PROCEEDINGS OF
The IRES
INTERNATIONAL CONFERENCE

date: 16th - 17th February, 2018 | Venue: Zurich, Switzerland

In Association With
PROCEEDINGS OF
THE IRES
103rd INTERNATIONAL CONFERENCE
ZURICH, SWITZERLAND

Organized by

Date of Event
16th-17th February 2018

Event Co-Sponsored by

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- To help them in getting feedback on their research work for improving the same and making them more relevant and meaningful, through collective efforts.
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EDITORIAL

It is my proud privilege to welcome you all to the TheIRES International Conference at Zurich, Switzerland. I am happy to see the papers from all part of the world and some of the best paper published in this proceedings. This proceeding brings out the various Research papers from diverse areas of Science, Engineering, Technology and Management. This platform is intended to provide a platform for researchers, educators and professionals to present their discoveries and innovative practice and to explore future trends and applications in the field Science and Engineering. However, this conference will also provide a forum for dissemination of knowledge on both theoretical and applied research on the above said area with an ultimate aim to bridge the gap between these coherent disciplines of knowledge. Thus the forum accelerates the trend of development of technology for next generation. Our goal is to make the Conference proceedings useful and interesting to audiences involved in research in these areas, as well as to those involved in design, implementation and operation, to achieve the goal.

I once again give thanks to the Institute of Research and Journals, TheIIE, TheIRES for organizing this event in Zurich, Switzerland. I am sure the contributions by the authors shall add value to the research community. I also thank all the International Advisory members and Reviewers for making this event a Successful one.

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SPATIAL MOBILITY OF MYANMAR WORKERS IN PINEAPPLE PROCESSING INDUSTRY

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Abstract - The aim of this research is to study potential factors relating to the spatial mobility of Myanmar workers in pineapple processing industry in Prachuap Khiri Khan Province by 336 samples were analyzed. It was found that the former residence of Burmese migrant workers in the pineapple processing industry. The majority of them live in Myeik (95 people) =28.27 percent, live in Tarinthayi (82 people) =24.40 percent. There are 64 inhabitants in Victoria Point =19.05 percent. There are 50 people living in Dawei =14.88 percent. Rangoon, 27 people =8.04 percent, and 18% or 5.36% of the province of Bokpyin. The majority of them are female, of 203 persons =60.4%. 133 males =39.6%. Most of them are between 25-50 years of age. Most of them have worked in Thailand for no more than 2 years, have single status and mostly graduated low elementary. There are a number of members in the family with 1-3 members. All Burmese migrants have no land in Prachuap Khiri Khan. But most of them have land in their native Burma. There are 148 people or 44% of the land. Between 1 and 5 Rais of land are less than 1 Rai, accounting for 32.7% and more than 5 Rais, of which 78 people or 23.2%. Monthly family debt of 1-2000 baht Analysis of Factors Influencing Regional Movement of Burmese Workers in pineapple processing industry, Prachuap Khiri Khan Province. Researchers have used statistical techniques to analyze. Cluster Analysis, Non-hierarchical cluster analysis (sometimes called K-Means Cluster Analysis), found that the displacement of Burmese workers in pineapple processing industry area was Cluster I, 42.86%, and Cluster II was 57.14%. Most of the migrants were Type A migrants who did not change their domicile. While Category B include those with seasonal movements and temporary workers, so these movements are considered Circulation, most of which includes moving. Especially short time and repeatedly, it does not explicitly state whether it is permanent or temporary.

Index Terms - Spatial mobility, Myanmar workers and Pineapple Processing Industry.

I. INTRODUCTION

Soil condition in Prachuap Khiri Khan province is most suitable for growing crops, followed by the perennial plant, farming, vegetables, flower, and herbs, respectively. However, the geographical location of Prachuap Khiri Khan is very long. Therefore, various areas of the province are different in temperature and humidity, namely there is less rain and humidity in Hua Hin and Kuiburi districts than Mueang Prachuap Khiri Khan district and Bang Saphan Noi district. Therefore, there is a difference in the plant types as the saying "farming crops in the north, fruit trees in the south". Pineapple is an important economic crop and ranked the no.1 income maker in the province resulting in the Prachuap Khiri Khan province being no.1 with the highest production and export volume in the world i.e. the cultivated area being 509,231 Rai, harvesting area being 248,378 Rai, the yield being about 1.06 million tons per year, and pineapple growers being 12,406 households. There have been 8,900 registered pineapple farmers and 137 groups. The production quality management system is according to GAP and 6,492 plots have received Q GAP certificate.[1] 80 percent of the yield are sent to processing plants for exportation. Therefore, there were as high as 34 pineapple processing plants and 4 agricultural processing plants for exportation established. The processed pineapple export markets, be it canned pineapple, canned pineapple juice, concentrated pineapple juice, preserved and dried pineapple, and other processed agricultural yields would be futures trading (orders would be pre-order). This results in the establishment to accelerate production to meet the needs of the market. The raw materials used in processing agricultural products are easily perishable so production must be made in time before the raw material becomes rotten. Therefore, there is a high demands for labor to produce the production being on time and market demand.

One of the major problems associated with industrial workers in pineapple processing industry is "problems of seasonal labor" that has been directly impacted by the problem of higher production than demand early in the year, i.e. almost every year and the shortage of raw materials during July - August of each year. During the shortage of raw materials, employers would choose to reduce costs by reducing work hours and days. The working hour reduction at the plant would be from 1 to 3 days, while the overtime hours reduction is 2-3 hours making the number of seasonal workers that are able to work in the manufacturing sector in the province being insufficient to meet industrial demand in the manufacturing sector. This is consistent with the research on labor market conducted by Labour Market Research Division, Ministry of Labor.[2] stating that the cause of the shortage of labor and unemployment is the applicant qualification failure to match the needs of the employer and the job position. The lack of labor is mainly due to the lack of skilled labor. The people who register with the Department of Employment would
not want to work in this sector because it is a low-compensation job, labor intensive, and not recognized by the society such as housemaid, agricultural labor, and fishing industry production labor, etc. In the past years, operators had to hire Myanmar workers in the neighboring areas who come to work through the districts and villages adjacent to the border. There are 21 Sub-districts, 48 villages with 35 border entrances, 34 natural channels, and the relief channel is Singkhon check point. It was also found that the shortage of the seasonal labors still was unable to be resolved. There is still a high rate of influx and outflow of workers.

From what has been mentioned, it can be seen that there is a shortage of seasonal workers in pineapple processing industry and it is an urgent need to be studied on to plan, develop and find solutions to the problem. Therefore, the researchers are aware of the importance and conducted a research on "Factors Affecting Spatial Mobility of Myanmar Workers in Pineapple Processing Industry: A Case Study on Prachuap Khiri Khan Province". The main objective was to study factors affecting the spatial mobility of Myanmar workers in the pineapple processing industry in Prachuap Khiri Khan province. The results studying factors affecting the spatial mobility of Myanmar workers and the equation derived from the research can be synthesized to be a policy guideline for preparing and planning alternative activities that are consistent and deal with shortage of seasonal workers to minimize the economic impact in the study area and can be used as a model for other areas.

II. OBJECTIVE OF STUDY

1. To study the behavior and personal characteristics of Myanmar workers in the pineapple processing industry.
2. To analyze factors affecting the spatial mobility of Myanmar workers in pineapple processing industry in Prachuap Khiri Khan province.

III. SCOPE OF STUDY AND AREA

1. Content scope
The focus was on primary data from the sample group about behavior and factors/ causes of spatial mobility of Myanmar workers in pineapple processing industry in Prachuap Khiri Khan province based on in-depth structured interviews with Myanmar workers through questionnaire created by the researcher. It composed of a variety of questions and unstructured in-depth interviews with pineapple processing industry operators, and observation in the actual area. Secondary data was collected from documents, books, journals and data from the concerned government and private agencies on the internet. The data has been stored in the database and analyzed using both descriptive and inferential statistics.

2. Area scope
The focus was on primary data survey on behavior and factors/ causes affecting the spatial mobility of Myanmar workers in the pineapple processing industry in only 5 districts that still had pineapple processing industry: Hua Hin district, Pranburi district, Sam Roi Yot district, Kui Buri district, and Maeang Prachuap Khiri Khan district.

3. Time scope
The focus was on primary data from interviews on behavior and factors/ causes affecting the spatial mobility of Myanmar workers in pineapple processing industry during the 6 months in 2017. The secondary data on the results of the registration of Myanmar worker that requested for a work permit of the Prachuap Khiri Khan Employment Office during the year 2015-2016.

IV. METHODOLOGY AND DATA ANALYSIS

The objective of this descriptive research was to explain the occurrence of the phenomena by jointly using quantitative and qualitative research methods in the selection of independent variables that were expected to be correlated with the willingness to relocate back of Myanmar workers in Prachuap Khiri Khan province. The research methodology was divided into 4 sections as follows:

1. Research methodology
   1.1 Population
   Population for quantitative research to analyze factors affecting the spatial mobility of Myanmar workers in the pineapple processing industry in Prachuap Khiri Khan province was selected using questionnaire for the survey on the behavior and the factors/ causes affecting spatial mobility of Myanmar workers in the pineapple processing industry in 5 districts.
   1.2 Sample
   This study was conducted on a large population so the study could not be completed so it is necessary to select part of the population. The researchers therefore have determined the size of the sample group to be 336 by using the Yamane formula.[4]

2. Research implementation
   The researchers divided research implementation into two stages as follows:
   2.1 The 1st stage: The study on the behavior and personal characteristics of Myanmar workers in pineapple processing industry, Prachuap Khiri Khan province. The researchers conducted the research and data collection as follows:
      (1) Unstructured in-depth interviews with 5 pineapple processing industry operators in 5 districts, Prachuap Khiri Khan province.
      (2) Primary data collection for quantitative research was performed by surveying the behavior and factors/ causes of spatial mobility of Myanmar workers in pineapple processing industry in 5 districts in Prachuap Khiri Khan province. The total number of the
sample group for quantitative research was 336.
(3) Analyzing data from (1) and (2) for determining percentage, mean, standard deviation, skewness, kurtosis, and reliability of the questionnaire. The statistical analysis was done by t-statistics and SPSS statistical program

2.2 The 2nd stage: Analysis of factors affecting the spatial mobility of Myanmar workers in pineapple processing industry in Prachuap Khiri Khan province was based on the concept of push and pull models including physical, economic factors, social factor, and political factors.[5] The researchers conducted the research and collected the data as follows:
(1) Testing behavior and factors affecting the spatial mobility of Myanmar workers in pineapple processing industry in Prachuap Khiri Khan province by cluster analysis.

3. Research tools
Researchers were the main research tool. The questionnaire was a tool for data collection, divided into 2 categories:

3.1 Questionnaire for interview
Unstructured in-depth interview with pineapple processing industry plant operators

3.2 Questionnaire to survey the opinion
Questionnaire to survey the opinions of Myanmar workers in pineapple processing industry plant on behavior and the factors / causes affecting the spatial mobility of the area. The questionnaire was used as a tool to collect quantitative data.

4. Data Analysis
The analysis of data used in this research was divided into 2 types: analysis of data obtained from qualitative and quantitative researches as follows:

4.1 The qualitative data analysis, data were analyzed and synthesized with descriptive statistics such as the frequency, percentage, arithmetic mean, and standard deviation to describe, categorize and summarize the data on general information obtained from the interview to meet the defined research objectives.

4.2 The quantitative data analysis, there are 2 steps to used analyze the quantitative data in this study. (1) Analysis of basic statistical data: Basic statistics were analyzed to illustrate the data of all variables in each group: number, mean or maximum mean or minimum mean from the statistical data. This included the number(N), Range, Mean, standard deviation, the skewness, and Kurtosis.[6]

(2) Analysis of the appropriateness of variable: Nonhierarchical Cluster Analysis or sometime called "K – Means Cluster Analysis" by classifying groups based on K-Means Cluster Analysis also known as Nonhierarchical Cluster Analysis or partitioning which is a different from the Hierarchical Cluster Analysis. By using this type of analysis, the researchers must define how many groups to be classified such as k- group. Hence, this method is called K-Means Clustering by Hartigan that has used K-Means Clustering as the classification technique.[6]

V. RESULTS AND DISCUSSION

1. The results of studying behavior and personal characteristics of Myanmar workers in the pineapple processing industry in Prachuap Khiri Khan Province showed as follows

It was found that the district with the highest number of Myanmar workers was Kui Buri (n = 645, 30.64%), followed by Sam Roi Yot (n = 588, 27.93%), the third was Mueang (n = 371, 17.62%), the fourth was Pranburi (n = 297, 14.11%), and the last one was Hua Hin (n = 204,9.69%).

In terms of origin of domicile of 336 Myanmar workers in the pineapple processing industry, Prachuap Khiri Khan province residents, it was found that the province with the highest number was Myeik province(n = 105,28.27%), Tanintharyi(n = 82, 24.40%), Victoria Point(n = 64, 19.05%), Dawei(n = 50, 14.88%), Rangoon(n = 27, 8.04%), and Bokpyin (n = 18, 5.36%).

If gender classification was used, it was found that the majority was female (n = 203 people, 60.4%) and 133 males (39.6%), the majority was between 25-50 years old, the majority had no longer than 2-year experience working in Thailand, single, education level was primary level, and they have 1-3 family members. Additionally, for the economic characteristics in the aspect of land and property holdings, it was found that there was no Myanmar worker that had any plot of land in Prachuap Khiri Khan but the majority had land in Myanmar at between 1-5 Rai(n = 148, 44%), followed by less than 1 Rai(n = 110, 32.7%), and more than 5 acres (n = 78, 23.2%) with monthly family debt of 1-2000 baht.

2. The results of studying the satisfaction of Myanmar workers in pineapple processing industry in Prachuap Khiri Khan province

From the results of studying the satisfaction of Myanmar workers in pineapple processing industry in Prachuap Khiri Khan province, it was found that the overall satisfaction of the Myanmar workers in the pineapple processing industry in Prachuap Khiri Khan province was at a high level(Mean=3.67). When each aspect was considered it was found that, working environment had the highest mean score(Mean=3.96), followed by the relationship between employers and colleagues(Mean=3.53) and compensation and welfare (Mean=3.51), respectively.

2.1 The overall satisfaction of Myanmar workers in pineapple processing industry in Prachuap Khiri Khan province was at a high level. When each aspect was considered, working environment had the highest mean score(Mean=3.96), followed by the relationship between employers and colleagues(Mean=3.53) and compensation and welfare (Mean=3.51), respectively.

2.2 The overall satisfaction of Myanmar workers in pineapple processing industry in Prachuap Khiri Khan province in terms of working environment was at a
Spatial Mobility of Myanmar Workers in Pineapple Processing Industry

high level (Mean = 3.96). When each aspect was considered from high to low mean scores, it was found that the neatness of the workplace had the highest mean score (Mean = 4.19), followed by the division of workplace (Mean = 4.07), and the pleasantness of the workplace (Mean = 4.06), respectively.

2.3 The overall satisfaction of Myanmar workers in the pineapple processing industry in PrachuapKhiri Khan province in the aspect of compensation and welfare was at a high level (Mean = 3.51). When each aspect was considered from high to low from the 3 highest, it was found that the appropriateness of the entitlement to take leaves from work had the highest mean score (Mean = 4.27), followed by the appropriateness of the salaries based on the work duties (Mean = 3.59), and the appropriateness of the agency welfare (Mean = 3.58), respectively.

2.4 The overall satisfaction of Myanmar workers in the pineapple processing industry in PrachuapKhiri Khan province in the aspect of relationships with employers and colleagues was at a high level (Mean = 3.53). When each aspect was considered from high to low from the 3 highest, it was found that employer friendliness had the highest mean score (Mean = 4.13), followed by colleagues cooperation in working (Mean = 3.60), and the generous support, caring, and concern from colleagues (Mean = 3.42), respectively.

3. For the results of an analysis on factors affecting the spatial mobility of Myanmar workers in pineapple processing industry in PrachuapKhiri Khan province, the researchers used key statistical techniques to conduct the analysis such as Cluster Analysis, Nonhierarchical Cluster Analysis, or also known as K-Means Cluster Analysis. It was found that the spatial mobility of Myanmar workers in pineapple processing industry in PrachuapKhiri Khan province to Cluster 1 was type A migration at 42.86% and the Cluster 2 was type B migration at 57.14%.

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<tr>
<th>Spatial mobility</th>
<th>Recurrent mobility</th>
<th>Non-recurrent mobility</th>
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<td>A</td>
<td>C</td>
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<tr>
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ACKNOWLEDGMENTS

The author would like to express sincere thanks to Suan Sunandha Rajabhat University for kindness and support to this paper.

REFERENCES
