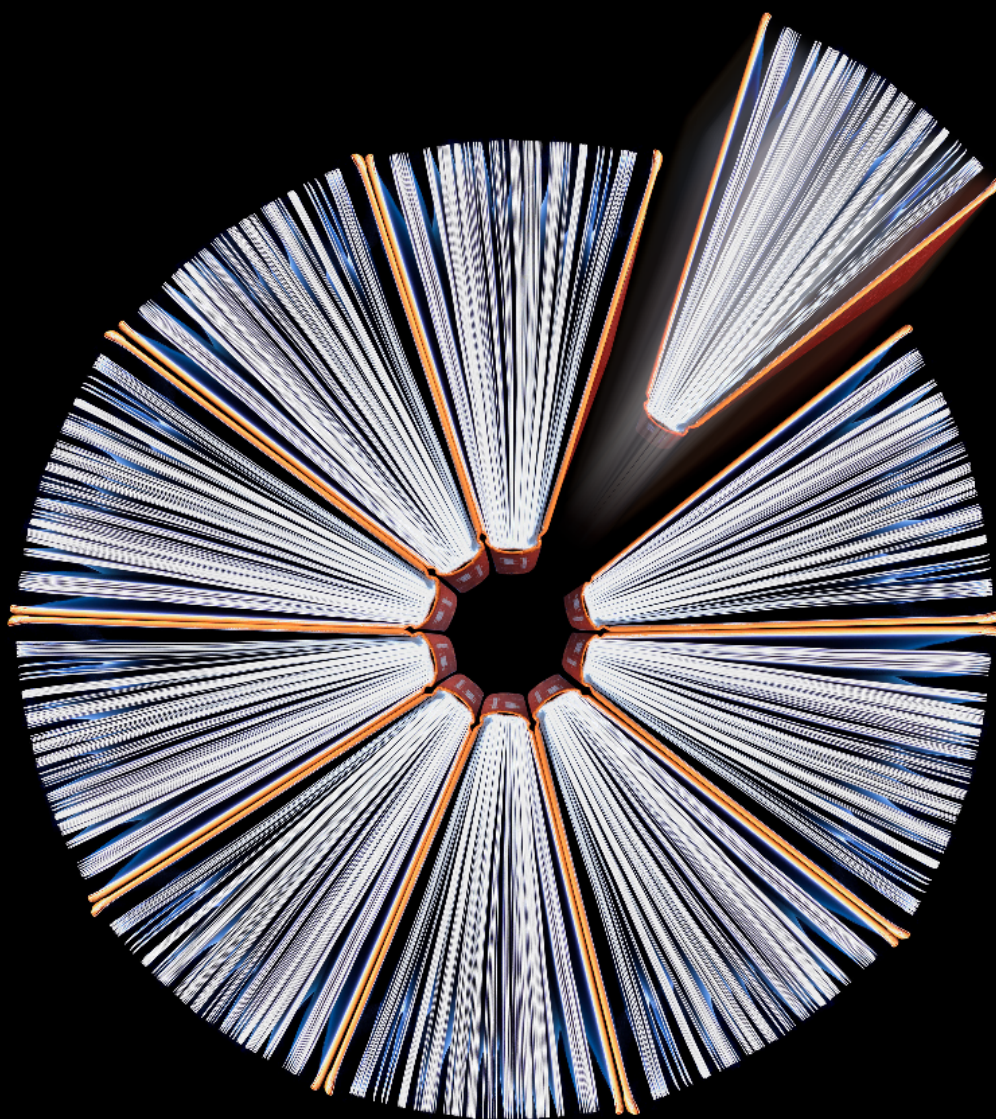


**Deloitte.**



*Empowered lives.  
Resilient nations.*



**Fulfilling the land of opportunity:  
How to grow employment in  
Papua New Guinea**

Deloitte and UNDP thought leadership

August 2017



# Contents

<b>1</b>	<b>Introduction</b>	<b>2</b>
1.1	What is this report all about?	2
<b>2</b>	<b>The survey</b>	<b>7</b>
<b>3</b>	<b>Key findings</b>	<b>8</b>
3.1	A tale of two economies – white collar vs blue collar, Port Moresby vs the rest of PNG	9
3.2	Hiring does not always translate into higher employment	10
3.3	Women remain under-represented in the labour force	11
<b>4</b>	<b>What stops firms from hiring?</b>	<b>13</b>
4.1	Economic factors	14
4.2	Skill shortages	14
4.3	Human factors	15
4.4	Cost and physical factors	15
4.5	Government factors	15
<b>5</b>	<b>What skills are most in need?</b>	<b>17</b>
5.1	Identifying individual skills gaps	17
5.2	Developing a national skill needs index for PNG	20
<b>6</b>	<b>Practical implications of skill shortages</b>	<b>21</b>
6.1	The ‘low hanging fruits’ – short term skills opportunities	21
6.2	Starting a business despite labour shortages	23
6.3	Macro-economic implications of skills shortages	24
6.4	Importing skilled labour	24
<b>7</b>	<b>Next steps: how to grow employment in PNG?</b>	<b>26</b>



---

## WHAT IS THIS PAPER ABOUT?

A thought leadership paper focussing on the ongoing development and improvement of local capacity in PNG's labour market

---

## WHY ARE WE DOING IT?

With approximately *85 per cent* of the population working in the informal sector increasing employment and lowering employment costs to business is a fundamental driver of inclusive economic growth

---

## HOW DID WE DO IT?

Via a survey of businesses' skill needs and barriers to hiring

---

## WHO IS THE RESEARCH FOR?

Policy makers, academics, business and training providers

---

## WHAT DOES THE RESEARCH COVER?

An overview of the labour market: examining the biggest factors impeding recruitment, factors that make hiring difficult and skills that are in need but hard to source

---

# 1. Introduction

## 1.1 What is this report all about?

This report comes at a time of tremendous change and opportunity for Papua New Guinea (PNG). Several growth enabling activities are being pursued with vigour – from infrastructure development to the reform of state owned enterprises, technological advancement to heightened entrepreneurialism and investment. PNG's hosting of the Asia-Pacific Economic Cooperation (APEC) summit in 2018, for example, provides a great opportunity for the country to showcase its potential to the world and attract further foreign investment.

The opportunities, however, do not come without challenges. Perhaps the key challenge is making the growth sustainable. The past few years have seen growth rates go from the mid-teens down to around two per cent as the economy has adjusted to falling global commodity prices. Whilst the resource boom has contributed to growth in per capita GDP and the expansion of public services, such as health and education, it would be difficult to argue that such growth has been sustainable.

Sustainable growth requires all citizens to be able to participate in and benefit from that growth. This requires an intricate balance of three key elements:

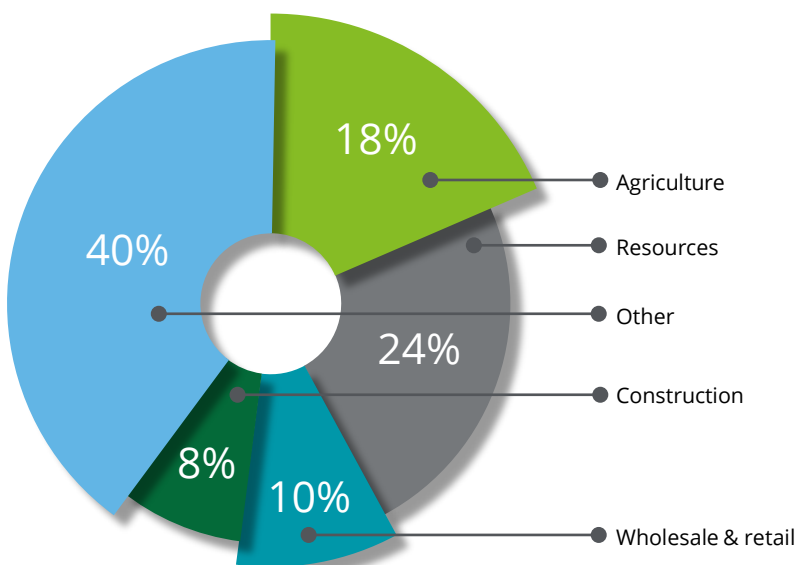
- Capacity building activities, in order to ensure the economy has the human, physical and technological capacity to benefit from growth producing activities;
- Institutions (e.g. governance and the rule of law), which form the linchpins of a democratic, inclusive and prosperous society; and
- A broad industry base, to ensure that growth occurs across a broad range of industries, and that the economy is strong and resilient enough to withstand external shocks.

Figure 1 presents this diagrammatically, in the context of a house. In the middle of the house are the pillars of sustainable economic growth, as defined by the World Economic Forum. Supporting these 'pillars' are enabling factors – such as technological change and investment. These factors enable short term advancements in economic growth.

PNG at present is strong in enabling factors. The hosting of the APEC summit, the present investment in and around Port Moresby, and of course the mining boom in recent years; all of these factors have facilitated and encouraged short term growth.

However, a strong house requires strong foundations. With constraints in local capacity and institutions, and low economic linkages to other sectors, only small increases in job creation and inclusive development have occurred, and much of it temporary. In fact, for the vast majority of the population subsistence based agriculture and informal employment remain the predominant activity. In contrast, PNG's formal economy is nascent, and is itself largely tied to the agricultural and resources industries.

**Chart 1: Contribution to GDP, by sector**



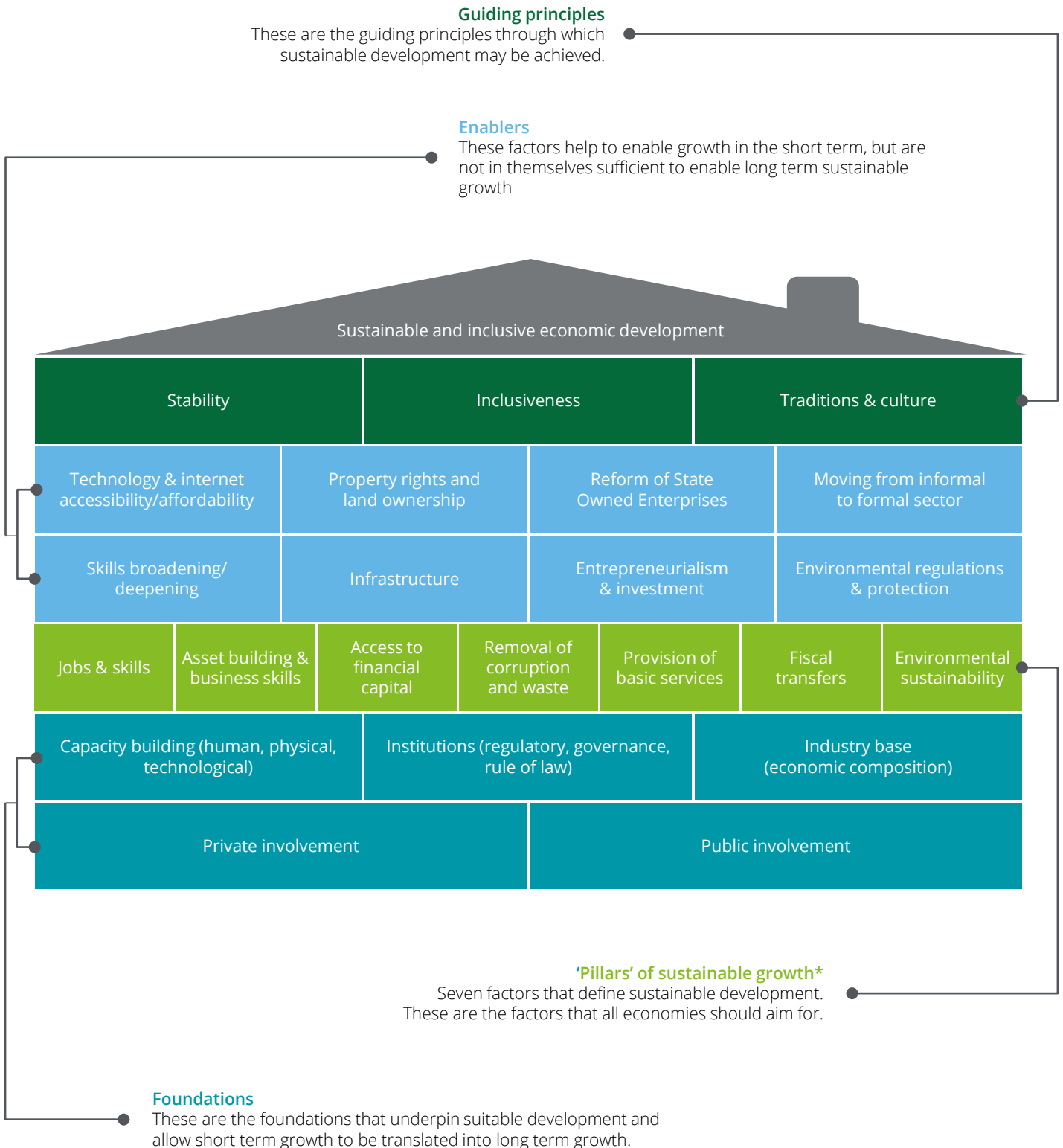
Source: PNG Budget 2017

---

Sustainable growth requires all citizens to be able to participate in and benefit from that growth

---

**Figure 1: A contextual model of sustainable economic development**



\* Based on the World Economic Forum's 'Inclusive Growth and Development Report 2015'

A welcome focus of current policy is in enhancing the foundations of sustainable growth – the capacity, the institutions, and the industry base.

The Small and Medium-sized Enterprises (SME) policy (2016), for example, aims to develop the requisite policy and institutional factors to enable small to medium enterprises to establish and flourish. Similarly, the new National Employment Policy (2017) has the overarching objective to contribute to decent employment growth.

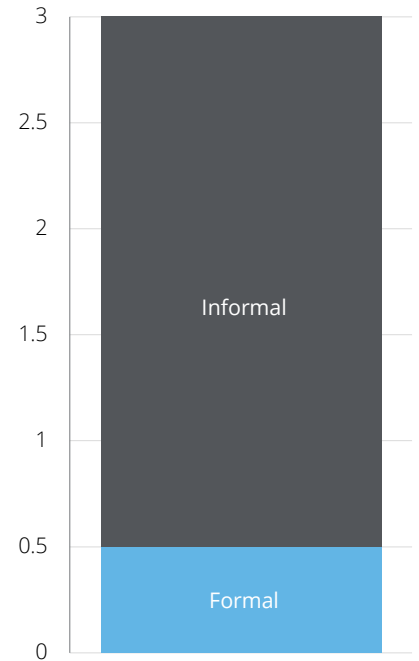
Arguably the most important ‘foundation’ is capacity building. Without local capacity, it is hard to see how any short term growth enablers will be sustainable.

Looking at PNG’s neighbours, the significant growth that has been achieved in the Asia Pacific region over the last 50 years is due in large part to the investment in quality education, and therefore development of high levels of human capital, in addition to the freeing up of labour markets. Located between East Asia and Australia, PNG is well positioned to take advantage of this regional growth. To fully capitalise, however, the country will need the necessary human capacity.

Therefore this report focusses on human capacity. There are four key factors which provide PNG with tremendous opportunity in developing human capacity. First, it is estimated that some 2.5 million people work in the informal economy, compared to only around 500,000 in the formal sector. Transferring even a modest share of those in the informal sector to the formal sector would create considerable economic gains, in terms of productivity and tax revenue. Second, PNG has an extremely large and growing young population with over 40 per cent of the population under the age of 15 and thus expected to enter the labour market in some form (be it formal or informal) within the next decade. Third, women remain underrepresented in the labour force, making up an estimated 27 per cent<sup>1</sup>. For an economy to thrive, women must be given the opportunity to excel.

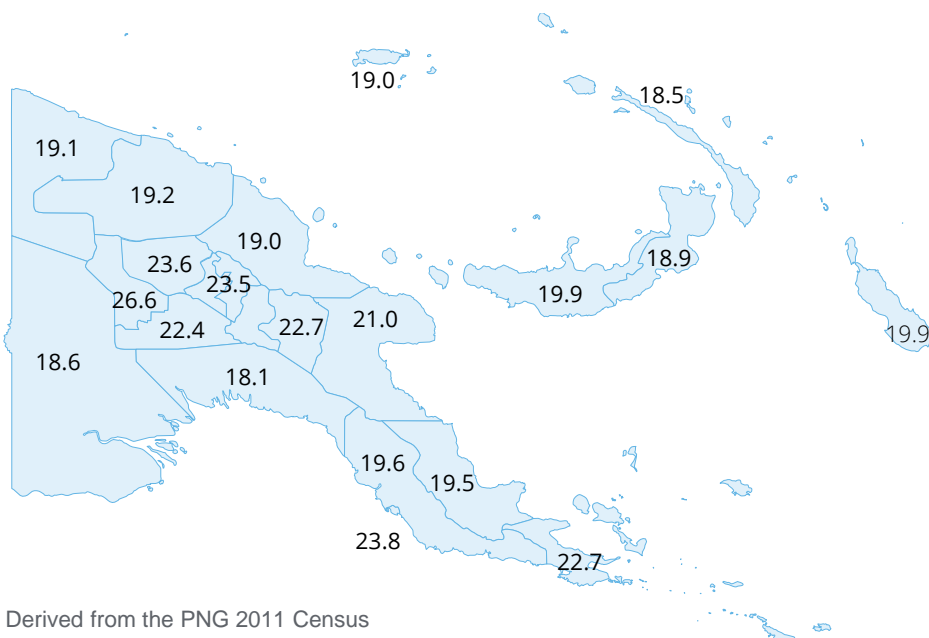
And finally, PNG is rich in culture and social diversity. This diversity, when fused and endowed with sufficient capacity, will be able to spur innovation, creativity and problem solving.

**Chart 2: Formal and informal employment in PNG (million)**



Source: Jones and McGavin 2015

**Figure 2: PNG median age, by province**



Derived from the PNG 2011 Census

**Figure 3: Informal employment across PNG**



<sup>1</sup> Jones and McGavin, *Grappling afresh with labour resource challenges in PNG*



Against this backdrop Deloitte and the UNDP joined forces to ask a simple question – in order to fulfil the land of opportunity, how do we grow employment in PNG? It was soon agreed that to be able to answer that question, more information was required.

It was therefore decided to conduct a survey of employers in PNG. By focussing on the barriers businesses face in expanding their employment base, and by identifying the skills they require in order to grow their business, it is hoped that this report will provide a useful information base. The aim of this base is ultimately to allow us to return to our original question: how do we grow employment in PNG?

It is Deloitte's and the UNDP's collective belief that realising PNG's many opportunities will require a collaborative and concerted effort by all stakeholders to ensure that the foundations for sustainable economic growth are in place. We hope that this report provides further impetus for such collaboration to take place.

**Figure 4: Mechanics students from the Australia-Pacific Technical College**



Students at the Australia-Pacific Technical College. The college trains approximately 300 plus students a year in a range of subjects from fashion to catering to engineering. The survey found blue collar businesses are generally male orientated. The college is helping challenge these gender roles.

# The Sustainable Development Goals

In September 2015, Heads of State of 193 countries adopted the 2030 Agenda for Sustainable Development which provides a framework for goals relating to five key themes of people, planet, prosperity, peace and partnership.

The Agenda includes 17 Sustainable Development Goals (SDGs) and 169 targets. These outline quantitative and qualitative objectives across economic, social and environmental dimensions that are to be achieved over the next fifteen years.

Having endorsed the Agenda, the Government of Papua New Guinea is tasked with developing a comprehensive programme of implementation.

The private sector, along with civil society and other development groups, will be a key ally in helping the country translate the new development agenda into practical results.

## The 17 Sustainable Development Goals



**PNG journalists championing the 17 Sustainable Development Goals**  
© Assel Tleof/ UNDP PNG

193 countries adopted the 2030 Agenda and the 17 Sustainable Development Goals

### How this survey can contribute to achievement of the sustainable development goals



Ensure that all men and women, particularly the poor and the vulnerable, have equal rights to economic resources



Equal access for all women and men to affordable and quality technical, vocational and tertiary education

Increase the number of youths and adults who have relevant skills, including technical and vocational skills, for employment, decent jobs and entrepreneurship



Ensure women's full and effective participation and equal opportunities for leadership at all levels of decision-making in political, economic and public spheres



Promote development-oriented policies that support productive activities, decent job creation, entrepreneurship, creativity and innovation, and encourage SMEs

Achieve full and productive employment and decent work for all women and men, including for young people and persons with disabilities

By 2020, substantially reduce the proportion of youth not in employment, education or training

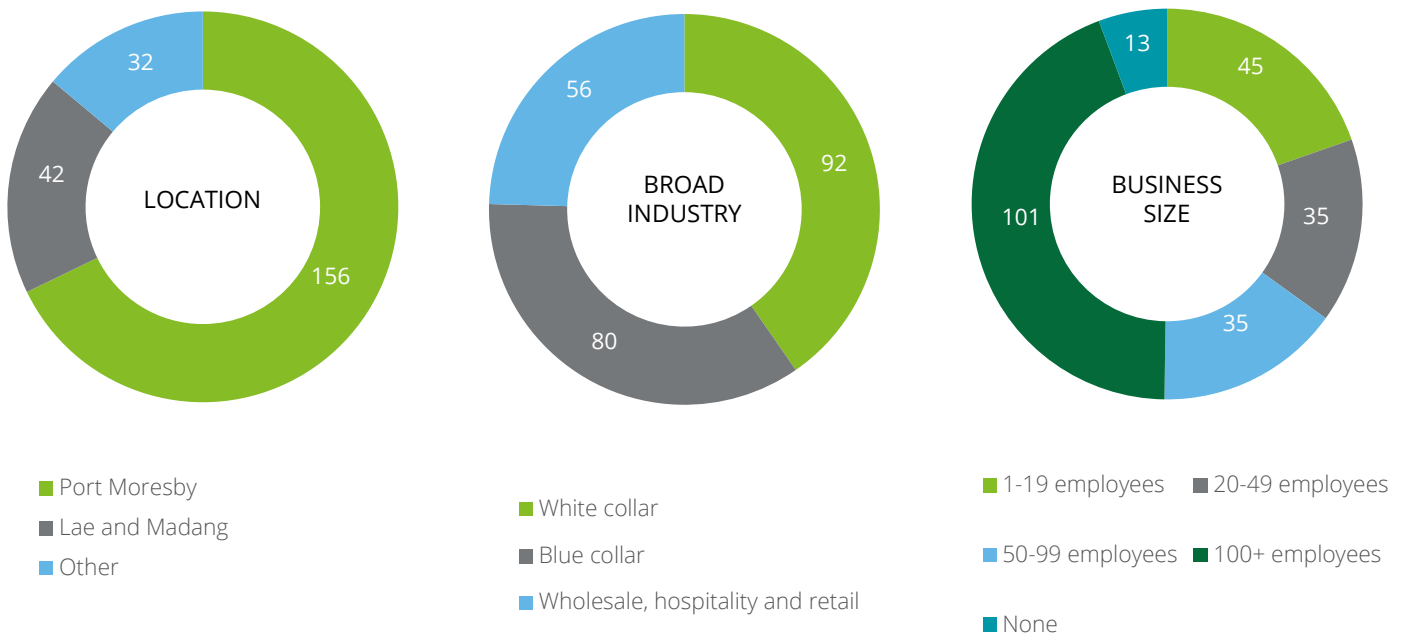
## 2. The survey

The issue of skills shortages in PNG is well known. What is less well-known is the specific skills the business community needs in order to grow their businesses. This survey is about filling that information gap for the benefit of policy makers, the business community, and ultimately the PNG labour force. In particular the survey looks at:

- **Hiring intentions** – which businesses are hiring, in which industry and where?
- **Hiring barriers** – which factors prevent businesses from hiring, and to what extent?
- **Hiring needs** – which skills do businesses have the most difficulty in recruiting?

The survey was conducted in late 2016 through the support of several chambers of commerce, particularly Port Moresby, Lae and Madang. In total, over 230 responses were received from across the country, representing a broad mixture of location, industries and business size.

**Chart 3: Survey responses by location, industry and business size**



## 3. Key findings

### CURRENT HIRING INTENTIONS

---

51%

of businesses are currently hiring.

60%

of businesses do not expect their headcount to increase in 12 months' time.

### BUT

---

38%

of firms that are hiring are hiring because of staff turnover.

### WHAT STOPS EMPLOYMENT FROM GROWING?

---

61%

of businesses report less than half of their staff is female.

83%

of businesses say skills shortages impeded hiring.

### 3.1 A tale of two economies – white collar vs. blue collar, Port Moresby vs. the rest of PNG

PNG has seen incredible growth in recent years. The capital, Port Moresby, now has an abundance of restaurants, hotels, and entertainment venues which all cater to an expanding middle class. This not only provides direct employment opportunities for many Papua New Guineans, but it also adds to the general appeal of Port Moresby to qualified workers. As little as five years ago there were only a handful of retail or dining options, but today there are entire precincts, with more development in the pipeline.

On the surface, PNG's labour market appears to be developing healthily. Just over half of businesses surveyed reported that they are currently hiring, and in Port Moresby that share is higher still, at 55 per cent.

However, these headline figures belie considerable variations across industry and location. The share of blue collar businesses looking to hire is nearly 20 percentage points lower than the corresponding share of white collar firms – 42 per cent compared to 60 per cent. The same can be seen on a locational basis – some 61 per cent of white collar firms in Port Moresby are currently hiring at the moment, compared to 49 per cent of blue collar firms.

But the latter figure is itself considerably more than the share of blue collar firms in Lae that are hiring, which was a mere 28 per cent. More broadly, while 55 per cent of businesses in Port Moresby were looking to hire in the next 12 months, only 36 per cent of businesses in Lae and Madang reported such an expectation.<sup>2</sup>

In travelling to Lae for this research, it became clear that many Lae based respondents felt somewhat left behind by the construction boom occurring in Port Moresby. One major firm in Lae that we spoke to had seen their headcount reduce from around 1,000 staff a few years ago to only around 300 today. In short, the results tell us that both region specific and industry specific factors affect hiring intentions. At present, Port Moresby based businesses are unambiguously more inclined to hire than businesses based outside of Port Moresby, and white collar businesses are unambiguously more inclined to hire than blue collar businesses.

---

Across all regions, white collar businesses show the strongest hiring intentions.

---

Across all industries, businesses in Port Moresby show the strongest hiring intentions.

---

A common sentiment from respondents in Lae was that recent investment is all 'POM' focussed leading to a tale of two cities in the results.

---

<sup>2</sup> Insufficient responses were received from Lae meaning we are unable to present Lae results individually. Results from Madang show broadly the same trend as those from Lae.

**Figure 6: View looking over the port and the financial centre of Port Moresby**

Port Moresby has seen a steady increase in investment in recent years following the construction phase of the LNG project

### 3.2 Hiring does not always translate into higher employment

Nearly 40 per cent of businesses who reported they were hiring staff do not expect their headcount to increase over the next 12 months. In other words, 40 per cent of staff recruited today will make no net addition to headcount in 12 months' time, as they are either replacing staff who have already left (or are intending to leave in the next 12 months), or they themselves are expected to leave within 12 months. This can broadly be considered as PNG's turnover rate.<sup>3</sup>

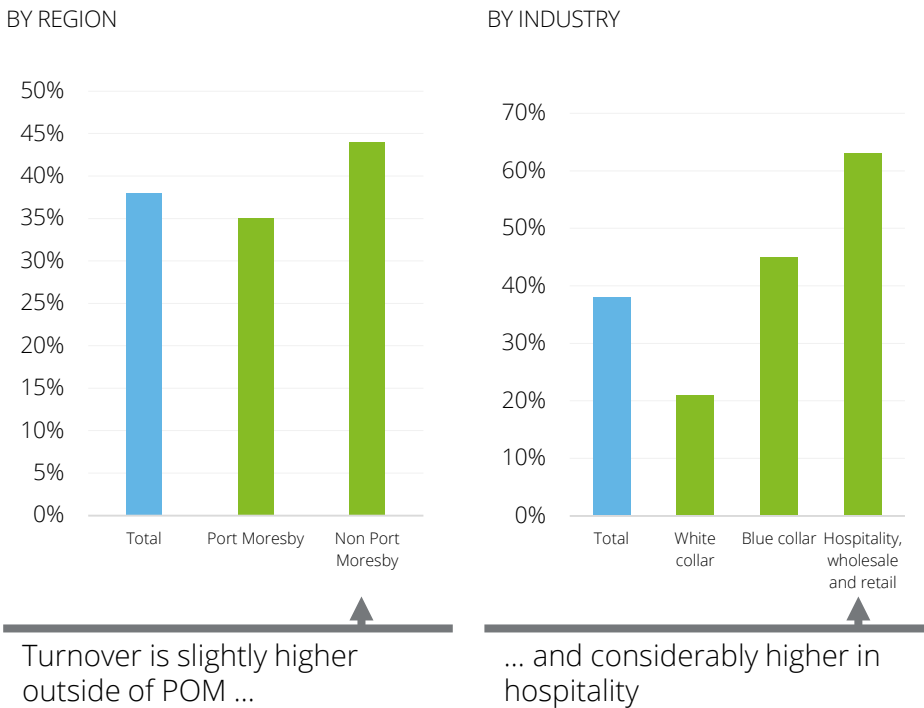
To be clear, some degree of turnover is inevitable, and in fact desirable in any organisation – new people bring new ideas and fresh thinking which keeps businesses agile and adaptable in changing environments.

But high turnover rates are a considerable cost to business and to the broader economy. Businesses need to invest resources into hiring staff, and having to repeat the process reduces capacity and incentive to hire new staff.

The survey estimated a nationwide turnover rate of *38 per cent*. This compares with an estimated turnover rate in Australia of *16 per cent*.

<sup>3</sup> This is not the 'official' way of calculating turnover, but it is a good proxy for our purposes.

**Chart 4: Estimated turnover rate, by region and industry**



High turnover rates also affect the willingness of companies to invest in staff training, due to the concern they will not be able to retain the staff for long enough to capture the gain. This was confirmed by training institutes that noticed a preference by some companies to recruit already qualified individuals rather than invest in developing one. This behaviour can cause a race to the bottom, whereby incentives to delay or simply not provide training at a firm level can lead to sub optimal outcomes at an economy wide level.

It is difficult to estimate an 'optimal' turnover rate, it is clear that a rate of 38 per cent imposes considerable costs on the economy. By way of comparison, the Australian Human Resources Institute estimated that in 2015 the all industry average turnover rate for Australia was 16 per cent.

The implication is clear – consideration needs to be given not just to growing employment, but also to reducing turnover rates.

### 3.3 Women remain under-represented in the labour force

Global trends suggest that female shares of the labour force have largely remained stagnant since the mid-90s, at about 41 per cent in East Asia and the Pacific<sup>4</sup>. The latest estimate for PNG, from the 2011 Census, is 27 per cent, which means women remain highly disadvantaged when they seek formal employment. Economically, it also means a great deal of potential productivity in the labour market is lost.

Furthermore, occupational segregation remains high globally, with men overrepresented in senior positions, as well as blue collar jobs, with a much higher average pay than women. According to a 2015 study by the Institute of National Affairs, this is no different in PNG, where women are most represented in education, public administration, financial and insurance activities (with about 40 per cent), whilst they are hardly represented at all in construction, mining, agriculture, and transportation<sup>5</sup>.

High turnover rates reduce the incentive for companies to hire and train staff, creating a 'race to the bottom'

<sup>4</sup> ILO. Women at Work, Trends 2016.

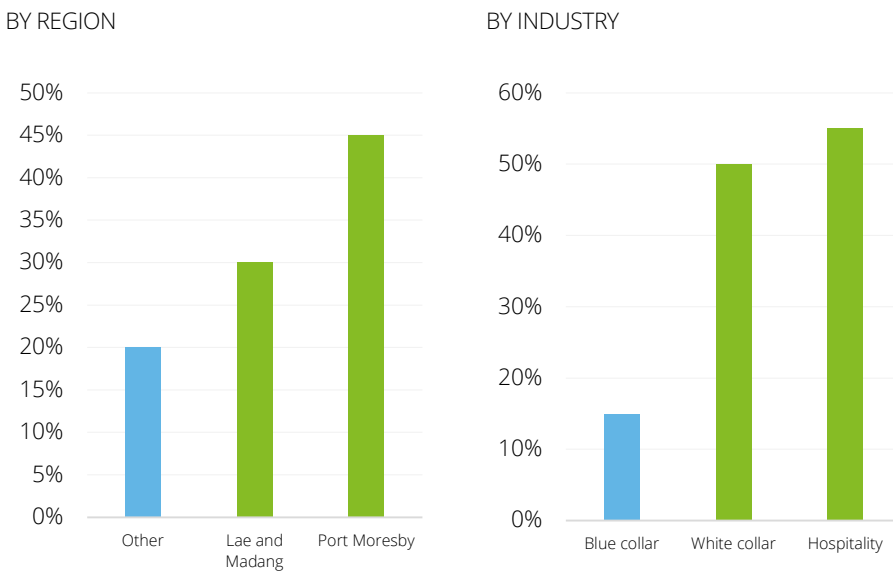
<sup>5</sup> Jones and McGavin, 2015.

This survey largely follows the same pattern as the previous findings. 61 per cent of businesses have reported that less than half of their staff is female, with 26 per cent of respondents indicating females account for less than a quarter.

Notably, the sectoral differences are stark; unsurprisingly perhaps, the wholesale, hospitality and retail sectors hold by far the most female representation, while blue collar businesses are much more male oriented.

Finally, there is a significant yet milder correlation between the share of women in formal employment and the degree of urbanisation. Port Moresby has the highest share, then the smaller cities of Lae and Madang, followed then by the other less urbanised regions.

**Chart 5: Businesses in which females account for 50% or more of workforce**



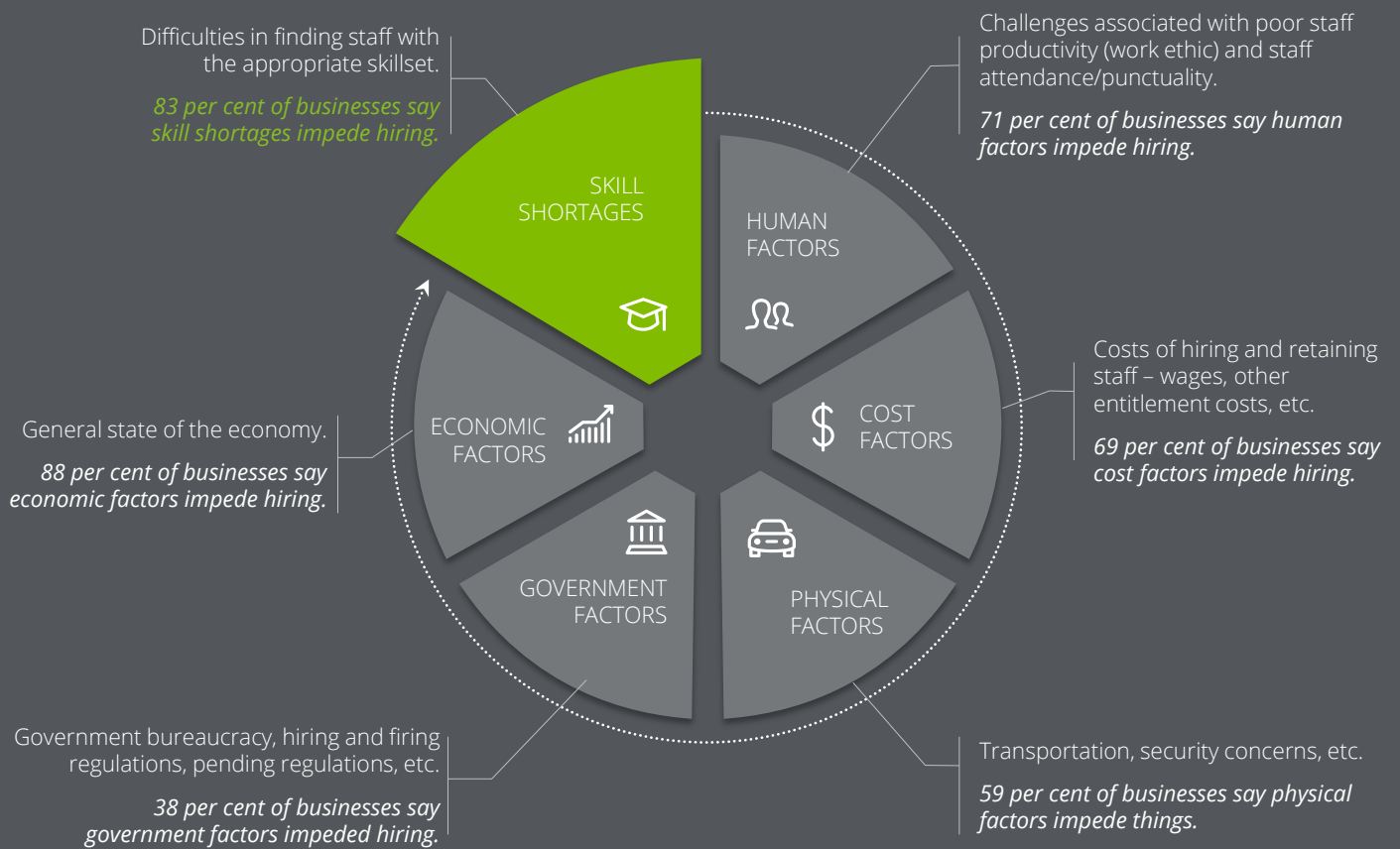
**Figure 7: According to Gia Puri, who lives on a nearby island and travels to the mainland to sell her fish, financial training has supported an increase in income.**





# 4. What stops firms from hiring?

Behind general economic conditions, skills shortages are the single biggest factor that impedes hiring.



#### 4.1 Economic factors

With economic growth decelerating by over ten percentage points in the space of a year, it is no surprise that general economic conditions rate as the single biggest factor reducing a firm's ability (or desire) to hire more staff.

More surprisingly, however, is that this is not the case for all sectors. In the hospitality, wholesale and retail sectors, economic factors ranked third- behind skills shortages and human factors. This does not mean that economic factors are unimportant; it merely reflects the extent to which other factors precede.

The rest of this section will show that, while economic growth is certainly a necessary condition for employment growth, it is not by itself sufficient – structural and frictional issues in the labour market exist which will also need addressing in order to grow employment.

#### 4.2 Skill shortages

The survey asked respondents the extent to which difficulties in finding staff with appropriate skills reduced their willingness or ability to hire more staff. Across all businesses surveyed, over 80 per cent considered skills shortages to be a barrier to expanding headcount.

Across both the white collar and blue collar sectors, the share of businesses indicating some degree of difficulty in finding skilled staff was 79 per cent.

Crucially, 93 per cent of businesses in the wholesale, hospitality and retail sectors indicated that skills shortages impact their hiring decisions, with skill shortages rated as the number one factor affecting recruitment. In an industry that is a barometer to changes in the economic cycle, the fact that skills shortages rate higher than the economy is indicative of a clear skills gap in the sector.

Unsurprisingly, skill shortages were far more pressing concerns outside of major population centres such as Port Moresby, Lae and Madang. This is not surprising, since with a smaller labour market, businesses in regional centres will always find it difficult to locate appropriately skilled staff. The issue of labour shortages has long been recognised as a severe impediment to rural communities' growth in Australia, and PNG is no exception.

Over 80% of businesses surveyed consider skill shortages to be a barrier to expanding headcount

**Figure 8: Skill shortages are rated as the number one factor affecting recruitment in the wholesale, hospitality and retail sectors.**



There are inadequate skills training for industry type, and little formal training provided.

(Survey respondent)

Being a small town with limited employment opportunities, most job seekers would seek employment in the larger centres. Thus, we are left with a very small pool of skilled people to choose from.

(Survey respondent)

#### 4.3 Human factors

Improving the ability of employers to expand their headcount, through broad ranging economic growth, alleviation of skills shortages and other means, is only one aspect of the picture.

The survey also explored the extent to which 'human factors' – namely, poor staff productivity and poor attendance – affected willingness to hire more staff.

Overall, some 71 per cent of employers indicated that human factors reduce their willingness to hire 'to some extent' (i.e. either a small extent or a large extent). By industry group, the results were as follows:

- 84 per cent of respondents from wholesale, hospitality and retail
- 69 per cent of respondents from white collar industries
- 65 per cent of respondents from blue collar industries.

#### 4.4 Cost and physical factors

In many respects the cost of doing business is directly linked to skill shortages. The need to hire expatriate staff, particularly at the management level, adds a considerable cost burden to employers, since these workers command not only higher than average salaries, but other entitlements, such as accommodation, vehicle and living allowances. Overall, some 69 per cent of businesses indicated that cost factors inhibit their hiring activity.

Physical barriers, such as security and transportation requirements, also add considerably to the cost of hiring staff. Safety issues in many PNG communities necessitate employer funded transportation simply so staff are able to get to work. Fifty-nine per cent of businesses indicated that such factors inhibit hiring, and notably, 68 per cent of hospitality businesses indicated physical factors as an impediment to hiring.

Meanwhile, security concerns can only be alleviated through improvements in public safety, an issue which is well discussed and understood within PNG's business and policy circles.

#### 4.5 Government factors

Government factors were considered through three variables – bureaucracy (e.g. hiring and firing regulations), pending regulations (e.g. policy uncertainty), and government charges/taxes.

Across all industries less than half of respondents indicated that government factors presented a barrier to their hiring decisions. The upshot is that businesses across all sectors need to take responsibility for their own hiring. That said, greater clarity over current and pending government regulations would undoubtedly prove beneficial.

---

Ability to hire and willingness to hire are two sides of the same coin. Policies that address one factor without the other will be unlikely to be successful

---

We are not going to employ more people when we don't know what the regulator is doing

(Survey respondent)

We can train staff so long as they're honest and (have a) positive attitude to work.

(Survey respondent)

Figure 8: A student learning to weld



During the PNG LNG construction there were only a few trained welders in the country.

This meant that many had to be sourced from overseas to complete construction.

# 5. Which skills are most in need?

The previous chapter reveals that skills shortages is one of the most severe barriers to hiring for businesses in PNG.

It may be tempting to conclude that as the country continues to grow, the skills deficit will lessen. However, the survey has identified two key cautionary notes to that assertion. Firstly, and as noted above, human factors are deemed nearly as pertinent as skills shortages in the list of impediments to employment. Secondly, as the discussion below highlights the survey has identified a number of discrete skill gaps which, if not addressed, could ultimately be a considerable barrier for ongoing and inclusive development.

## 5.1 Identifying individual skills gaps

This section highlights differences in recruitment difficulties per professional category. The classification used in this report can be found in table 1.

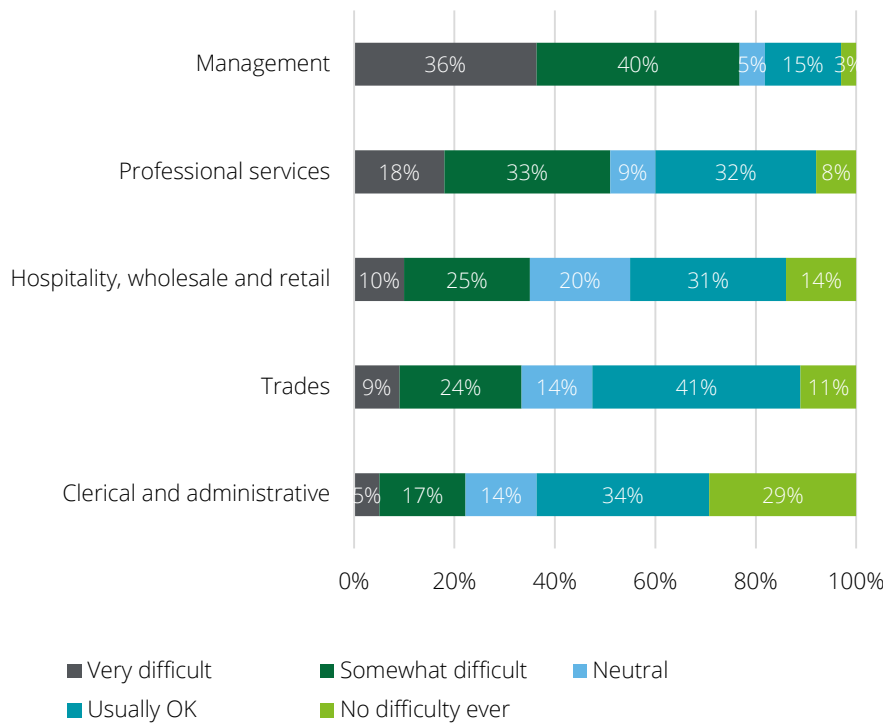
**Table 1: Occupational classification**

Broad occupation	Detailed occupation
<b>Management</b>	<ul style="list-style-type: none"> <li>• Executives</li> <li>• HR managers</li> <li>• General managers</li> </ul>
<b>Professional services</b>	<ul style="list-style-type: none"> <li>• Accountants and Lawyers</li> <li>• Administration professionals</li> <li>• Training Professionals</li> <li>• Other Professionals</li> <li>• IT Professionals</li> </ul>
<b>Hospitality, wholesale and retail</b>	<ul style="list-style-type: none"> <li>• Food trades</li> <li>• Waiters</li> <li>• Shop assistant</li> <li>• Kitchen hands</li> </ul>
<b>Trades</b>	<ul style="list-style-type: none"> <li>• Site Supervisors</li> <li>• Construction trades</li> <li>• Metal trades</li> <li>• Electrical trades</li> <li>• Automotive trades</li> <li>• Machine operators</li> <li>• General maintenance workers</li> </ul>
<b>Clerical and administrative</b>	<ul style="list-style-type: none"> <li>• Security Guards</li> <li>• Secretaries</li> <li>• Bookkeepers and payroll officers</li> <li>• Drivers</li> <li>• Cleaners</li> </ul>

The survey has identified a number of discrete skill gaps which, if not addressed, could ultimately be a considerable barrier for ongoing and inclusive development

Chart 6 shows the extent of recruitment difficulties for each occupational category. As the skill requirements for a position increase, so too do the difficulties associated with hiring Papua New Guinean staff.

**Chart 6: Extent of recruitment difficulty, based on occupations**



The more specialised and highly skilled an occupation is, the more difficult it is to find that occupation in PNG.

Clear skills gaps exist for managerial roles, professional workers (lawyers, accountants, etc.) as well as food professionals (such as chefs).

The most difficult category to populate with local staff is **management**, which generally requires a university degree and many years of relevant working experience. The fact that managers require not just industry specific skills, but also general skills which often are best learned through many years' experience, makes it even more difficult.

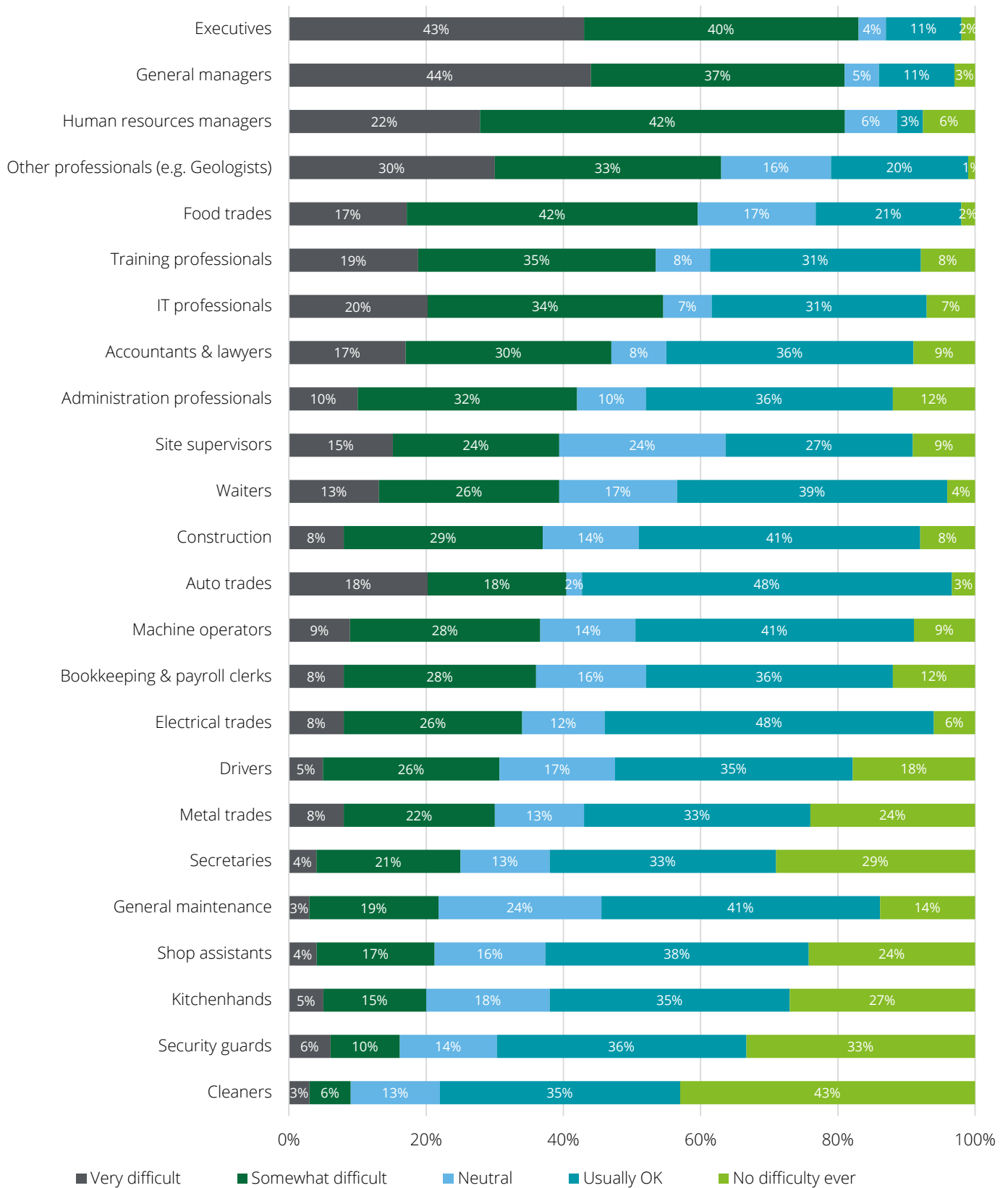
The **professional services** category requires medium-high skill levels. The distribution of recruitment difficulties across these professions is relatively constant, and professionals are consistently ranked easier to source than managers. One probable reason for this is that the professional services occupations tend to be focussed on individual specialities (e.g. accounting or engineering) rather than on a broad skill set.

The **hospitality, wholesale and retail** category, consisting of food trades (chefs), waiters, shop assistants and kitchen hands, shows a less uniform distribution between professions, consistently relating again to the skill requirements of a particular occupation.

**Trades occupations**, which range from site supervisors and specialised tradespeople, to general maintenance workers, are generally featured toward the lower end of Chart 7.

The **clerical and administrative** category generally occupies the bottom part of Chart 7. It is particularly easy to hire cleaners and security guards, whilst jobs with a broader job description and higher skill requirements, such as drivers, bookkeepers and secretaries, are a little more difficult to fill. Drivers, for instance, have to be well presented, articulate, and are often required to do administrative work and maintenance as well, which may explain why nearly a third of businesses report some difficulty in hiring.

Chart 7: Extent of recruitment difficulties, detailed occupations



### 5.2 Developing a national skill needs index for PNG

Finally, it is useful to further clarify the relative skills needs per category, in order to understand which categories are most difficult to source, and thus require our particular attention. Utilising the sum of all responses, the below 'skill needs index' has been compiled, which considers the ratio of those indicating that they experience difficulties in hiring a certain profession, to those who indicate that they do not (and do not usually) experience difficulties.

A ratio of one means that the number of firms that do have trouble hiring a particular skill locally matches the number of firms that do not. To identify those skills for which a disproportionate share of firms have trouble sourcing it locally, we set the benchmark at one – in other words, those skills which more than half of firms identify as being difficult to find.

**Chart 8: PNG skill needs index**



We selected 23 common occupations and asked respondents to rate how difficult it is to source each occupation locally

The PNG skill needs index has been compiled by calculating the ratio of those indicating that they do experience difficulty hiring a particular occupation, to those who indicate that they do not.

A ratio of 1 means the number of businesses that do have trouble hiring a particular skill matches the number that do not.



## 6. Practical implications of skill shortages

### 6.1 The 'low hanging fruits' – short term skills opportunities

The general finding that the higher the skills requirement for a particular position, the more difficult it is to source that position locally, is not a surprise. Indeed, it is consistent with the experience of many other developing countries around the world. As a country develops, so too does its ability to fill ever more jobs from the local labour market.

In other words, many of the skills identified to be 'most' in need (according to the skill needs index above) – managerial and executive positions – will likely remain in need for at least the foreseeable future. But the survey has also identified a number of short term skills opportunities which could begin to be addressed in the near term:

- **Food trades (e.g. chefs, butchers, bakers) & waiters** – Over the next year PNG is likely to see a strong demand for hospitality workers. In Port Moresby alone there is likely to be at least one large scale hotel opening, not to mention restaurants and cafes gearing up for APEC related events in 2018. Despite this, food trades and waiters both see an index value greater than 1 (meaning more businesses have difficulty hiring those skills locally than not). Investing in hospitality training now (e.g. chefs and waiters) would not only assist PNG in its preparations for and hosting of APEC in 2018, but it would also provide considerable numbers of job opportunities to Papua New Guineans interested in employment in hospitality.
- **Site supervisors and construction trades** – Although these skills see an index value of marginally less than 1 – meaning a slight majority of firms indicate they do not have difficulty hiring these skills - both of these categories are fairly broad, meaning there is likely to be discrete skills gaps within the construction sector. This is something that a more comprehensive skill needs list along the lines recommended in chapter 7, or alternatively a separate analysis focussing only on the construction sector, could address.
- **IT professionals** – Virtually every business needs an IT professional in one capacity or another. Although the provision of tertiary IT education takes time to provide, some vocational training in IT fields could be provided in the short term to ease some of the difficulties being experienced, with a view towards longer term provision of adequate tertiary spaces.

**Figure 9: focussing on immediate skills gaps, such as food trades and construction trades, presents a near term opportunity to grow employment in PNG**



# Case study – transitioning from the informal sector

## From the informal sector ...

In PNG the informal sector makes up approximately 90 per cent of employment. The informal sector ranges from roadside vendors to stalls displaying a good range of products and entrepreneurialism. The latter type could be considered as being on the cusp of crossing into the formal market.

If supported to make this transition they will be able to invest, expand and grow their employment.

## ... To the formal sector (Dial-a-lunch)



I started my business by asking myself what are my innate skills, and with K50 I bought some cooking utensils and started my business



Prior to 2008, Rita Jaima Paru (top left) operated an informal catering business from her kitchen, but with the help of the Australian Government she was one of the first students to win a scholarship to study catering at the Australia Pacific Technical Collage (APTC). Since her training, Rita has made the transition to the formal sector and now runs a company registered with the Investment Promotion Authority and the Internal Revenue Commission employing five people, four fulltime female cooks and a male driver. Rita was the recipient of the 2016 Westpac Outstanding Women (WOW) Award.

One of her challenges has been to find the right staff that are able to work to the tight deadlines. Once found she has had to bring them up to the necessary level by training and passing on her skills to her staff.

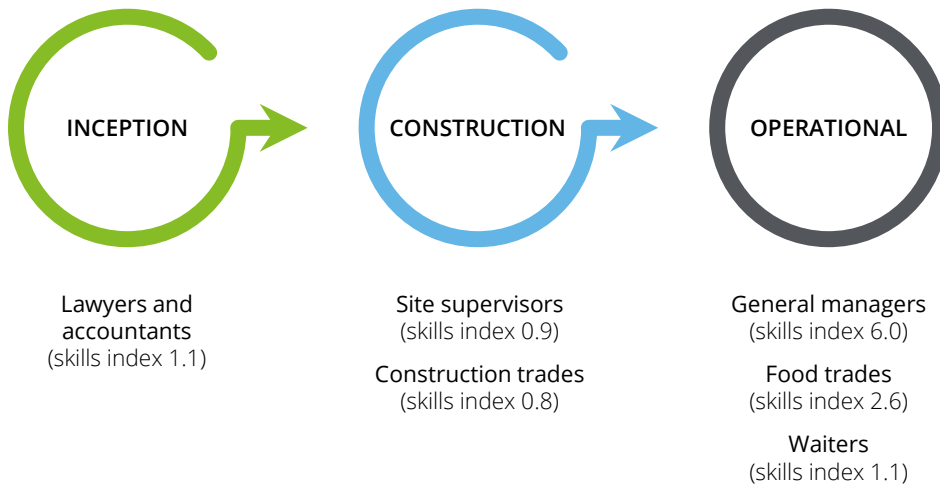


Becoming a formal business has really helped me access finance, clients, grow my assets, and grow my business. I now hire 5 people.

## 6.2 Starting a business despite labour shortages

Since skills shortages make it difficult to hire more staff, it follows that they also make it difficult to start a business.

Consider a simplified example of establishing a greenfield hospitality establishment. The project consists of three broad phases – an inception phase, a construction phase, and an operational phase.



Through each phase, discrete skills are required which scored close to or higher than 1 on the skill needs index presented above<sup>6</sup>. However, the difficulty lies not just in finding the skills – it's also finding the skills at the right time. Construction cannot start until lawyers and accountants have finalised the paperwork and conducted any required due diligence. And the operational/opening phase cannot start until it's built.

And, of course, that says nothing of the number of workers required. A major project will need more than one lawyer in the inception phase, and will often need several hundred construction workers during the construction phase.

Larger firms can get around these difficulties by utilising imported labour. That's how major projects are completed not just in PNG but throughout the world. Although improvements can be made, such as ensuring only those skills genuinely in shortage locally are imported (this will be discussed in the following section), by and large, the importation of skilled labour is a necessary and important way for PNG's development task to continue.

But not all businesses can afford to import labour. Many businesses are limited to the local labour market and the challenges this entails. A further challenge for those businesses is to find a 'jack of all trades', therefore, someone who can complete multiple tasks.

That businesses have limited resources to hire new staff, and therefore require multi-skilled individuals able to conduct a number of tasks, is indeed considered the biggest obstacle to expansion, according to one small business we spoke to.

Of course, this is a broader challenge. Drivers at large firms, for example, not only need to be able to drive, but they also need to be well presented, articulate, and able to perform clerical and administrative duties as well. (This may be why some 30 per cent of businesses indicated that they have difficulties sourcing drivers).

While larger firms can get around skills shortages by importing labour, small firms are more constrained by the local labour market.

I believe we have a good skill set of employees, however they need to be multi-skilled to perform other roles  
(Survey respondent)

I am a small business, I need staff that can multi-skill, do admin, filing, reception, and general support work. It is hard to find people who can do some of everything.  
(Survey respondent)

<sup>6</sup> Meaning the number of firms indicating that they have difficulty finding the particular skills is greater than or equal to the number of firms that do not experience difficulty hiring those skills

### 6.3 Macro-economic implications of skills shortages

The example above considered one project in isolation. In reality of course, there is not merely one project being implemented at any one time. At the time of writing there are nearly twenty oil and gas projects, four mining projects, a major hotel project, and a major convention centre all in the pipeline.

A flurry of simultaneous investments puts a strain on any country's labour market. The high demand for workers in certain sectors generates wage inflation across the board, which then affects the ability of firms in other sectors to find appropriately skilled (and affordable) staff.

The upshot is that, while sectors tied to the resources boom prosper, other sectors find themselves left behind, and a two (or many) speed economy begins to develop.<sup>7</sup>

In PNG, these issues are magnified by the small size of the country's labour market. Say for example that a single mining project required 1,000 workers and was able to proceed with a staffing mixture of 80 per cent PNG nationals and 20 per cent expatriate staff. If that first mining project exhausts the supply of available workers, all others (including other mining projects) are left with a choice between higher wages or importing workers.

It is easy to see how a smaller labour market affects the ability for PNG to truly harness the growth potential of large scale investments. Returning to the sustainable development 'house' that was introduced in Chapter 1, large scale investments are great short term growth 'enablers', but they require improvements in human capacity to be converted into long term, sustainable growth drivers.

### 6.4 Importing skilled labour

When a business struggles to find labour, that labour can (and should) be imported in the short term until the local labour force has developed sufficient skills, through training or practical experience, to alleviate the original shortage. Mobility of labour and other factors of production is the essence of globalisation, and is a key way for PNG to achieve its development goals.

Enormous gains from trade can be seen through the importation of highly specialised workers to work in the mines. This is not just unique to PNG either – witness, for example, the number of fly-in-fly-out workers heading to Australia's Pilbara region every day.

However, the gains from trade are maximised when the opportunity cost of issuing a skilled visa is minimised. It is important to remember that every time an expatriate is issued a visa, it potentially lessens the amount of visas available to other expatriates.

By ensuring that policymakers have the most up to date information when making decisions regarding the granting or otherwise of skilled visas, we can ensure that long term sustainable growth opportunities are maximised for the benefit of all Papua New Guineans.

It is often argued that analysing skilled visa data provides an understanding of skills shortages in the country. This is true to an extent. But if a business imports a worker when that worker could have been found in PNG, then clearly the skilled visa data does not paint as accurate a picture of skills shortages as some might argue.

---

By providing information about the skill requirements of local employers, the survey hopes to optimise the allocation of skilled visas

---

<sup>7</sup> This does not only happen with wages. In Australia's mining boom, for example, strong demand for mineral exports led to unprecedented appreciation in the exchange rate, which affected the competitiveness of other sectors (manufacturing, for example).

# Case study – Next of Kin, a PNG success story

Next of Kin is an event management company based in Port Moresby, run by husband and wife team, Jalena and Fred. The company has grown into a 32 person operation, supporting large events such as the visit of Prince Charles and the UB40 concert.

“ Most of our staff have an average education of grade 10 and are recruited from the surrounding streets. Working in set management, sound engineering and visuals. Combined our workers support a family network of around 150 people.

” It is a commitment to our staff, getting the best out of them that keeps our turnover down.

For instance, Josh, the company's sound engineer, has grown from helping as a roadie to being a sound engineer.

“ Competition has grown in this sector. To keep at the top requires consistency in quality and quantity.

” In addition to hard skills, soft skills are very important. As we usually hire young adults with a school education, what would really help us to grow is for them to have more refined skills in trouble shooting, general comprehensive and applied skills taught as part of the curriculum in school.

” At the moment we have to teach ourselves and our staff, through Google and learning by doing, and where possible accessing support from a supplier in Singapore. A national training programme would really help, to improve services and ensure we are providing a world class service. We would like to bring over a trainer in lights, visuals and sound engineering, but the cost is just too high for ourselves. If another organisation would like to partner with us... that would be great.



# 7. Next steps: how to grow employment in PNG?

How do we ensure that Papua New Guinea experiences not only economic growth, but growth that is inclusive and sustainable? Addressing skills gaps will ensure that, as GDP grows, the Papua New Guinean workforce grows with it. Drawing together the findings from previous sections, we identify a number of key areas which, in our view, warrant further consideration.

This survey provides a key first step towards the development of a national skill needs list.

## **Broaden a national skill needs list**

This survey has provided a key first step towards the development of a comprehensive, holistic national skill needs list. Such lists are key policy support mechanisms which, if regularly updated, can inform policymakers and education providers alike of the skills that today's youth will need to enter tomorrow's workforce.

## **Review policies around foreign workers**

In the short term, the use of foreign labour is essential to the continuation of Papua New Guinea's growth and development agenda. However, in the long term, it is critical to ensure that only those skills for which there is no local equivalent are brought into the country. Developing a national skill needs list is a key first step in this regard.

## **Review education curricula**

Adapting and improving education is a key avenue through which to bring about skills development. It leads to the development not only of hard skills, but also soft skills that

will make it easier for people to continue learning and improving their own skills as they manoeuvre the Papua New Guinean job market.

Reviewing the educational curricula of today to ensure that they are aligned with the skill requirements of PNG employers – as identified from a holistic skill needs list similar to that provided here – will go a long way to ensuring that the workforce of tomorrow is endowed with these skills. This will ultimately increase not just the size but also the scope of the Papua New Guinean labour market.

## **Decrease job turn-over**

As identified in this report, finding the right skills is only half the challenge; the other is retaining them. High turn-over rates add an enormous cost to businesses by forcing them to continually hire and train new staff in a never ending cycle. Anecdotally, some survey respondents indicated that high turnover rates actually discourage them from hiring – why would a business invest in hiring if there was a good chance that a worker would leave in six months' time?

Of course, some degree of turnover is healthy. The challenge, then, is to ensure the turnover rate is sufficient to allow for ongoing creativity and change, yet low enough so as to not discourage businesses from hiring in the first place. One way to achieve this in the first instance would be to survey both workers and employers to ascertain the reasons for high turnover in different sectors of the economy.

## **Pay particular attention to women**

Like many other countries around the world, women remain underrepresented in formal employment in Papua New Guinea. This generates a considerable untapped resource in human capital development that, if harnessed, could create an almost immediate boost to the available labour supply.

This paper has identified areas of further research that, if addressed, will support ongoing growth of formal employment in PNG. Deloitte and the UNDP look forward to discussing these results with all stakeholders with an interest in supporting sustainable and inclusive development.

## **Grow regional employment by focussing on existing strengths**

The majority of Papua New Guineans live in regional areas and are primarily engaged in informal activities. While it will always be the case that major centres offer broader work opportunities, it will also be the case that not everyone desires to leave their home province. Thus employment creation needs to be focussed not just on a national level but also on a regional level.



Deloitte refers to one or more of Deloitte Touche Tohmatsu Limited, a UK private company limited by guarantee, and its network of member firms, each of which is a legally separate and independent entity. Please see [www.deloitte.com/au/about](http://www.deloitte.com/au/about) for a detailed description of the legal structure of Deloitte Touche Tohmatsu Limited and its member firms.

The entity named herein is a legally separate and independent entity. In providing this document, the author only acts in the named capacity and does not act in any other capacity. Nothing in this document, nor any related attachments or communications or services, have any capacity to bind any other entity under the 'Deloitte' network of member firms (including those operating in Australia).

#### **About Deloitte**

Deloitte provides audit, tax, consulting, and financial advisory services to public and private clients spanning multiple industries. With a globally connected network of member firms in more than 150 countries, Deloitte brings world-class capabilities and high-quality service to clients, delivering the insights

they need to address their most complex business challenges. Deloitte's approximately 200,000 professionals are committed to becoming the standard of excellence.

#### **About Deloitte Australia**

In Australia, the member firm is the Australian partnership of Deloitte Touche Tohmatsu. As one of Australia's leading professional services firms, Deloitte Touche Tohmatsu and its affiliates provide audit, tax, consulting, and financial advisory services through approximately 6000 people across the country.

Focused on the creation of value and growth, and known as an employer of choice for innovative human resources programs, we are dedicated to helping our clients and our people excel. For more information, please visit our web site at [www.deloitte.com.au](http://www.deloitte.com.au).

Liability limited by a scheme approved under Professional Standards Legislation.

Member of Deloitte Touche Tohmatsu Limited

© 2017 Deloitte Touche Tohmatsu



***Empowered lives.  
Resilient nations.***

UNDP partners with people at all levels of society to help build nations that can withstand crisis, and drive and sustain the kind of growth that improves the quality of life for everyone. On the ground in more than 170 countries and territories, we offer global perspective and local insight to help empower lives and build resilient nations.

Copyright © 2017 United Nations Development Programme (UNDP) in Papua New Guinea. All rights reserved.

The views expressed in this publication are those of the authors and do not necessarily represent those of the United Nations, including UNDP, or their Member States.

[www.pg.undp.org](http://www.pg.undp.org)