CONSTRUCTION SKILLED LABOUR SHORTAGE –THE CHALLENGES IN MALAYSIAN CONSTRUCTION SECTOR

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Abstract: Construction skilled shortage workers have become worldwide issue. It also becomes the greatest challenge facing Malaysian construction industry. Moreover, participation by local workforce is not very encouraging and there's understood that skilled workers produced from vocational training were not meeting industry's needs. Some of them left construction sector even after undergo training from construction training institutions. Malaysian construction has problems in the ability to get the source of labour as well as retained skill people and has to depend on foreign worker to respond to the high demand of skilled workers due to rapid development in Malaysia and poor participation from local people.

This paper explores on construction skilled shortage issue in Malaysia and how serious it is. Discussion of the paperwill be on initiatives taken to overcome this issue by introduced technical and vocational skills training and education in Malaysia such as National Occupational Skills Standards (NOSS) and National Dual Training System (NDTS). Those initiatives will be discussed and compared. Moreover, success factor of dual system will also be discussed which are based from other country that successfully implement dual system. Last but not least, reasons of local reluctant to join or work in construction sector will be explained. Some strategy to attract local's participant to join construction industry will be discussed

Keywords: construction sector, dual system, skilled labour, skills training

INTRODUCTION

Skilled labour shortage happened worldwide including United States, United Kingdom, Canada, India, Bahamas and Malaysia. Government and business organisation of Canada recommended immigration of skilled worker as a strategy to deal with shortage issue. McMullin et al (2004) asserted that it maybe solve shortage problem in a short time, but it still does not solve the core of the problem [10]. Meanwhile, in Alaska Business Monthly mentioned that the biggest challenge was when they need to replace retiring workers. In 2008, they need around 1,000 replacements but recruiting source is limited. As a solution, they target young people in a program called 'The Build Up' and continued by 'On Site'. These program aims to cultivate interest and skills in construction works since young and eventually they will become as source of skilled labour in the future [11]. This method can be human resource solution for the shortage issue although it took quit sometime.

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 project poured in the construction market but skilled workers are not enough to fill the vacancies in the industry. This shortage problem continued until now [24]. Vacancies reported in construction industry by Bank Negara Annual Report 2010 shown as figure 1.

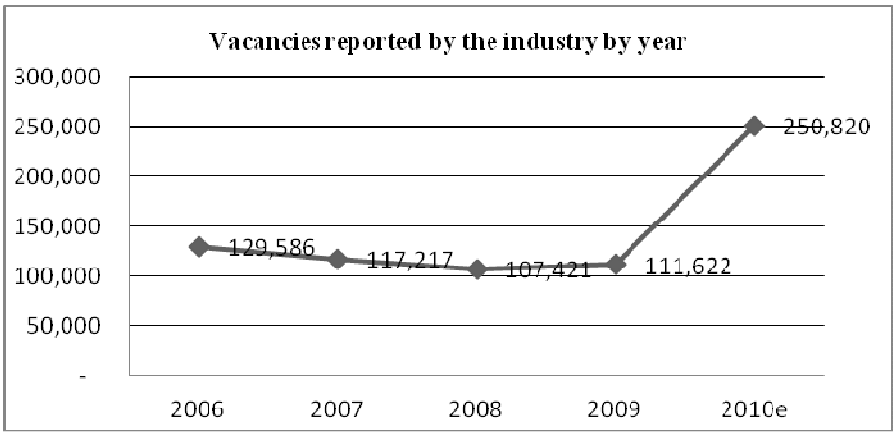

Figure 1: Vacancies reported by construction industry [4]

Which make thing worse there are 'brain drain' issue due to the dissatisfaction over the quality of education, personal safety and for some, the political issue seems to have become common push factors for many Malaysians to pack their bags and leave the country [9]. Construction boom happened worldwide especially in Singapore and Middle East which they offer better packages encourage people to work overseas. Another factor is, poor participation from local youth which are willing to be jobless rather than involve in construction industry [21]

According to Bank Negara Malaysia Annual Report, Malaysian construction sector grew by 5.2 percent in 2010. Construction works in Malaysia are done mostly by foreign worker. In 2010, total registered foreign workers (including expatriates) in Malaysia are 1.8 million workers. Foreign workers accounted for 15.5 percent of employment in Malaysia in 2010 and were mainly employed in the manufacturing, construction and agriculture sectors [4]. Media report from Secretariat of Ministry of Home Affairs (2011) says that in 2011 until July, there are 6,233 foreign worker registered to work in the construction industry, which is about 2.2 percent of total foreign workers in the country [14]. This figure shows that there are many vacancies left in this industry. On top of that, the group of foreign workers hired by the industry basically unskilled, acquires their work knowledge while assisting the more experienced workers, and thus is not meeting the industry's skill standards [5].These issue shows that the shortage of skilled labour and dependence on migrant workers has been so serious. Thus, the reason for local reluctant to join the industry must be identified and overcome to encourage participation of local skilled labour in the construction industry.

DISCUSSION

Poor participation from local people

Human resource capital has become fundamental in generating growth and national development. It is valuable asset to ensure Malaysian competitiveness at global level. Local recruitment is the biggest challenge in the construction industry. In globalisation era, people who have knowledge and skills can live through this 'harsh' world, but for people who lack of wisdom and skills will be deserted.

From previous study conducted on poor participation from local people in construction industry stated some main factors for this occurrence which includes poor career path and unattractive job, low assuredness of salary, poor working environment, contractor's acquisitiveness and economic factor. These factors will be explained in further below.

Poor career path and unattractive job - people did not see many opportunities for training and skill formation. That makes this job unattractive. Moreover, people have other alternative in choosing job. As public know, Malaysia skills training was conducted in informal apprenticeship kept within family and when there is a must to transfer skills to outsider, not all skilled passed on [1].Foreign skilled

labour that comes to work did not attend formal training when they arrive in Malaysia. It contributes to accidents on site [22].Meanwhile, construction sector image are poor and unattractive to the public. The unattractive factor is because of the salary was paid according to quantity or by productivity. Contractors most probably would not use fixed salary system because this sector are risky and competitive [22]. Foreign workers with low skills and poor educational background are engaged in it make local people think such work is not for them. This would lead to locals shunning the construction industry, leading to further reliance on foreign workers [1]. These generate negative perspective towards working in construction sector.

Low assuredness of salary and labour employment - construction sector provide a lot of job opportunities especially to people who are not selective on work and desperately need a job. Unfortunately, those attitudes only possess by foreign worker. Sub-contractor system is similar to the indirect unemployment system which allow main contractor to cope with fluctuation in demand of labour which was practiced for a long time in Malaysia and sub-contractor will hire construction labourers to do construction works. Main contractor will gain some benefit from this system such as they can avoid large expenses on permanent worker and administrative personnel. They also do not need to train the workers [5]. However this system lead to poor workmanship by labourers, wastage of material, improper use of equipment and workers do not enjoy permanent employment. Labourers also do not receive any perks and welfare benefits normally relating to such employment. This system is not helping to attract local youth to participate because they still think jobs in the sector are not dignified enough [7]. It is reported that most of main contractor pays RM80 per day for each worker utilized by sub-contractor whereas the sub-contractor pay the worker only RM33per day. More than 50 percent of the payment meant for the worker is pocketed by the sub-contractor. Importing cheap labour is often the main cause of distortion between the relative price of capital and labour. Demand for foreign workers is not genuinely because of shortage but it's due to employers' desire to pay low wages [16].

Poor working environment and poor image of industry - Poor image not only come from construction nature which they think it is dirty, dangerous and difficult. Mainly it is because of labour recruitment itself. Construction workers around the world in term of employment have always been poor [7]. Moreover, accidents are common on construction site until people think it is unavoidable. Labourers in Malaysia are working without fully provided with equipment and more dangerous compare to work condition in other developed country like United Kingdom. Report of accident in 2010 from Department of Occupational Safety and Health (DOSH) there are 50 accidents occurred and was investigated by them. They believe there are many other accidents were not reported [8]. Ofori (2001) asserted that, if accident and fatality of construction can be reduced, it will improve industry image and fit better to the knowledge society by helping to attract higher of local personnel [6]. Moreover, accommodation provided for workers are temporary. It encourages contractors to establish uncomfortable places, overcrowding, crude sanitation, uncontrolled surface water drainage and poor rubbish disposal. Malaysians are unwilling to stay in that condition and consider employment in the construction sector as not dignified enough [5].

Economic factor – rapid development in Malaysian economy in the last decade increased construction project given the opportunity for people to work leading to shortage of skilled labour because workers can afford to be choosy [3].

Construction work field are not supposed to be labels as dirty and undignified work. Construction work should be known as works that require skills, physical and mentally strength, creative and important in contributes to the success of Malaysian economic development. Negative perceptions of others need to be changed first in order to attract local participation in construction sector.

Vocational Education and Training in Malaysia

A productive workforce is a key element in achieving economic development. A productive economy needs skilled workforce to produce services. According to Zakaria (2009), the construction business environment is influenced by the availability and sustainability of skilled and productive workforce. In order to build a skilled workforce in the country, a range of programs and industry-based training centre should be developed to increase the number of people in traineeships and increase a number of employers taking on trainees [25].

A report from Cabinet Committee on Training (1991) said that increase in skill shortage conclude that rapid growth in the industrial activities has resulted in increased demand for skills and on the supply side, the training institution have been unable to meet these demands due to various rigidities [18]. Moreover, rapid technological changes in the production process require significant changes in the skills required by the affected industries. Consequently, there is a need for flexibility by skill supply mechanism to respond to the changing skill requirements.

Table 1: Comparison of National Dual Training System (NDTS) and National Occupational Skills Standard (NOSS)

ELEMENT	National Dual Training System (NDTS)	National Occupational Skills Standard (NOSS)
Year commenced	2005	1993
Department and Ministry	Introduced by Department of Skills Development (DSD), Ministry of Human Resources	Developed by National Vocational Training Council (NVTC) now knows as DSD
Qualification and certification system	Knowledge-worker ('K-worker') certificate.	Five level of certification system known as Malaysian Skill Certificate (SKM) can be obtained from NVTC accredited centres and programs.
Purposes and objectives	To produce 'k-workers' under a comprehensive and latest training system in order to meet industries prevailing requirements. To resolve the issue of skills workers being produced but not meeting industry's needs. Expose apprentices to the actual situation in the industries.	Increase the quality of employees by trying to achieve the competencies that were identified by expert workers or practitioners. NOSS being used as a basis by skill training institution to make changes to teaching materials For skill certification, NOSS is use as the main criteria when determining the level of competency that trainee required. For employment purpose, NOSS use for analyzing training needs and assessing performance of staff.
Expected outcome	Apprentices are expected to be occupational competence k-worker (knowledge-worker) by possess technical competence, human and social competence, learning and methodology competence.	Learner should be able to perform, not only know-how. Their performance should up to the standards expected in the employment and they should have the ability to perform in real working environment.
Background and training concept	2 years training – 20%-30% at selected training institution and 70%-80% at workplace. NOCC (National Occupational Core Curriculum) was used as the basis for training and assessment. Training should focus on occupational competence Actions oriented teaching, Learn and Work Assignment (LWA).	Training programs conducted are benchmarked against the actual workplace requirements. Expert workers and practitioners appointed by NVTC are responsible to identify the competencies required in the respective job
Accredited Centre / Training institution	In June 2007, 32 training institutes and 32 companies involve	In May 2007, 1,151 accredited training institutions
Courses	7 training occupations. NOSS will be a basis for other implementation of training occupations	6,575 accredited programs including sector 'Building and Construction'
Parties involve	Department of Skills Development, companies and employers (sponsor apprentices and provide in-house training), training institutions, apprentices	Department of Skills Development, training institutions.

ELEMENT	National Dual Training System (NDTS)	National Occupational Skills Standard (NOSS)
Base reference	Evolve from Dual Training System Project (DSP) which formulated to strengthening technical education and vocational training in Malaysia by incorporating the dual training system practiced in Germany (DSP, 2011)	Based on ILO's International Standard Classification of Occupations (ISCO 88), Malaysian Standard Classification of Occupations (MASCO 98) and Occupational Analysis Workshop conducted by NVTC

Extracted from [2], [13], [17], [23]

Table 2 : Malaysian Skills Certificate (SKM) details [12]

Level of education	Job function	Example job title	Skill level	SKM Definition of Level 1-5
Advanced Diploma	Management Stage	Manager, Engineer	Level 5	Competent in applying a significant range of fundamental principles and complex techniques across a wide and often unpredictable variety of contexts. Very substantial personal autonomy and often significant responsibility for the work of others and for the allocation of substantial resources feature strongly, as do personal accountabilities for analysis and diagnose, design planning, execution and evaluation.
Diploma	Supervising stage	Executive, assistant engineer	Level 4	Competent in performing a broad range of complex technical or professional work activities that are performed in a wide variety of context with substantial degree of personal responsibility and autonomy. Responsibility for the work of others and the allocation of resources is often present.
Advanced certificate		Supervisor, technician	Level 3	Competent in performing a broad range of varied work activities, performed in a variety contexts, most of which are complex and non-routine. There is also a considerable responsibility and autonomy and control or guidance of others is often required.
Certificate	Operation and production stage	Assistant technician	Level 2	Competent in performing a significant range of varied work activities that are being performed in a variety of contexts. Some of these activities are non-routine and require individual responsibility and autonomy.
Certificate		Operator	Level 1	Competent in performing a range of varied work activities, most of which are routine and predictable.

Table 3: Courses offered in 'Building and Construction' scope[26]

▪ Site safety and health	▪ Building Construction
▪ Scaffolding	▪ Water reticulation
▪ Piping	▪ Plumbing and sanitary
▪ Domestic sewerage system	▪ Glazing works
▪ Aluminium works	▪ Construction site supervisory and management
▪ Building painting	▪ Drywall and ceiling installations
▪ Plant operations	▪ Site investigation
▪ Roof truss installation	▪ Architectural
▪ Land survey	▪ Industrialized Building System
▪ Lift and Escalator	▪ Piling
▪ Crane operation	▪

Table 4: Characteristic of dual system in Germany

Characteristic of dual system in Germany	NDTS in Malaysia
Company participation is voluntary	Participation from companies in Malaysia is not very encouraging especially from medium-small enterprise.
Standards and content of training are agreed by employers and trade unions and legally codified	Using NOCC as a foundation for training and assessment (documented training structure). Develop by relevant industry for specific training occupation. Employer can choose method of training delivery whichever convenient to them.
Cooperation between employers and trade unions at various levels supports and renews the system	Most of construction company are under invest in training. Cooperation at low level.
Independence of the system is preserved through corporate bodies	Systems are preserved by Ministry of Human Resource, Malaysia.
The system is financed mainly by corporate training providers with supplementary funding from government	Employers qualify to claim for reimbursement of the training cost under Human Resource Development Fund
The provision of further education includes both general and occupation-related study	Career development for NDTS apprentices after they have K-Worker certificate are into promotion prospect, employment in the industry, self-employment, coach or trainer at training institute or qualify for Malaysian Skills Diploma

In particular skill upgrading or retaining of the existing workforce in addition to pre-employment training needs to be enhanced. In addition to basic formal training, much of the required skills that are short in supply have to be acquired on the job. Existing government training institution is not market driven [18]. Market demands for skills are not well monitored and the mechanism for ensuring relevance output is inadequate. Cabinet Committee on Training (1991) recommend that there is a need to improve the responsiveness of public training market demands, expanding the role of the private training sector, and strengthening linkages between training and technological change [18]. Currently, there are two systems running which is existing skill training in institutional-based system leading towards Malaysia Skill Certification (SKM) and system leading towards dual-based system leading to NDTS k-Worker certificate which are summarized in Table 1.

National Occupational Skills Standards (NOSS)

National Vocational Training Council, NVTC is responsible to formulate, coordinate and promote all strategies and implementation of skills training in Malaysia [17]. National Occupational Skills Standard (NOSS) and SKM were established in response to the recommendation above. NOSS is define as specification of the competencies expected of a skilled worker or professional who is gainfully employed in Malaysia for occupation area and level as required by industries [12]. SKM consist of skill standard level one to five. Participant will be awarded with the qualification certificate after they done with their training.

SKM framework provide candidates with another qualification path and career development opportunity that has been established in line with the academic qualification structure which means double qualification structure is based on two types of qualifications, namely academic qualification and skill qualification. These skill qualifications will give opportunities for all school leavers or those who have no intention in pursuing their study in the high educational institutions. SKM was developed by NVTC or previously known as MLVK. Explanations of SKM are as table 2.

There are 6,575 accredited programs offered by 1,151 accredited training institutions to be trained including 'Building and Construction' courses. Courses offered can be referred to Ministry of Human Resource website. Generally courses offered in 'Building and Construction' are on the scope of Table 3.

National Dual Training System (NDTS)

Decision to introduced NDTS was an initiative effort to resolve issue of skilled workers being produced but not meeting the needs of the industry and at the same time to increase production of k-worker [2]. NDTS is actually an apprenticeship program. It is mainly involve government, public agencies especially Department of Skills and Development, companies and employer, training institute and of course participant or apprentices [23]..Trainees will receive allowance every month from employer. After completing the program, participant will be awarded the NDST k-worker Certificate [13].

Malaysian industry aims to create skilled workforce namely knowledge-worker or 'k-worker'. Training for k-worker must utilize the workplace as the prime learning environment. Because of that, National Dual Training System (NDTS) was commenced in 2005 to produce 31,500 skilled workers by 2010 [13]. NDTS involve 2 years training program carried out. 70 to 80 percent learning process will be held at workplaces and 20 to 30 percent at selected training institution. As for fundamental teaching and learning approaches, self-reliant learning, action-oriented teaching and learn and work assignments was delivered in training [13]. 'Training Occupation' idea was introduced for the first time in Malaysia to designate the training programmes to be selected for NDTS implementation and National Occupational Core Curriculum (NOCC) was introduced as the basis for the training and assessment [13]. NOCC is a new form of development and different from existing NOSS because it development has been premised on the work process orientation.

There are two mode of program delivery to choose depends on the convenience of industry and both training institute and industry can make adjustment according to their requirement depends on the modes which are 'day release' and 'block release' [23]. In 'day release' mode, trainees are trained at the industry about four to five days a week and the remaining one or two days are in the training institutes. Meanwhile, in the 'block release' mode, trainees undergo training for about four to five months at industry and about one to two months at training institute. Training will be conducted through some approaches whether it is hands on and knowledge training conducted by coach at the industry and at the institute and instructor will conduct the training program to be undertaken by public or private sector or industry itself, or Training program conducted in the industries at premises together with the trainers from any approved institutes.

Challenges of training program in Malaysia

In 2007, implementation of NDTS has not been encouraging. There are only 31 companies sponsoring 929 apprentices. Implementation of NDTS is inhibited due to some factors like poor participation from medium-small enterprise limited

number of NOCC has been developed, and limited number of raining institution to cover various training of occupations. Comparing to dual system that was implemented in German earlier, their industry has given full support on the system. They think that dual system as close links between public and private training organisations between public training policy and private training investment [20]. There are some essential characteristics listed by them which made dual system in German was recognised and supported by the industries.

We can see from the success factors of dual system in German [20] which are due to vocational qualification confers high standing in Germany and craftsmen confer high status in society. In addition, Vocational Educational Training (VET) has become political concern in there. Dual systems are not being questioned by any political parties and they take it as most suitable system of VET. Employers and trade unions accept it as stable basis of their VET policy relationship. Moreover, Germany's research and development give much help by providing database, advice to employers, trade unions and governments, platform for joint planning and for improvement and adaptation of vocational training. When planning VET, government acts on the consensus principle by building on the agreement of employers and trade unions. Employers and trade unions provide in-going renewal of the training content and the examination syllabus.

CONCLUSION

If NDTS implementation is successful, it can help to minimising the mismatch issue of quality and quantity of skilled workers, bridge the technology gap between industry and institution, minimising dependence on immigrant workers, and technology transfer to skilled workers, training institution and industrial society [23].

Malaysia's awareness on implementation and seriously consider research and development have to be part of the country's development still at low level. Even CIMP include research and development as one of the strategic thrust, but it is still not well established either in higher education level or industry itself.

There is a need to look deeply at the underlying causes and rethink on the improvement strategy so as to utilise and maximise the local talent and workforce. Knowledge management (KM) techniques are seen as a mean to identifying and exploiting knowledge assets because it is related to individual experiences, lesson learnt, stages of knowledge interaction, lesson learnt, mentoring and apprenticeship (Mohamed and Anumba, 2005). It's bubbling in one's mined how knowledge management can help in providing knowledge based framework in sustaining human resource and be of help in VET in Malaysia.

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