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Towards Safe Cities & Resilient Communities

13 & 14 SEPTEMBER 2018
IMPIANA HOTEL, IPOH, PERAK

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INITIATIVES DRAWN FOR LOCAL SKILLED CONSTRUCTION WORKERS IN MALAYSIA

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Abstract - High skilled human resources have become increasingly demanded and important by employers in Malaysia. However, it is become challenges in terms of the availability of local skilled labour to fulfil the vacancies in construction projects. Even though there are substantial numbers of graduates and trainees produced by the Technical, Vocational education and Training (TVET) but employers are still reliance on unskilled foreign labour to work in construction site. Therefore, the objectives of research to provides an overview of Malaysian construction industry and to identify the initiatives has been planned to encourage local skilled labour to enter construction labour market. The commitments of the government were not isolated supported with industries on this issue and the improvement and enhancement for the young generation are unlimited. Currently, construction sector is including under key contributors to the Malaysian economics with services, manufacturing, mining and quarrying and agriculture. A review from various published documents to the present has been used to provide a comprehensive summary of literature on initiatives to raise the participation of local skilled construction workers to works at the construction site. Primarily, the initiatives can be divide into three main categories such as fund, education and technology. Such result indicates that, the initiatives are injection of fund by government, transforming and rebranding Technical and Vocational Education Training (TVET) especially construction based training programmed and the usage of high technology such as Integrated Building System (IBS) to reduced dependency on unskilled foreign workers. The initiatives identified by this research will form a basis for future research on the Malaysian construction industry.

Keywords- construction, workers, initiatives, skilled labour

1 INTRODUCTION

Malaysian economy experiencing considerable progress in 2017 with year-on-year growth projected at 5.8%. Abidin (2017) stated the World Bank, based on simulations, predicted that Malaysian economy are on track to achieve the target. In fact, according to Malaysian Institute of Economic Research (MIER) analysis, Malaysia may even arrive at the high-income status as early as the first quarter of 2018. The consensus forecast for Malaysian economic growth in 2018 is within the range of 5.5 to 5.8 per cent, with the prospect of stable inflation and low unemployment. Moreover, the government is set for the future beyond 2020 with the Transformasi Nasional 2050 (TN50) vision. TN50 will prepare Malaysians, especially the youth, for future challenges such as the Fourth Industrial Revolution (Industry 4.0), an ageing society, the era of robots, climate change and the digital economy.

Indeed, with the launch of the Digital Free Trade Zone (DFTZ) in 2018, 60,000 high-income jobs are expected to be created primarily for the youth. From that scenario its look positive growth to the construction industry. The beginning of each industry is requiring the construction sectors to build the infrastructures and building. In 2017, the value of construction work done recorded were 35.1 billion Ringgit Malaysia in accordance to satisfy all the Malaysian population needs from the babies until retires. Recently, based on the official portal, Department of statistic Malaysia, in 2017 Malaysian population is 32.3 million consists of 16,620.3 thousand of male and 15,588.6

thousand of female. Each of them has their own needs to be provided. From the total population only 15.15 million includes under labour force with ages between 15 to 64 years and represent 46.9 percent out of total population. The Unemployment rate for December 2017 remained at 3.3 per cent. Meanwhile year on- year comparison, unemployment rate was 0.2 percentage points lower than December 2016. Malaysian government also always puts an effort into the employment issues and encourages creative and innovative culture to create new jobs after graduating without waiting to the existing vacancies.

Construction sector is significantly and major productive sector towards the Malaysian economics and provides a lots of jobs opportunities. The Malaysian government has several objectives, which the main objective is to distribute the country's wealth to the population in order to raise the standards of living. This is done by improving the income of the population and also providing the employment opportunities. In conjunction of that, it is shows that the government has the right to directly control the supply and demand of the industry. Malaysian construction industry is the industry that requires a high rate of workforce (Ahmad, 2009). Most of the construction processes need intensive employment of workers.

Generally, construction site worker as labelled as foreign workers even local. It is synonym if workers on site is known as foreign, local puts as negative perceptions towards this career. More critical construction sector was labelled as a 3D sector "dirty, difficult and dangerous" (Hamid et. all, 2011; Marhani et. all, 2012; Mohd-Rahim et. al, 2016) which are leads to discourage many locals and new graduates to stay away from entering the construction industry, thus resulting in the shortage of labours (Hamid et al., 2013). Even though, there is a lot of human capital development programmes undertaken by the government and certain private bodies, labour shortage still become the biggest concern. The used of foreign workers in the construction industry growth rapidly due to several factors. One of it is due to the inability of the local manpower to fulfil the demand. Secretary General of Master Builders Association Malaysia (MBAM) Ir. Yap Yoke Keong (2009) said that Malaysia starting to face shortage of quality people in construction especially when 9th Malaysia Plan was introduced in 2006, there are many development projects poured in the construction markets, but skilled workers are not enough to fill the vacancies in the industry. This shortage problem continued until present (Keong, 2009).

Apart from that, many researches presented factors of the unwillingness of locals to works at the construction site. Amongst the factors are uncomfortable working condition (dirty, hot, dusty, etc), exposure to unsafe and unhealthy working conditions, temporary employment status based on the project and unsecured job, insecurity of income, low wages, labelled as a dangerous, dirty and difficult work, poor image in the eyes of workforce due to employment of poor educational and unskilled foreign workers, unattractiveness of a career pathway in construction industry and work that is less prestigious, class and respectability (Shiadri, 2008; Ibrahim et al., 2010; Mat Dom et al., 2012; Hamid et al., 2013; Mohd-Rahim et. al, 2016). As a result, this shortage leads to heavy reliance on unskilled foreign workers and the impact is poor workmanship at the end will affects the building performance with plenty of defects in abbreviated period building life. Hence, this research presents several initiatives taken to encourage skilled workers to work in the Malaysian construction industry. The aim of this paper is to provide better understanding on underpins issues/problems that hold the industry from moving forward. The results of this research will form a basis for designing the future research on what is needed to ensure the industry to be more productive, efficient and will be lead both locally and globally.

2 MALAYSIAN CONSTRUCTION INDUSTRY

The construction industry is a key economic engine for the overall economy. In 2017 it was contributed about 4 percent to the Malaysia's Gross Domestic Product (GDP) and is predicted to contribute 5.5 percent to GDP by 2020. It is expected to grow at 10.3 percent per year, outpacing Malaysia's overall economy which is projected to grow at a steady rate of 5-6 percent per year (Economic Planning Unit, 2015). Apart from that, based on Department of

Statistics shows that in 2017, the value of construction work done recorded RM35.1 billion. The expansion in value of construction work done was driven by positive growth in all sub-sectors: Civil engineering (18.4%), Special trades activities (9.5%), Non-residential buildings (1.5%) and Residential buildings (1.2%) sub-sector. The private sector continued to propelled the construction activity with 63.3 per cent share (RM22.2 billion) as compared to the public sector with 36.7 per cent share (RM12.9 billion).

Table 1: Project values by category (2013-2016)

Sectors and Types Project	Value of Project (RM Billions)			
	2013	2014	2015	2016
Total Private Sector	161,363.78	117,127.32	178,143.68	34,311.26
Residential	34,781.71	51,097.83	39,075.50	11,265.92
Non-Residential	91,973.73	49,374.63	38,964.58	15,072.84
Social Amenities	4,833.53	2,575.03	3,561.94	1,575.82
Infrastructure	29,774.82	14,079.83	96,541.66	6,396.68
Total Government Sectors	23,653.56	24,724.12	50,882.08	6,045.07
Residential	2,139.25	2,677.18	1,560.38	909.06
Non-Residential	3,925.24	4,049.74	3,546.58	681.61
Social Amenities	3,343.55	2,940.88	5,110.49	1,047.74
Infrastructure	14,245.52	15,056.32	40,664.63	3,406.66
GRAND TOTAL	185,017.34	141,851.44	229,025.76	40,356.33

Sources: Construction Industry Development Board, Malaysia, 2017

As defined by CIDB, the construction projects can be divided into four main categories such as social amenities (*education, public facilities, sports and recreation, clubs, welfare and the community*), infrastructure (*utility, transportation, drainage and sewerage, natural disaster resilience such as road, bridges, water supply, sewer, electrical grids and telecommunications*), residential (*apartments, condominiums, hostel and the likes*) and non-residential (*office buildings, shopping centres, industrial buildings, hotels, agriculture, manufacturing and landscaping works*). Table 1 presents the value and types of projects from 2013 to 2016 by private and government sectors. Over the years construction projects based on the type and scale indicates a changing pattern. In 2014 the amount of construction projects awarded is RM141.8 billion increased by 57.5% to RM229.0 billion in 2015. Meanwhile, the construction projects awarded dominated by private sector every year at RM 178.1 billion compared to the government sector at RM50.9 billion. Construction project refers to projects awarded to the main contractor with the value of RM500,000 and above. Overall, more than half portion of construction works came from the infrastructure projects RM137.2 billion; followed by non-residential projects RM42.5 billion; residential projects at RM40.6 billion; and social amenities projects at RM8.7 billion. A total RM40.7 billion of the infrastructure projects were driven by the private sector, due to the high-value projects under the transportation and utilities segments. The major impact to Malaysian construction projects came from the implementation of 24 major projects costing more than RM1.0 billion each. These projects accounts for RM109.9 billion in 2016. The 5 largest projects were:

- i. East Coast Rail Link from Port Klang, Selangor to Wakaf Bahru, Kelantan. Award: November 2016; Expected completion: 2024.
- ii. Mass Rapid Transit Sungai Buloh – Serdang – Putrajaya Line (Jalan Ipoh North Escape Shaft to Desa Waterpark South Portal) in Klang Valley. Award: March 2016; Expected completion: 2021.
- iii. Electrified Double Track (Gemasp to Johor Bahru) in Johor. Award: October 2016; Expected completion: 2020

- iv. 1,800MW to 2,400MW Combined Cycle Gas Turbine Power Plant in Alor Gajar, Melaka.
 Award: November 2016; Expected completion: 2021
- v. Setiawangsa – Pantai Expressway in Kuala Lumpur. Award: November 2016; Expected completion: 2020

3 LABOUR IN MALAYSIA CONSTRUCTION INDUSTRY

Starting from the Sixth Malaysia Plan (1991-1995) with the government liberalising the policy on the employment of foreign labour to supplement the problem of labour shortages during that period (Chan 2001) the Malaysian construction industry relies heavily on foreign labour especially from Indonesia, Bangladesh, Myanmar and Nepal. The increasing trend of employing foreign labour was recognised during that period. As presented by Chan (2001) a total of 649,680 work permits had been issued to foreign workers, with about two-thirds of the temporary work permits being issued for work in the plantation and construction sectors at the end of the Sixth Malaysia Plan in 1995. Foreign labour has become a crucial component of the construction workforce in Malaysia, since the introduction of the policy by the government. Construction Industry Development Board, Malaysia (2014) demonstrates that approximately 25% of total construction personnel in Malaysia are foreign workers (figure 2).

The statistic from Department of Statistic, Malaysia (2013) records show the composition of labour force in Malaysia and construction sector versus non-residents and residents (figure 1) represent from top to bottom level of employees and the other hands that most of the foreign labourers in the industry are general workers and unskilled labour (figure 2). However, the data did not show the accurate statistics as there are vast numbers of illegal foreign workers in the industry with no registration or documentation. Abdul-Aziz (2001) discovered that the utilization of non-residents labour by construction companies in Malaysia because they are: (1) willing to work extra hours; (2) obedient; (3) willing to receive low wages and; (4) flexible and mobile. The statistics on construction wages and salaries in 2017 from CIDB showed that the average daily wage for local skilled labour is between RM 70.00 and RM 120.00; whereas semi-skilled workers earn between RM 60.00 and RM 100.00. The rate for foreign labour is lower, with skilled labour earning between RM 50.00 and RM 100.00 and semi-skilled foreign labour earning between RM 40.00 and RM 80.00. Average wages for unskilled labour are much lower - between RM 25.00 and RM 30.00. The willingness and wide availability of foreign labour make the employer easily hiring them and at the end it is will give significant impact on construction quality and productivity.

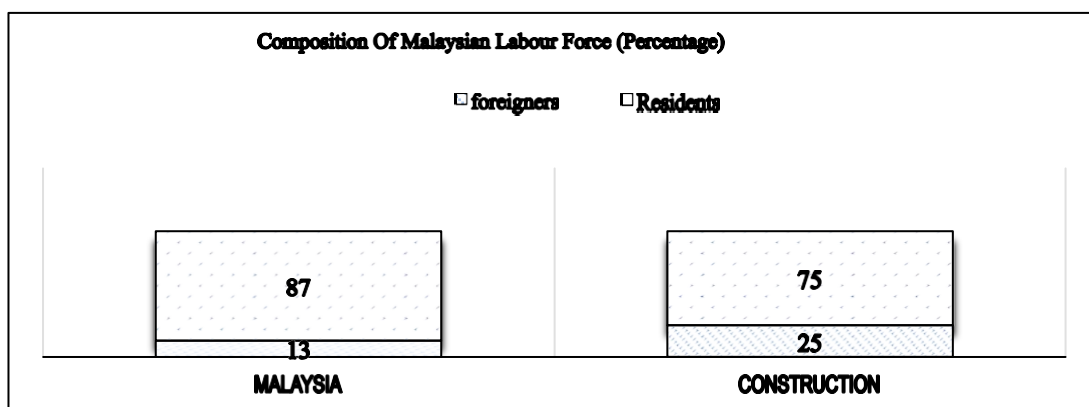


Figure 1 Labour composition in Malaysia and the construction industry.

Source: Department of Statistic, Malaysia

In addition, the contractors have little incentive to adopt and implement more productive, better quality and safer technologies. The situation also affects the contractors'

interest in employing highly skilled labour (CIDB 2006). The government has identified the needs for construction industry to intensify: mechanization; new construction methods and technology; prefabrication thus having the effect of reducing reliance on labour to improve the contractors' performance and productivity. To limit the inflow of foreign labour, the government has tightened the requirements for work permits and increased the levy on foreign workers according to their job sector. The government has decided not to extend work permits for unskilled foreign labour that have been in the country for over five years and have granted amnesty to illegal foreign workers to return to their own countries without facing legal action. The CIDB has adopted two main approaches: (1) to train the existing foreign unskilled labour force; (2) to improve the industry's image and create an awareness among local workforce of the benefits of joining the industry (Mustafa Kamal et al., 2012). However, the changes imposed by the government and the CIDB are very slow to take effect until presents and still trying hard to change the situation.

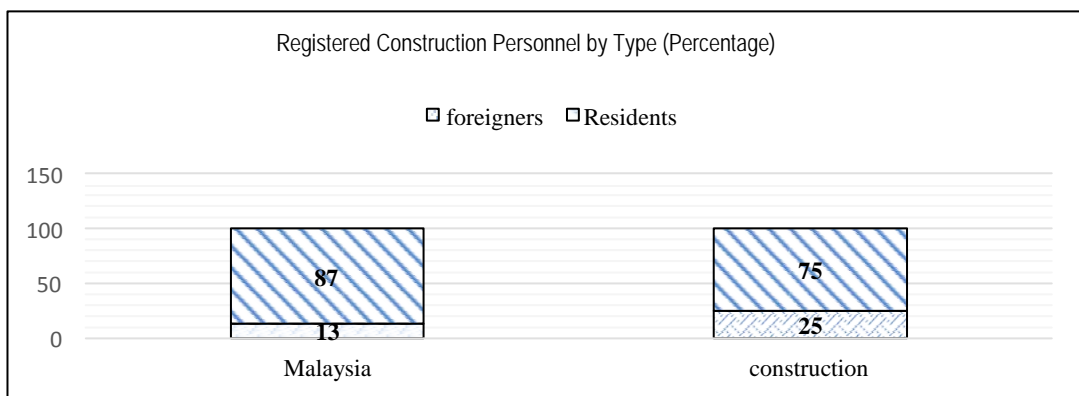


Figure 2 Composition of foreign and local construction workers by trade level.
 Source: Construction Industry Development Board, Malaysia, 2014

The statistics from the Immigration Department of Malaysia, in 2017 showed a total of 1,781,598 foreign workers in the country. Based on the Ministry of Home Affairs, Indonesia had the highest foreign workers of 728,870 people followed by Nepal (405,898), Bangladesh (221,089), Myanmar (127,705), India (114,455), Pakistan (59,281) and Vietnam (29,039). There are also workers from China (15,399), Thailand (12,603), Sri Lanka (5,964), Cambodia (5,103) and Laos (39) (Nazura Ngah et al., 2017). Based on that, a total of 767,563 construction personnel was registered in 2016 (table 2), an increase of 7.1% (2015: 716,542 personnel). This includes new and renewal of construction personnel. On the total overall statistics shows the situation is still under control mainly monopolized by Malaysian residents, nevertheless in the real world the construction site has been flooded by foreign workers working without legitimate registration. Mostly statistics presented does not reflect the actual situation at the construction site whereas dominated by the foreign workers.

Table 2 Registered Construction Personnel by Category of Worker

Category of Worker	2015		2016	
	Local	Foreign	Local	Foreign
Construction worker	295,560	135,997	304,167	148,025
Skilled construction worker	50,855	1,675	91,637	2,939
Manager and site assistant manager	51,410	1,462	58,646	1,052
Construction supervisor	50,933	272	116,579	1,566
Administrative personnel	126,716	1,622	42,814	138
TOTAL	575,474	141,068	613,843	153,720

Source: Construction Industry Development Board, Malaysia

4 INITIATIVES FOR LOCAL SKILLED CONSTRUCTION WORKERS IN MALAYSIA

The definition of initiatives based on the Cambridge dictionary is a new plan or process to achieve something or solve a problem. Malaysian governments are very committed in the issue of over reliance on foreign workers, especially in the construction sector. Unfortunately, Malaysian government unlimitedly designing and planning innovative approaches in transforming the current situation into better scenario for presents and future generation. It is not easy to change, all the efforts shaped sometimes will takes lengthy period and need various modification of other guidelines and regulations. Malaysian government regulate and consolidate the various initiatives to attract more local skilled workers entering construction industry labour market especially trade workers such as bar-bender, tiler, roofer, plumber, wiremen, plasterer, painter and others specialist needed on construction sites to avoid dependency towards foreign workers. The summary of initiatives by respective agencies as presented in Table 3. In the Eleventh Malaysia Plan 2016 – 2020, anchoring growth on people presented six strategic thrust includes 1) enhancing inclusiveness towards an equitable society, 2) improving wellbeing for all, 3) accelerating human capital development for an advanced nation, 4) pursuing green growth for sustainability and resilience, 5) strengthening infrastructure to support economic expansion and 6) re-engineering economic growth for greater prosperity (Economic Planning Unit, 2015).

Table 3 Summary of initiatives drawn for local construction workers

Sources	Initiatives
Economic Planning Unit, 2015, Pemandu, 2011	<ul style="list-style-type: none"> • To raise the enrolment intake gradually from 164,000 in 2013 to 225,000 in 2020. • To secure employment which 60% of the 1.5 million jobs that will be created will require TVET-related skills.
Economic Planning Unit, 2016	<ul style="list-style-type: none"> • TVET education capacity will be enhanced with an allocation of RM4.6 billion to TVET institutions to optimise the Government's assets, nine unused Teachers' Training Institutes would be transformed into four Polytechnics and balances are Vocational Colleges. • Upgrading educational equipment in TVET institutions was allocated RM270 million. • Double tax deductions would be given over expenses incurred by private companies to provide Structured Internship Programmes for students in TVETs.
Economic Planning Unit, 2017	<ul style="list-style-type: none"> • TVET Masterplan was developed which consist of five thrust: - <ol style="list-style-type: none"> i. To raise the enrolment of students and trainers ii. To strengthen and intensify strategic Public-Private Partnership cooperation or between TVET and industry to create synergy in developing quality human capital. iii. Career opportunities are not only limited in the industry, TVET graduates can also venture into business, especially technopreneurship or become technopreneurs in technical fields. iv. matching grants, where the financial provision is given at the same value of contributions received from industry for high impact TVET programmes. v. All TVET institutions under various ministries are united as a great collaboration to train Malaysians, especially young people to become a highly skilled technical workforce.

Construction Industry Development Board (CIDB), 2017	<ul style="list-style-type: none"> • Construction Industry Competency Forum (CICF). • Construction Industry Competency Blueprint. • 5000 on job apprentices produced by 2020. • 100,000 construction personnel completed Continuous Professional Development training. • 100,000 construction personnel graduated in construction related skills and accredited by 2020. • Report on construction manpower supply and demand, published annually from 2017 onward. • All qualified skilled workers and supervisory personnel accredited from 2016 onwards. • Proportion of skilled: unskilled foreign labour improved from 5:95 to 15: 85 by Q4 2020. • All qualified skilled workers and supervisory personnel accredited from Q4 2016 onwards. • At least 100 more new IBS component manufacturing plants established at various strategic locations by 2020. • 5,000 professionals (engineers, architects & quantity surveyors) trained to apply IBS and modular coordination from design phase by 2020. • components (i.e. columns, beams & slabs) for public projects to be procured separately from main contracts by 2018.
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Thrust three which are most related with construction workers and covered four focus area such as firstly, is improving labour market efficiency to accelerate economic growth – government in the effort to improve labour productivity and wages through the shift to high skilled jobs. Secondly, transforming TVET to meet the industry demand – in ensuring that all graduates meet the criterion need by the industry and acquire job after completing the training, government initiatives to strengthen the governance of TVET for better management, enhancing quality and delivery of TVET programmes to improve graduate employability and rebranding TVET to ncrease its attractiveness. Moreover, in the National Key Economic Areas (NKEAs) also highlighted about TVET under education. NKEA is defined as a driver of economic activity that has the potential to directly and materially contribute a quantifiable amount of economic growth to the Malaysian economy. Pemandu (2011) stated that TEVT has been identified as a critical enabler for the success of the Economic Transformation Programme (ETP), with nearly one million jobs requiring vocational certificates or diplomas by 2020. Several initiatives have been introduced to raise the quality of TEVT offerings and to ensure the programmes are in line with industry needs and requirements. The ETP is an initiative by the Malaysian government to turn Malaysia into a high-income economy by the year of 2020. It is managed by the Performance Management and Delivery Unit (PEMANDU), an agency under the Prime Minister Department of Malaysia. Additional funds have been allocated to the Skills Development Fund (Perbadanan Tabung Pembangunan Kemahiran – PTPK), giving more students the opportunity to undertake TEVT programmes in private skills training institutes.

Thirdly, improving the quality of education for better student outcomes and institutional excellence – government encourages to raise the quality of graduates and programmes, and strengthening research for innovation and finally, strengthening lifelong learning for skills enhancement. The government strives to provide highly skilled human capital for better future generation and development. The government always encourages all students to be creative and innovative thinking and after completing the training try to create their own job based on their skills and expertise without relying on existing jobs for better income.

Economic Planning Unit (2016) in budget 2017 presentation by Malaysia Prime Minister always pay attention on the issues of human capital in providing high skilled workers to meet industry, demand. In budget 2017 government allocate Ringgit Malaysia 4.6 billion to TVET institutions to optimise the Government's assets. Nine unused Teachers' Training Institutes would be transformed into four Polytechnics and balances are Vocational Colleges in order to raise the enrolment of the TVET students. Additionally, Ringgit Malaysia 270 million was allocated to

upgrade the educational equipment in TVET institutions. The industry also obtained the benefits whereas double tax deductions would be given over expenses incurred by private companies to provide Structured Internship Programmes for students in TVETs. Next in budget 2018 TVET Masterplan was developed which consist of five thrust such as i) To raise the enrolment of students and trainers; ii) To strengthen and intensify strategic Public-Private Partnership cooperation or between TVET and industry to create synergy in developing quality human capital; iii) Career opportunities are not only limited in the industry, TVET graduates can also venture into business, especially technopreneurship or become technopreneurs in technical fields; iv) matching grants, where the financial provision is given at the same value of contributions received from industry for high impact TVET programmes; v) All TVET institutions under various ministries are united as a great collaboration to train Malaysians, especially young people to become a highly skilled technical workforce (Economic Planning Unit, 2017).

In addition, Construction Industry Development Board (CIDB) had been developed as a representative of Malaysian government for construction sector governance. The government was set up CIDB in 1994 with the aim of promoting the development of the Malaysian construction industry and helps to modernize the industry. From the official web-site CIDB stated that CIDB was established under the Construction Industry Development Board Act 1994 (Act 520) to regulate, develop and facilitate the construction industry towards achieving global competitiveness. The objective establishment is to develop the capacity and capability of the construction industry through the enhancement of quality and productivity by placing great emphasis on professionalism in the endeavour to improve the quality of life. Before the establishment of the CIDB, none of the industry's stakeholders could be considered as industry leader to promote and stimulate the overall development of the industry as all the industry's stakeholders have their own objectives and policies. The establishment of the CIDB managed to integrate and gather the industry stakeholders under one agency. The CIDB is responsible for making recommendations to government on matters related to the construction industry and manages the important parts of the industry including registration of contractors, helping advance the knowledge base of the industry, training, safety, and education (Mustafa Kamal et. al, 2012).

Moreover, among initiatives that have been developed to enhance the construction sector performance, CIDB introduced the Construction Industry Master Plan (CIMP) 2006-2015. Mustafa Kamal et. al (2012) presented CIMP is a comprehensive plan charting the strategic position and future direction of the Malaysian construction industry over 10 years. The overall underlying thrust of CIMP emphasize on four main aspects in order to improve the Malaysian construction industry involve: 1) the importance to upgrade skills and knowledge of construction workforce; 2) modernization of the industry; 3) application of new technology; and 4) continuous innovation in the industry. The CIMP provides a long-term direction and guide for the Malaysian construction industry. However, the implementation plan sets out is general, with very little depth. It does not provide a clear insight of the problem faced by construction companies especially the small and medium size companies (SMEs). There are very little evidence indicates the successful of the CIMP.

Furthermore, issues on labour in construction sectors keep in reported by the media and researches. One of them, Hussien (2016) presented issues on shortage of skilled local and foreign workers. Majority of foreign workers employed in the construction industry are unskilled. They came to the country as general workers. CIDB was not allowed local companies to train them in their home countries before they come to Malaysia while waiting for their visa approvals. Training during that time are very inefficient and unattractive. The impact from that, are construction project are in difficulties to plan resources, resulting in project delays, work done not up to the specification/quality required, higher costs due to project delays and need to re-do as specification not met and at the end contractors must pay fines in the events of projects failures. In conjunction from that, government aspires to develop more training institutions and raised the enrolment of TVET students.

Recently for the period 2016 onward CIDB was established the Construction Industry Transformation Programme (CITP) 2016-2020 with the slogan of driving construction excellence

together. CITP is Malaysia's national agenda to transform the construction industry to be highly productive, environmentally sustainable, with globally competitive players while focused on safety and quality standards. There are four strategic thrust under CITP has been developed to ensure the construction industry will transform are 1) quality, safety & professionalism; 2) environmental sustainability; 3) productivity; 4) internationalisation (Construction Industry Development Board, 2015). Productivity was the most related thrust to transform construction labour issues. Productivity is the primary engine of growth towards Malaysia's high-income target. As a vital sector to the nation's advancement, the construction industry will lead with high productivity levels through efficient adoption of up-to-date technologies and modern practices coupled with high-skilled, highly paid workforce.

CIDB in the efforts to doubled up the productivity and raised the wages of the labour has devised a planned basically can be divided into two focus namely human capital and technology. As presented in Table 3, CIDB reported in the CITP report No. 2 Q2 2017, for the strategic thrust three; productivity to date there are many progress done to ensure the successful of this thrust. Initiative one is continue investment in human capital development in construction and CIDB target to all construction related training programs and institutions streamlined and registered by CIDB quarter four, 2018. First initiatives, in 2016 Construction Industry Competency Forum (CICF) was established and conducted on 2017 to study on existing construction related training program and training providers. CICF is represented by related TVET training providers from various government and private agencies. 158 constructions related TVET programs under 4 main clusters (building, civil & structural, mechanical and electrical) and 12 major training providers have been identified. CICF agreed that in principle all construction skills training need to: 1) standardize the name for courses 2) use a common skills standard 3) standardize period of training 4) adopt a single certification. In addition, the second CICF agreed that 1) CIDB will decide on matters related to training in the construction industry as the regulator for construction industry under Act 520 2) CIDB will provide continuous supply & demand data for TVET training in the construction industry. Training quota among all TVET training institution will be based on the data 3) CIDB will be the lead agency in the construction- related training for other TVET institutions.

Secondly, CIDB targeted by 2018, training need analysis, occupational analysis and training maps has been conducted to the top ten highly demanded skilled trades. The trades are including 1) Scaffolding Erection 2) Welding 3G and 6G 3) Wireman (4) Chargeman 5) Gas Pipe Fitting (Fitting / insulation) 6) Blasting & Painting 7) Non Destructive Testing (NDT) 8) Crane Operation 9) Plant Operation 10) Plumbing. The progress is in 2016, Construction Industry Competency Blueprint developed by Saiful Training & Consultancy. Currently, the consultant completed the training map for the 10 Construction Industry Occupational Title (CIOT) and first draft of the training map was submitted on June 2017.

Next, targeted 5,000 on-the-job apprentices will produce by 2020. In 2016, 604 on-the-job apprentices produced in various skill trades such as mechanical fitters, mobile crane operators, rigging, site safety supervisor, scaffolding, architectural drafting, welding, painting & blasting, pipe fitters and wet trades via collaboration with industry stakeholders such as Petronas Chemical Group, Malaysia Mobile Crane Operators Association (MMCOA), Malaysia Offshore Contractors Association (MOCA), PUNB, Jabatan Pembangunan Kemahiran, Lendlease and ABM. In 2017, 375 more on-the-job apprentices produced in various skill trades such as hydraulic excavator, backhoe loader, scaffolding erection, welding, building wiring installation, building operation & maintenance handyman, blasting and painting via collaboration with industry such as WCE, Ceteau Malaysia Sdn Bhd, Muhibbah Engineering (M) Bhd, Vision Thermoplastic Sdn Bhd and Putra Perdana Construction SB. Additionally, projected by 2020, 100,000 construction personnel will complete Continuous Professional Development (CPD) training. In 2016 and 2017 a total 46, 319 had completed the training program in four major trades (electrical, mechanical, building & architecture and civil & structure). In addition, forecasted 100,000 construction personnel graduated in construction related skills and accredited by 2020. Until 2017, 47,138 graduates in approved construction

relate skills trainings, supervisory and management fields trained and certified.

Finally, government has been enhanced the human capital development through education and training. Then, it also encouraged the use of technology in every construction project such as Integrated Building System (IBS) to reduce the use of workers at the construction site by employing only local skilled workers and indirectly employees would earn a higher salary and improve the quality as well as performance of the buildings. The numbers of works on site will be reduce because part of the building components has been prepared in the factory. This is part of the initiatives planned under CIP thrust three, accelerate adoption of IBS, mechanisation and modern practices. In progress, CIDB by 2020 at least 100 more new IBS components manufacturing plants established at variuos strategic locations, all IBS components (i.e. columns, beams and slabs) for public projects to be procured separately from main contracts by 2018 and IBS's catalogue will be produced in 2017 with cooperation CIDB and Public Work Department (PWD). Moreover, until 2017, 27 new IBS component manufacturing plants producing 4 main components (precast concrete system, metal framing, innovative product and blockwork system) established in 7 states (Johor, Selangor, Sarawak, Pahang, Melaka, Kedah & Kelantan) and 245 IBS manufacturers registered with CIDB. Next, hundred percent new Development Order in three states (Selangor, Johor and Pulau Pinang) for projects fifty million above must achieve minimum fifty IBS score by 2020. The enforcement of IBS usage in the project requires professional team to coordinate the project starting from pre and post contract stage, so that CIDB forecast at least 5,000 professionals (engineers, architects & quantity surveyors) have been trained on IBS by 2020 (Construction Industry Development Board, 2017).

5 CONCLUSION

The Malaysian government has planned enormous numbers of strategies to ensure that, Malaysia has sufficient number of competence workers for the needs of the country. The mission to reduced dependency on foreign workers to achieve develop nation by 2020 and continuing until 2050 towards Malaysian inclusive, fair and sustainable. On top of that, initially the uniqueness of the construction products in terms of location, duration, size and cost will make the planning and management of project differ from others. This will affect the numbers of workers used and the planning of workers for such activity in the project also will be different. Based on the research shows that the construction industry predicted will increase the performance year by year. Its indicates that many projects will be implemented in future indirectly will raise the demand of skilled labour to fulfil the industry requirement. Therefore, the support from all the parties involved is compulsory for the success towards all the efforts and supplying the data in relation of labour used in each project so that the data can be used for future projects. It can be summarized that, government has been trying to resolve the construction labour issue from the grassroots starting from injection of fund, revising education syllabus and enforcing the use of technology. Despite, there is a gap between what the policy makers espouse and the viability and practical realities of what is happening in the industry. In conclusion, a staunch support from the Malaysian government is needed in providing a more effective policy in managing local skilled construction labour. Otherwise, the issues and problems facing by construction workers in Malaysian construction industry not be addressed effectively. Based on the research reveals the current situation of construction labour management and initiatives in Malaysia raised few important questions i.e. how Malaysian construction industry will enhance the situation on to raise the participation of the competence workers, how the industry will raise the quality of building performance with the availability of the local skill workers; how the industry can benefit from the new technology available to minimize the use of workers on site; and what is needed in order to realize the policy set out by the government. This will form a basis of designing a future research to improve the Malaysian construction industry. It is easy to plan but not to implement it. Not all the initiatives are implemented by the construction stakeholders. Thus, a more holistic approach is needed to ensure the economic, social, and environment aspects can be protected.

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