UiTM Pahang and FELDA: The Great Malay Institutions

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Abstract: FELDA is always synonym with oil palm plantation and known as the world's largest oil palm plantation operator based on planted hectares. For that reason, FELDA became the most popular agency to do research amongst undergraduate students from Faculty of Plantation and Agrotechnology. Thus, a study was conducted to reveal the connectivity between these two institutions. Generally, this study was focusing towards 74 undergraduate dissertations from the Faculty of Plantation and Agrotechnology in UiTM Pahang. An approach called "mini-meta analysis" was carried out during the investigation from 2013 until 2015. This study aims to provide a preliminary exploration of how intense the relationship between UiTM Pahang and FELDA. Therefore, the main objective of this study was to analyse the dissertations of undergraduate students from Faculty of Plantation and Agrotechnology, UiTM Pahang. The tables and figures, the type of analysis used by the students, the location of study and type of study related to FELDA were identified. This study has found that the existence of substantial linked between UiTM Pahang and FELDA by having a reciprocal relationship. It also revealed that FELDA became an important platform of doing research for undergraduate students in UiTM Pahang by taking into consideration the types of respondents, number of samples and testing of the materials engaged from FELDA. Hence, evidence from this small mini-meta analysis has proven it. Moreover, this paper offers insights into how intense the relationship between UiTM Pahang and FELDA and it bridges the two important Malay institutions for the Malay people.

Keywords: FELDA, Malay, Meta-analysis, Plantation, UiTM

1. Introduction

Federal Land Development Authority (FELDA) was established on 1st July, 1956 under the Land Development Ordinance 1956. FELDA has evolved to be one of the most successful land development agencies in Malaysia. This has made FELDA the single largest oil palm plantation in the world with 811,140 hectares (95.1%) and 4.9% (or 42,173 hectares) for settlement (Yusof, 1995). The main purpose agency of FELDA established for carrying out effort to further develop agricultural land and the farmers who produce sustainable and innovative as well able to eradicate poverty among the Malays in Malaysia (Nordin, 2011). As a local of administrative institutions, FELDA organize and integrate population and besides that, it serves as an organization that balancing the population in a region.

The uniqueness and achievements of FELDA schemes as extensive land development and settlement programmes had attracted the attention of several organizations including higher institutions such as Universiti Teknologi MARA. Thus, a study was conducted to disclose the connectivity between FELDA and UiTM. Overall, this study was focusing towards 76 undergraduate dissertations of Faculty of Plantation and Agrotechnology in UiTM Pahang. This study aims to provide a preliminary investigation of how strong the relationship between UiTM Pahang and FELDA is. Therefore the key objective of this study was to analyse the dissertation of undergraduate students from Faculty of Plantation and Agrotechnology, UiTM Pahang in terms of the common location of study, the types of research being conducted, the types of

respondent, the types of materials used in FELDA, and the types of data being collected in the study.

2. Method

This study focused on the evaluation of 74 undergraduate dissertations from the Faculty of Plantation and Agrotechnology, UiTM Pahang who had chosen FELDA for conducting their final year project research. An approach called "mini-meta analysis" was carried out to analyse the dissertations of undergraduate students starting from July 2013 until January 2015. Principally, a meta-analysis is a statistical technique for merging, summarising, and reviewing previous quantitative research.

3. Results and Discussion

Overall, the total number of dissertations of Faculty Plantation and Agrotechnology in UiTM Pahang from July 2013 until January 2014 was 190 however only 74 of the dissertation were involved with FELDA. The involvement of FELDA can be seen through the location of study, the material used that collected or gathered from the mill or either plantation, the using of equipment for analysis provided by research department in FELDA and etc. Fig 1 illustrates the total numbers of 74 research dissertations involving FELDA. The figure showed that 65% from the total dissertation was from the field experiment followed by the survey study (19%), secondary data analysis (11%) and laboratory experiment (5%). It can explain that FELDA became the most popular institution amongst students to conduct field experiment, survey study, collect secondary data such as oil palm yield and also for laboratory experiment such as using the their facilities in analysing data.

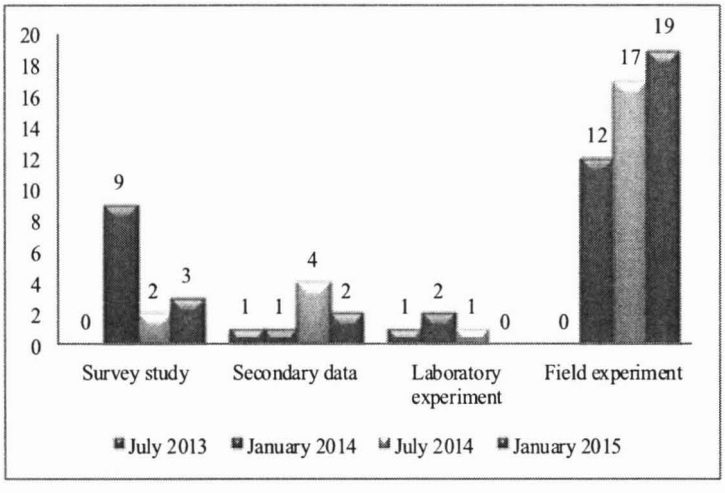

Fig. 1 Types of research conducted in FELDA

Additionally, FELDA was not only providing places for do research but they also provides student with material that they used during the experiment. Fig. 2 show the most general materials used by student's either take for free or even bought from FELDA such as an oil palm seedlings and also the location of gathered the materials from FELDA. The figure clearly presented that 41% of the materials used were oil palm seedling that bought from FELDA. It can be revealed that out of 74 dissertations, about 65% (48 students) from this faculty conducted field experiment using oil palm seedling. Usually these seedlings were obtained from Pusat Penyelidikan Pertanian Tun Razak at the age of 2-3 months old.

Besides, empty fruit bunch (EFB), oil palm seeds and palm oil mill effluent (POME) were also frequently used during the experiment. These wastes usually were collected from FELDA palm oil mill in Jengka 8. Basically, palm oil mill yields a huge amount of biomass wastes in the form of empty EFB and POME. EFB is 100% waste or surplus from mills that originate from the processes of oil palm fruit to extract the oil (Rozita et al., 2011). Further, POME is defined as water discharged from industry which contains soluble materials that are injurious to the environment but it also have the potential to become the organic fertilizer that can used as alternative to reduce the application of chemical fertilizers, especially phosphorus, for which cost is a severe economic constraint (Ta et al., 2009).

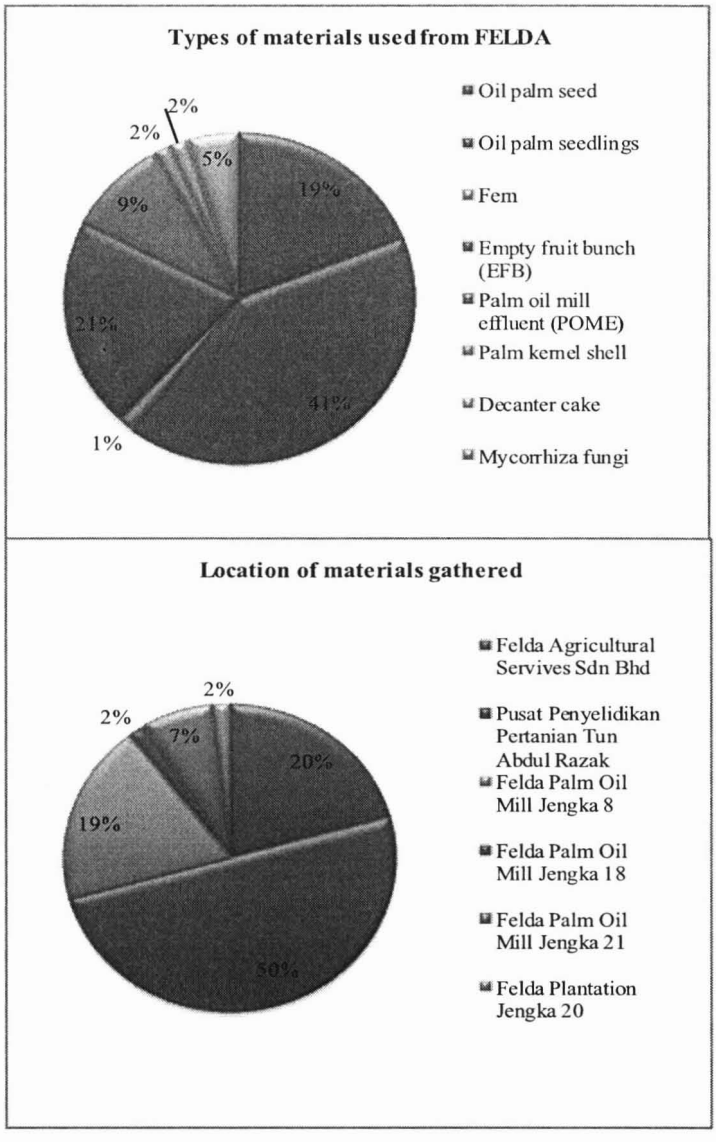

Fig. 2 Types of materials used and location of materials gathered from FELDA

Moreover, about 19% or 14 numbers of students had chosen FELDA as their location for conducting survey studies. It means the student did their survey to get primary data from FELDA settlers or from the staffs working at mill or plantation that shown in Fig. 3. The figure exhibited that most of the questionnaires were distributed around FELDA plantation in Jengka 1 until 25 followed by at Kota Gelanggi 1until 4. Meanwhile, there were 6 palm oil mills being interviewed along the fourth semester. The figure also exposed the types of respondents that engaged with the survey study.

Majority of the respondents were FELDA settlers followed by staffs or workers who work at palm oil mills and also the FELDA breeders. This was because the students craving to identify the level of perception, knowledge or management practices that they applied while doing the works at plantation or mills. Fig. 4 illustrated several types of data collected during the interviewed session at FELDA. The most often data collected was regarding palm oil waste such as EFB, POME, palm kernel shell and also livestock integration at oil palm plantation. Other than that includes data concerning pest and disease, examples of biological control they applied, motivational level among staffs, leadership styles of manager and etc.

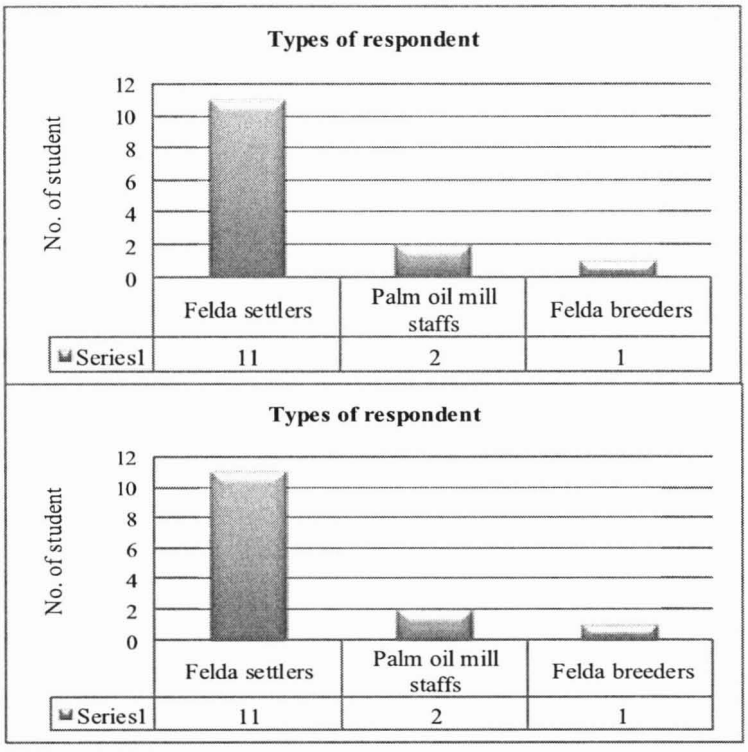

Fig. 3 Location of survey study and types of respondent at FELDA

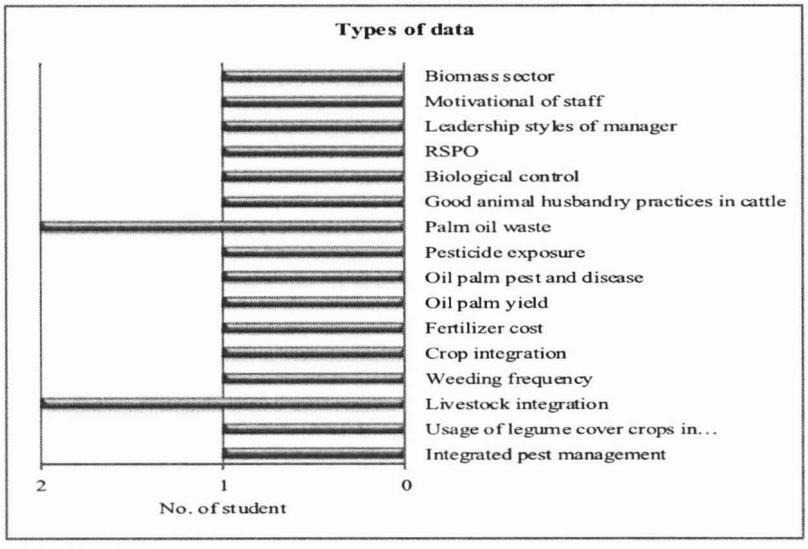

Fig. 4 Types of data collected during survey in FELDA

Furthermore about 11% students from Faculty of Plantation & Agrotehnology had chosen FELDA as their location to gather the secondary data (Fig. 5). Largely FELDA plantations and FELDA palm oil mills were the utmost places for gathering and collecting secondary data amongst students. One of the reasons they choose this plantation sector is to help them to increase the yield production. Also it helps FELDA to do a good management practices towards different soil series of oil palm so that higher production yield can be achieved. This reciprocal relationship creates FELDA as a good institution for delivering their expertise and sahring their excellent knowledge with other universities especially with students from the Faculty of Plantation & Agrotehnology, UiTM Pahang.

As shown in Fig. 6 there were particular kinds of secondary data was collected from FELDA itself. Oil palm yield and oil extraction rate (OER) were two prominent data being gathered by the students. OER is important parameters that directly related to the profitability of an oil palm enterprise (Chang et al., 2003). OER used as a management tool in assessing the performance of a mill and plantation, as profitability of a plantation group is to a great extent influenced by the amount of oil realized per hectare of land under cultivation.

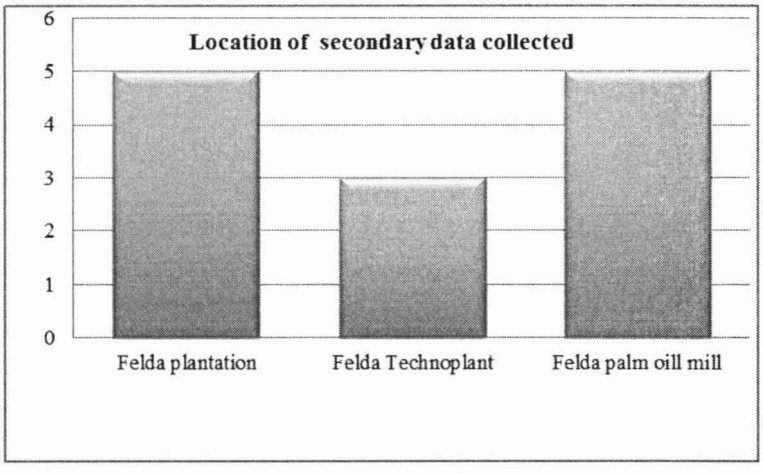

Fig. 5 Location of secondary data collected

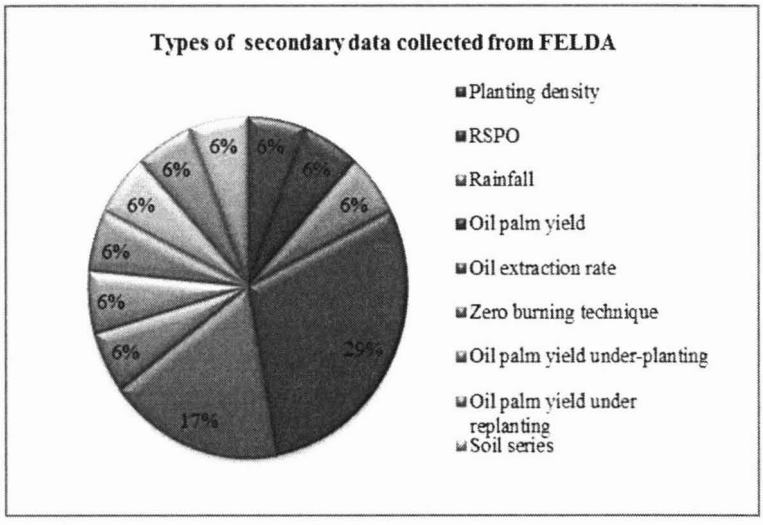

Fig. 6 Types of secondary data collected from FELDA

Additionally out of 74 dissertations only 5% involved in laboratory experiment that assembles data from FELDA. Most of students choose FELDA plantation and FELDA palm oil mill as a place for collecting materials that used as a sample in their research (Fig. 7). The

samples that taken from FELDA such as crude palm oil, POME and leaves sampling was illustrated through bar chart in Fig. 8. Majority of the students conduct a laboratory experiment to determine the occurrences of leave disease incidence in oil palm plantation, and to detect heavy metals deposition from palm oil waste product that discharge from palm oil mill.

There are various types of waste product discharge from palm oil mill includes EFB, bottom ash and fly ash, decanter cake, shell kernel and fiber that usually used as a source of energy. This by-product is high in plant nutrients. Composting of wastes generated from palm oil mill is a good practice as it is useful in recycling the plant nutrients. Thus it is important to determine the heavy metals content of the waste products before being used as organic fertilizer. Heavy metals in fertilizers and other soil inputs are a threat to the sustainability of farming practices. Soil highly contaminated with metals may disrupt the physical, chemical, and biological balance of the soil (Alloways, 1995).

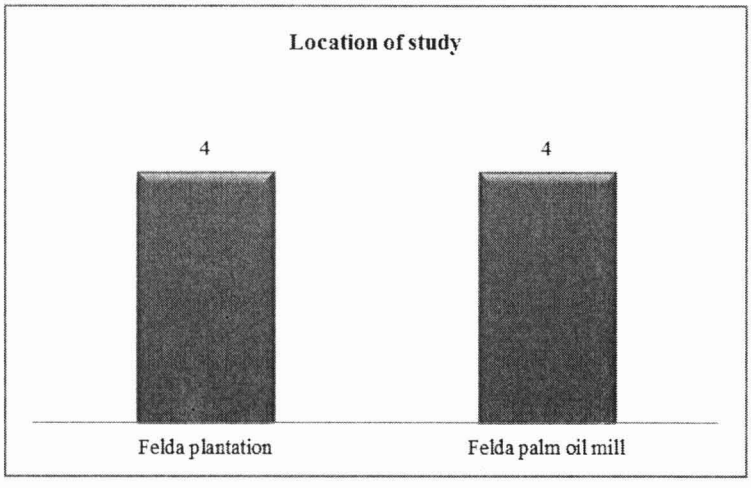

Fig. 7 Location of data collection in FELDA

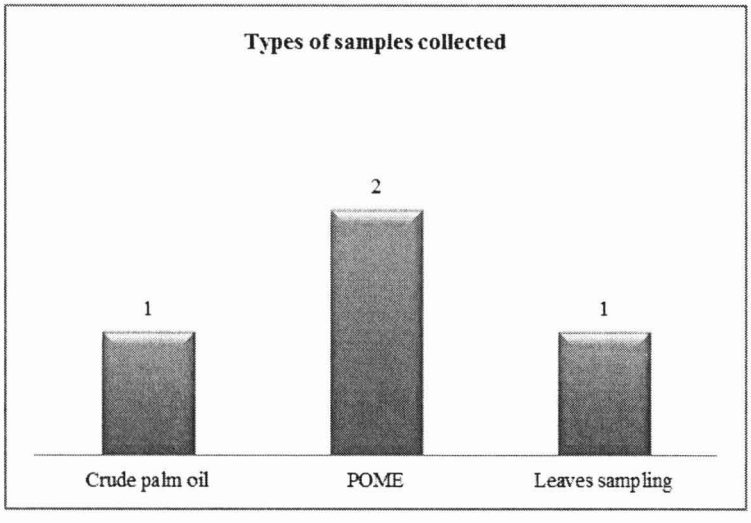

Fig. 8 Types of samples taken in FELDA

Fig. 9 displays statistical analysis that commonly applied among students in analysing data. Based on the bar chart, most of the students were experienced in using Microsoft excel, Minitab software and SPSS and only one student using Statistical Analysis System (SAS). Generally students used Microsoft excel for graphical statistics to describe the main features of

data in quantitative terms. Meanwhile, students who carried out field experiment were analysed data through analysis of variance (ANOVA) using Minitab software. Tukey Simultaneous Test at $p<0.05$ were used for mean comparison. On the other hand, data gathered from questionnaires usually were analysed using SPSS and Microsoft Excel. Data were summarized and descriptive data analysis was done using means, frequencies and percentages. Other basic statistical techniques that regularly used include correlation, regression, standard deviation, mean, and variance.

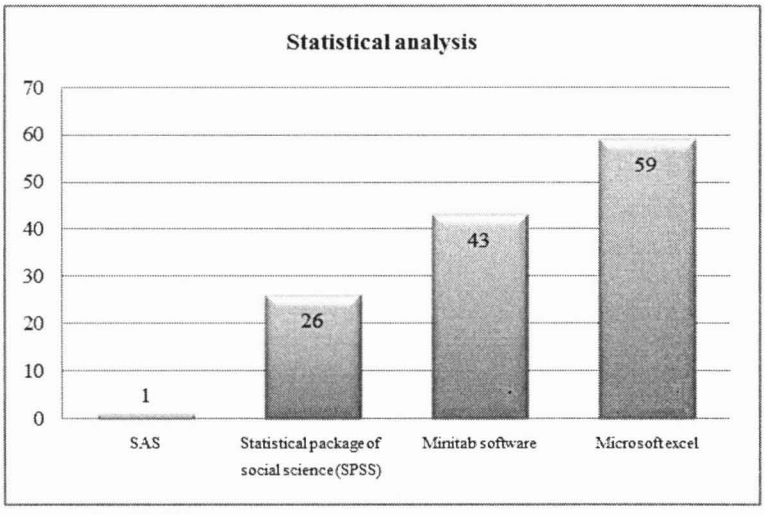

Fig. 9 Statistical analysis that commonly used by students

4. Conclusion

Based on the analysis of mini meta-analysis earlier, it can be concluded that there is an existence substantial linked between UiTM Pahang and FELDA especially for Faculty of Plantation & Agrotechnology. It also discovered that FELDA became an important platform of doing research for undergraduate students of this faculty. The nearest location, having similar agendas as a part of government agencies and approximately sharing the same expertise are some of the factors that contribute to this strongly relationship between these two great Malay institutions.

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