

**LABOUR FORCE PARTICIPATION OF LOCAL YOUTH  
IN THE OIL PALM PLANTATION: CASE STUDY IN THE  
SELECTED STATES OF NORTHERN MALAYSIA**

**NURFARAHAIN BT ZAINOL**

**MASTER OF ECONOMICS  
UNIVERSITI UTARA MALAYSIA  
JANUARY 2015**

**LABOUR FORCE PARTICIPATION OF LOCAL YOUTH IN THE  
OIL PALM PLANTATION: CASE STUDY IN THE SELECTED  
STATES OF NORTHERN MALAYSIA**

**By  
NURFARAHAIN BT ZAINOL**

**A Project Paper Submitted to  
Othman Yeop Abdullah Graduate School of Business,  
Universiti Utara Malaysia,  
In Partial Fulfillment of the Requirement for the Master of Economics**

## **PERMISSION TO USE**

In presenting this dissertation/project paper in partial fulfillment of the requirements for a Post Graduate degree from the Universiti Utara Malaysia (UUM), I agree that the Library of this university may make it freely available for inspection. I further agree that permission for copying this dissertation/project paper in any manner, in whole or in part, for scholarly purposes may be granted by my supervisor(s) or in their absence, by the Dean of Othman Yeop Abdullah Graduate School of Business where I did my dissertation/project paper. It is understood that any copying or publication or use of this dissertation/project paper parts of it for financial gain shall not be allowed without my written permission. It is also understood that due recognition shall be given to me and to the UUM in any scholarly use which may be made of any material in my dissertation/project paper.

Request for permission to copy or to make other use of materials in this dissertation/project paper in whole or in part should be addressed to:

**Dean of Othman Yeop Abdullah**

**Graduate School of Business**

**Universiti Utara Malaysia**

**06010 UUM Sintok**

**Kedah Darul Aman**

## ABSTRACT

The Malaysian oil palm industry is labor-intensive, especially in the oil palm plantations. It is reported that in 2013, the total number of plantation workers comprise of 69% foreigners and 31% local. The small number of local participation indicates their lack of interest to work in the industry and this urged the industry to resort to employing foreigners. The issues of rising social and security problems related to foreign workers; as well as the increasing the cost of foreign workers following higher recruitment costs, thus affecting the cost of palm oil production. The best solution is to locate the local labor youth in oil palm plantation sector. This study aims to investigate factors of labor shortage in oil palm plantations among local labor youth in Perak, Perlis, and Kedah. By identifying factors that can attract more local to work in oil palm plantation, Malaysia can reduce dependency upon foreign workers. A survey method through questionnaire was used to collect data using random and purposive sampling method. A total of 332 respondents in FELCRA and FELDA were analysed using Probit model. Finding shows that age and race are positively significant with the probability to participate in oil palm plantation. Whereas gender, marital status, level of education, parents's jobs are negatively significant. Imposing policies that improve the plantation environments, job's status, facilities and benefits will help to attract local youth to participate in plantation sector, specifically the oil palm.

***Keywords:*** *plantation, local labor youth, labor force participation, foreign workers*

## ABSTRAK

*Industri sawit Malaysia adalah intensif buruh , terutamanya di ladang-ladang kelapa sawit . Ia melaporkan bahawa pada tahun 2013 , jumlah pekerja ladang terdiri daripada 69 % warga asing dan 31 % tempatan . Jumlah kecil penyertaan tempatan menunjukkan kekurangan yang mereka minat untuk bekerja dalam industri ini dan menggesa industri itu untuk mengambil warga asing. Isu-isu yang semakin meningkat seperti masalah sosial dan keselamatan yang berkaitan dengan pekerja asing ; serta peningkatan kos pekerja asing berikutan kos pengambilan yang lebih tinggi dan akan menjejaskan kos pengeluaran minyak sawit . Penyelesaian terbaik adalah untuk mencari belia buruh tempatan dalam sektor perladangan kelapa sawit . Kajian ini bertujuan untuk menyiasat faktor kekurangan buruh di ladang-ladang kelapa sawit di kalangan belia buruh tempatan di Perak , Perlis , dan Kedah . Oleh itu, antara faktor-faktor yang boleh menarik lebih ramai tempatan untuk bekerja di ladang kelapa sawit dienalpasti, Malaysia boleh mengurangkan pergantungan kepada pekerja asing . Satu kaedah tinjauan melalui soal selidik telah digunakan untuk mengumpul data kajian secara rawak dan bertujuan. Seramai 332 responden di FELCRA dan FELDA telah dianalisis menggunakan model PROBIT . Dapatan kajian menunjukkan bahawa umur dan kaum adalah positif yang signifikan dengan kebarangkalian untuk mengambil kerja dibahagian dalam ladang kelapa sawit . Manakala jantina , status perkahwinan , tahap pendidikan, pekerjaan ibu bapa adalah negatif yang ketara . Mengenakan dasar-dasar yang meningkatkan persekitaran ladang , status , kemudahan dan faedah pekerjaan yang akan membantu untuk menarik belia tempatan menyertai sektor perladangan , khususnya di kelapa sawit .*

*Kata Kunci : perladangan , belia buruh tempatan , penyertaan tenaga buruh , pekerja asing*

## **ACKNOWLEDGEMENT**

All praise due to Allah WST, the Lord of the world that makes it possible for me to complete this project. Blessing and salutation also are on the Prophet of Allah SWT, Muhammad S.A.W. I would like to take this opportunity to express my gratitude and appreciation to the following individuals whose guidance and contribution in preparing this paper.

Firstly, I would like to express my gratefulness and appreciation to my supervisor, Prof Madya Dr. Norehan binti Abdullah for her guidance, encouragement and advices throughout the process of completing this project paper. A word of appreciation also goes to all the respondents of local youth for their cooperation, tolerance and concerns. I am truly indebted for their contribution in term of time, patience, attentions and efforts for the completion of this project paper.

A very special thanks to my parents and my siblings for their constant demonstration of love and continuous moral support throughout my years of study. I would like to express my thanks to FECRA Lekir, FELCRA Seberang Perak, FELDA Trolak in Perak, FELDA Teloi Timur in Kedah, and last but not least FELDA Rimba Mas, Padang Besar Perlis. I would like to thank all respondents of this study without which this study would not have been successful. Last but not least, my thanks to all who are involved directly or indirectly in the process of completing this study.

Thank you.

## TABLE OF CONTENT

| TOPIC                                                                             | PAGES         |
|-----------------------------------------------------------------------------------|---------------|
| PERMISSION TO USE                                                                 | i             |
| ABSTRACT                                                                          | ii            |
| ABSTACK                                                                           | iii           |
| ACKNOWLEDGEMENT                                                                   | iv            |
| TABLE OF CONTENT                                                                  | v             |
| LIST OF TABLE                                                                     | ix            |
| LIST OF FIGURE                                                                    | viii          |
| LIST OF ABBREVIATIONS                                                             | x             |
| <br><b>CHAPTER ONE : INTRODUCTION</b>                                             | <br><b>1</b>  |
| 1.1 INTRODUCTION                                                                  | 1             |
| 1.2 THE MALAYSIAN PALM OIL<br>INDUSTRY                                            | <br>9         |
| 1.3 BACKGROUND OF STUDY                                                           | 13            |
| 1.3.1 Federal Land Consolidation Rehabilitation Authority<br>(FELCRA)             | <br>18        |
| 1.3.2 The Federal Land Development Authority (FELDA)                              | 18            |
| 1.4 PROBLEM STATEMENT                                                             | 19            |
| 1.5 RESEARCH QUESTION                                                             | 20            |
| 1.6 OBJECTIVE OF THE STUDY                                                        | 20            |
| 1.7 SIGNIFICANCE OF STUDY                                                         | 21            |
| 1.8 SCOPE OF STUDY                                                                | 22            |
| 1.9 ORGANIZATION REPORT                                                           | 22            |
| <br><b>CHAPTER TWO : LITERATURE REVIEW</b>                                        | <br><b>23</b> |
| 2.1 INTRODUCTION                                                                  | 23            |
| 2.2 THEORETICAL AND CONCEPT                                                       | 24            |
| 2.2.1 Definition of plantation<br>History of                                      | <br>24        |
| 2.2.2 plantation                                                                  | 25            |
| 2.2.3 Participation                                                               | 26            |
| 2.2.4 Labor shortage in oil palm plantation                                       | 27            |
| 2.2.5 Factors affecting participant labor youth<br>in oil palm plantation sectors | <br>29        |
| 2.2.5.1 Level of education                                                        | 29            |

|                                                                 |                                                               |    |
|-----------------------------------------------------------------|---------------------------------------------------------------|----|
| 2.2.5.2                                                         | Immigration                                                   | 30 |
| 2.2.5.3                                                         | Foreign workers in<br>oil palm plantation sectors             | 34 |
| 2.2.5.4                                                         | Socioeconomic and welfare effect                              | 36 |
| 2.3                                                             | EMPIRICAL                                                     | 38 |
| 2.4                                                             | CONCLUSION                                                    | 43 |
| <b>CHAPTER THREE : DATA AND RESEARCH METHODOLOGY</b>            |                                                               | 44 |
| 3.1                                                             | INTRODUCTION                                                  | 44 |
| 3.2                                                             | CONCEPTUAL FRAMEWORK                                          | 45 |
| 3.3                                                             | RESEARCH DESIGN                                               | 46 |
| 3.4                                                             | SOURCES OF DATA                                               | 47 |
| 3.4.1                                                           | Primary data                                                  | 47 |
| 3.4.1.1                                                         | Questionnaire                                                 | 48 |
| 3.5                                                             | DATA COLLECTION                                               | 48 |
| 3.5.1                                                           | Population and sample                                         | 49 |
| 3.5.2                                                           | Unit of analysis                                              | 49 |
| 3.5.3                                                           | Data collection procedure                                     | 50 |
| 3.6                                                             | MEASUREMENT OF VARIABLES                                      | 51 |
| 3.7                                                             | DATA ANALYSIS                                                 | 52 |
| 3.7.1                                                           | Statistical package of social science (SPSS)                  | 52 |
| 3.7.2                                                           | Data analysis and statistical software (STATA)                | 53 |
| 3.7.3                                                           | Descriptive Statistic                                         | 53 |
| 3.7.4                                                           | Data screening                                                | 53 |
| 3.8                                                             | ANALYTICAL TECHNIQUE                                          | 54 |
| 3.9                                                             | CONCLUSION                                                    | 56 |
| <b>CHAPTER FOUR : ANALYSIS AND INTERPRETATION OF<br/>RESULT</b> |                                                               | 57 |
| 4.1                                                             | INTRODUCTION                                                  | 57 |
| 4.2                                                             | DESCRIPTIVE ANALYSIS                                          | 58 |
| 4.3                                                             | DEMOGRAPHIC BACKGROUND                                        | 58 |
|                                                                 | Part A: Descriptive analysis                                  | 58 |
|                                                                 | Part B: Perception about participating in oil palm plantation | 65 |
|                                                                 | Part C: Probit analysis                                       | 71 |
| 4.4                                                             | CONCLUSION                                                    | 74 |



|                                                                                           |    |
|-------------------------------------------------------------------------------------------|----|
| <b>CHAPTER FIVE : SUMMARY AND CONCLUSION</b>                                              | 75 |
| 5.1 SUMMARY                                                                               | 75 |
| 5.2 DISCUSSION OF THE STUDY                                                               | 77 |
| 5.3 POLICY IMPLICATION                                                                    | 78 |
| 5.3.1 Improve working condition for oil palm plantation                                   | 78 |
| 5.3.2 Increase of facilities and benefits for<br>local youth labor in oil palm plantation | 79 |
| 5.4 SUGGESTION FOR FUTURE STUDY                                                           | 71 |
| <b>REFERENCES</b>                                                                         | 82 |
| <b>APPENDIX 1 : QUESTIONNAIRE</b>                                                         |    |
| <b>APPENDIX 2 : DESCRIPTIVE STATISTIC</b>                                                 |    |
| <b>APPENDIX 3 : PROBIT REGRESSION</b>                                                     |    |

## **LIST OF FIGURES**

|                                                                                          |    |
|------------------------------------------------------------------------------------------|----|
| Figure 1 : Oil Palm Planted Area by Category at December 2013                            | 11 |
| Figure 2 : The Map of Northern Region in Malaysia                                        | 14 |
| Figure 3 : Conceptual Framework for Involvement of Local Youth in<br>Oil Palm Plantation | 45 |
| Figure 4: Marital Status in Percent (%)                                                  | 61 |
| Figure 5 : Category Age n Percent (%)                                                    | 62 |
| Figure 6 : Respondent who work or not work in Oil Palm Plantation                        | 63 |

## **LIST OF TABLE**

|                                                                                               |    |
|-----------------------------------------------------------------------------------------------|----|
| Table 1: Overview of Oil Palm in Malaysia                                                     | 9  |
| Table 2: Distribution of Oil Palm Planted Area by State and Sector in 2013                    | 15 |
| Table 3: Estimated Total Workforce in Oil Palm Cultivation in Malaysia by<br>Category of Work | 42 |
| Table 4: Definition and Measurement of Independent variables                                  | 51 |
| Table 5: Descriptive Analysis                                                                 | 59 |
| Table 6: Economic Fortune                                                                     | 65 |
| Table 7: Work Environment                                                                     | 66 |
| Table 8: Social Facilities                                                                    | 68 |
| Table 9: Social Status Job                                                                    | 69 |
| Table 10: Government/Employer Policies                                                        | 70 |
| Table 11: Probit Estimation Result                                                            | 71 |

## **LIST OF ABBREVIATION**

|        |                                                       |
|--------|-------------------------------------------------------|
| CPO    | Crude Palm Oil                                        |
| DOA    | Department of Agriculture                             |
| EPF    | Employees Provident Fund                              |
| FELCRA | Federal Land Consolidation & Rehabilitation Authority |
| FELDA  | Federal Land Development Authority                    |
| FFB    | Fresh Fruit Bunches                                   |
| FGVH   | Felda Global Ventures Holdings                        |
| IMPAC  | Institute of Malaysia Plantation and Commodities      |
| IOI    | IOI Corporation Berhad                                |
| GDP    | Gross Domestic Product                                |
| GNI    | Gross National Income                                 |
| KOML   | Plantation Mechanization Operator's Course            |
| MAPA   | Malayan Agricultural Producers Association            |
| MPI    | Minister of Plantation Industries and Commodities     |
| MPOA   | Malaysia Palm Oil Association                         |

|        |                                                        |
|--------|--------------------------------------------------------|
| MPOB   | Malaysia Palm Oil Board                                |
| MPOC   | Malaysia Palm Oil Council                              |
| NDP    | National Development Policy                            |
| NVC    | National Vision Policy                                 |
| PLASMA | Malaysian Palm Training Center                         |
| RISDA  | Rubber Industry Smallholders Development Authority     |
| SPSS   | Statistical Package of Social Science                  |
| STATA  | Data Analysis and Statistical Software                 |
| UNRSD  | United Nation Research Institute of Social Development |

## **CHAPTER ONE**

### **INTRODUCTION**

#### **1.1 Introduction**

The oil palm industry forms the economic backbone of Malaysia and continues to face new challenges in the face of globalization. As of 2012, total planted oil palm in Malaysia is about 5, 037,959 hectares (MPOB, 2012). Sabah is a state that has the most extensive area of oil palm cultivation in Malaysia. The total is 1.28million hectares which represent 30 percent the total area of oil palm cultivation in Malaysia (MPOB, 2012). Palm oil was exported to 145 countries around the world and all thus placing it as an economic generator in the agriculture sector (MPOB, 2012). The increase in commodities is expected to continue based on its advantages and its ability to generate income to oil palm cultivation in Malaysia. In Malaysian oil palm plantations work force is needed because the use of mechanization and high technology has not yet comprehended. Sufficient force is important to ensure the operation of the farm will be completed on schedule to meet the needs of Malaysian palm oil industry. Dominance of foreign workers in the plantation sector in Malaysia is not something unusual. Statistics produced by the Labour Department where a total of 300,000 foreign workers employed in farm and industrial commodities, especially in oil palm plantations at the moment (Che Johari, 2008). However, the current percentage of foreign employment has decreased due to several factors. Government tries to reduce reliance on foreign workers in the plantation. Migrants from Indonesia also declined following the opening of large-scale oil palm

The contents of  
the thesis is for  
internal user  
only

## REFERENCES

- Adenegan, K.O, O.I. Oladele and M.N. Ekpo. (2004): Impact of Agricultural Exports on Food Security in Nigeria. *Journal of Food, Agriculture and Environment JFAE* Vol.2 No.1 pp.107-112 WFL Publication.
- Agwu, M.N., Nwankwo, E.E., and Anyanwu, C.I. (2012). Determinants of agricultural labour participation among youths in Abia State, Nigeria. *International Journal of Food and Agricultural Economics*. Vol. 2 No. 1 pp. 157-164.
- Ahaibwe, G., Mbowe, S., and Lwanga, M.M. (2013). Youth engagement in agriculture in uganda: challenges and prospects. *Economic Policy Research Centre (EPRC)*. Research series no. 106.
- Angrist J. D and Kugler A. D .(2003). Protective or Counter-Productive? Labour Market Institutions and the Effect of Immigration on EU Natives, *The Economic Journal*, **113**, Malden
- Asadul Islam. (2008). The Substitutability of Labour Between Immigrants and Natives in the Canadian Labour Market, Circa 1995” Department of Economics, Monash University.
- Azizah Kassim. (1997). Illegal Alienlabour in Malaysia: Its influx, Utilisation and ramifications:Indonesia and Malay World, *Oxford University Press , Oxford*, No 17, March, pp50-82
- Bank Negara Malaysia. (1997). The Central Bank and the Financial System in Malaysia: A Decade of Change Kuala Lumpur: BNM
- Bailey, Rayna. ( 2008). Immigration and Migration, Global Issues, Facts on File, New York.
- Beinart, W. (1991). Transkeian migrant workers and youth labour on the natal sugar estates 1918-1948. *The Journal of African History*, Vol. 32, No. 1, pp. 41-63.
- Bernama. (2014, April 1). Nearly 80 per cent of workers in oil palm sector foreigners. Retrieved:<http://www.theborneopost.com/2014/04/01/nearly-80-per-cent-of-workers-in-oil-palm-sector-foreigners/>
- Bethe, Ernest E. (2010). Increasing Benefits for Oil Palm Smallholders. Presentation at the 8th Roundtable Meeting on Sustainable Palm Oil.
- Borjas, G. J. (2006). The Impact of Immigration On The Labour Market, Conference on Labour and Capital Flows in Europe Following Enlargement, organized by the International.



- Bossen, L. (1982). Plantations and labour force discrimination in Guatemala. *Current Anthropology*, Vol. 23, No. 3, pp. 263-268. Monetary Fund, the Joint Vienna Institute, and the National Bank of Poland.
- Brooks, C. (2002). Introductory Econometrics for Finance. *Library Congress Cataloguing in Publication Data*. United Kingdom.
- Business News. (2012, August 25). The Star. Retrieved: <http://www.thestar.com.my/Business/Business-News/2012/08/25/The-future-is-in-our-palm/>
- CEPA. (2005). Moving out of poverty in the estate sector in Sri Lanka: understanding growth and freedom from the bottom up. Final draft.
- Carrasco, R, Juan. F. J & Ortega. A. C. (2008). The effect of immigration on the labour market performance of native-born workers: Some evidence for Spain”, *Journal Popular Economics* **21**:627-648.
- Chandrabose A. S. (2006). Labour turnout in the plantation sector: a study on selected large scale tea estates in Sri Lanka. *Economic Review, Peoples Bank*.
- Che Johari , M. (2008). 300,000 WargaAsingBekerja di SektorPerladangan ,*BeritaHarian* , 3 July
- Daud Amatzin. (2006). Labour Constraint in Plantation Industry *Oil Palm Economic Journal Vol 6(2) 2006*
- Ghosal, S (2009). Workers walk out of Tea Gardens for greener pastures. Retrieved from *The Economic Times* :[http:// articles. Economic times. Indiatimes.com/2009-12-14/news/27665](http://articles.EconomicTimes.Indiatimes.com/2009-12-14/news/27665).
- Damisa, R. Samndi and M. Yohana. (2007). “Women Participation in Agricultural Production- A probit Analysis” *Journal of Applied Sciences*. 7(3): 412-416.
- Department of Statistics Malaysia. (2010). General Report of the Population Census of Malaysia: 2010, Volume 1 and 2, Kuala Lumpur
- Department of Statistics Malaysia. (2013). Retrieved 18 November 2014, from <http://www.epu.gov.my/documents/10124/2257e64f-b08d-41b7-bed0-b6e6498c38a3>
- Dustmann, Christian. (2003). Return Migration, Wage Differentials, and the Optimal Migration Duration, *European Economic Review*, vol. **47 (2)**, April, 353-67.
- Dustmann, Christian. (2005). The Impact of Immigration on the British Labour Market, *The Economic Journal*, vol. **115** (November), Royal Economic Society 2005, Malden.

- Dyson, J. (2008). Harvesting identities: youth, work, and gender in the Indian Himalayas. *Annals of the Association of American Geographers*, Vol. 98, No. 1, pp.160-179.
- Elder, Jr. G.H. (1963). Achievement orientations and career patterns of rural youth. *Sociology of Education*, Vol. 37, No. 1, pp. 30-58.
- Environmental Impact Assessment (EIA) Guidelines for oil palm plantation development, Sabah,Malaysia. (2002). *The Environmental Conservation Department* (ECD).
- Eskola, E. (2008). Commercialization and Poverty in Tanzania: Household-Level Analysis. Internet Discussion Paper <http://www.econ.ku.dk> Retrieved August 2008.
- ETP Annual Report. (2012). NKEA: Palm Oil and Rubber.
- Etwirel, P.M., Dogbe, W., Wiredu, A.N., Martey, E., Etwire, E., Owusu, R.K., and Wahaga, E. (2013). Factors influencing farmer's participation in agricultural projects: the case of the agricultural value chain mentorship project in the northern region of Ghana. *Journal of Economics and Sustainable Development*. Vol.4, No.10.
- Falola, A., Vivian, O.A., and Ojehomon, E. T. (2013). Economic analysis of rice production among the youths in Kwara State, Nigeria. *Albanian j. agric. sci.* 2013;12 (3): 503-510.
- Hanim Adnan. (2010, February 9). Labour shortage effecting oil palm plantations. Retrieved December 20, 2014, from <http://www.thestar.com.my/Story/?file=%2F2010%2F2%2F9%2Fbusiness%2F5637194>
- Heitberg, R. and F. Tarp. (2002). Agricultural Supply Response and Poverty in Mozambique, *Food Policy* Vol. 27 No 2 pp. 103 – 124.
- Idris, U.A. (2010). Levels of farmers' participation in sudan savanna challenge programme in Bunkure local government area of Kano State. Department of adult education and community service.
- Immigration Statistic Department. (2012). Retrieved: [http://www.statistics.gov.my/portal/download\\_Labour/files/migrasi/Migration\\_Survey\\_Report\\_Malaysia\\_2012.pdf](http://www.statistics.gov.my/portal/download_Labour/files/migrasi/Migration_Survey_Report_Malaysia_2012.pdf)
- Jean. S, Causa. O, Jimenez. M and Wanner. I. (2007). The Unemployment Impact of Immigration in OECD Countries. *Migration in OECD Countries: Labour Market Impact and Integration Issues*.

- Karim, A. Z., Abdullah, M.A and Bakar, M.I. (1999). Foreign Workers in Malaysia : Issues and Implications. *Utusan Publication and Distribution SdnBhd . Kuala Lumpur*
- Key, N, E. Sadoulet and A. de Janury. (2000). Transactions, cost and agricultural household supply response. *Amer. J. of Agric. Econ.* 82(2): 245– 259.
- Longhi. S, Nijkamp. P, and Poot. J. (2006). The Impact of Immigration on the Employment of Natives in Regional Labour Markets: A Meta – Analysis, *ISER Working Paper 2006-10, Institute for Social and Economic Resarch.*
- Malaysia Indian Congress. (2012, April 19).  
<http://www.mic.org.my/news-events/national-news/2012/malaysian-no-longer-dominant-workforce-plantation-sector-pm>
- Mello, L.D., Filho, N.M., and Scorzafave L.G. (2006). Improving labour utilisation in brazil. *Organisation for Economic Co-operation and Development.* Economics department working papers No. 533.
- Michael Stenson. (1980). *Class, Race and Colonialism in West Malaysia*, University and Queensland Press.
- Mielke, T. (2011). Global supply and demand outlook for palm and lauric oils Trends and future prospects. Presentation at MPOC POINTERS 2011 internet conference. Retrieved: [http://www.pointers.org.my/report\\_details.php?id=46](http://www.pointers.org.my/report_details.php?id=46)
- Mohamad Audong. (2009). Migration of Local Labour: Pull and Push Factor . *Proceeding International Planters Conference 2009. Pp 7-21*
- MPOB. (2014). Oil Palm & The Environment (updated March 2014) Retrieved: <http://www.mpob.gov.my/palm-info/environment/520-achievements>
- MPOB. (2013). Malaysian Oil Palm Statistic 2012. Retrieved: [http://www.mpob.org.my/Malaysian\\_Palm\\_Oil\\_Industry.aspx](http://www.mpob.org.my/Malaysian_Palm_Oil_Industry.aspx)
- MPOB. (2012). Malaysian Oil Palm Statistic 2011. Retrieved: <http://www.mpob.gov.my/palm-info/environment/520-achievements>
- MPOB.(2010). Malaysia Oil Palm Statistic 2009. Retrieved: [http://bepi.mpob.gov.my/images/document/Overview202010\\_final.pdf](http://bepi.mpob.gov.my/images/document/Overview202010_final.pdf) (Hanim Adnan, 2010)
- Nnadi, F.N. and Akwiwu, C.D. (2009). Farmers’ sustained adoption decision behaviors of maize/cassava intercop technology in Imo State: lessons for extension policy development. *World Rural Observation.* 1(1):1-6.

- Nnadi, F.N. and Akwiwu, C.D. (2008). Determinants of youths' participation in rural agriculture in Imo State, Nigeria. *Journal of Applied Sciences*, 8: 328-333.
- Nnadi, F.N. and Akwiwu, C.D. (2005). Rural women's response to selected crop production technologies in Imo State, Nigeria. *Global Approaches to Extension Practice Journal*; 1(1): 47-55.
- OECD (2006). Employment Outlook, OECD, Brazil.
- Official website of Ministry of Plantation, Industries And Commodities. Retrieved: <http://www.kppk.gov.my/index.php/news-cutting/2496-palm-oil-industry-nearly-80-per-cent-of-workers-in-oil-palm-sector-foreigners.html>
- Olarinde L.O and F. A. Kuponiyi (2005). Rural Livelihood and Food Consumption Patterns among Households in Oyo State, Nigeria: Implications for Food Security and Poverty Eradication in A Deregulated Economy. *Journal of Social Sciences* Vol. 11 No. 2 pp. 127-132.
- Omonona B.T. and Agoi, G.A. (2007). An Analysis of Food Security Situation Among Nigerian Urban Households: Evidence from Lagos State, Nigeria. *Journal of Central European Agriculture*, Vol. 8 No. 3 pp.397-406.
- Piore, Michael J. (1979). *Birds of Passage: Migrant Labour and Industrial Societies*. Cambridge, UK: Cambridge University Press, New York.
- Ramli, A., Azman, I., and K,A. (2011). Labour Requirement in Malaysian Oil Palm Industry in 2010. *Oil Palm Industry Economic Journal*, 11(2), 1-12
- Ramachandran, S., & Shanmugam, B. (1995). Plight of plantation workers in Malaysia: defeated by definitions. *Asian Survey*, 394-407.
- Rivera –Lyles, J (2007). Puerto Rico is coffee- rich but worker poor. Retrieved from *Los Angeles Times*: [http:// articles. Latimes.com/2007/sep/30/new/adna-coffee30](http://articles.latimes.com/2007/sep/30/new/adna-coffee30)
- Rowthorn, Robert. (2004). The Economic Impact of Immigration, Economics Faculty, University of Cambridge, A Civitas Online Report.
- Sabri , A. (2010). Malaysian Palm Oil Industry suffers labour shortage. Retrieved from <http://www.aseanaaffairs.com>.
- Selvakumaran, R., and Bala, S. (1995). Plight of plantation workers in malaysia: defeated by definitions. *Asian Survey*, Vol. 35, No. 4, pp. 394-407.
- Shunsuke, K. (2010). Tea estate plantation community in Nuwara Eliya district of Sri Lanka: An introductory overview of social issues and poverty among residents. *Yokohama Journal of Social Sciences*, Vol. 15 No. 6.

- Sulin, E. (2004). *Factors Influencing Job Withdrawal Intention among Employees of Public and Private Sectors*. Bachelor of Economics Dissertation. Universiti Malaysia Sabah
- Syarisa Yanti Abu bakar. (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.
- The Malaysian times. (2012, May 29). Labour shortage to get worse with Indonesian oil palm boom . Retrieved: <http://www.themalaysiantimes.com.my/labour-shortage-to-get-worse-with-indonesian-oil-palm-boom/>
- United States Department of Agriculture (USDA). (2012, December 11). Retrieved: <http://www.pecad.fas.usda.gov/highlights/2012/12/Malaysia/>
- United States Department of Agriculture (USDA). (2011, Jun 28). Retrieved: <http://www.pecad.fas.usda.gov/highlights/2011/06/Malaysia/>
- Unnati. A, G.S Ankush and A. V. Mande. (2012). “Extent of participation of farm women in Decision making” *Journal of Dairying Foods & Home Sciences*. 31 (1): 72 – 74.
- WWF. (2012). In palm oil production analysis of incremental financial costs and benefits of RSPO compliance.
- Yap Chee Boon. (2004). Immigrant Workers in Sabah: Perspective of the Federation of Sabah Manufactures (FSM) *Proceeding of Seminar on Public Responses To Foreign Workers in Sabah*. UMS. Pp 19-26
- Yusof, B. (2008). Malaysia’s Oil Palm – Hallmark of Sustainable Development. *Business Magazine* Vol.5 Issue 4.
- Yusof, B. (2007). Palm oil production through sustainable plantations. *Eur. J. Lipid Sci. Technol.* 109, 289–295.
- Yusof, B., and Chan, K.W. (2004). The oil palm and its sustainability. *Journal of Oil Palm Research* Vol. 16 No. 1, p. 1-10.
- Zulfadlie Johansah .(2011). *Kajian Keatas Minat Pelajar Bidang Pertanian di Institusi Pengajian Tinggi Terhadap Kerjaya di Sektor Perladangan Kelapa Sawit* . Disertasi Ijazah Sarjana Muda Pertanian( Kepujian) Universiti Malaysia Sabah