleges and Vocational Centres providing relevant and responsive education and training services to their respective industries and communities.
 - A competent teaching force which is responsive to the contemporary skill needs of industries and communities, and the learning needs of students and trainees.
 - The enhancement of material well being of Papua New Guineans through the acquisition, development and formal recognition of competencies that are relevant to their economic and social life.

This policy should be seen in the general context of the Papua New Guinea TVET system but focused to the public TVET institutions within the Education System.

The policy has been prepared to give stakeholders an overview of the key considerations in, and expectations of, the good management of public TVET. It has direct implications for national, provincial, divisional, and college and centre based staff. It requires them to understand and commit to its aims and principles and practices. In doing so, will lead to a much strengthened management, return on investment, and outcomes of Public TVET.

1.2 Legal Basis

The legal basis for the establishment of TVET Division is the Education Act (1983). This Act makes provision for National and Provincial responsibilities having regard for Organic Law on Provincial and Local Level Governments. The National Education Board advises the Minister for Education on the National Education Plan, as well as having oversight of the performance of the National Education System. There are Education Boards in each Province and the National Capital District. The National Department of Education (NDoE) is the executive and inspectorial branch of the National Education System. TVET is a division of NDoE. The Education Act also makes provision for each Vocational Centre to have a Board of Management and each Technical and Business College to have Governing Council. As such, TVET institutions have formal links with the communities they serve.

The Teaching Service Act (1988) is the instrument which makes provision for the Teaching Service Commission, the terms and conditions of service of members of the Teaching Service and other matters related to the welfare and employment of teachers. Teaching staff employed in TVET institutions are covered by this Act.

The National Training Council Act (1991) established the National Training Council (NTC) which has wide powers including the development of training, the coordination of training institutions, the relevance and standards of training as well as access to training.

The Apprenticeship and Trade Testing Act (1986) provides for the training of apprentices and other skilled workers. The National Apprenticeship and Trade Testing Board (NATTB) is responsible for the facilitation of Occupational Standards for Formal trades, non-Trades and the Informal sector, and the Apprenticeship and Traineeship programs.

1.3 National Directions

National Goals

The TVET Policy is based upon the national goals and directive principles, which are guided by the Constitution of PNG. The goals are to facilitate and promote integral development of every individual, develop and encourage an education system which satisfies the requirements of Papua New Guinea and its people.

The TVET Policy also draws upon PNG's seven Millennium Goals (1977-2002) these being to eradicate the cause of extreme poverty, achieve universal primary education, promote gender equity and empower women, reduce child mortality and improve maternal health, combat HIV/AIDS and other diseases and to ensure environmental sustainability.

Medium Term Development Strategy (2005-2010)

The Medium Term Development Strategy (MTDS) articulates an overarching development strategy which provides a framework for prioritising the Government's expenditure program. It is based on the Government's Program for Recovery and Development, which comprises good governance; export-driven economic growth; and rural development, poverty reduction and empowerment through human resource development.

The MDTS identifies economic and government priorities and highlights the key role of TVET in the human resource development of the nation.

National Training Priorities (2003-2005)

The National Training Priorities of the National Training Council are based on extensive consultations with enterprises, industry associations and communities across the nation. Economic, occupational and skill priorities are identified along with pointers to strengthen the effectiveness of TVET.

National Education Plan (2005-2014)

The first National Education Plan (NEP) 1995-2004 was developed as a result of the 1990/1991 Education Sector Review. The second NEP 2005-2014 builds upon the progress made in the last 10 years and identifies strategies to target improvements that still need to be made giving special attention to the needs of school leavers. The TVET Policy is guided by the NEP.

1.4 PNG TVET

The PNG TVET system comprises the TVET institutions under the PNG Education System, private training institutions, the National Apprenticeship and Trade Testing Board (NATTB) and the National Training Council (NTC).

The public TVET System provides for the establishment of the TVET Division with 7 Technical and Business Colleges (National Institutions) and 132 Vocational Training Centres (Provincial Institutions).

The private training institutions provide a wide range of short courses that focus on specific workplace skills, and longer courses for certificate qualifications in trade and business areas.

The NATTB provides for the development of National Occupational Standards to meet industry requirements, accreditation of skills training providers and the awarding of occupational qualifications.

The NTC provides for the development of training in PNG and the certification of private training institutions.

2. TVET Division

2.1 The TVET Division

The management of public TVET institutions is through NDoE's TVET Division and the Provincial Divisions of Education. The Assistant Secretary TVET is accountable for the overall executive management of TVET Division head office and 7 technical/business colleges, while the Provincial Education Advisors of the 132 provincial vocational centres.

The TVET Division head office is divided into four Branches each headed by a Superintendent. The branches are Operations (Technical and Business Colleges), Curriculum, Inspections and Vocational Support Services.

2.2 Vision and Mission

Vision of the National Department of Education

“Integral human development achieved through an affordable education system that appreciates Christian and traditional values and that prepares literate, skilled and healthy citizens by concentrating on the growth and development of each individual’s personal viability and character formation, while ensuring all can contribute to the peace and prosperity of the nation”.

Vision and Outcome of Vocational Education and Training

“The education and training needs of the immediate community are catered for by vocational education institutions offering appropriate and relevant courses with varying length and giving priority to those students who have completed Grade 8”.

The Major Outcome is, “There are a variety of institutions offering courses of varying length to students completing primary education and the wider population to gain appropriate skills to satisfy both personal and community demand”.

Vision and Outcome of Technical Education and Training

“A system of self-sustaining institutions, under an independent regulatory authority designed to train an appropriate workforce for employment in the formal and informal sector, including self-employment, with linkages to apprenticeship, the Trade Testing Board and other recognized training providers”.

The Major Outcome is, “There is a cost effective technical education system, both public and private, that is responsive to change and offers a wide range of courses appropriate to, and accredited by, industry”.

2.3 TVET Principles

This TVET Policy is guided by the following principles:

- The TVET Division is committed to provide a nationally coherent TVET system which is well understood and highly valued by the PNG community.
- Provision of a diverse range of accessible TVET programs and services suited to the needs of individuals, industries and communities.
- TVET programs based on well researched and documented skill requirements in particular national competency standards issued by the NATTB.
- Flexible and relevant TVET programs capable of responding to the changing requirements of communities and industries.

-
- Provision of education and training pathways between schools, TVET, employment and higher education enabling learners to gain skills and knowledge needed throughout their lives.
 - Women and other disadvantaged groups are encouraged to participate in TVET.
 - Provision of appropriate and cost-effective education ensuring the governments investment in TVET represents good value.

3. Roles and Responsibilities

To implement an effective Public TVET, there needs to be a clear understanding of the respective roles and responsibilities of the various elements of the organization; this is given below.

3.1 TVET Management

3.1.1 TVET Division Strengthening

The National Education Plan commits the DoE to review current organisational arrangements and to restructure to improve its capacity and performance. The TVET Division needs to organise itself so as to create a seamless and coordinated Public TVET System through the integration of the currently separate administrations of vocation education and training, and technical education and training. In future updates of the National Education Plan, there should be only one section – TVET, not two separate sections.

It is essential that the four branches continue to work closely together and efforts need to be made to relocate the Vocational Support Services into TVET Division so that the four branches may work together in the one building. The priorities of TVET will be to work towards better coordination, the strengthening of TVET Division and its institutions, and the establishment of a leadership development program.

The TVET Division must exhibit best management practice in all of its administrative, management and leadership. The behaviours, attitudes, work commitment and work practices must be exemplary and led from the top. The TVET branch heads will take a leading role in the leadership development program. The TVET branch heads will work together to improve services by the development of a continuous improvement program. The TVET branch heads will work with the Assistant Secretary TVET who will lead the development of the statement of values and ethics which will be relevant to all TVET staff.

3.1.2 Institutional Strengthening

In order for TVET institutions to become more effective and efficient their curriculum, administrative systems, human and physical resources and infrastructure need to be strengthened. This must be done in collaboration with a change in organizational structure and culture with

particular emphasis on the development of leaders. These initiatives will be undertaken in conjunction with the changes listed earlier in this document.

The TVET curriculum will be strengthened by the establishment of a greater role for business, industry and community and by the establishment of a coordinating body.

3.1.3 Administrative Systems

Existing administrative systems need to be strengthened and the use of appropriate technology needs to be increased. Priorities need to be established for the development or review of systems in human resource management and HR policy, student enrolment and student information details, course information, asset management, administrative requirements, including communication, data bases and filing, and, financial management. In any review careful consideration will need to be given to what can be delegated to the College/Centre level.

3.1.4 Physical Resources and Infrastructure

The planning, development and management of property, buildings and equipment, needs to be upgraded. A National TVET Capital Works Plan is an essential first step. A centrally maintained register of all assets is essential with institutions being responsible for minor equipment and stock.

3.1.5 Delegations

Principals and Managers must be given appropriate and increased levels of delegation for there to be improvements in performance. This includes increased responsibility and accountability for the management of human, physical and financial resources. Greater delegation and local decision making will lead to greater effectiveness [through closer relationships with stakeholders and clients] and efficiency [through greater responsibility and accountability].

3.1.6 Systems Performance

Mechanisms or measures need to be developed in order to obtain information on activity and performance in TVET. Means need to be developed in respect to the collection of data; these initiatives need to be coordinated between the relevant authorities. Data needs to be analysed so as to produce some key measures which will focus on system performance.

3.1.7 National Training Effort

Total training effort across the sector needs to be measured so that government and major stakeholders in business, industry and community are informed. Some assessments may then be made about progress and

development as well as the alignment between actual training and PNG's priorities as outlined in the national training plan.

Effort and training outcomes need to be measured against cost for the system. An analysis is required to measure the actual delivery occurring across TVET sites. Information needs also to be gathered regarding the costs in respect to the financial inputs in the system.

3.1.8 National Unmet Demand

Unmet training needs nationally must be assessed. This will enable effort to be focused on areas of need and demand but also to assist in the alignment of priorities and effort as outlined in the national training plan.

3.1.9 Access and Equity

The participation of and outputs from individuals and from specified groups needs to be measured. This will enable the development of appropriate intervention strategies so that National Goals may be met. This could involve special programs or a range of other access and or equity initiatives.

3.1.10 Client Satisfaction

In the longer-term, employer, student and community surveys will identify the effectiveness of the programs offered and the level of satisfaction gained by all stakeholders. Mechanisms need to be developed to regularly monitor student placement outcomes. These measures must include both qualitative and quantitative aspects.

3.1.11 General

The TVET Division will work with the Department of Labor and Industrial Relations in the development of a coordinating body. If a coordinating body is established, the Curriculum Branch could move or at least work very closely with it so that a national approach to curriculum content and standards may be secured.

It is essential that the four branches continue to work closely together and efforts need to be made to relocate the Vocational Support Services into TVET Division so that the four branches may work together in the one building.

3.2 TVET Curriculum Branch

The Curriculum Branch is headed by a Superintendent who is accountable for the content, quality and relevancy of the curriculum and ensures that the course content and standards meet the needs of commerce, industry, government and the community.

The branch will work closely with the NTC in respect to national training priorities and the NATTB in respect to developing curriculum to the National Occupational Standards established and monitored by the NATTB in partnership with industry.

The Superintendent Curriculum will work with the above bodies, school curriculum executives and the Universities in the establishment of a National Qualifications Framework (NQF).

3.2.1 Role Definition

Curriculum development and implementation is a dynamic process. There will be a greater emphasis on the education of both curriculum officers and teachers and on their respective roles and responsibilities. The curriculum officers will concentrate upon relevance, content and standards.

Teachers will be responsible for context, assessment and ensuring compliance to the prescribed content and standards.

3.2.2 Curriculum Handbook

A TVET Curriculum Statement and an accompanying handbook which covers design and development are being prepared and will be completed by the end of 2005. This handbook defines and details the curriculum processes.

3.2.3 National Curriculum

The close working relationship of NATTB and NTC with Curriculum Branch will provide the impetus for national curriculum and more formal mechanisms for stakeholder input into curriculum content so that business, industry and community representatives own and drive these changes and curriculum clearly addresses national occupancy competence standards established by the NATTB in partnership with industry.

3.2.4 PNG National Qualifications Framework (NQF)

A PNG NQF will be established. The NQF will recognize that the schools and higher education sectors have different industry and institutional linkages to those of TVET. It will link school and initial vocational/technical qualifications through to those of higher education. It will be a transparent mechanism for the assessment, certification and recognition of skills including prior learning.

The NQF will also recognize and support the need for specialized curriculum oriented to rural and village development. These curricula will be underpinned by short courses in topical areas such as building, forestry, agriculture, maintenance etc.

National occupational competency based standards are driven by input from business, industry and community. Curriculum is written to national

occupational standards. Credit in the future will be made available for any modules or courses which are run in schools or as short courses.

3.2.5 Competency-Based Training and Assessment

The TVET qualifications are based upon competency-based training and assessment (CBT&A). The seven core trade areas, namely, Business Studies - Office Administration, Carpentry Construction, Electrical, MVM, MFW, MFM and Plumbing trades have already been converted to CBT&A.

All other courses will be converted into CBT&A format.

The PNG Occupational Skills and Standards Project (POSSP) is an important NATTB initiative, its goal is “to support development and recognition of skills that are required both for economic growth and to foster the potential of the people of PNG”. The purpose of the POSSP is “to promote the growth and diversification of the National Trade Testing Competency Standards (NTTCS) in PNG as a key ingredient of a flexible and multi-pathway strategy for post-school skill formation, in response to industry demand”. The Curriculum Branch needs to work closely with the POSSP initiative as do other TVET Branches.

3.2.6 Recognition of Prior Learning

The introduction of CBT&A, the modularization of courses with flexible entry and exit points, and the introduction of recognition of prior learning (RPL) provide the basis for change from teacher-directed to student-centred learning. For this to occur, the qualification frameworks, articulated pathways and RPL policies need to be in place but there must also be changes to teacher methodology. RPL is the formal recognition of competencies held by a person.

3.2.7 Occupational Competency Standards

The Superintendent Curriculum is responsible for the establishment of curriculum according to national occupational competency standards set by the NATTB. This includes all syllabi, teaching materials and curriculum implementation and review. The NATTB monitors and assesses compliance with national occupational standards as well as approving guidelines and programs for apprentices. TVET institutions are approved by the NATTB as Trade Testing centres. The NATTB is responsible for compliance with national occupational standards. In all apprenticeship, trade and non- trade programs, national occupational standards are set and audited by the NATTB. In all program areas there is input from business, commerce and professional associations in respect to content and standards this is through the industry trade panels.

3.2.8 Accreditation

Accreditation is the formal recognition of an institution or an activity by an authoritative body. “Registration” is defined as the process by which a

private provider meets the NTC's requirements, while "Accreditation" is the process by which a course is formally recognized.

An accredited course is a structured curriculum which is recognized within the NQF. The course may lead to a qualification or a statement. The Superintendent Curriculum will consult with major stakeholders then develop criteria for the accreditation of courses. This will include consideration of content, standards and relevance. Courses will be accredited by application of the criteria; lists will be made available to all stakeholders.

3.2.9 Skills Coordination

The three key players in the provision of TVET are NATTB, NTC and NDoE through the TVET Division. It is the responsibility of the Department of Labour and Industrial Relations to ensure that there is no duplication of functions and that all regulatory functions are carried out. This will be achieved through improving coordination, either by strengthening the capacity of existing bodies or by forming an overall regulatory body.

3.2.10 Articulation

Articulation is the formal linking of credentials or qualifications from level to level as well as the linkages across program or activity areas. Guidelines for the transfer of credit will be developed and agreed by the Higher Education Council and the NDoE. The parties will also need to agree upon the characteristics and distinguishing features of the learning outcomes including the relevant assessment processes and methodologies for each award level such as "Certificate" or "Diploma".

3.2.11 Open and Distance Learning

The new modular-based curriculum lends itself to the development of learning materials suitable for open and distance learning. Each TVET institution should be equipped as a learning centre where students may access materials from any other TVET institution. TVET Division will negotiate with the College of Distance Education to gain a priority for the development of distance learning materials based on the TVET curriculum modules.

3.3 Operations Branch and Technical Colleges

The Operations Branch is headed by a Superintendent Operations who has the line management responsibilities for College Principals.

3.3.1 Functions

The Superintendent Operations is accountable for the overall operations of the 7 technical and business colleges. The Superintendent is responsible for the deployment and management of all human, physical

and financial resources in the Colleges, as well as the development of College infrastructure. The role will become more strategic in nature and one which further develops and advocates the TVET College system. Operational matters must be left to Colleges. The Superintendent must concentrate on planning and performance.

3.3.2 Performance Development

College Principals formally report through to the Superintendent Operations by means of a quarterly formal report. The quarterly report ought to be used as the basis for formal meetings of the Superintendent with each Principal. This would commence a documented process of Performance Development and needs to take place at least twice per year.

3.3.3 System Performance

The Superintendent Operations has a role in system-wide research and evaluation so as to ensure resources are deployed to best effect. Principals must accept greater responsibilities for the accuracy of the data. The Superintendent must then use information, data and analysis to ensure resources are deployed to best effect.

3.3.4 Communication

The Superintendent Operations will meet Principals as a group at least twice a year. Efforts need to be made to develop the Principals as a collegiate group so that a team spirit is developed and ideas are shared in respect to innovation, curriculum, data requirements etc. Principals are the key to linking TVET division to their staff, students and other major stakeholders and an improvement in communication is a necessity.

3.3.5 Staff Participation

A culture change is required in the Colleges as not all Principals actively encourage staff participation in decision-making processes. Best management practice indicates that the best performing institutions have open and transparent flows of information, an environment of trust and the opportunity for ideas to be openly encouraged and debated.

3.3.6 Continuous Improvement

Each College should have a philosophy of continuous improvement and some strategies to bring about change, growth and further development. Continuous improvement plans and strategies ought to be built into the College Management Plans, reported upon in the quarterly report and also made available on a regular basis to Council, staff, students and other stakeholders. The plans and strategies are to be available for public scrutiny which will assist in an increase in accountability as well as providing valuable publicity material. The plans will consider issues of access, gender and equity with particular reference to mechanisms to

increase female enrolments in many TVET courses. The Governing Council will be required to endorse the College Management Plan.

3.3.7 Resource Utilisation

The College Principals take advice from their Governing Council and are responsible for the leadership and management of their College. They have, however, limited flexibility in the management and efficiency of resources at their disposal. The institutions will be strengthened by addressing the following matters:

- **Staff numbers:** Staffing establishment numbers are required to be based upon student enrolment figures. There is currently considerable variation in teacher to student ratios. There needs to be consideration of the benchmark class sizes as it is reasonable to expect some variation because of workshop or building constraints or course specialization. Notwithstanding that, there is a need for a review leading to more equitable staffing allocations. This should be done as a matter of urgency as the operational costs of TVET are too high and include a high percentage outlay on salaries and subsidies.
- **Teaching loads:** There are too many teachers who do not have full teaching loads. This may be related to the nature of the program or in many cases that teachers are unqualified to teach at the higher levels. Effort is to be made to upgrade teacher skills within the institution wherever possible by enrolment in internal programs or, if necessary, relocated to Vocational Centres. The programmed development of learning materials also ought to be a priority for any underutilized staff.
- **Contract Officers:** There are many expatriate contract officers in TVET head office and in Colleges. The contract officers must work to mentor and train nationals in the academic and other professional areas. Acceleration of localization will provide significant savings and a TVET plan needs to be developed.
- **Ethics and Standards:** There would be an improvement in staff productivity and professionalism if staff has greater awareness of the values which underpin TVET. The ethics and standards which are expected of all public servants and teaching service members must be clearly communicated to all staff. The Code of Conduct for Public Servants and the Code of Ethics for the teaching profession must be distributed and every officer to pledge their loyalty to the NDOE and the National Government.

3.3.8 Staffing Plan

The Superintendent Operations will work with Principals to develop policy directions on how recruitment processes could be streamlined and also develop processes for merit based selection.

Each Principal will produce a College staffing plan that will highlight ways that the staffing complement can be structured to become more efficient. This would be done in conjunction with staff and would require college Governing Council endorsement. The plan would cover both positions and levels of appointment and would best meet the needs of the institution. Increased use must be made of contract staff and part-time teachers. The plan would be within the current establishment cost, would have an agreed number of core staff and be based upon agreed productivity indexes and be approved by the Superintendent.

3.3.9 Staff Conditions of Employment

Teacher Conditions: There is the need for a review of the conditions of employment of teachers so as to gain flexibility as Principals are constrained in the use of staff, especially in terms of required teaching hours per week and also the type of duties which may be performed.

Classes after hours: The TSC is aware that there is a demand for TVET classes outside of normal school hours and has sought to provide the opportunity for teaching staff to take classes after hours. The TSC issued a directive in September 2003 which provided the opportunity for teaching staff to run short courses out of normal teaching hours. This directive needs to be promoted, more widely distributed and Principals need to provide leadership in this regard.

Principals: The appointment of Principals ought to be on a contract basis for 3 to 5 years in the first instance. The Principal has key responsibilities in respect to the provision of educational leadership at the College level. Increasingly the position of Principal will focus on performance and accountability and will be given increased delegations so that the colleges are strengthened and able to provide a more effective and efficient TVET service. The movement of Principals from college to college will enable the TVET system to function in a more coordinated manner with loyalty to the system being enhanced.

Job Descriptions: Increasingly there is a demand for teaching outside the normal school day as well as a variety of new roles for the TVET teachers in such areas as materials development, the facilitation of learning, development of new products and services and research into market needs. The Performance-Based Duty Statements for all teaching position levels have been created. All teaching positions have been reclassified and are gazetted.

Teacher breadth: Many teachers have too narrow a teaching background which severely limits flexibility. Ideally teachers ought to be competent in more than one major teaching area. The Superintendent Operations and

Principals will work towards the recruitment of teachers who are competent in more than one teaching area.

3.3.10 Funds

Generation of funds: The major source of income is the collection of student fees. Colleges must be encouraged to develop new ways to generate additional funds. There are numerous examples of initiatives such as the sale of student products and the running of short courses both of which raise valuable funds. Other initiatives such as the development of courses off campus in industry including customer specific training materials or work in industry-needs analysis must be encouraged. Colleges must be able to retain and use these funds or there is little incentive for these initiatives to occur.

Boarding of students: A major cost for the colleges is the cost of maintaining boarding students. An immediate review is required so as to establish the actual costs of boarding students and then to set standards and benchmarks.

Partnerships: The development of partnerships with business or industry bodies will enhance opportunities for colleges and staff. The development of courses into modular format will assist in more flexibility of TVET provision and greater opportunity for commercial application and extension of college business activities. The development of partnerships is dependent upon the leadership and initiative of the Principal as well as the ideas and creativity of college governing council, students and staff.

Marketing and Business Development: Colleges have the potential to expand their business activity and revenue by working with the community and their local businesses. As Colleges need to rely on other sources of funding, all staff will need to be aware of the skills required to enhance the business opportunities of the College. Principals and the college management team will need to provide leadership to staff to promote the concept of business opportunities.

3.3.11 Physical Resources

Staff and student expertise ought to be used wherever possible to assist in the development and maintenance of TVET buildings and equipment.

3.3.12 Teacher Supply

Workforce Planning: Systematic and broadly-based succession planning and accelerated career progression have already been identified as an NDoE priority. The age profile and increasing mobility of staff in TVET and indicates that there will be the need for significant replacements in the next five years. An analysis of teaching staff qualifications and an age profile will be produced.

Recruitment special provisions: It is already proving to be difficult to recruit capable staff to a number of teaching programs. Where extraordinary circumstances apply, a selected appointee should commence on a higher salary point than would normally be the case, this will serve to increase the attractiveness of teaching positions.

Diploma availability: The Diploma in Teaching (Technical) is available from the University of Goroka by full-time attendance only. Every effort will be made to encourage the external offering of the Diploma as proposed by the University's Faculty of Science in the document "Proposed B.TVET Degree program".

Part-time study: Ideally the Colleges ought to recruit to teaching positions persons with industry knowledge and experience who could then complete their professional requirements by part-time study. This part-time study should be available to all teachers in their first few (possibly five) years of appointment.

3.3.13 Twinning

College Governing Councils and Principals ought to pursue opportunities to establish twinning arrangements with local and overseas institutions.

3.3.14 College Rationalisation

The "Home College" concept has enabled the maximum utilisation of the physical and human resources that are available in the college. This also assisted in the establishment of the college as a Trade Testing centre for specific trades. Colleges need to work together to optimise the use of public resources and the "Home College" ought 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. The "Home College" should assist and foster other Colleges to satisfy the training needs of their communities.

3.3.15 Student Selection

The Office of Higher Education, Research, Science and Technology (OHERST) has the role to coordinate and facilitate the annual national selections for students entering tertiary institutions, including TVET colleges, on government-sponsored scholarships. There are criteria for selecting students entering the TVET colleges, however, greater transparency and fairness need to be considered by those in charge of the selection process. Provision needs to be considered for students completing accredited short courses run in the Vocational Centres and covered in the NQF to enrol in TVET Colleges.

3.3.16 Governance

Each TVET college has a Governing Council which is the formal link between the institution and the community it serves. Principals must work

to ensure that Council membership reflects College needs and that members are able to value add to the College business. Councils must be more actively involved in planning and linking the College to external bodies. Council members must advocate and represent the College in a variety of forums.

3.4 Vocational Support Services Branch and Vocational Education Centres

The Vocational Support Services Branch is led by a Superintendent who is accountable for the effective operation of the vocational schools, the provision of sound advice on vocational policy matters and effective management of finance including those from donor agencies. Major challenges include the identification of a reform charter for the Vocational Centres that will lead to systemic rationalization and revitalization.

3.4.1 Nomenclature

Training providers should be registered as Vocational Centres and approved to run vocational curriculum approved by the Board of Studies and courses which are articulated to the NQF. Local titles such as “Community Skills Development Centre” could then be used to give distinctive emphasis.

3.4.2 Status

System wide reform is required so as to improve the effectiveness and efficiency of student provision in the Vocational Centres. The small size of many institutions not only means that they are very costly to operate but do not have the threshold capacity to deliver to the required standards. Some institutions may need to be closed; others amalgamated or made available for external bodies to manage. The reform and review process will be overseen and facilitated by the Superintendent VSS with Provincial Authorities being responsible for the application of processes within their areas of responsibility. Following the review process, provinces will be required to prepare a vocational education plan in consultation with the Provincial Education Board. Provinces will be provided with support from VSS branch in this task. The plans will include an assessment of existing physical assets and infrastructure requirements.

3.4.3 Curriculum

The curriculum in Vocational Centres will emphasize education for life and prepare the vast majority of their students for a life in the informal sector. The core curriculum covered in the sector needs to be reviewed with more emphasis on life-skills, sustainability, community development and the development of learning-to-learn capacities. Major social and health issues such HIV/AIDS awareness must also be included in core curriculum. All courses need to have flexible entry and exit points. All curricula will be competency-based and enterprise-driven. In addition,

once RPL policies have been developed, RPL will provide further pathways into other TVET courses for students from Vocational Centres.

All registered Vocational Centres will plan and deliver short courses which are demand-driven and meet the needs of their community. There will be strong community involvement in the program planning and courses will be run at a time and venue which suits participants. Some courses may be stand-alone or custom-made while others will use modules from approved secondary or TVET curriculum and, where appropriate, accreditation within the NQF will be available for short courses.

3.4.4 Accountabilities

The National Government through NDoE is responsible for educational policy, curriculum, audit and accountability, the pre-service training of teachers in vocational centres and their allocation to provinces, the employment and payment of teachers and managers and also the development of policy related to school subsidies.

The Provincial Government is responsible for the development, endorsement and advocacy of Provincial Education Plans, the financing and monitoring of expenditure in their centres, the maintenance of Centres, the creation of teaching positions and appointment of teachers, the nature of curriculum offered and the development of local curricula. In addition they will be expected to support the physical development and infrastructure of centres. Provinces will be responsible for the registering of centres using nationally agreed criteria.

The VTC Board of Management is responsible to the Provincial Education Board (in the case of National Capital District, the Board of Management is responsible to the District Education Board) for the recommendation of teachers for appointment, the planning for physical facilities, the administration of short courses including the payment of staff and the provision of advice to the manager. The prime function of the Board of Management is to provide advice upon the effective and efficient management of the centre as well as ensuring that the Centre meets the needs of its community. In particular this will also include the provision of short courses which meet community needs.

The VTC Manager and teaching staff are primarily responsible for the quality, standards and delivery of programs.

The role of the VTC Manager needs to be strengthened so as to increase institutional capacity. Attention must be given to productivity issues in order to increase efficiency as student teacher ratios are too low in most Centres. Performance Development processes ought to be put in place by way of regular meetings of each Manager with the Coordinator of the

vocational centre. The Coordinators will model this process with the Superintendent VSS.

The VTC Manager must accept responsibility for all aspects of the educational program and must be given appropriate delegations to do this. The duty statements of teachers will be reviewed and special attention will be given to the development of enterprise skills as well as knowledge and understanding of new curriculum imperatives. The shift towards the provision of short courses means that existing instructors are going to have to be re-skilled and also some courses will need to be taught by local people who have demonstrated skills in the required specialized teaching areas.

3.4.5 Provincial Vocational Coordinators

The provincial vocational coordinator in each province plays a major role in the management and development of vocational centres. For there to be a more effective implementation and monitoring of activities in the centres the Provincial Coordinators need to be more closely managed through the Superintendent VSS.

3.4.6 Teacher Training

Significant increases in student numbers along with increased teacher mobility will require additional numbers of trained professional staff. The residential component of the Diploma in Vocational Education offered at the PNG Education Institute must be developed in distance mode similar to the elementary teacher education program. The University of Goroka will be approached to accredit the Diploma in Vocational Education and to articulate it to the University's Diploma in Technical Education and in the future to the proposed B.TVET Degree Program.

3.4.7 Relationships

The technical and business colleges can provide the vocational centres assistance in terms of expertise, professional development opportunities and program articulation. The colleges should work with the centres to develop programs which upgrade the knowledge and skills of their teachers and instructors. As improved learning materials are developed these should be shared along with other resources such as equipment.

3.4.8 Linkages

There will be greater consultation with other government departments, provincial divisions and NGO's with a view to a more efficient use of facilities. This will mean a more cooperative and collaborative approach to the utilization of community facilities and a reduction of duplication of effort and funding.

3.4.9 Student Selection

Student selection in the vocational centres is the responsibility of Provincial Education bodies. There needs to be consistency in the criteria used for student selection, guidelines ought to be developed by NDoE in conjunction with provincial authorities.

3.4.10 Financial and Asset Management

Proper, transparent and efficient financial and asset management is essential to the improvement of the performance of vocational centres. The Board of Management guidelines will be reviewed and reissued as a policy manual. Workshops in regards to financial and asset management will be provided to inform and up skill Board Chairmen and vocational centre managers. Centre managers and staff should be encouraged to support Employment Oriented Skills Development Project initiatives.

3.4.11 Private Providers

All centres will be required to be registered to provide nationally approved curriculum, government support and funding will be dependent upon registration with the NDoE. Private provision will be encouraged in all curriculum areas including the provision of short courses. Greater autonomy will be granted to NGO's. The continuation of government support to NGO's will be dependent upon the performance of the Centre; appropriate performance measures will be developed. This performance will be evaluated and monitored by NDoE inspection systems.

3.4.12 Student Subsidy System

A subsidy or "voucher" system could encourage competition and accelerate the development of a demand-driven system. Subsidies or "vouchers" could be made available to Grade 8 graduates, who would choose to enrol with any registered provider. The existing subsidy system will be reviewed to provide an improved and more equitable system.

3.5 TVET Inspections Branch

The Inspections branch is headed by a Superintendent who is accountable for the inspections of institutions to ensure compliance with relevant legislation, as the inspections of teachers for teacher registration and for promotion. Accountability and responsibility in both Operations branch and Colleges will be strengthened as will the NDoE audit function. The role of the Inspections Branch will change as institutions are strengthened and more responsibility is assumed by Principals and Managers.

3.5.1 Performance Measures

A range of performance measures will be developed by the Branch which will list, measure and report upon the performance of teachers, programs, institutions and the system.

3.5.2 Teacher Performance

The performance of TVET institutions is measured in part by the annual appraising, reporting and rating of teachers. New manuals, checklists and forms have been created to accommodate TVET's requirements. A culture of self-improvement will increasingly be fostered with the inspector having more of an advisory and audit role. Continuous improvement plans will also include statements on initiatives taken to improve teacher performance.

The role of Vocational Education inspectors will be reconsidered in view of the changed status and role of the Vocational Centres. The Superintendent Inspections and the Superintendent VSS will be advised in this matter by the review of Secondary Inspectors. Consultations will take place with provincial authorities.

3.5.3 Audit

There will be changes to the role of inspector once the Principals assume a greater role in compliance at the institutional level. The NDoE will strengthen its audit function; inspectors will gradually assume more of a "consultative" (mentoring, leading and coaching) role.

3.6 Staff Development and Teacher Education

3.6.1 Staff Development Plan

The Superintendent Inspections has been responsible for coordinating the staff development and training programs for TVET teachers. An annual staff development plan needs to be written which is driven by the directions of the national training plan and draws upon the needs of the major stakeholders. This plan must emphasize that professional development is the responsibility of the individual and that TVET must exemplify best practice in lifelong learning.

3.6.2 Short-Term Teaching Appointments

A more flexible staffing provision will mean that there are more short-term appointments of persons from business or industry with little or no prior teaching experience. The contract or part-time staff needs an introduction to teaching methodology. This should be prepared as a module or learning package by the Staff Development Officer.

3.6.3 Part-Time Study

There is provision for teachers to be granted a significant reduction in teaching hours per week so that they may undertake part-time study. This provision is generous but will be made more efficient by the intervention of the staff development officer who will develop and maintain a data base of all study approvals and will check each recipient at least twice per year to check on academic progress

3.6.4 Teacher Training

The NEP projects significant increases in student numbers especially in Vocational Centres. Issues of supply and of teacher performance clearly impact upon TVET's capacity to produce quality outcomes. The development of the National Teachers Standards Framework needs to be supported and monitored.

3.6.5 Leadership Development

Significant investment needs to be made in the development of leaders. Agreement needs to be reached on essential leadership competencies. High priority needs to be given to a leadership development program for TVET executives, principals and managers. Leadership competencies then need to be built into a system of performance management. For performance management to work it must be led from the top.

3.6.6 Cultural Change

As institutions are strengthened the responsibility and accountability of the Principals and Managers will also increase. It is acknowledged that this process will take some time as significant cultural change will be required. This change will need to be supported by a leadership development program but it will also critically need leaders who are committed and determined as TVET will be exposed to external pressures and new driving forces. The reward will be an externally referenced system with benchmarks and quality standards which apply to all providers.

4. Conclusion

The development of an export driven economy, a greater emphasis on skills in small scale enterprise development and the enhancement of sustainability can only become a reality with a strong performing training system. Further to this, the development of lifelong learning will greatly enhance PNG's capacity to compete globally.

The Government's Medium Term Development Strategy affords TVET its second priority; this is significant as until now TVET has not been given the attention needed to perform to PNG's requirements and the expectations of its stakeholders.

There is no properly functioning system of vocational education and training in PNG. A national training plan, a national qualifications framework, a clear leading role for business and industry as well as quality standards in curriculum and delivery are the essential components of a functional system. This system depends upon the establishment of a coordinating authority which can produce a National Training Plan, develop and regulate curriculum, standards and quality and ensure that provision meets national priorities. Clearly, NDoE must work closely with the Department of Labour and Industrial Relations, specifically the National Apprenticeship and Trade Testing Board and the National Training Council to develop the essential components of a functional and coordinated system.

Work must be done within TVET to improve the effectiveness and efficiency of colleges and vocational centres, irrespective of any developments in national coordination. The TVET institutions must be strengthened so that they have an increased capacity to respond to demands, work on curriculum review and strengthening must continue. TVET must finalise the competency based initiative into all courses and then ensure that short courses are available in all program areas. The development of a charter of reform of the Vocational Centres is an essential requirement for this sector to have a clear role and status. The further development of Superintendents, Principals and Managers is essential as the performance of the system is highly dependent upon the performance and capacity of its leaders.