

# Foreign Labour Employment in Construction Project

Abdul Rahim Abdul Hamid, Bachan Singh and Muhammad Ammar Jamadi

Department of Structures and Materials, Faculty of Civil Engineering, Universiti Teknologi Malaysia, 81310 UTM Skudai Johor, Malaysia

**Abstract-** Demands on labour force nowadays increased rapidly each year as the globalization become a national core business, especially in construction sector. Construction sector provides all kind of national needs and Malaysia become a well-developed country in the world. But there is an issue where the citizens have their own demand on choosing work which they refused to work as a construction labour. However, work in the construction sector is often stigmatized with 4D (dirty, dangerous, difficult, and demeaning). Besides that, labour resources are important in ensuring the successful completion of a project. Therefore, Malaysia construction sector had been pulling factor for foreign labour migration in this country. Nowadays, the foreign labour holds the major composition of labour on construction project. This study aim was to investigated the advantages and disadvantaged of foreign labour in construction project. Parallel to this aim, this study set four (4) objectives; to ascertain labour composition in local construction project, to identify common criteria of labour recruitment and selecting among employer, to identify the advantages of hiring foreign labours among employer, and to identify the negative impact of foreign labour to our country, Malaysia. The method that been used to get the data for the objectives was questionnaires distribution method. The questionnaire consisted four (4) sections; details of the construction project, category of respondent, details of construction labours and Likert Scale questions. Then, the data been analysed using percentage and mean index method to reflected it with the objectives. From the analysis, there were more foreign labours rather that local labour that work in local construction project. The most strongly agreed criteria that made foreign labours as the majority in construction project was working experience in construction sector. Most of the employers strongly agreed that foreign labour were cost them lower compared to local labour. However, the employers also strongly agreed that the foreign labour brought negative impacts such as contamination to local culture, increased social problems and increased job competitions to local people. As a conclusion, government should monitor and limits foreign labours migration toward our country, Malaysia to ensure stability and security among Malaysian.

**Index Terms-** Construction, Employment, Foreign, Labour, Project.

## I. INTRODUCTION

Malaysian economic sector development had derived direct impact in Malaysian construction sector development. The construction sector had developed with the demand of residential, commercials, industrials and infrastructures by economic sector. Other than that, foreign markets also increased

the demand of construction in Malaysia (Gerald Sundaraj, 2007). Because of this successful development, the labour demand for construction sector had increased. This increment had attracts local citizens also foreign to works in construction sector. In 2010, Malaysian labour force showed very drastic increment from 11.57 million to 12.06 million workers (Department of Statistic Malaysia, 2010). The phenomenon, also contributed by foreign migrants from various neighbour country such as Indonesia, Bangladesh, India, Myanmar, Nepal, Thailand, Vietnam, Philippine and others (Navamukundan and Subramaniam, 2003).

Because of that, this study was conducted to ensure the eligibility of information about today construction labour composition, criteria of construction labour recruitment and selection, advantages of foreign labour toward employers and negatives impacts from the foreign labour toward our country, Malaysia. This study will provide useful information for making policies bodies such as Malaysian Government, Human Resource Deputy and others in taking measure on reducing foreign labour dependency in Malaysia.

## II. PROBLEM STATEMENT

Construction industry is a very important in developing Malaysia as it generates further economic growth in this country. Malaysia has about 2.2 million legal foreign workers, almost 20 percent of the present Malaysian workforce. The illegal foreign workers were also having the same amount with the legal foreign workers. Malaysia will continue to be flooded with the foreign workers up to 1600 people a day as long as immigration and employment policies are deemed to be very loose and not tightened. General Secretary of the Malaysian Trades Union Congress (MTUC), G. Rajasekaran said the record of foreign workers immigration is very high and become not reasonable. This fact is worrying because it could threaten Malaysian labour market (Malaysian Trades Union Congress, 2007).

According to Apong Herlina (Indonesian labour activists), many Indonesian workers return to Malaysia as urged by the lack of survival options in their own country. Because of that, all the hurdles by the Malaysian government do not break the desire to return to Malaysia (Reuters, August 30, 2002). Country's economic dependence on foreign labours, mainly in construction and agriculture sectors is inevitable. These sectors are still labour-intensive sectors. Foreign workers are needed for the labour-intensive sectors, but employers also need to find a new approach to reduce dependency on foreign workers. Deputy of Human Resources Minister, Datuk Abdul Rahman Bakar, said the increase in foreign workers is inevitable, especially in the 9th Malaysia Plan (RMK-9), which requires more than 1.2 million

new workers to ensure that all sectors can be developed smoothly (Star, July 19, 2007).

Other than that, the country also increased the intake of these foreign workers in 2007, "With the findings, the cabinet committee on foreign workers will be able to decide on the policy for the intake of foreign workers in the future," said Najib. The study would also consider the need for foreign workers in five regional development corridors, three in Peninsular Malaysia and two in Sabah and Sarawak. Demand for foreign workers to work in these areas is expected to increase (NST, 2007). Department of Statistic, Malaysia estimate that there are now 12 thousand foreign nationals (0.2%) in the country. In year 2011, of a total labour force of around 11.62 million people, 12.0% is employed in agriculture, 0.4 % in mining, 27.6% in manufacturing, 6.6 % in construction and 53.5% in services. However, in 2010 total labour employed in agriculture is 11.8%, 0.4% in mining, 27.8% in manufacturing, 6.5% in construction and 53.6% in services (Economic Planning Unit and Department of Statistics).

Meanwhile, the increment of foreign labour had made the domestic labour force view migrant labour as competitors for scarce jobs, whereas they once saw migrant labour as inexpensive sources of labour to fuel the country's high economic growth (Syarisa, 2002). Foreign migrants in Malaysia also involved crime violence's such as robbery and murder (Malaysian Crime Index, 2004). Furthermore, a couple of assemblymen brought up the same issues during the debate, saying that many of their constituents had complained of problems concerning foreign workers. The complained issues consisted unpleasant behavior that showed by the foreign labour that lack of awareness to local sensitivity and caused culture shock to locals. From the wide opinion, it can be concluded that foreign labours were not accustomed to local norms and culture. On the positive side, the foreign labours were hardworking and cheaper in cost compared to local labour. The foreign also, gave positive impacts to Malaysian productivity especially in industrial sector (Zaleha, 2011). They can work for long period with low salary and also can work in high risk and uncomfortable work condition (Zaleha, 2011). Because of those issues, this study focused on advantages and disadvantages of foreign labour in local construction projects.

### III. AIM AND OBJECTIVES OF STUDY

The aim of this project to investigate the advantages and disadvantages of foreign labour employment towards local construction projects. This aim is supported by the following objectives:

- i. To identify labour composition in local construction project,
- ii. To determine common criteria of labour recruitment and selection among employer,
- iii. To investigate the advantages of hiring foreign labours among employer, and
- iv. To examine the negative impact of foreign labour to our country, Malaysia.

### IV. SCOPE OF STUDY

In order to achieve the objectives of this study, the scope of study only focusing on the development of construction. The scopes of data collection in this study focus on the following aspects:

- i. The labour working on-site for construction company such as contractors and sub-contractors who involved in any construction.
- ii. The selected construction project for those companies are located around Johor Bahru due to availability of good number of projects.

### V. METHODOLOGY OF THE STUDY

In this study, the following methodology has been adopted in order to achieve the objective of the study and the methodology of study. The objective of the study achieved using two methods. The first method was through literature review to gather some sound knowledge of the study topic where a clearer framework of the study was established. The sources of the literature were obtained from books, previous thesis, journal, articles, websites and previous researches. The second method was achieved through distribution of questionnaire survey to selected construction project in Johor Bahru. Initially the leading questions for the questionnaire were developed based on objective of the study. The questionnaire was structured into six (4) parts:

- i. Questionnaire cover and general information and instructions to the participants.
- ii. Section A: General information of construction project (Project Title, Type of Project and Project Cost)
- iii. Section B: A quantitative research method was chosen a questionnaire survey was used to collect information of construction labour for each construction project to fulfill the first objective of this study (Total Number of Labour, Number of Local Labour, Number of Foreign Labour, Dividation of Local Labour and Dividation of Foreign Labour by Country).
- iv. Section C: Also a quantitative research method in form of Likert Scale questions to fulfill the second, third and fourth objective of this study (Common Criteria of Labour Recruitment and Selection among Employer, The Advantages of Hiring Foreign Labours among Employer and The Negative Impact of Foreign Labour to Our Country, Malaysia).

The total amount of questionnaire forms been distributed were 50 set of questionnaire forms starting on early of august. This questionnaire forms were answered by 50 respondents, each respondent that represented by each construction project were consisted expert such as Human Resource Officer, Project Manager, Project Executive and Site Supervisor. On the end of October, 35 set of questionnaires had been completely returned.

The data analysis had been done using data that been exported from the returned questionnaire forms. Method of data analysis that been used was Percentage and Comparison Method for section A and section B data and Mean Index Method for section C data.

The percentage and comparison method that been used for section A and B data were used to find percentage for total of local labour, foreign labour, divination by ethnic for local labour and divination by country for foreign labour. These analysis methods were applied to each construction project. The mean index method that been used for section C data were using this formula that used by previous researcher such as McCaffer and Zaimi Abd Majid (1997), See Shiau Ling (2006), Shiadri Saleh (2008) and Noor Ainy Burhanudin (2011) as below.

Mean Index (MI) formula:

$$\frac{\sum a_i x_i}{\sum x_i}$$

Where,

- $a_i$  : Index of a class
- $x_i$  : Frequency of response
- $i$  : 1, 2, 3, 4 and 5 as explained below

The mean index (MI) of the variables was later analyzed and categorized according to the following classification:

- 1 = Strongly Disagree ( $1.0 \leq MI \leq 1.5$ )
- 2 = Disagree ( $1.5 < MI \leq 2.5$ )
- 3 = Slightly Agree ( $2.5 < MI \leq 3.5$ )
- 4 = Agree ( $3.5 < MI \leq 4.5$ )
- 5 = Strongly Agree ( $4.5 < MI \leq 5.0$ )

This MI method was used to analyzed the question with the rating or Likert Scale format according to 5 rating as shown above. The rating had been analyzed in order to get the MI (1.0 until 5.0) showing the tendency of results (See Shiau Ling, 2006).

## VI. FINDINGS AND DISCUSSION

This section explain the findings and discussion based on analyzed data that achieved the objectives of the study. The objectives had been achieved through out literature review and questionnaire's data analysis phase.

### A. Literature Review

Construction industry plays an important role in archiving the elements and the main strategy of the country today. In the 10th Malaysia Plan (RMK10) and the Economic Transformation Program (ETP), the value of projects have been identified were worth almost RM90 billion. Construction industry contribute significantly to the country's economic growth because it has a "multiplier deserve" to give movement to the other economic sectors. In 2010, construction sector recorded a growth of 5.2% versus 5.8% in 2009 (Ministry of Public Works Department, 2011). The demand for construction is a derived demand i.e. demand is derived from every other economic sector, and from both the public as well as the private sectors. The demand can generally be classified as wealth creation demand from economic needs for infrastructure and commercial buildings, and quality of

life demand such as needs for housing. Demand can also come from foreign markets for the same reasons as domestic demand (Gerald Sundaraj, 2007).

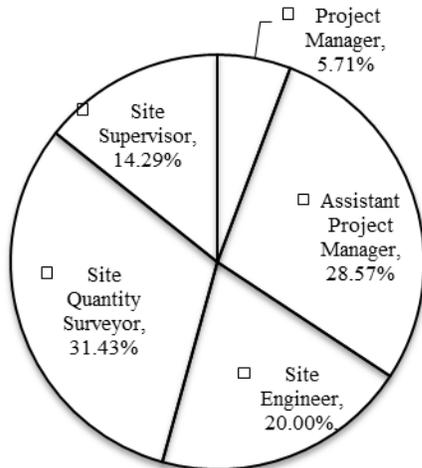
Towards Malaysian economic development that had also driven construction industry developed rapidly, the labour demand also had increased. This statement proved by Main Statistic of Work Power in Malaysia, April 2011, labours force numbers slightly increase (0.6%) than 12.63 million on March 2011 to 12.71 million people. Likewise the other people outside the labour force also increased 12,000 persons (0.2%). The cause of the situation is the Levels of Labour Force Participation (KPTB) records slight increase by 0.1 KPTB point to 64.8 percent. When compared with the same month in 2010, it rising 1.1 KPTB point than 63.7 percent (Statistics of Labour Force in Malaysia, 2011). One recent study (Narayanan and Lai, 2007) found that while in 1985 immigrant labour was concentrated in agriculture (50%), construction (15%), the services sector (16%) and the domestic service sector (8%). The number of labour force showed a significant increase of 490,300 persons to 12.06 million persons compared to 11.57 million in the previous month. Meanwhile, the number of persons outside the labour force recorded a sharp decline of 541,300 persons (7.6%) to 6.63 million compared with 7.17 million. This has contributed to the increase in the LFPR by 2.8 percentage points from 61.7 to 64.5 per cent in December 2010 as showed in figure 2.3.1 (Department of Statistics Malaysia, 2010).

The proportion in the local labour force between 1970 and 2000 for professional, administrative and technical workers increased from 6 per cent to 19 per cent, for service workers increased from 21 per cent to 34 per cent and for agricultural and production workers declined from 73 per cent to 51 per cent. The changing face of the Malaysian labour force has been made possible by access to educational opportunities. Foreign workers have been brought in legally as well as illegally through contractors from Indonesia, Thailand, Burma, Philippines, Cambodia, Sri Lanka, India, Nepal and Bangladesh (Navamukundan and Subramaniam, 2003:343). Of the 2,044,805 foreign workers in 2007, the top five countries origin of unskilled and semi-skilled migrant workers (216,416), India (142,031) and Myanmar (125,577). Most of them worked in the manufacturing sector. In 2006, there were 1,869,209 unskilled and semi-skilled workers from 23 countries. The top five sending countries included Indonesia (62.8 per cent), Nepal (11.4 per cent), India (7.4 per cent), Myanmar (5.8 per cent) and Vietnam (5.7 per cent) (Department of Immigration, 2008).

### B. Data Analysis

There were 35 set of questionnaire forms that been return completely to contribute with this analysis. This complete questionnaire forms had been return by 35 projects around Johor Bahru region.

i. *Categories of Respondent*

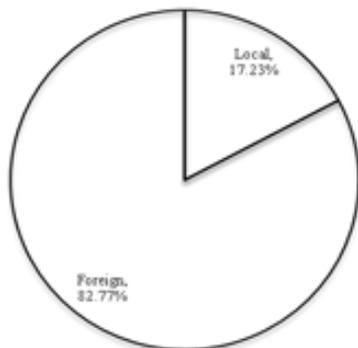


**Figure 1: Categories of respondent**

Figure 1 shows the categories of respondent from 35 construction projects that were Site Quantity Surveyor (31.43%), Assistant Project Manager (28.57%), Site Engineer (20.00%), Site Supervisor (14.29%) and Project Manager (5.71%). All of those respondents were professional and had knowledge about construction project labours.

ii. *Objective 1: Labour Composition in Local Construction Project*

This objective was focused on labour composition in employer's construction project. There were 35 construction projects that contributed to this survey. Result from the data analysis phase as shown in Figure 2, 3, 4 and 5.



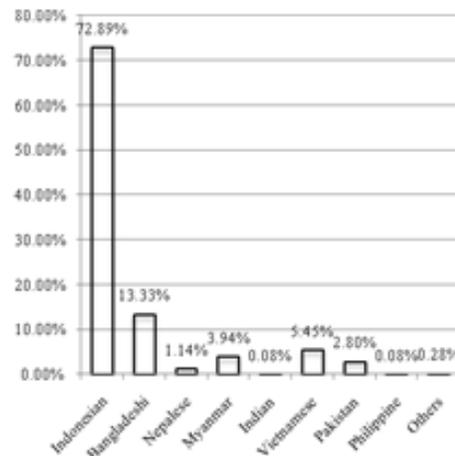
**Figure 2: Overall Labour Composition in Domestic Construction Project**

Figure 2 shows, the chart for overall labour composition in selected domestic construction project. The chart shows the foreign labour (82.77%) was exceeding half of local labour (17.23%) proportion in selected domestic construction project. This shocking situation occurred because of most of the construction company today, were more interested in hiring foreign labour for their construction project compared to local labour.



**Figure 3: Local Labour in Domestic Construction Project**

Figure 3 shows, local labour composition in selected domestic construction project. The most highest percentage was the Malay labour (62.11%) with the second and third highest were Chinese (25.59%) and others (6.45%). The lowest percentage of local labour in selected construction project was Indian (5.86%). This situation occurred because many construction company in Malaysia were owned by Malay and Chinese. Because of that there were large amount of Malay and Chinese labour on their construction project. Indian was the lowest because there was a little amount of Indian construction company in Malaysia.



**Fig. 4: Foreign Labour in Domestic Construction Project**

Figure 4 shows, foreign labour composition in selected domestic construction project. The most highest percentage was the Indonesian labour (72.89%) with the second and third highest were Bangladeshi (13.33%) and Vietnamese (5.45%). Then, followed by Myanmar (3.94%), Pakistan (2.80%) and Nepalese (1.14%). The three lowest percentage of foreign labour in selected construction project was others (0.28%), Indian and Philippine (0.08%). This situation explained, the three highest migrant to Malaysia was from Indonesia, Bangladesh and Vietnam. Its because there were easily adapted with Malaysian culture, climate and environment and Malaysia also offered various of work opportunities with higher currency rate. The other foreign

labours from Myanmar, Pakistan and Nepal also attracted to Malaysia of their work opportunities with currency rate compared to their own country. The lowest foreign labours that work in domestic construction project were others, Indian and Philippine because of there were lack information about Malaysia construction sector work opportunities in their country.

Johor Bahru construction project were 17.23% local labours and 82.77% foreign labour mostly from Indonesia.

iii. Objective 2: Criteria of Labour Recruitment and Selection

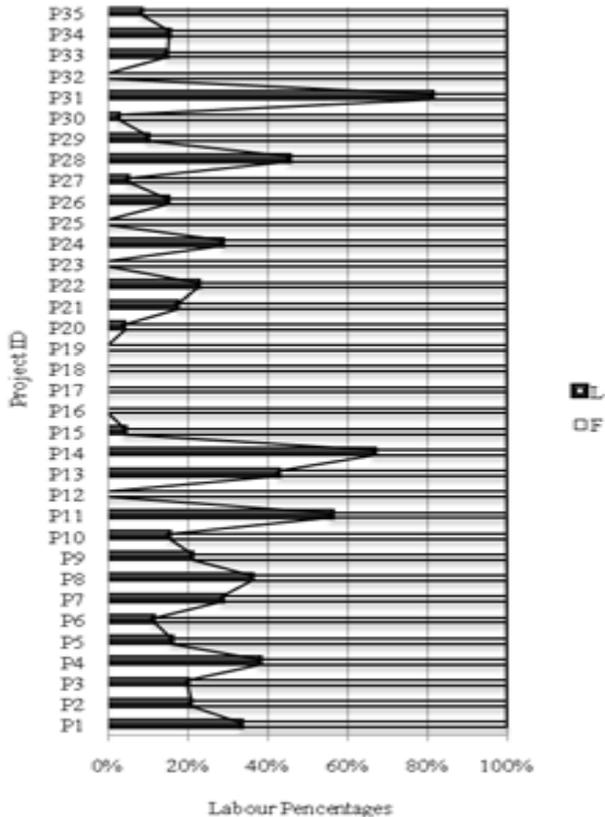


Figure 5: Overall Labour Composition for each Domestic Construction Project

Figure 5 shows the overall labour composition for each domestic construction project in Johor Bahru. The L label is referring local labour and the F label refers to foreign labour. There were 35 construction project labels as P1 until P35 at the left side of the chart. The top three construction projects consisting highest percentages of local labour was P31 (81.25%), P14 (66.67%) and P11 (56.00%). On the other view, the top three construction projects consisting highest percentages of foreign labour was P16 (100.00%), P18 (100.00%) and P19 (100.00%). According to figure also, there were three (3) of 35 projects only had consisted local labour more than foreign labour (exceeding 50.00% per project). Therefore, the other 32 of 35 projects had consisted foreign labour more than local labour. This situation proved that most of the Malaysian construction project and construction company preferred foreign labour rather than local labour even though, the foreign labour recruitment procedures and policies were rigid.

As a conclusion for Figure 2, 3, 4 and 5, the foreign labour had occupied most of the work position in construction project in Johor Bahru region. As roughly, the composition of labour in

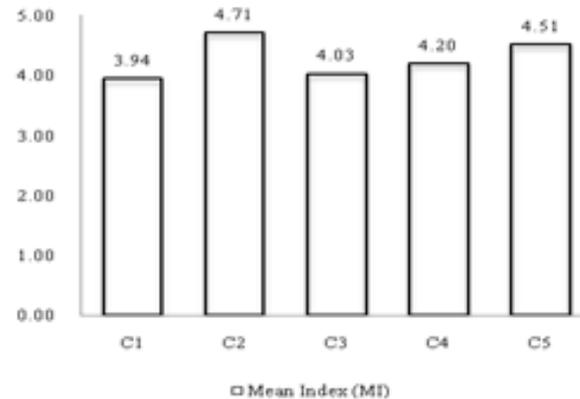


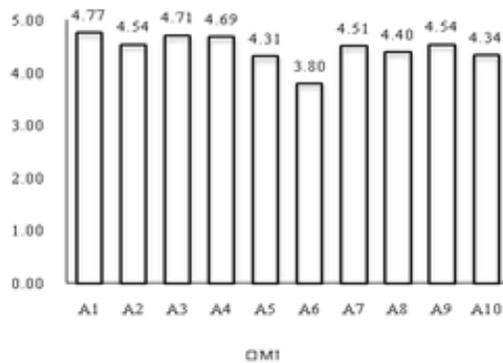
Figure 6: Criteria in Labour Recruitment and Selection among Employers

Table 1: Classification of Criteria by

ID	Criteria	MI	Class
C1	Education Level	3.94	Agreed
C2	Working Experience	4.71	Strongly Agreed
C3	Nationality	4.03	Agreed
C4	Salary Demand	4.20	Agreed
C5	Work Capability	4.51	Strongly Agreed

Figure 6 and Table 1 show the criteria for recruitment and selection of labour that been stressed by the employer in domestic construction project. The highest selection criteria that been strongly agreed by most of the employers was working experience of the labour (C2) with 4.71 Mean Index (MI). Then, followed by work capability of the labour (C5) with 4.51 MI, salary demand by the labour (C4) with 4.20 MI, nationality of the labour (C3) with 4.03 MI and the education level of the labour (C1) with 3.94 MI. In this figure, there were two (2) criteria that strongly agreed by the employers, it was C2 and C5. Other than that, the employers also agreed on C4, C3 and C1. Therefore, the most important criteria that were stressed by the employers were working experience. Today, not many local people had experience working as a construction labour. Because of that, all of this position sited by foreign labour that gained experience from working as labour at their own country.

iv. *Objective 3: Advantages of Hiring Foreign Labour*



**Figure 7: Advantages of Hiring Foreign Labour among Employers**

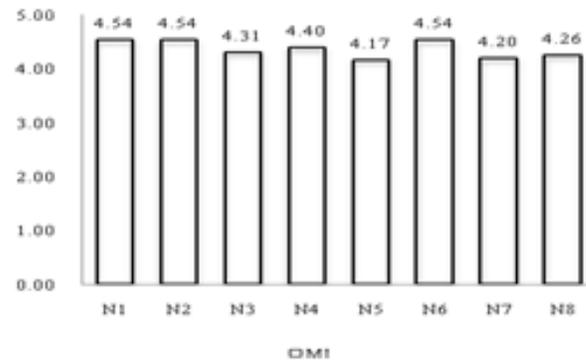
**Table 2: Classification of Advantages by MI**

ID	Advantages	MI	Class
A1	Lower cost	4.77	Strongly Agreed
A2	Higher Discipline	4.54	Strongly Agreed
A3	Willing to work over-time	4.71	Strongly Agreed
A4	Does not need comfortable accommodation	4.69	Strongly Agreed
A5	Easy to understand instruction	4.31	Agreed
A6	Higher education	3.80	Agreed
A7	Wide experience	4.51	Strongly Agreed
A8	Can work at any condition of work place	4.40	Agreed
A9	Willing to take any risk	4.54	Strongly Agreed
A10	Better quality of work	4.34	Agreed

Figure 7 and Table 2 show the advantages of hiring foreign labour that been enjoyed by the employer in domestic construction project. The highest advantages that been strongly agreed by most of the employers was the foreign labour lower in cost compared to local labour (A1) with 4.77 MI. Then, followed by foreign labour willing to work overtime no matter in day or night (A3) with 4.71 MI, foreign labour does not need comfortable place to stay (A4) with 4.69 MI, foreign labour had higher discipline compared local labour (A2) with 4.54 MI, foreign labour willing to take all the risk arise at their work place (A9) with 4.54 MI, foreign labour had wide experience in construction sector (A7) with 4.51 MI, foreign labour does not ignore the condition and circumstances of work place (A8) with 4.40 MI, foreign labour had better quality of work compared to local labour (A10) with 4.34 MI, foreign labour was easy to understand any instruction given (A5) with 4.31 MI and the lowest advantages agreed by the employers was foreign labour had higher education level compared to local labour (A6) with

3.80 MI. In this figure, there were six (6) advantages of foreign labour that strongly agreed by the employers, it was A1, A3, A4, A2, A9 and A7. Other than that, the employers also agreed on A10, A5 and A6. Therefore, the employers mostly strongly agreed with an advantage namely because the foreign labour lower in cost compared to local labour. In this case, foreign labour cost was lower than local labour because of their salary. The foreign labour always mostly satisfied with their salary because of their lower paid in their own country.

v. *Objective 4: The Negative Impact of Foreign Labour*



**Figure 8: Negative Impact of Foreign Labour to Malaysia**

**Table 3: Classification of Impacts by MI**

ID	Impacts	MI	Class
N1	Contamination to local culture	4.54	Strongly Agreed
N2	Social problems impact	4.54	Strongly Agreed
N3	Political instability	4.31	Agreed
N4	Economical instability	4.40	Agreed
N5	Decreased productivity	4.17	Agreed
N6	Competition for jobs	4.54	Strongly Agreed
N7	Increased labour hired rate	4.20	Agreed
N8	Accommodation problems	4.26	Agreed

Figure 8 and Table 3 show the negative impacts of foreign labour to our country, Malaysia. The highest negative impacts of foreign labour that been strongly agreed by most of the employers was foreign labour gave contamination to local culture (N1), social problems impact to local resident (N2) and increased competition for jobs among locals (N6) all three with 4.54 MI. Then, followed by contributed to domestic economical instability (N4) with 4.40 MI, contributed to domestic political instability (N3) with 4.31 MI, problems to accommodate foreign labour (N8) with 4.26 MI, increased foreign labour hired rate (N7) with 4.20 MI and the impact with the lowest MI (4.17) was decreased national productivity (N5). According to this figure, there were three (3) negative impacts that strongly agreed by the

employers, it was N1, N2 and N6. Other than that, the employers also agreed on N4, N3, N8, N7 and N5. Therefore, the most impact should be address was foreign labour contribution to contamination to local culture. Today, many foreign labours were free to go and stay anywhere same as Malaysian citizen. They also stay in local neighbourhood. They made friends and also married to local people. So, that will be the main reason for the contamination of culture occurred.

## VII. CONCLUSION

This study concluded that the composition of labour in construction project in Johor Bahru region were mostly occupied by foreign labour from various country but mostly from Indonesia. This is because, the foreign labour passed all requirement to recruit labour that set by the employers especially level of working experience as a construction labour. This been proven by analysis that been made about the advantages of hiring foreign labour, the employer also strongly agreed that foreign labour had wide working experience in construction sector. It also proven in working capability criteria that been demand by employers had been fulfil by the foreign labour as strongly agreed by the employers as foreign labour had capability to work overtime even though in day or night. Therefore, this analysis proved that foreign labour had fulfilled most of the criteria set by most of the employers. However, in the other side, the employers also strongly agreed that the foreign labour had brought negative impact such as contamination to local's culture, social problems impact to local residents and increased competition for jobs among Malaysian. Therefore, even though the foreign labour gave many positive impacts to our country, it's also brought negative impacts to our country. Because of that, the reliability and dependence of our country toward foreign labour should be reduced.

## ACKNOWLEDGMENT

We would like to thank our sponsor, Ministry of Higher Education (MOHE) and Universiti Teknologi Malaysia (UTM) for the financial support of Research University Grant (Vote No. Q.J130000.7122.03J11) which enable us to carry out this research project. Thank you also to UMT Research Management Centre (RMC) and those who had contributed towards the completion of this research.

## REFERENCES

- [1] Abd. Majid M.Z. and Ronald McCaffer, M.ASCE (1997), *Factors of Non Excusable Delays That Influence Contractor's Performance*, Journal of Construction Engineering and Management, ASCE.
- [2] Ahmadon Bakri, Rosli Mohamad Zin (PhD), Mohd Saidin Misnan, Zakaria Mohd Yusof, and Wan Yusoff Wan Mahmood (2005), *Safety Training for*

*Construction Workers: Malaysian Experience*, Universiti Teknologi Malaysia, Malaysia.

- [3] Azizah Kassim (2001), *Integration of Foreign Workers and Illegal Employment in Malaysia*, Universiti Malaya, Malaysia.
- [4] Azizah Kassim (2005), *Cross-Border Movement of Foreign Workers in Malaysia: A Comparative Analysis*, Master Builders: 3<sup>rd</sup> Quarters 2005, MBAM, Kuala Lumpur.
- [5] Department of Statistics (2011). *Principal Statistics of Labour Force*, Malaysia.
- [6] Department of Statistics (2011), *Labour Force Survey Report*, Malaysia.
- [7] Kementerian Kerja Raya (2011), *Pelan Strategik 2011-2012*, Bahagian Perancangan Koporat, Kuala Lumpur.
- [8] Ministry of Human Resources, Malaysia
- [9] Nina Widyawati (2005), *Representations of Migrant Workers in Malaysian Newspapers*, The Work of The 2005/2006 API Fellows, Malaysia.
- [10] Noor Ainy Burhanudin (2011), *Adaptation of Gateway™ as JKR Process Review to Ensure Project Success*, Faculty of Civil Engineering, Universiti Teknologi Malaysia, Johor Bahru, Malaysia.
- [11] Putrajaya Holdings (2007), *IBS Pertingkat Kemajuan Industri Pembinaan*, Malaysia.
- [12] See Shiau Ling (2006), *Periodical Inspection on Reinforced Concrete Building*, Faculty of Civil Engineering, Universiti Teknologi Malaysia, Johor Bahru, Malaysia.
- [13] Sivam Doraisamy (2002), *Situation of Young Workers in Malaysia*, Malaysian Trades Union Congress (MTUC), Malaysia.
- [14] Shiadri Binti Saleh @ Aman (2008), *Causes Of Poor Participation Of Local Workers In Malaysia Construction Industry And Strategies For Improvement*, University Technology Malaysia, Malaysia
- [15] Syarisa Yanti Abubakar (2002), *Migrant Labour in Malaysia: Impact and Implications of the Asian Financial Crisis*, EADN Regional Project on the Social Impact of the Asian Financial Crisis, Malaysia.
- [16] Y.Michael (2010), *Professional Qualification and Certification of Construction and Project Development Personnel*. Deputy President Redha, Malaysia.
- [17] Zaleha Mohd Noor, Noraini Isa, Rusmawati Said and Suhaila Abd Jalil (2011), *the Impact of Foreign Workers on Labour Productivity in Malaysian Manufacturing Sector*, Universiti Putra Malaysia, Int. Journal of Economics and Management, Malaysia.

## AUTHORS

**First Author** – Abdul Rahim Abdul Hamid is a senior lecturer at the Department of Structures and Materials, Faculty of Civil Engineering, Universiti Teknologi Malaysia. E-mail id: rahimfka@gmail.com

**Second Author** – Bachan Singh is a senior lecturer at the Department of Structures and Materials, Faculty of Civil Engineering, Universiti Teknologi Malaysia. E-mail id: bachan19@yahoo.com

**Third Author** – Muhammad Ammar Jamadi is a Postgraduate Student, Msc Construction Management, Faculty of Civil Engineering, Universiti Teknologi Malaysia. E-mail id: majy1011@gmail.com

**Correspondence Author** – Abdul Rahim Abdul Hamid, alternate email address (rahimhamid@utm.my), contact number (+60137531947)