

The University of Papua New Guinea

School of Business and Public Policy

Skilled Workforce Development Challenges and TVET Strategies

2022 PNG Update

Mr. Richard Lan

Dr. Ponnusamy Manohar

School of Business and Public Policy

University of Papua New Guinea

Dr. Francis Hualupmomi, PhD

Department of Higher Education, Research, Science and Technology

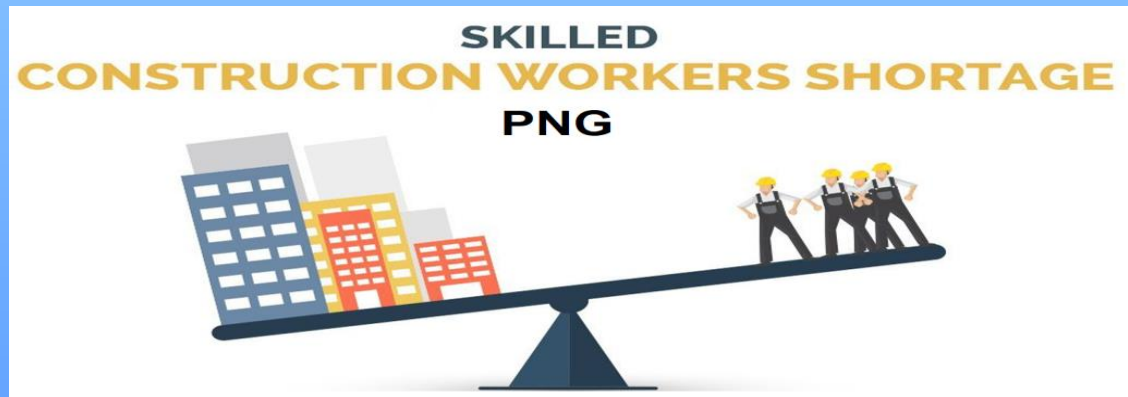
Skilled Workforce Development Challenges and TVET Strategies

OUTLINE

1. Introduction
2. Background of the Study
3. Objective of the Study
4. Literature Review
5. Theoretical view: Skilled Workforce
6. Research Design and Methodology
7. Findings and Discussions
8. TVET Reform and Its Role in the Economy
9. Way forward

1.0 Introduction

- A skilled worker is any employee who has a special skill, training, knowledge which he/she can apply to work. A skilled worker may have attended a college, university or technical school. Alternatively, a skilled worker also may have learned their skills on the job.
- Shortages of Skill workers are usually regarded as being economically damaging, while meeting employers' skill needs is thought to be essential for economic success.
- PNGs education sector comprised three sub sectors, which are; General Education, **TVET and Higher Education**.
- Public institutions and private institutions regulated by the government through DHERST.
 - 10 universities (6 public universities, 1 private university and 3 church universities),
 - 57 colleges, 113 private training institutions
- Categorized into typologies: universities, colleges (teacher, health, technical and specialized).
- The Technical and Vocational Education and Training (TVET) is one of the subsystems in PNGs Educational framework that provides skills training to its people for possible employment.



2.0 Background the Study

- Papua New Guinea's construction industry is operating with increasingly lack and limited supply of both materials and skilled labour.
- A report published by Deloitte and the UN Development Program surveyed more than 230 Papua New Guinean businesses to identify barriers they faced in expanding their human capacity
- Only 500,000 people are employed in PNG's formal sector, with an estimated 2.5 million working in the informal economy. Transferring even a modest amount of workers into the formal economy would have considerable economic gains.
- More than 40% of PNG's population is under the age of 15 and expected to enter labour market (formal or informal) over the next decade.
- Women constitute 27% of PNG's workforce, according to the 2011 Census, compared to about 41% across east Asia and the Pacific.
- Labour market study in PNG has observed that skilled labour shortages are a major hindrance to economic development.
- According to the ANU researcher Carmen Voigt-Graf, the number of blue collar workers coming to Papua New Guinea rose by more than 1700% in the 12 years from 2000 to 2012, aligned with the growth of PNG's mining and construction sectors. This trend is still increasing and expecting foreign workers to filled the vacant positions.

3.0 Objective of the Study

- PNG has the ability to develop physical infrastructure but without development of the human capacity it can not be able to do so.
- This study focused on analyzing the current skilled labour market to provide sustainable skills training to Papua New Guinean youth who are more than 40% of the population.
- The study is conducted to analyze the Skilled Workforce Development Challenges to provide strategies to help address TVET training approach in Papua New Guinea.

Objective of the Study

- Identify the current skilled workforce gap
- Explore the challenges to develop effective skilled workforce.
- Compare any skills mismatch between industries requirement and training institutions graduates
- Identify the strategic policy actions to develop skilled workforce in PNG

4.0 Literature Review

- As per Business Advantage PNG reported that an analysis of foreign workers coming to Papua New Guinea since 2000 indicates a chronic lack of skilled tradespeople, according to Lae-based business leaders.
- The number of blue collar workers coming to Papua New Guinea rose by more than 1700% in the 12 years from 2000 to 2012, aligned with the growth of PNG's mining and construction sectors, according to Australian National University researcher Carmen Voigt-Graf.
- PNG's National Statistics Office shows that during that period the largest group of foreign workers were 'administration, executive, managerial', followed by 'professional, technical'. Those numbers grew by 203% and 233% respectively, 'indicating a shortage of highly skilled labour in PNG'.
- The third largest group was tradespeople, such as mechanics and boiler men, accounting for 16,848 working visitors in 2012, the height of the PNG LNG construction boom. [Back in 2000, only 925 tradespeople came to work in PNG.

5.0 Theoretical view: Skilled workforce



- The labor market or job market is a platform where the demand for (by employers) and supply of (by workers) employment meet.
- It assists in creating a skilled workforce that flourishes with competition, development, and economic expansion. Also, the labor market graph is useful to comprehend its definition and get information on tight or equilibrium job markets.

6.0 Research Design and Methodology

- This study used a descriptive design method.
- The qualitative approach conducted on desktop research is basically involved in collecting data from existing resources.
- It was based on the material published in reports and similar documents that are available for public, websites, data obtained from government agencies reports and other publications.
- The secondary data was collected from Department of Education (DOE), Department of Higher Education, Research Science and Technology (DHERST) and Registered Training Organizations (RTOs).
- Existing data from the sources collected was summarized and organized to answer the overall research objectives.

7.0 Findings and Discussions

Skills Gap in Papua New Guinea

Skills mismatch is a discrepancy between the skills that are sought by employers and the skills that are possessed by individuals. Simply put, it is a mismatch between skills and jobs. This means that education and training are not providing the skills demanded in the labour market, or that the economy does not create jobs that correspond to the skills of individuals.

Skills gaps



When workers lack the skills necessary to do their jobs effectively

Skills obsolescence



When workers lose their skills over time due to lack of use or when skills become irrelevant due to changes in the world of work

Skills shortages



When employers cannot find enough professionals with the right qualifications and skills

Over/under skilling



When workers have skills above or below those required for the job

7.0 Findings and Discussions

The Impact of Shortage of Skilled Workforce

- One of the hottest topics in the industry press this year was the ongoing and growing shortage of skilled construction labor. The coverage reflected the perceptions of home builders, maintenance contractors and civil work contractors across the country as they faced this frightening issue and its effects on their businesses operations.
- PNG Paradox reported that the growth of the labour force in PNG since independence has been at least as fast as population growth, and possibly faster. Figures from the 1980 and 1990 Census showed that the labour force grew by around three per cent per annum.
- ADB in its report on Promoting Skill Transfer for Human Capital Development in PNG 2017 stated that there is skill shortage and skill gap with scarce opportunity for formal employment.
- It was also reported that domestic workforce lack the necessary skills and qualification to secure key construction jobs.

7.0 Findings and Discussions

Workforce historical data 1980, 1990 and 2000

Key Labour Market Statistics

	Previous available year: 1980					
	Total		Urban		Rural	
	Male	Female	Male	Female	Male	Female
Number of persons employed	650,305	580,449	91,111	20,134	533,740	567,690
Number of persons unemployed	26,707	9,951	17,062	9,636	115,513	65,271
Unemployment rate	15.8	32.4	8.4	8.5	3.1	1.4
Unemployment rate, 15 - 24 year olds	26.1	16.9	19.7	31.6	26.6	15.0
	Total		Public		Private	
	Male	Female	Male	Female	Male	Female
Number of persons employed						

Source: Census National Reports (1980, 1990, 2000)

Key Labour Market Statistics

	Previous available year: 1990					
	Total		Urban		Rural	
	Male	Female	Male	Female	Male	Female
Number of persons employed	912 124	670 394	113,349	37,924	798,775	632,470
Number of persons unemployed	90 767	42 045	45,451	19,825	45,451	19,825.0
Unemployment rate	9.1	5.9	28.6	34.3	5.4	3.4
Unemployment rate, 15 - 24 year olds	17.0	10.5	45.9	48.2	10.3	5.9
	Total		Public		Private	
	Male	Female	Male	Female	Male	Female
Number of persons employed						

Source: Census National Reports (1980, 1990, 2000)

PAPUA NEW GUINEA - NATIONAL STATISTICS OFFICE

Key Labour Market Statistics

	Latest Year Available: 2000					
	Total		Urban		Rural	
	Male	Female	Male	Female	Male	Female
Number of persons employed	1,203,233	1,141,501	118,546	68,688	1,084,687	3,750
Number of persons unemployed	53,654	14,969	28,542	7,774	25,112	275,847
Unemployment rate	4.3	1.3	19.4	10.2	2.3	0.7
Unemployment rate, 15 - 24 year olds	7.7	2.8	38.7	21.1	3.9	1.3
	Total					
	Male	Female				
Number of persons employed						

Source: Census National Reports (1980, 1990, 2000)

7.0 Findings and Discussions

Between 1980 and 1990s, labour force growth was slightly more than three per cent per annum. The female labour force grew at twice as fast as the male labour force between 1990 and 2000, although this could reflect some under-counting in 1990

The total labour force participation rate, which was estimated to be 69 per cent of the population over 10 years in 1990, did not change much between the two censuses

Failure to address skill gaps in PNG's construction industry presents two on going sources of inefficiency.

1. Contractors will continue to face difficulty finding local qualified skilled workers to fill key construction roles.
2. Second, even if more positions become available, the number of PNG citizens employed in these roles will not increase unless the pool of available skills can be enhanced to match contractor needs.

7.0 Findings and Discussions

Table 1: Distribution of Citizen Population 15 Years and Over in Major Occupation Groups, Total Formal Sector and Construction Compared, Papua New Guinea 2011 Census (%)

Major Occupations	Formal Sector	Construction
11-13 Legislators and senior officials and managers	4.8	1.3
21-24 Professionals	21.2	2.8
31-34 Technicians and associate professionals	7.9	0.7
41-42 Office clerks	6.8	0.9
51-52 Service workers, shop and market sales workers	10.0	0.3
61-62 Agricultural animal and fishery workers	3.9	0.1
71-74 Craft and building trade workers	16.1	78.9
81-83 Plant and machine operators and assemblers	8.3	6.3
91-93 Elementary occupations	20.0	8.4
Not stated	1.0	0.3
Number	360,732	38,547

Note: Special tabulation: occupation by industry, formal sector.

Source: ADB, 2016. *Promoting Skills Formation through Public Investment Projects: Case Studies from ADB-Financed Infrastructure Projects in Papua New Guinea*. Table A.2.1. Technical assistance consultant's report. Manila.

- Professionals and technicians in the construction sector is lower compared with the formal sector (2.8% and 0.7% compared with 21.2% and 7.9%,) ADB report.
- This suggests that there is a smaller pool of qualified skilled workers in the construction industry than in the formal economy as a whole, and that this sector experiences greater difficulty in matching the domestic workforce with appropriate positions.

7.0 Findings and Discussions

Table 2: Number and Distribution of Citizens 15 Years and Over with Post-School Qualifications, Formal Sector and Construction, Papua New Guinea 2011 Census

Type of Post-School Qualification	Formal Sector		Construction	
	No.	%	No.	%
With Qualification	124,789	35	10,420	27
Teachers college	37,138	10	107	0
University degree	19,795	5	911	2
Business and secretarial college	13,907	4	359	1
University/Public administration college	9,549	3	360	1
Other miscellaneous	9,182	3	489	1
Technical college	8,995	2	2,180	6
Vocational college	8,567	2	4,087	11
Health college	7,484	2	23	0
Tradesman/Apprenticeship	4,929	1	1,808	5
Protective qualification	3,484	1	63	0
Not stated	1,759	0	33	0
School Attendance	235,943	65	28,127	73
Attended school	193,148	54	24,007	62
Never attended school	42,795	12	4,120	11
Total Number	360,732		38,547	

Notes: Special tabulation: wage jobs by occupation (2 digits) and post-school qualifications. Percentages may not total 100% because of rounding. Source: ADB. 2016. Promoting Skills Formation through Public Investment Projects: Case Studies from ADB-Financed Infrastructure Projects in Papua New Guinea. Table A2.2. Technical assistance consultant's report. Manila.

- Of the total number of skilled jobholders in PNG's construction industry, the proportion holding a post-secondary qualification is lower than that of skilled jobholders in the formal economy as a whole—27% compared with 35%
- The 2011 census shows that mid-level skills occupations in PNG's construction industry have few domestic jobholders (Table 2).

7.0 Findings and Discussions

Challenges to Develop Effective Skilled Workforce

- Developing and sustaining a skilled technical workforce is a high-priority goal for employers.
- The current infrastructure facility available in the educational institutions is inadequate considering the huge demand of labour.
- The enrollment of the students for vocational education and training has become an extremely challenging task because lack of funding.
- Many organizations establish their own skill centers through which they develop the people through the graduate skill development.
- Skill development has not been a priority of the government earlier and hence this area has always been ignored.
- The challenges associated with unavailability of relevant infrastructure facilities.
- There is a currently a lack of industry-faculty interaction which has led to graduates skill set that does not suit the employers requirement.
- Skills development not covered as an integral part of the skill development as employers feel the need of having Behavioral Skills. This is a major challenge as it results to a lot of unemployed skilled workforce.

7.0 Findings and Discussions

Why skill gaps in Papua New Guinea?

- **Geography:** communication, transport and access to facilities is limited in many locations.
- **Insufficient data:** there is insufficient and poor quality data about graduate outcomes, undermining advocacy with government and industry.
- **Insufficient progress on accreditation and standards:** TVET reforms are still at an early stage. Insufficient (i) funding and resources (ii) qualified trainers, (iii) work to marry different accreditation standards & (iv) engagement by many training institutions.
- **Enablers and Disablers for Success Inadequate coordination:** between donor programs, and between training providers undermines progress towards reform of the TVET system.
- **Cultural and Gender barriers:** perceptions limits participation for women. TVET viewed as a poor post school option, limiting take up by young people.
- **Insufficient political will:** limited political will or interest to provide resources for policy follow through and implementation undermines reform efforts.

8.0 TVET Reform and Its Role in the Economy

Policy and Legislative Arrangement governing TVET

- Government Decision (NEC Decision) in 1995 to reform higher education
- Transfer of functions of all post-secondary institutions from different ministries to OHE
- 2017 Reform Act 2020 – provide the legislative framework to effect the 1995 NEC decision
- 2021- DHERST implemented by 1995 decision – all TVET institutions in Dept. Education and other ministries were transferred to DHERST

8.0 TVET Reform and Its Role in the economy

Strategic Policy Directions

- In 20121 – National Skills Development Plan 2021-2025 was launched together with the National Higher and Technical Education Plan 2021-2030
- Focus on Education and training is on educating and training our graduates to be readily employable for domestic, regional and global labour markets relevant for the 21st century.

8.0 TVET Reform and Its Role in the economy

Cont....

- National Skills Development Agency (NSDA) was established as a secretariat within DHERST in 2019. The intent of the National Skills Development Agency is to provide an enabling platform for oversight, regulation, planning and development of national SKILLS capacity. The Agency is demand-driven, industry-led with the overall objective to contribute to national economic growth and development through a demand driven curriculum and industry led approach to Skills development based on labour market demand and government priorities.
- National Skills Development Agency has representatives of people from Government departments, Industries, Employers, Civil Society and higher and technical education institutions who collectively advise the Department on the skills demanded in the country
- focus on developing the National Training Package (curriculum) based on industry demand and requirements. The vehicle to drive this priority is the National Skills Development Agency.

8.0 TVET Reform and Its Role in the economy

Cont...

- National Skills Development Agency has established four Industry Skills Groups based on the government's priorities. They are:
 - ✓ Agriculture
 - ✓ Construction
 - ✓ TVET Trainers
 - ✓ Fisheries
- Curriculum development we are undertaking now will address developing skills in Oil palm, coffee, livestock and MSME in general under agriculture.
- Work is currently in progress to establish the Nursing, Tourism and Hospitality, Petroleum and Mining, ICT, SME, Down-streaming Processing Industry Skills Groups. The first Phase funding from the Asia Development Bank (ADB) will focus on 5 key areas:
 - (1) TVET Colleges Governance and Management;
 - (2) High Quality Teacher Training;
 - (3) Curriculum for TVET Demand-Driven Programmes;
 - (4) Gender-Responsive TVET Infrastructure and Equipment;
 - (5) National TVET Governance and Industry linkages.
- The next phase of ADB will consider implementing the NEC Decision 2019 to rollout colleges in 89 Districts.

8.0 TVET Reform and Its Role in the economy

Cont..

- The next phase of ADB depends on the successful of Phase 1. Therefore, Budgetary Support is very important and must commence immediately in 2023.
- Industry Skills Groups composed of experts from various Industries to provide advice on the development of Curriculum and National Training Packages for their respective industries ensuring that the training packages are targeted towards meeting the needs and requirements of the industry and employers.
- Demand-driven curriculum to ensure that graduates are equipped with relevant skills needed in the industries making them compatible and employable both locally and globally.
- Educate and train the highly educated and skilled workforce to support the government to grow the economy and sustain the social sector in a secured environment.

8.0 TVET Reform and Its Role in the economy

5 year-mid term strategic priorities

Way forward for next 5 years include:

- Identify and priorities additional Industry Skills Groups according to government priorities and labour market demands. We will focus on providing relevant academic programmes in the areas of Science, Technology, Engineering and Mathematics (STEM) and sociology that address political, economic, social and technological changes.
- Ensure delivery of the national training packages (Pilot Delivery)
- In the long term, the National Skills Development Agency is intended to be established as a standalone authority.

The way forward

- PNGs TVET system as reported by numerous National Department of Education reviews is dysfunctional since independence. Therefore, The whole TVET system requires serious intervention by the national government.
- As presented in the assessment conducted in 2019, there is a profound market gap in technical training designed to accommodate challenges faced by PNG and that produces job-ready graduates.
- Based on this market research there is currently a need to find ways to provide training through a well-established training facility to address this gap.
- With the decreasing and dysfunctional TVET system in PNG, many new private providers of TVET courses base their training on courses such as *Business and Tourism* because of them being cheaper to facilitate.
- Absence of update to date data on Skilled Labour force led to DHERST and Business Council of PNG signing an MOU to conduct annual Labour Market Survey. MOU looks at identifying current, medium term and future skills development needs.
- The Labour Market Report will provide information that will lead to future skill development priorities and where government funding will be focused on.

Thank You