Review of International Geographical Education Online (RIGEO)

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Aims and Scope

RIGEO aims to bridge the gap between theory and practice in geography education and social studies education. It is open for rigorous research papers as well as all level teachers' experience about good practice for geography lessons and discussion papers.

RIGEO would like to lie both in theory or on research papers and practice of geography teachers' in geography education and in addition to social studies education. RIGEO is eager to publish original papers in all aspects of geography education and social studies education. Topics are listed below for Geographical Education and Social Studies Education but some other related subjects are also welcomed:.

Making geography and social studies education more effective in higher education
Any thematic topic in geography and social studies related to education for textbooks, curriculum and teaching materials
Geography and social studies curriculum development and implementation
Quality teaching of geography and social studies education from primary to university level
Law, Law Education
Management and Education Management
All domains of Social Sciences
Learning-teaching strategies
Changing roles of technology in learning and teaching (ICT, GIS and etc.)
Languages, Arts and Humanities
Textbooks and other materials
Pedagogy and pedagogical approaches to geography and social studies
Measurement and assessment of learning process and results

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Pre-service and in-service education and employment of teachers
Postgraduate education, pre-service and in-service teacher education
Specialization and career in geography and social studies education
National and international central examinations
Changing roles of partners in geography and social studies education
(teacher, administrator, students, inspector and family etc.)
Effective learning methods and techniques from preschool to upper
university level
Fieldwork in geography education and social studies education
Environmental education
The future of education in geography and social studies education
Educational cartography
Curricular studies in geography and social studies education
Media and technologies in geography and social studies education
Social Studies Education related to topics above in different themes and
levels
Map skills in geography and social studies
Banking and Financial Sciences
Economics, Finance and Accounting
Business Management, HR, Marketing
Education and online learning
Sports and Physical Education

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Contents

Professional and Pedagogical Competencies of Geography Teachers in Malaysia

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A B S T R A C T

This study aims to examine the professional and pedagogical competencies of form six geography teachers in Malaysia. Study involved 200 geography teachers from across Malaysia, separated into five zones; the Northern Zone, the Central Zone, the East Coast Zone, the Southern Zone and the East Malaysia Zone. A questionnaire was used to collect the data. The six variables of professional and pedagogical competence studied were as follows: teachers' understanding of their topics, professional knowledge, subject content knowledge, pedagogical content knowledge, pedagogical technology knowledge and professional values. The findings showed all competencies of professionalism and pedagogy to be at high levels. Specifically, correlations revealed teachers' understanding of topics to have strong, significant relationships with their subject content knowledge, pedagogical content knowledge and pedagogical technology knowledge, and moderate, significant relationships with their professional knowledge and values. Hence, the results indicate that teachers' professional knowledge and values need to be enhanced in order to achieve the ideal level of professional and pedagogical competence for form six geography teachers in Malaysia.

KeywordsCompetence; Professionalism; Pedagogy; Teachers; Geography

Education in Malaysia aims to create balanced and harmonious humans in terms of their physical, emotional, spiritual and intellectual development, through its curriculum and co-curricular activities. This goal is based on Malaysia's National Education Philosophy, which is not just a documentation of national aspirations but the core of its entire education system. This education philosophy directs all national education programmes and activities (Wan Mohd Zahid, 1991). Its implementation and realisation impose comprehensive implications on all parties, particularly the national education system. Any changes to the nation's education system, especially aspects of curriculum development, the provision of educators, educational institutions and other parties, must all be aligned with the education philosophy and government policies as stated in value oriented theory and content oriented theory in curriculum theory (Schiro, 2007).

Education in Malaysia is also dynamic, open to the current environment as well as future change in demands. National education has undergone a series of evaluations by several committees set up since

1950, culminating in the Murad Committee established in 2004 to study the need to empower national schools. This shows that the evaluation system is continuously subjected to a re-assessment and review process aimed at improving and upgrading the quality of education in the country. The main purpose of the assessments and reviews is to determine the effectiveness of implemented plans, including teaching and learning in the field of geography.

The issue of geography teaching and learning in schools and higher learning institutions has been a key one for some time (Nazli, 2009). Functional geography knowledge refers to the application of geographic and related skills to problem solving efforts in the environment. The acquisition of professional qualification and related skills in Geography equips an individual for self employment and related business opportunities for the future (Samuel et al., 2014). Moreover, with the advancement of science and technology, the field of geography continues to expand in line with the needs of human beings worldwideHowever, in Malaysia the situation has changed since geography received full status as an elective subject in 1993 (Chuah, Wan Rozali, & Joseph, 2013). Since that time, geography as a subject has become isolated in Malaysia education system, affecting higher learning institutions. Nevertheless, various steps have been and are being taken by geography education practitioners to attract students using the teaching and learning method.

In addition, today teacher competence is a necessity if society and the country is to move forward in line with changing times. However, a paper by Saedah and Mohammed Sani (2012) has indicated that non-existent, comparable standards of education in Malaysia can be related to service problems, work stress, role conflict, unclear roles and the absence of social support systems for principals and co-workers. This has led to teachers resigning or retiring early through burnout. This situation has had a detrimental effect on the quality of our national education.

Even after the Ministry of Education (MOE) in 2013 established the aim of raising general teacher competence to tackle this issue, the problems discussed here are still being experienced by teachers. This clearly suggests the need for a detailed study not just of the general teaching competence of teachers but also of their competence in their own subject areas. This kind of study is necessary so that an ideal model of competence for the subject of geography can be produced. Such a model should include aspects of geography knowledge and skills as well as components of professional competencies set by the Ministry of Education Malaysia. Furthermore, geography teachers' competence in teaching two basic subject areas, namely physical geography and human geography, should be examined; both areas should be well-mastered by form six teachers in line with the development of non-static geography knowledge. Knowledge in geography teaching involves teaching knowledge, curriculum knowledge, knowledge organisation and knowledge of approaches to the teaching of geography that are necessary for geography teachers (Karademir, 2016).

Directly studying the competence of secondary school geography teachers still fails to attract the

attention of researchers today (Nazli, 2009). But this does not mean that it should be ignored. Here, aspects of the professionalism and pedagogy of geography teachers are examined in order to develop a model that can assess the weaknesses of teachers that directly affect student achievement, which can in turn be addressed by creating a model of teacher competence. In this respect, the government's efforts to produce world-class Malaysian education is a good starting point for examining aspects of the professionalism, subject content knowledge, pedagogical content knowledge, pedagogical technology knowledge, attitudes and values of form six geography teachers, through teacher competence studies.

Teacher Competence in Malaysia

In Malaysia, the desire for efficient, high-quality teachers has been translated into various programmes, starting with the selection of future teachers, their training, induction and continuous professional development, up to the evaluation stage and performance management of the teachers themselves. However, in order to realise this desire, a clear standard must be established. To this end, the Malaysian Teacher Standards (SGM) set out the general professional competencies that teachers should demonstrate, with targets (standards) to be achieved by teachers and aspect statements to be prepared and implemented by the agency and institutional training institutes (requirements) (The Malaysian Teacher Standards, 2009). The SGM specifically assesses three standards, namely professional values in teaching practice, knowledge and understanding, and teaching and learning skills.

These standards can be seen as the criteria for the minimum competence to be demonstrated by teachers in their work. Teacher competence can be interpreted as the ability or efficiency of an individual to carry out their tasks, the ability of a teacher to impart knowledge through education (Zaiha, 2014) or the ability in terms of knowledge, personality and skills to carry out tasks excellently and effectively (Mohd Faiz & Jamal, 2016). Teacher competence can be divided into four dimensions: pedagogical competence, personality competence, social competence and professional competence (Saedah & Mohammed Sani, 2012). The first dimension, pedagogical competence, can be defined as a teacher's knowledge of how to convey knowledge and skills to students. Here, teachers need to know the best way to teach, how to manage classes, how to select appropriate teaching methods and how to use technology appropriately. With regard to the second dimension, teachers with personality competence are more likely to improve their level of professionalism by continuously conducting self-assessment and analysis (Saedah & Mohammed Sani, 2012). The third dimension that of social competence, refers to a teacher's ability and skills to interact and communicate with the community. Communication and interaction can occur either through oral or written texts, the use of technology being strongly encouraged to ensure their effectiveness. Finally, the fourth dimension, professional competence, is defined as the ability or skills to devise and implement learning processes. To ensure effective teaching and learning processes, teachers must understand the component and structure of the field they are

teaching as well as be able to assess and apply learning theory prudently (Saedah & Mohammed Sani, 2012).

Competence can also be understood in the form of the Iceberg Competency Model introduced by Lyle and Signe (1993). This model is divided into two sections, as shown in Figure 1— in the first section knowledge and skills sit above the water level on ice blocks, while in the second the behavioural component that represents the characteristics of values, social role, self-image and nature is shown below the water level.
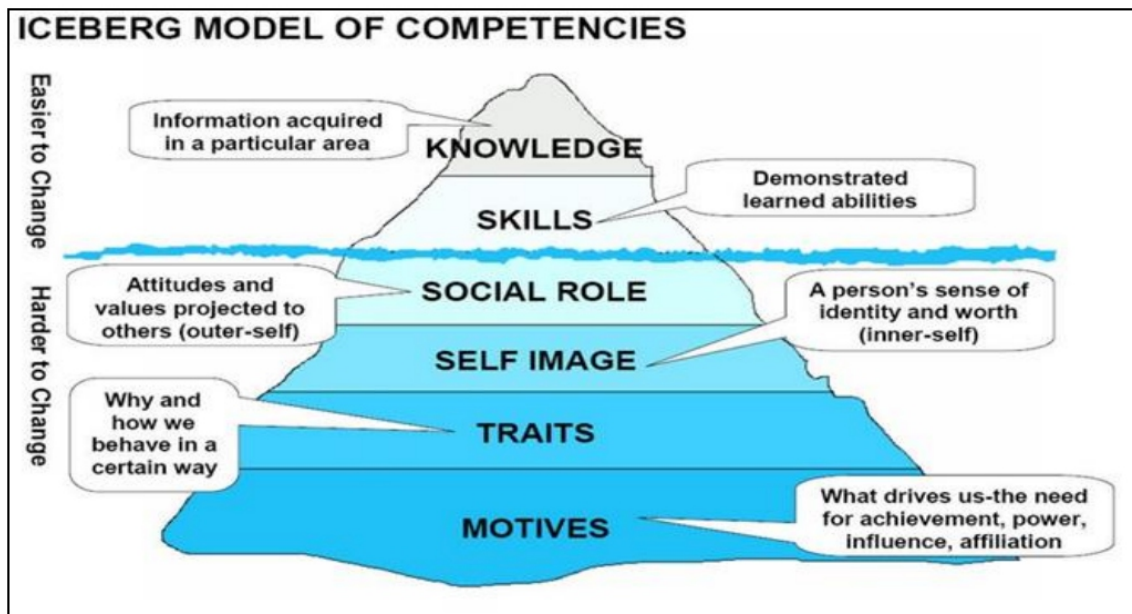
Figure 1. Iceberg Competency Model. Source: Lyle & Signe (1993)

Competence is also closely related to teachers' mastery of the contents of their subject, alongside professional knowledge, subject content knowledge, pedagogical content knowledge, pedagogical technology knowledge and professional values. According to Ahmad Yunus and Ab. Halim (2010), the mastery and understanding of subject content among teachers is important to ensure the effectiveness of teaching and learning. The findings of Mohammad Rusdi (2017) also showed that pedagogical content knowledge is related to understanding a subject, because a teacher's understanding of the subject content is different from that of subject content experts. That pedagogical technology knowledge is also important in improving the competence of teachers is in accordance with the opinion of Koehler et al. (2013), who argued that teachers should employ technology in teaching and lear sessions creatively and 'think outside the box' at the same time as mastering their teaching subject.

The study of the professional and pedagogical competencies of form six geography teachers in Malaysia is crucial for identifying the level of competence of teaching and learning geography teachers at the pre-university level (Suseela & Sim, 2010). Geography has a close connection to humans and the environment—through its branches of human and physical geography. It is also seen as an important component of human life because it can instantly foster a spirit of love for the environment, whether

locally or globally (Hanifah et al., 2015; Mohd Faris, Mohmadisa, & Mohd Suhaily Yusry, 2013)

Methodology

According to Malaysia Ministry of Education (2018) data, there were 360 geography teachers that teaching geography at pre-university level. The recommended minimum number of samples selected is 185 people based on the Krijie and Morgan charts, (1971). Therefore, a total of 200 geography teachers were selected as study samples using a cluster sampling technique according to zones: 40 participants each came from the Northern Zone (Perlis, Kedah, Penang, Perak); the Central Zone (Selangor, Kuala Lumpur, Putrajaya); the East Coast Zone (Kelantan, Terengganu, Pahang); the Southern Zone (Melaka, Negeri Sembilan, Johor); and the East Malaysia Zone (Sabah, Sarawak) (Table 1).

Table 1 Study Samples of Form Six Geography Teachers by Zone

Location	Number of Sample
Northern Zone (Perlis, Kedah, Pulau Pinang)	40
Central Zone (Perak, Selangor)	40
East Coast Zone (Kelantan, Terengganu dan Pahang)	40
Southern Zone (Negeri Sembilan, Melaka, Johor)	40
East Malaysia Zone (Sabah, Sarawak)	40
Total	**200**

Study Instruments

This study's research instrument was a questionnaire containing seven sections from difference sources (see Table 2). Section A captured respondents' demographic information while Section B covered information on their understanding of form six geography topics. The form six geography topics examined here consisted of topics in the form six Sijil Tinggi Pelajaran Malaysia (STPM) Geography syllabus that divided into four papers. Paper 1 was divided into two sections, Physical Geography and Human

Geography, and covered four main topics: Earth System, Geomorphology System, Population and Village Transformation and Urbanization. Paper 2 was also divided into two sections, Physical Geography and Human Geography, and covered the following four main topics: Atmospheric Systems, Hydrological Systems, Economic Development and Environmental Impacts and Globalization of Economics and Regional Cooperation. Again, Paper 3 was divided into two sections, Physical Geography and Human Geography, and covered three main topics: Ecological System, Integration System and Environmental Impact and Management. Finally, Paper 4 represented Section C of the syllabus, Field Work, and was broken down into six sections: Introdution to Field Work, Field Work Method, Field Work Implementation, Data Processing and Analysis, Report Preparation and Report Presentation.

Sections C, D, E, F and G captured information on the teachers' competence, including professional

knowledge, subject content knowledge, pedagogical content knowledge, pedagogical technology knowledge, and professional values. Item in professional knowledge asking more about teacher's knowledge in teaching strategies to be implemented in the classroom. Subject content knowledge are more too measure teacher knowledge of subjects to be studied or will be taught. While pedagogical content knowledge asking more about teacher understanding of the process or teaching method. Items in pedagogical technology knowledge were measured in teacher knowledge to create an active learning environment by using existing and new technologies in the school environment. Finally a professional values items measure techer in maintaining the profession's value as an educator to be respected and respected by society.

Table 2 Respondent Questionnaire Information

Section	Details	Variables	Number of Items	Source
A	Background of Teacher	State	1	Self-built according to the needs of the study
		Location	2	
		Age	1	
		Gender	2	
		Races	7	
		Teaching Experience	1	
B	Teachers' Understanding of Topics	Paper 1: Part A Physical Geography	10	Built and modified from Form Six Geography Syllabus, Malaysia Ministry of Education (2018)
		Paper 1: Part B Human Geography	7	
		Paper 2: Part A Physical Geography	12	
		Paper 2: Part B Human Geography	7	
		Paper 3: Part A Physical Geography	7	
		Paper 3: Part B Human Geography	3	
		Paper 4: Part C Field Work	6	
C	Professional Knowledge		16	Built and modified from Malaysia Teacher Standard
D	Subject Content Knowledge		13	Built and modified from Malaysian Examination Council (2012). Sijil Tinggi Pelajaran Malaysia (STPM).
E	Pedagogical Knowledge		12	Built and modified from Shulman (1987)
F	Pedagogical Technology Knowledge		10	Built and modified from Mohammad Rusdi and Ab Majid (2017)
G	Professionalism Value		13	Built and modified from Malaysian Examination Council (2012). Sijil Tinggi Pelajaran Malaysia (STPM)

Validity and Reliability of the Questionnaire

A draft questionnaire has been developed through a validity process. Face validity by Bhattacherjee (2012) refers to whether an indicator seem to be reasonable measure of its underlying construct "on its face". Sabitha (2006) also debates the same thing and adds to form the validity of the face, the experience can be used. Thus, in this study, the process of legitimacy to get respondents' views regarding the competency of Form Six Geography teachers involves three of Form Six Geography teachers themselves. Their views and comments are used to improve the questionnaire. Table 3 shows the reliability of the teacher competence variables—teachers' understanding of topics, their professional knowledge, subject content knowledge, pedagogical content knowledge, pedagogical technology knowledge and professional values—with Cronbach's Alpha value used to measure their internal consistency. According to Babbie (1992), Cronbach's Alpha values are classified according to a reliability index where values of 0.90 until 1.00 are considered very high, 0.70 until 0.89 high, 0.30 until 0.69 moderate and 0.00 until 0.30 are considered low. The results of the analysis showed the Cronbach's Alpha value to be in the 'very high' classification, above 0.90. The questionnaire used in this study therefore has a very high reliability according to Babbie's (1992) classification and is suitable as a research instrument.

Table 3 The Reliability Values

Variables	No. of Item	Alpha Cronbach Value
Teachers' Understanding of Topics	52	0.986
Professional Knowledge	16	0.953
Subject Content Knowledge	13	0.949
Pedagogical Knowledge	12	0.954
Pedagogical Technology Knowledge	10	0.925
Professionalism Value	13	0.957

Results and Discussion

Teachers' Demographic Background

Table 4 shows the demographic background of the 200 teachers who participated in the study. In terms of location, 97 respondents (48.5%) taught in schools in urban areas, while the remaining 103 (51.5%) taught in schools in rural areas. The highest proportion of respondents was aged between 46 and 50 years (a total of 66 people or 33.0%). The next most populous category was 51 to 55 years (46 people or 23.0%), followed by 41 to 45 years (41 people or 20.5%), 36 to 40 years (26 people or 13.0%), 31 to 35 years (11 people or 5.5%), above 56 years (six people or 3.0%) and below 30 years (four people or 2.0%). As for the gender of respondents, 77 (38.5%) were male, 123 (61.5%) female. With regard to race, 124 (62.0%) were Malay, 26 (13.0%) were Chinese, 13 (6.5%) were Indian, seven (3.5%) were

Sarawak Bumiputera, 27 (13.5%) were Sabah Bumiputera, one was Siamese (0.5%) and two was Bugis (1.0%). Regarding education qualifications, two of the respondents had the highest degree of doctor of philosophy (PhD) (1.0%), 31 had a master's degree (15.5%) and 176 a bachelor's degree (83.5%). In terms of teaching experience, three teachers (1.5%) had taught for fewer than five years, while 11 (5.5%) had taught for six to 10 years, 26 (13.0%) for 11 to 15 years, 56 (28%) for 16 to 20 years, six (30.5%) for 21 to 25 years, 36 (18.0%) for 26 to 30 years and seven (3.5%) for more than 31 years.

Table 4 Respondents' Demographic Background

Respondents' Demographic Background		N	Percentage (%)
Location	Urban	97	48.5
	Rural	103	51.5
	Total	**200**	**100**
Age	Less than 30 years old	4	2.0
	31 until 35 years old	11	5.5
	36 until 40 years old	26	13.0
	41 until 45 years old	41	20.5
	46 until 50 years old	66	33.0
	51 until 55 years old	46	23.0
	More than 56 years old	6	3.0
	Total	**200**	**100**
Gender	Male	77	38.5
	Female	123	61.5
	Total	**200**	**100**
Race	Malay	124	62.0
	Chinese	26	13.0
	Indian	13	6.5
	Sarawak Bumiputera	7	3.5
	Sabah Bumiputera	27	13.5
	Siamese	1	.5
	Bugis	2	1.0
	Total	**200**	**100**
Education Qualifications	Doctorate (PhD)	2	1.0
	Master Degree	31	15.5
	Bachelor Degree	167	83.5
	Total	**200**	**100**
AgesTea	Less than 5 years old	3	1.5
	6 until 10 years old	11	5.5
	11 until 15 years old	26	13.0
	16 until 20 years old	56	28.0
	21 until 25 years old	61	30.5
	26 until 30 years old	36	18.0
	More than 31 years old	7	3.5
	Total	**200**	**100**

Teachers' Level of Understanding of Form Six Geography Topics

To facilitate interpretation of the levels of teachers' understanding, the cut-off point by Landell (1997) was used (Table 5).

Table 5 Cut-off Point of the Levels of each Study Variable

Scale	Level
Score 1.00 – 2.33	Low
Score 2.34-3.66	Medium
Score 3.67-5.00	High

Source: Landell (1997)

Table 6 shows the levels of teachers' understanding of the form six geography topics. The results show that the overall level of the variables was high were the value of mean are more than 4.00. This indicates that the level of teachers' understanding of form six geography topics was very good and satisfactory.

Table 6 Teachers' Level of Understanding of Form Six Geography Topics

Paper	Part	Variables	Low Level N	Low Level %	Medium Level N	Medium Level %	High Level N	High Level %	Mean	SD	Level of Mean
Overall			1	0.5	0	0	199	99.5	4.110	0.573	High
1	Part A: Physical Geography	Earth System,	4	2.0	4	2.0	192	96.0	4.072	0.702	High
		Geomorpholo gy System	3	1.5	5	2.5	192	96.0	4.045	0.678	High
		Population	1	0.5	1	0.5	198	99.0	4.311	0.624	High
	Part B: Human Geography	Village Transformati on and Urbanization	6	3.0	1	0.5	193	96.5	4.023	0.747	High
2	Part A: Physical Geography	Atmospheric Systems	3	1.5	6	3.0	191	95.5	4.059	0.688	High
		Hydrological Systems	5	2.5	1	0.5	194	97.0	4.103	0.704	High
		Economic Development	1	0.5	4	2.0	195	97.5	4.258	0.654	High
	Part B: Human Geography	Environment al Impacts and Globalization of Economics and Regional Cooperation	4	2.0	0.0	0.0	196	98.0	3.869	0.748	High
3	Part A: Physical Geography	Ecological System,	6	3.0	0.0	0.0	194	97.0	4.084	0.698	High
		Integration System	8	4.0	1	0.5	191	95.5	4.097	0.742	High
	Part B: Human Geography	Environment al Impact and Management	3	1.5	2	1.0	195	97.5	4.245	0.653	High
4	Field Work		2	1.0	0.0	0.0	198	99.0	4.160	0.669	High

Teachers' Level of Competence

Table 7 shows the level of competence of the teachers across five variables, namely Professional Knowledge (PPP), Subject Content Knowledge (PKS), Pedagogical Content Knowledge (PPK), Pedagogical Technology Knowledge (PTP), and Professional Values (NPK). In order to facilitate interpretation of the levels for each variable we divided the levels into three, namely lower, medium and high, as previouslydescribed in Table 5. The findings show that overall variable levels were high, with mean values within the range of 4.128 to 4.515. This shows that the level of competence of form six geography teachers in Malaysia was very good and satisfactory. These results are in line with those of Anuar and Nelson (2015), who found the majority of teachers in their study to have high teacher competence as measured by their skills of diversifying teaching strategies, carrying out learning assessments and using information technology. However, the findings of Hasnah and Jamaludin (2017) showed teachers' competence in understanding and knowledge to be of only moderate level. Generally, teacher competence varies according to the subject and is influenced by demographic as well as internal factors, such as support from school administrative organisations, adequate training and efficient time management (Rohayati, Ahmad Fauzi, & Othman, 2012).

Table 7 The Level of Competence of Form Six Geography Teachers in Malaysia

Variables	Low Level		Medium Level		High Level		Mean	SD	Level of Mean
	N	%	N	%	N	%			
Professional Knowledge (PPP)	0	0.0	10	5.0	190	95.0	4.515	0.482	High
Subject Content Knowledge (PKS)	0	0.0	27	13.5	173	86.5	4.282	0.483	High
Pedagogical Content Knowledge (PPK)	0	0.0	12	6.0	188	94.0	4.297	0.441	High
Pedagogical Technology Knowledge (PTP)	1	0.5	46	23.0	153	76.5	4.128	0.642	High
Professional Values (NPK)	3	1.5	6	3.0	191	95.5	4.325	0.614	High

The Relationship between Teachers' Understanding of Form Six Geography Topics and Their Competence

The relationship between teachers' understanding of form six geography topics and their competence was examined using the Pearson coefficient value as categorised by Cohen (1992): (a) values below 0.30 indicate a weak relationship strength, (b) values between 0.30 to 0.50 indicate a moderate relationship strength, and (c) values of more than 0.50 indicate a strong relationship (Table 8).

Table 8 Cohen's Classification of Relationship/Correlation Strength (1988)	
r value	**Classification of Relationship/Correlation Strength**
0.10 until 0.29	Weak
0.30 until 0.49	Moderate
0.50 until 1.0	Strong

Where $+1.00 < r < -1.00$

Table 9 shown the analysis of the correlation between teachers' understanding of form six geography topics and their competence showed a moderate significant relationship between the variables professional knowledge and understanding of form six geography topics with the value $r(188)=.392$, $p< .01$. There was also a relationship between professional values and understanding of form six geography topics with the value $r(188)=.300$, $p< .01$. As for subject content knowledge, pedagogical content knowledge and pedagogical technology knowledge, all showed a strong significant relationship with understanding of form six geography topics with values respectively of $r(188)=.616$, $p< .01$, $r(188)=.574$, $p< .01$ and $r(188)=.532$, $p< .01$.

In relation to this strong relationship between teachers' understanding of form six geography topics and subject content knowledge, Ahmad Yunus and Ab. Halim (2010) have argued that the understanding of subject content is important to ensure the effectiveness of the teaching of content knowledge. In addition, according to Mohammad Rusdi (2017), pedagogical content knowledge is a specific knowledge of teachers in terms of identifying their subject knowledge needs, because teachers' understanding of subject content is different from that of subject content experts. This is in accordance with the study's findings showing a strong relationship between pedagogical content knowledge and understanding of form six geography topics. The relationship between pedagogical technology knowledge and understanding of form six geography topics also showed a strong relationship in this study. This is in line with Koehler et al. (2013), who argued that teachers should creatively employ technology in learning and teaching sessions and 'think outside the box' at the same time as mastering their subjects.

The findings also showed professional knowledge to have a moderate relationship with understanding of form six geography topics. This indicates that professional knowledge needs to be enhanced in certain areas, such as planning lessons that can ensure students' performance reaches a high level and maintaining a learning environment that is conducive to teaching students effectively (Ibrahim et al, 2012). Overall, professional knowledge and values should be improved, because they show only a moderate relationship with teachers' understanding of form six geography topics, by improving teachers' preparation in the subjects they teach and diversifying the teaching and learning methods used to attract students' attention (Zaiha, 2014).

Table 9 Correlation between Teachers' Understanding of Form Six Geography Topics and Form Six Geography Teachers' Competence in Malaysia

Variables	Teachers' Understanding of Form Six Geography Topics		Classification of Correlation Strength
	r	p	
Professional Knowledge (PPP)	.392**	.000	Moderate
Subject Content Knowledge (PKS)	.616**	.000	Strong
Pedagogical Content Knowledge (PPK)	.574**	.000	Strong
Pedagogical Technology Knowledge (PTP)	.532**	.000	Strong
Professional Values (NPK)	.300**	.000	Moderate

**significant at p<0.01*

Conclusions and Recommendations

The results of this study show that in general, all variables of professional and pedagogical competencies were at high levels. This means that the teachers' understanding of their topic, as well as their professional knowledge, subject content knowledge, pedagogical content knowledge, pedagogical technology knowledge and professional values were at a satisfactory level they could be proud of. However, two aspects—professional knowledge and values—must be improved in order to achieve the ideal professional and pedagogical competencies of form six geography teachers in Malaysia, as indicated by the findings of only a moderate significant correlation between these two aspects and teachers' understanding of their topics. The professional knowledge acquired by teachers during learning at the preparatory level, i.e. university level, should be revisited in the form of regular workshops. Similarly, their professional values should also be enhanced, in terms of controlling their emotions in spite of the many challenges they and the teaching profession in general faces today in dealing with various student antics. The teaching profession is a noble one and it is therefore the duty of all teachers to maintain a high standard of professionalism in safeguarding their dignity and credibility.

Acknowledgements

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Pros and Cons of Islamic Boarding School Strategy Responding to Changes in Crisis Management Perspective in the midst of

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A B S T R A C T

This study examines the pros and cons of Islamic boarding schools in responding to changing educational patterns during the Covid-19 pandemic. This type of research is library research with qualitative methods. Data were collected from library sources with a sociological approach. The theory used is crisis management. The findings of this study are as follows: first, Islamic boarding school-based education patterns are vulnerable to external disturbances, including the Covid-19 pandemic. Second, the pros and cons of Islamic boarding school policies revolve around technical strategies to respond to the pandemic situation as well as in responding to government policies. This research contributes to efforts to improve education management in Indonesia in general, and to structuring a better crisis management foundation for the world of Islamic boarding school-based education.

Keywords cons, strategy, change, education, pesantren, pandemic

Introduction

The COVID-19 pandemic that has hit the world, including Indonesia, has had an impact on many sectors, including education(Sarnoto & Hayatina, 2021). Islamic boarding schools which have educational patterns are also affected by causing weak teaching and learning activities. In addition, the management of the institutional administration and the pesantren's economy was also shaken. Consequently, teaching and learning activities must be carried out using online learning methods. And this was done in order to follow the government's directives on preventing the wider spread of the pandemic. It is the same in the economy. Pesantren must survive and remain stable and even have to take advantage of existing opportunities to face real challenges (Kahfi & Kasanova, 2020). The Covid-19 pandemic is also considered a gray life factor for Islamic education, because it is able to overhaul the order of Islamic education that has been going on comfortably so far. In fact, the predictions of observers say that the future of Islamic education, madrasas and pesantren, in Indonesia is threatened with lost education so that it is feared to give birth to a lost generation(Sarnoto et al., 2021). This is because the Work From Home (WFH) policy, social and physical distancing, and the teaching and learning process (KBM) using an online system makes learning that was originally done outside the

network (offline) turns into a network (online). Another problem is the response to the pandemic in Islamic boarding schools is quite diverse. This is because the religious paradigms of pesantren are also diverse, some are conservative and some are non-conservative/progressive. Conservative-based Islamic boarding schools are more reserved and tend to fight the existence of Covid-19 by not fully following the health protocols recommended by the government. While others, who are more progressive, prefer to be open to all policies taken by the government as an effort to prevent and overcome Covid-19. Although the responses of Islamic boarding schools to Covid-19 tend to vary, in general, Islamic boarding schools are responsive, namely willing to accept the application of social physical distancing, and issuing religious fatwas containing theological explanations about the necessity to follow health protocols. They also provide procedures for carrying out religious rituals in emergency situations during the pandemic (Hannan, Azizah, & Atiya, 2020). One of the triggers for the diversity of responses in the pesantren world is partial cases, such as the use of the AstraZeneca vaccine. So many observers say that Islamic boarding schools play a strategic role in the community, as educational institutions and Islamic da'wah, in providing legal statements/decision on the use of AstraZeneca vaccines. For example, the decision of the scholars and clerics in the NU Bahtsul Masail (LBM) Forum in responding to the use of the AstraZeneca product vaccine as permissible is the answer that the wider community has been waiting for, because there is a fatwa that says its use is haram (Naimah & Juwita, 2021). The polarization of Islamic boarding schools in the midst of this pandemic ideally does not occur, because Islamic boarding schools are educational institutions that are the moral support for the community. The rejection of Islamic boarding schools towards government programs and different attitudes from the government must be seen as internal considerations for Islamic boarding schools to maintain their existence. However, when dealing directly with power and the government, of course there are more political reasons why pesantren have different responses, and what concrete benefits for the resilience of pesantren education will they get from their different and similar attitudes to the government. The issue of the resilience of the pesantrenbased education pattern in the midst of a pandemic, which is seen from the point of view of resilience management in the midst of a crisis.

Method

This type of research is library research (Zed, 2008). Researchers collect data from various previous publications, both in the form of books, research results, journals, articles on websites, and so on. The research approach used is the sociology of education approach (Ballantine & Spade, 2011), which looks at the behavior of Islamic boarding school-based education managers in Indonesia in dealing with the pandemic. The theory used is crisis management theory in education (Dodds & Swiniarski, 1994), so that in-depth information is obtained about the management of Islamic boarding schools in

facing the crisis due to COVID-19. Educational crisis management is closely related to the government's political policies (Boin, Stern, & Hart, 2008). Thus, the management of pesantren-based education in this study is important to see in relation to the policies issued by the government, especially related to efforts to overcome the pandemic in Indonesia. In addition crisis management in the world of education cannot be separated from social conflict, especially when it relates to various political, economic, and social interests(Bob Jessop & Knio, 2018). this reason, this study will examine two issues in crisis management that were pursued by Islamic boarding schools in Indonesia during the Covid-19 pandemic.

Findings and Analysis

An important finding in this research is that the implementation of education in Islamic boarding schools does not have sufficient resilience, especially when it is hit by a certain crisis. Second, there are pros and cons of pesantren to changes in education patterns;

Islamic Boarding School and Crisis

Islamic boarding school-based education has proven to be unable to withstand sudden external changes and without precedent, as in the case of facing the Covid-19 pandemic. For example, when the government implemented the policy of Enforcement of Community Activity Restrictions (PPKM) which took place from 3-20 July 2020, a number of Islamic boarding schools closed their students and female students. This holiday policy is called a compulsion, accompanied by an alibi that they are helping and supporting government policies (Ikilhojatim, 2021). In addition, the kyai also have no other strategy other than encouraging the students when they are at home to keep trying, be vigilant, and always maintain health protocols and multiply dhikr. Despite all the "copypaste" suggestions from the government, education in Islamic boarding schools has "ended", because the students had to go back to their respective homes. However, a similar policy does not occur in other Islamic boarding schools. For example, Deputy Governor of Central Java Taj Yasin Maimoen emphasized that learning activities at Islamic boarding schools do not have to be stopped or closed due to the COVID-19 pandemic, as long as they follow health protocols in an orderly manner (Antoni, 2020). The vulnerability in the management of Islamic boarding schools is based on the vulnerability of health management. This is because Islamic boarding schools are one of the contributors to the COVID-19 cluster. In fact, Islamic boarding schools that are old in age are still part of the contributors to the Covid-19 cluster. This can be seen from the experience of the An-Nur Islamic boarding school, Gunungkidul Yogyakarta (Eleonara, 2021). From there, the Federation of Indonesian Teachers' Unions (FSGI) gave a number of recommendations, so that there would be no new clusters of Covid-19 in Islamic boarding schools (ponpes). According to FSGI records, the new pesantren cluster occurred after the odd semester

vacation and face-to face learning was held again(Zubaidah, 2021). Islamic boarding schools are considered unable to handle students who have just completed their vacation period at home, and are even considered not to have a strategy to prevent the transmission of Covid-19 when face-to-face learning is held again. The bad experience of such pesantren education management received serious attention, one of them from the Federation of Indonesian Teachers' Unions and then they provided input on good and correct governance. FSGI's observation is quite objective, because it departs from the failure of Islamic boarding schools in various places. FSGI noted the emergence of new Islamic boarding schools clusters in a number of areas, namely Tasikmalaya, West Java, Boyolali, Central Java, Bangka Bangka Belitung, and Pekanbaru Riau (Zubaidah, 2021). The former Minister of Religion, Fachrul Razi, in the end took a political policy related to the management of the pesantren which was vulnerable to the crisis, by conveying that there were four (4) conditions that must be met by both madrasas and pesantren. If these four conditions are met, then the mandrasah and Islamic boarding school are allowed to conduct face-to-face learning. This kind of view was conveyed by the Minister of Religion in a webinar entitled "Adjusting Learning Policies in the Time of the Covid-19 Pandemic". On that occasion, the Minister of Religion said there were four things: first, the madrasa/Islamic boarding school environment must be safe from Covid. Second, teachers, ustadz, or other teachers must also be safe from Covid. Third, the students or students must be safe from Covid. Fourth, the implementation of strict health protocols (Kominfo, 2020). The government's perspective, in this case the Ministry of Religion, can be understood that the implementation of Islamic boarding school-based education is one of the causes of the transmission of the Covid-19 pandemic caused by an unsafe environment, unsafe teaching staff and students, and low health protocols. For this reason, the Ministry of Religion will only allow Islamic boarding schools to conduct face-to-face education if certain hygiene and health conditions are met. The Old Minister of Religion's policy continued with the New Minister of Religion, Yaqut Cholil Qoumas, who said that all teaching and learning processes must run according to health protocols. Including encouraging vaccinations for teachers and students in madrasas and religious colleges (Indonesiagoid, 2021). The government's presence in the midst of pesantren life is no longer just a regulator, but has begun to have an iron fist(Sarnoto & Hayatina, 2021). The government began to act in black and white. Islamic boarding schools have lost their independence in managing education during the pandemic. So like it or not, pesantren must obey government regulations so that the teaching and learning process can be held again. Meanwhile, Islamic boarding schools that refuse government regulations are subject to severe sanctions. For example, the Sukabumi Regency Government will take an inventory and re examine the facilities and infrastructure supporting the Covid-19 Protocol for all Islamic Boarding Schools in Sukabumi Regency. In addition, to ensure that the health protocol rules are adhered to, the Sukabumi Regency Government will routinely monitor and supervise (Kompas, 2020). Efforts to impose sanctions on Islamic boarding schools that continue to carry out the teaching and

earning process during the pandemic with a low level of implementation of the program are considered as excessive political policies. The government has gone too far in interfering with the internal affairs of pesantren education management. Governments that place too much emphasis on sanctions rather than solutions are judged to be not right on target and flawed in their thinking. This was conveyed by a member of the West Java Regional House of Representatives (DPRD), Edi Rusyandi, who considered that there was a sanction clause in the Governor's Decree Number 443/Kep.321-Hukham/2020 regarding the health protocol for the prevention and control of Covid-19 in Islamic boarding schools. Exaggerating (Sukirman, 2020). As a result, because Islamic boarding schools do not have sufficient resilience in providing education and supporting facilities such as health services, Islamic boarding schools become objects of political policy (Sarnoto, 2014), even though these political policies are still controversial, very authoritarian-excessive, and only make pesantren as passive objects in managing their education, not as an independent and sovereign active subject.

Pros and Cons of Technical Strategy Responding to Change

The diversity in the resilience of the pattern of education in pesantren is exacerbated by the discourse around pesantren which only gives rise to pros and cons related to technical strategies for responding to change. Pesantren has become a completely powerless subculture when it comes to the health aspect. Discourses related to pesantren, education, and the pandemic only concern how pesantren should implement health protocols optimally, look for religious arguments that support the government's political policies in order to break the chain of transmission of the corona virus, as well as the pros and cons of receiving vaccinations with certain types of vaccines. They are all technical and very insubstantial. There is no contribution from within that pesantren can give to the nation and state, let alone to the world (Sarnoto et al., 2021). At the same time, the world is in chaos or war. The General Chairperson of the Nahdlatul Ulama (PBNU) Executive Board, KH. Said Aqil Siroj, said that there were several big wars that NU residents had to win. The war referred to here is not physical but a war to influence each other in order to seize, control, and change people's way of thinking. One of them is biological warfare. This new war began when there was a Covid-19 pandemic. Countries that are able to produce vaccines today will come out victorious in this biological war. Meanwhile, countries that cannot afford and can only import will lose. Even though the Covid-19 virus has now appeared many more virulent variants. One of them is the Delta variant from India, which is considered to be more contagious than the original Covid-19 virus (NUOnline, 2021). In a situation where the world is holding a biological war, it is not only Islamic boarding schools that are unable to move to fight from within, but the state and the Indonesian government itself are also losing. Said Aqil Sirad said that the fragility of the national health system, one of which was due to the high import of medical equipment (alkes). According to Kiyai Said, currently around 94 percent of medical devices in circulation are

imported products. The dominance of imported products marks the fragility of the national health system. Said Aqil then suggested that the government would improve the national health system, by increasing the ratio and reliability of domestic health facilities, such as hospitals and health centers (CNNIndonesia, 2021). The fragile national health system is a macro context for the pesantren health system which is also fragile as a micro context. When there is a crisis such as the Covid-19 pandemic, the organization of Islamic boarding school activities, including education in it, must also accept defeat in a global war. Islamic boarding schools are forced, like it or not, to talk and debate about technical issues and strategies that are not substantial. Because pesantren, like the state, cannot do more, let alone think about creating their own health products, which are useful for the health services of students, religious teachers and clerics, so that teaching and learning activities are not disrupted by this kind of health crisis. When Islamic boarding schools are no longer moving and cannot do much to maintain their independence, Islamic boarding schools inevitably become passive objects for every government policy program. For example, when Vice President Ma'ruf Amin reviewed the process of implementing face-to-face learning at Pondok Pesantren Darunnajah, Jakarta, the government really acted very superior and asked for the vaccination process for pesantren administrators, teachers, administrators, and employees to be accelerated (Rosana, 2021). Meanwhile, the pesantren can only agree with, support, and cooperate with the government with one common hope, which is to be able to return to holding face-to-face education as before the pandemic arrived. The rest, Islamic boarding schools can only refuse trivial things, such as certain types of vaccines, but accept other types of vaccines. This means that the management of Islamic boarding schools and all their policies only focuses on technical matters and strategies for responding to change, without actually being able to offer new alternatives, due to their inherent weakness, which is much weaker than the state's position. In this weak and lacking situation, both in terms of health infrastructure and policies, Islamic boarding schools are not independent, even in terms of narratives and solutions. Likewise, when it sees the gaps in the weaknesses of pesantren, the government dares to build legislation whose clauses threaten pesantren with sanctions. The weakness of Islamic boarding schools becomes capital for external institutions to regulate, suggest, and frame them in a definitive narrative, which pesantren itself can only do passively and accept. There is no strong resilience system in the body of the pesantren, especially regarding the education it provides, so that the pesantren can be independent. The only ability of pesantren is religious fatwas whose orientation is predictable.

Conclusion

Based on the description above, the resilience of the pesantren education pattern in the midst of the Covid-19 pandemic is sought through crisis management. However, the crisis management of the pesantren education world during this pandemic tends to be passive-affirmative. Islamic boarding

schools are powerless to take steps that grow from their internal awareness, because they are constrained by many obstacles in the form of infrastructure and human resource capacity, so that they become passive objects that surely affirm all government policies. To survive in the midst of a pandemic crisis, the management of Islamic boarding schools is more about supporting all government policies, such as strictly implementing health protocols, even being able and without protesting to receive sanctions from the government if they are considered to have violated the prokes rules. By acting passively and affirming the government's political policies, the implementation of pesantren education is much more sustainable. The implementation of teaching and learning activities can be carried out within the corridor frame that has been determined by the government. If anyone acts actively, it becomes part of the minority and is unpopular. There are few cases where pesantren try to diverge from government policy, but this phenomenon is an exception. Even if there are pros and cons within Islamic boarding schools, which both imagine the continuity of education during the pandemic, it is carried out at the technical strategy level, not at a substantial level which really offers alternatives and novelty. This is because the pesantren itself has not been able to get out of its internal constraints, such as the lack of infrastructure, infrastructure,

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Scientific Integration in Islamic Religious College in Indonesia: Analysis of Application Form, Opportunities, and Challenges

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A B S T R A C T

Islamic religious colleges in Indonesia were created with a foundation of scientific integration between general science and religious science. This is one of the differences between public universities and religious universities in Indonesia. This research aims to analyze how the application of the concept of scientific integration in Islamic religious universities in Indonesia and how the opportunities and challenges posed by the integration of science. This research uses a qualitative approach with descriptive qualitative research. This research involves the managers of quality assurance institutions in Islamic religious colleges as informants of this research. Determination of research informants was done by purposive random sampling technique. Data were collected by interview and documentation techniques. The data collected is qualitative data which is analyzed by data triangulation technique. The results of the study indicate that one application of the concept of scientific integration at Islamic religious universities in Indonesia is the scientific paradigm contained in the composition of the educational curriculum used. The curriculum is structured with a different paradigm from public universities. In addition, the results of the study also show that there are opportunities and challenges obtained by the application of this scientific integration. for students, as well as making it easier to train and equip students' skills. Furthermore, the challenges obtained are obstacles to lecture management both from the aspects of students, lecturers, and the bureaucracy of study programs at the institution.

Keywords Scientific Integration, Religious Universities, Opportunities and Challenges.

Introduction

Education is a step in providing provisions for each individual to be able to live life (Schunk, 2012). Furthermore, the educational process provides a change in behavior in each individual (Perkinson, 2012). This means that the educational process becomes a very important medium for everyone to increase knowledge, attitudes, and skills which in the end can all be used as capital to live the process of life. Based on this, a good educational process must be created to form a good generation as well (Yunianto et al., 2020). One level of the educational process is higher education which is carried out in college. Indonesia is a country that has a lot of universities. This is because education is part of the mandate of the law that must be carried out by every citizen. Higher education is one of the efforts made to carry out the mandate of the law. Currently there are around 4,600 universities in Indonesia. From the

aspect of scientific paradigm, universities in Indonesia are divided into two, namely general universities and religious universities. Public universities run on the general scientific paradigm according to the target of the institution, while religious universities run on the paradigm of integrating general science with religious science. One of the largest parts of religious universities in Indonesia is Islamic religious colleges. Islamic religious universities in Indonesia have an epistemological goal to integrate general knowledge with religious knowledge. Scientific integration comes from two words, namely integration which comes from the word "integrate" which means something that is formed from intact parts, then the second is science which means knowledge that can be justified scientifically. Therefore, the integration of knowledge referred to in this study is a combination of several knowledge groups (general and religious) into a paradigm that is carried out in the learning process at Islamic religious colleges in Indonesia. This is in accordance with the opinion of Barizi (2011) which states that scientific integration means the unification of several scientific families into a new scientific concept. The term scientific integration originally emerged from the view of the importance of uniting the sciences that are in the realm of religious knowledge and those that are in the realm of general knowledge. The factor that caused the two scholarships to separate, historically originated from the conflict between the medieval Orthodox Church and the scientific community. With the deductive-platonic method, the church developed religious doctrine too far so that the truth was considered by the clergy to exist only within the church. Scientific information that comes from inductive and experimental areas is rejected by the Church. As a result, there was a conflict between religion and science (science) which could no longer be reconciled until the modern Western era in recent times. The next impact is the emergence of paradigm differences in ontological, epistemological, and axiological concepts between religious knowledge and general knowledge. The paradigm difference can be seen from the way of seeing reality and defining what is right. On the one hand, there is an understanding which states that revelation as the basis of religious science which is seen as having absolute truth by itsfollowers cannot be dialogued with science. Meanwhile, on the other hand, science whose truth is logical-empirical cannot be integrated with revelation. Currently the concept of scientific integration is part of the basis for the formation of Islamic religious universities in Indonesia. However, there are still many obstacles faced by Islamic universities in applying the concept of scientific integration to the implementation and operational domains of the institution. For example, the application of the concept of scientific integration at the IAIN Padangsidimpuan institution has not yet shown the ideal state of applying the concept of scientific integration that should be. The same thing also happens in various other Islamic religious universities, such as at UIN North Sumatra, until now they are still looking for forms of application of scientific integration that are appropriate in carrying out educational briocracy in Islamic religious universities. This situation is something that needs to be focused on finding a solution by finding the root of the problem and making the same perception regarding the application of

scientific integration in Islamic religious universities in Indonesia so that the goal of scientific integration runs optimally and in accordance with expectations. If these problems are not followed up seriously and focused, then the concept of scientific integration within Islamic religious universities in Indonesia will only stop at discourse and cannot be applied to the sustainability of learning in Islamic religious universities in Indonesia. a comprehensive and focused study on the application of the concept of scientific integration in Islamic religious colleges in Indonesia as well as an analysis of the opportunities and challenges that will be faced in applying the concept. The study of the application of scientific integration in Islamic religious universities will help in equalizing perceptions regarding the application of scientific integration in Islamic universities in Indonesia, while the analysis of opportunities and challenges will assist in finding the root of the problem and solutions to the problems faced today.

The results of this study are expected to be input for managers of Islamic religious universities throughout Indonesia to be able to formulate systemically, systematically, empirically and operationally in implementing scientific integration. Various studies on scientific integration have been carried out, including research conducted by Ikhwan (2016) which examines various problems faced by various Islamic religious universities in applying the concept of scientific integration. The results show that there are still many Islamic religious universities in Indonesia that do not understand the direction of applying the concept of scientific integration. Furthermore, research conducted by Jamal (2017) which examines scientific integration models applied by Islamic religious universities in Indonesia. The results show that there are several application models used by Islamic religious universities in Indonesia, namely the IFIAS model, ASASI, Islamic Worldview, Islamic knowledge structure, Bucaillism, classical philosophy-based scientific integration, Sufism based scientific integration, scientific integration based on fiqh, ijmaili, and Aligarh. This research comes with a different spirit from previous studies, namely to examine the form of application of scientific integration carried out by Islamic religious universities in Indonesia and to analyze the opportunities and challenges faced.

Methods

This research uses a qualitative approach with descriptive qualitative research. The purpose of this research is to analyze the application of scientific integration as well as the opportunities and challenges faced by Islamic religious universities in Indonesia. The following presents the research design used.
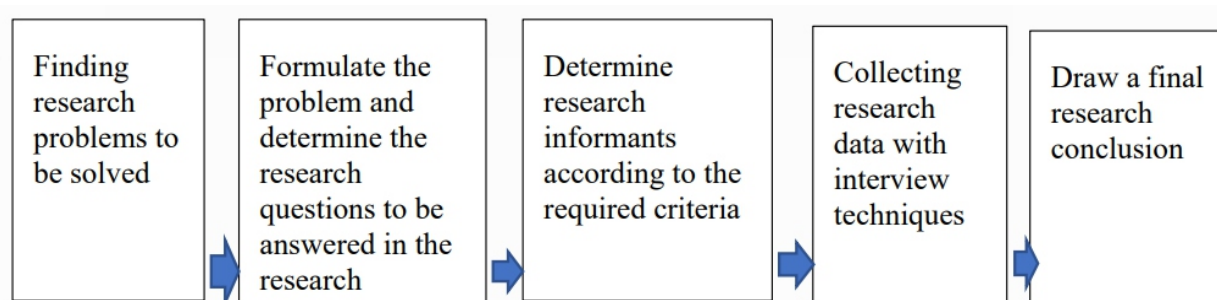
Figure 1. Research Design

This research was conducted in Indonesia by involving four Islamic religious universities, namely UIN Syarif Kasim in Pekanbaru, UIN North Sumatra in Medan, UIN Ar-Raniry and Banda Aceh, and UIN Imam Bonjol in Padang.

Table 1. Informants Institution

Name	Gender	Age	Institution
Informan 1	Female	51 years old	UIN Sultan Syarief Kasim
Informan 2	Male	57 years old	UIN Sumatera Utara
Informan 3	Male	53 years old	UIN Ar-Raniry
Informan 4	Male	51 years old	UIN Imam Bonjol

The informants involved in this study were the quality assurance institutions at these institutions totaling 4 people. The informants themselves were determined using a purposive random sampling technique with several criteria. The criteria used as the basis for determining research informants are (1) the institution's quality assurance agency, (2) has served more than 10 years at an Islamic religious college, (3) status as assessor either locally or nationally, (4) experienced in curriculum development in Islamic religious colleges, and (5) understand the concept of scientific integration in Islamic religious colleges. The determination of these criteria is to meet the data needs of this research because this research requires information or data from the parties of these institutions to answer the research questions that are formulated. The following table presents the informants of this research. The implementation of this research went through several procedures, including (1) conducting preliminary research to determine the problems to be raised in this research; (2) determine research informants, namely the quality assurance institution at Islamic religious universities that meet the criteria determined by parents; (3) develop research instruments as a tool to collect research data; (4) conducting interviews on the application of scientific integration used as well as the opportunities and challenges faced; (5) analyze the documentation as supporting data from the interview results; 6)

grouping the data obtained from the research; (7) perform the analysis process on the collected data; and (8) draw conclusions.Data collection techniques used in this study were interviews and documentation. Interview technique is used to obtain information about the application of scientific integration used and the opportunities and challenges faced. The data obtained is qualitative data which is analyzed by data triangulation technique. Interviews were conducted in person. To support the data obtained from the interviews, another data collection technique used is documentation. Documentation is done by analyzing academic documents from each institution. The data analysis technique used in this study is a data triangulation technique by comparing the validity of the data obtained. The data analysis in this study itself went through several stages consisting of (1) collecting interview data about the application of scientific integration used as well as the opportunities and challenges faced; (2) presenting data obtained from all informants in the form of descriptions; (3) analyze and reduce data by comparing data obtained from interviews with documentation to find synchronization of data obtained; and (4) draw a research conclusion.The triangulation process in the data analysis process continues until the results can be used as references that have consistency to answer research questions. If the data is still inconsistent and conclusions cannot be drawn, then the triangulation process will continue to be carried out repeatedly until the data obtained are consistent.

Result and Discussion

The results of this study are divided into three parts according to the research questions formulated. First, the results of this study are described in the subsection on the application of scientific integration at Islamic religious universities in Indonesia. Second, the opportunities obtained in the application of scientific integration. Third, the challenges encountered in implementing the scientific integration. The following is an explanation of the results of this study.

Application of Scientific Integration

The results of this study indicate that the form of application of scientific integration at Islamic religious universities in Indonesia lies in determining the scientific paradigm of each institution. UIN Sultan Syarif Kasim applies scientific integration by describing a scientific paradigm called the Andromeda Spiral Metaphor which is presented on their institutional logo. The logo in question describes the relationship of Islamic studies, social sciences and humanities, and natural sciences in an integrative and interconnected relationship.

Figure 2. UIN Sultan Syarief Kasim Logo's

In a scientific perspective, there are three important terms, namely al-haq, al-afaq and al-anfus.Al-Haq is another term for revelation that comes from God and has absolute truth value which is the main reference or reference in developing the sciences in human life, especially in the field of religious science. Religious sciences are derived from the values of revelation from the Qur'an and as-Sunnah which are sourced from Allah SWT. The revelation became the basis, source and spirit of al-afaq and al-anfus. Al-afaq is the universe became the source and object of scientific study or natural sciences and al-anfus is humans became the source and object of study of the social sciences and humanities. The basic idea of this paradigm of UIN Sultan Syarief Kasim views that science is essentially one. This is a manifestation and exploration of the understanding of the values of monotheism (oneness of God). Allah SWT, the Almighty God is a God who is essential, and His character and nature are also one. Thus, His knowledge is essentially one (one) and undivided. The division or separation of knowledge only occurs in appearance with the eye, while at the level of essence or substance, knowledge is one. UIN Sultan Syarief Kasim calls the unity of

knowledge a verse (signs of Allah). The division or division of knowledge is only for technical and tactical purposes or even just a kind of need for "sharing tasks" in the development of knowledge. Each scientist with this Andromeda spiral paradigm will realize their respective positions that they are forever in the same scientific breath, namely monotheism to Allah. It is recognized that scientific awareness like this is not easy to grow. Building this scientific paradigm in all academics is similar to efforts to cultivate creed values in the context of religious knowledge to students. Helmiyati explained, "In an effort to build this scientific paradigm, UIN Sultan Syarief Kasim has compiled strategic and tactical steps aimed at developing the paradigm of the scientific integration of the "Andromeda Spiral" and implementation through workshops and briefings for leaders of work units and lecturers". UIN North Sumatra applies scientific integration by creating a philosophical scientific paradigm which is given the term Wahdatul Ulum (language means unity of knowledge). There are several arguments that underlie or underlie the emergence of this paradigm (1) although knowledge is achieved through research, dialogue, and reasoning (nazriyyah), it cannot be denied that Allah the Most 'Alim is the source of knowledge. Classical Muslim scientists generally put an integrative approach in the development of science, such as al-Kindi, al-Farabi, and al-Biruni; and (2) the occurrence of a

science, on the one hand science is secular-dichotomous, if not 'conflict', on the other hand 'religious science' is marginalized as a result of the development of radical secularism. Based on this perspective, the reintegration of knowledge in the context of Wahdatul Ulum can be carried out in five forms (1) vertical integration, namely integrating science with divinity, (2) horizontal integration, which can be done in two ways, namely integrating deepening and approaches to Islamic disciplines. certain disciplines with other disciplines of fellow Islamic sciences, and integrate the approach of the natural sciences with certain Islamic sciences, or between fields of Islamic science; natural sciences, social sciences, and humanities, (3) integration of actuality, integrating science developed with the reality and needs of society, (4) integration of ethics, namely integrating the development of science with the enforcement of individual morals and social morals as well as integrating the development of washathiyyah (moderate) science, so as to give birth to national insight and humanitarian insight that is in line with the message of the substance of Islamic teachings about nationality and humanity, (5) interpersonal integration, integration between the dimensions of the spirit and the power of thought that exists in humans in the approach and operationalization of the transmission of knowledge. In terms of carrying out their intellectual duties, there are at least six philosophical foundations that the academic community of UIN North Sumatra should always use (1) scientific and objective, (2) tawhidiy, (3) caliphate, (4) morality, (5) hadhari, (6) sumuliy. Therefore, the study of all courses in the curriculum used is oriented to these six foundations, so that they become the basic principles in the development of Islamic sciences and sciences. UIN Ar-Raniry implements scientific integration by creating a scientific paradigm which is given the term Frikatification. Fricatifization comes from the word 'fricatived' which means "a speech sound that is made by pushing air out through a small space with your mouth almost closed". That is, fricative is part of linguistics. However, the essence of the word fricative is to make sounds by expelling air before a letter appears, where the mouth is almost closed. That is, the air that comes out first, before the letters like 'f', 'z', and 'th' appear. It is the air that then comes out of the mouth, like someone trying to put out a candle or a match. The use of the term frikatification of knowledge is strengthened by traditional culture or local Acehnese wisdom. The Acehnese in traditional villages, when burning a sua made of dried coconut twigs or leaves, will exhale air, so that a fire that has light can be lit. Likewise with a traditional kitchen, where a gust of air is needed to turn on the firebox for cooking. Sua's philosophy is an image of the fricatifization paradigm of science, where it is necessary to seek knowledge that is able to enlighten human life. Because this paradigm relates to power before there is motion or sound, like we exhale air. Metaphorically, the philosophy of fricativeization of knowledge is like a bamboo grove that stands firm and protects each other. Bamboo is able to make a sound when there is wind, but it never wobbles or falls, because it has very strong roots. Bamboo is always there to protect its surroundings. The presence of bamboo can also be used as decoration material or to build shelter. So, the crowds of bamboo sticks and the howling of the wind are

manifestations of the fricification of science. Thus, the fricification of science is an attempt to replant the 'bamboo' of science at UIN Ar-Raniry. This bamboo image also means that all the roots of knowledge will be allowed to grow on this campus. This makes UIN Ar-Raniry able to face the wind of civilization from anywhere. So, the fricification of science is understood as an attempt to breathe the spirit of knowledge into various directions. In other words, the frictifization of science is an effort of science to move according to the power of light that is owned in a place of reproduction of science. Because he is a breath, then the movement of knowledge is only manifested in human life, after they get air from the blowing. Alternatively, the gust can be understood as a spirit that is blown into the container that exists in creatures. Knowledge is a force that brings life to life, not kills life. If it is likened to the spirit or life, then the paradigm of the fricativeization of science is the spirit that is exhaled in the human body, which then makes the human alive. Here it is seen that the fricatification of science is the stage where all objects have not moved or have received their movement. Since he is a breath, two effects will occur, exhaling air to turn on or exhaling air to kill. This fricative paradigm is the peak paradigm, after five scientific paradigms have been mastered by a scientist, namely (1) descriptive, where a person is only able to describe or narrate a knowledge data, without carrying out a critical thinking process in depth, (2) explanatory, namely the ability of a person to explain an idea from various sides thoroughly. The ideas described, sometimes depart from the same theory of knowledge, (3) discursive, where someone has started to think to relate the results of his thoughts to the scientific discourse of other thinkers, (4) interpretive, at this stage a person is able to build their own scientific foundation to get to the theoria stage (theorizing of science), (5) implicative, a thinker already understands aspects of the influence of his thoughts on other people or a community. Philosophically, the transformation of IAIN Imam Bonjol into UIN Imam Bonjol is based on the idea of reintegrating Islamic religious sciences which in Western academic vocabulary are called Islamic religious sciences or in Arabic-Islamic academic vocabulary it is called rasah Islamiyah—with "secular" sciences. , which is widely known as the general sciences. In fact, for the context of the Minangkabau community where UIN Imam Bonjol is located in the element to be integrated, it can be added with "customary sciences" that apply in the Minangkabau traditional treasures themselves. Here the word "customary sciences" is put in quotation marks. This is because if you rely on scientific understanding in the treasures of modern philosophy, the knowledge contained in adat, which is generally called local wisdom, has not been systematized and verified through scientific methods. Ontologically, the reality that becomes the object of science is always multidimensional. In terms of material objects, there is a reality called the objective-empirical realm; some are in the form of relations and exchanges between humans and between humans and nature; and there is a subjective-internal human experience itself. First, it is faced by the natural sciences, the second is the social sciences, and the third is the humanities. The division of scientific disciplines based on this ontological reality trichotomy has been known for thousands of years. In

addition to the ontological reality division as above, there is another division. Based on the point of view of how science will work when faced with reality. The ontological pluralism above has logical implications for the nature of the epistemology and methodology that will be used as the basis for the scientific development of the Imam Bonjol State Islamic University. The implication is the plurality of epistemological and methodological. Facing the ontological reality which is defined in the trichotomy of natural, social, and human knowledge, as well as the trichotomy of text, social relations and subject experience, the tradition of Islamic thought in its golden age already had three epistemological models that were used to find out these facts. The three types of epistemology are bayani (textual interpretation), burhani (empirical and logical proof) and 'irfani (insight knowledge of subjective experience). At the level of value considerations in the end all academic activities at a university fall back on the universal defense of humanity. At this point, the axiological paradigm of UIN Imam Bonjol is axiological pluralism. Because the State Islamic University of Imam Bonjol understands that values in humans can come and be chosen from various sources thanks to their interactions with humans and other cultures (sociological pluralism). Based on the explanation above, with the principle of balance and opposition, UIN Imam Bonjol formulates the Dialogical-Interaction paradigm in the development of science. This paradigm as described above can metaphorically be analogous to An-Nahl (bees and their nests). Each bee has a hexagonal-shaped hive that is integrated with other bee hives. Each hive does not mix or combine with others, but is integrated into a single unit of work, namely producing honey. Honey is born and can be enjoyed by humans because in the hive the bees work independently and together. UIN Imam Bonjol is like a collection of mutually exclusive hexagonal fields but forms a unity. These fields can represent disciplines, faculties, majors, types of methodologies and approaches, value assumptions, and so on. Like the honeycomb, each field is independent but at the same time related to other fields.

Opportunity

The application of scientific integration in the realm of Islamic religious universities in Indonesia has a positive impact that creates a good potential or opportunity, especially in improving the quality and quality of graduates. The results of the study indicate that there are at least 3 things that are positive opportunities obtained when implementing scientific integration in Islamic religious universities, namely (1) facilitating the cultivation of character in each student; (2) facilitate the provision of religious knowledge and general science to students; and (3) Facilitate training and equipping students' skills. These three aspects become a very important part as capital for every individual in carrying out daily life. Furthermore, the provision of knowledge, attitudes, and skills is the main goal of a learning process (Lubis, 2019; Lubis & Dasopang, 2021). The first opportunity is to facilitate the provision of religious knowledge and general knowledge for students. This was obtained from the process of

of integrating two scientific clumps which created a curriculum based on the realm of religious knowledge and general knowledge. Forming broad knowledge must be accompanied by extensive sources as well, therefore collaborating religious knowledge with general science will make students' knowledge wider (Saftri & Sa'dudin, 2019). Furthermore, Nugraha (2020) states that the integration of religious and general knowledge can balance general knowledge with religious knowledge so that the individual's relationship with his god and the individual's relationship with other individuals can run well. The scientific integration carried out at Islamic religious universities in Indonesia also has a positive impact and creates an opportunity to shape the attitudes or character of students. The formation of student character is a very important part to be obtained in an educational process (Wolfolk, 2016). Providing religious knowledge to students is a concrete step that can be taken in internalizing Islamic values and character in each individual (Dasopang & Lubis, 2021). The formation of attitudes or character through the concept of scientific integration at Islamic religious universities in Indonesia is realized through the creation of an Islamic academic culture and the formation of the ma'had jami'ah program or pesantren in the campus environment. Islamic academic culture is one way that can be done in instilling Islamic values and shaping student attitudes (Sudarto, 2020). Furthermore, Juliawati & Yandri (2018) stated that the pesantren program on campus is a program that has a significant impact in shaping student attitudes. The results of the interviews conducted, the process of creating an Islamic academic culture is carried out by applying standard operating procedures for learning based on Islamic values. Several things that are part of the standard operating procedures in question are starting learning by praying, reading the verses of Al- Qur'an, wearing polite and Islamic clothes, and other behaviors that show Islamic values. Habituation to an Islamic academic culture provides a stimulus for each individual to continue to act or behave according to their habits, namely instilling ancient values in doing something (Mustopa, 2017). Furthermore, the presence of the ma'had jami'ah or pesantren program on the campus of Islamic religious colleges also has a positive impact in shaping student attitudes or character. Each student must undergo this program during the first year of study given in the cultivation of student Islamic values. This is in accordance with the findings of Hafidah & Makruf (2020) which states that the ma'had jami'ah program at Islamic religious universities in Indonesia helps in the process of character strengthening education for students. In addition to providing knowledge and forming attitudes, the application of the concept of scientific integration at Islamic religious universities in Indonesia also provides a very positive opportunity in increasing student skills. The skills in question are language skills and reading and writing skills of the Qur'an. These skills were obtained from the implementation of the ma'had jami'ah program in Islamic religious colleges as a form of application of scientific integration. The language skills in question are English and Arabic skills. These skills are obtained from training and habituation of foreign languages in the ma'had jami'ah environment. This is in accordance with the findings of Prastyo (2017) which states that Islamic

boarding schools are one of the media that can be used to train foreign language skills (English or Arabic) because in Islamic boarding schools students will be accustomed to foreign languages. Furthermore, Syahputra (2015) in his findings stated that foreign language skills would be easy to acquire by getting used to using the foreign language in everyday life. Routines in the ma'had jami'ah program also help students to increase their reading and writing skills of the Qur'an. As one part of the ma'had program, students are accustomed to continue to be trained and practice in honing the ability to read and write the Qur'an.

Challenge

The application of scientific integration at Islamic religious universities in addition to having various promising opportunities, of course also has challenges that must be faced. Some of the challenges that arise include obstacles in the management of lectures, both from the aspect of students and lecturers in study programs at the institution. Based on the information obtained from the interview process, it was stated that the obstacles in the management of lectures from the student aspect were seen from the number of students at religious colleges who were overwhelmed in dealing with the many types of courses that had to be taken to complete undergraduate courses. This is because the integration of science that gave birth to the scientific paradigm of the institution creates a curriculum that contains courses that blend religious knowledge with general science. The number of types of courses will be directly proportional to the number of types of assignments obtained by students, so it will really drain their concentration and energy. Meanwhile, the current direction of education tends to talk about optimization and effectiveness (Dasopang et al, 2020; Lubis et al, 2021). Furthermore, the large number of students who come from senior high schools that are not under the ministry of religion or from Islamic boarding schools make implementing this dense curriculum even more difficult. This is because they do not have a strong foundation or capital as a basis for facing courses based on religious knowledge. This is in accordance with the findings which state that basic knowledge is very important for each individual to possess before acquiring further knowledge (D'Souza & Gurin, 2016; Lubis & Wangid, 2019; Perkinson, 2012). From the perspective of lecturers who teach in Islamic religious universities in Indonesia, the challenge faced in implementing scientific integration is the difficulty of adapting to different habits from other universities. This was revealed by the informant in this research interview who stated that there were many lecturers who were still unable or had difficulty adapting to the habits of Islamic religious colleges. Good adaptability in a new learning environment is an ability that every teacher must possess in order to create an effective learning process (Hattie & Donoghue, 2016; Santrock, 2011; Winarsieh & Rizqiyah, 2020). Many students who are not from high school in the ministry of religion or Islamic boarding schools make lecturers have to spend more effort in achieving learning goals. The results of the interviews showed that many lecturers complained about

the difficulties they experienced in making the learning process effective, especially in religious subjects because many students did not have basic knowledge at all about these subjects.

Conclusion

The results of this study indicate that the application of scientific integration at Islamic religious universities in Indonesia lies in determining the scientific paradigm of each institution. UIN Sultan Syarief Kasim with the Andromeda Spiral Metaphor scientific paradigm, UIN North Sumatra with the Wahdatul Ulum scientific paradigm, UIN Ar-Raniry with the Frikatification scientific paradigm, and UIN Imam Bonjol with the An-Nahl scientific paradigm. However, the reality is that in the various scientific paradigms of each institution at the Islamic religious college there are similarities, namely the integration of general science or natural science with religious science. The results of this research also show that there are opportunities and challenges obtained by the application of this scientific integration. These include facilitating the cultivation of character in each student, facilitating the provision of religious knowledge and general science to students, as well as making it easier to train and equip students' skills study at the institution.

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"Shattered Dreams; Broken Hopes"
The Impact of Covid-19 Pandemic on Migrant Workers in Southeast Asia

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A B S T R A C T

Introduction: The Covid-19 pandemic has hit the world hard, and it has affected the migrant workers as well. The mitigation process of the Covid-19 by governments especially developing countries-lockdowns, shut down of public and private institutions, and border controls has further deteriorated the social and economic situation of already vulnerable migrant workers as most of them lost their jobs and faced health challenges during the pandemic. These migrant workers were dealing with pressing issues such as abuses, stigma and discrimination, with no or difficult access to health facilities, and unsafe living conditionsThe objective of study was to assess the impact of COVID-19 on migrant workers and their families in Asian countries and uncover migrant workers, PLHIV migrants and women migrant's issues due to the pandemic. Like other destination countries, migrant workers in Hong Kong, Malaysia and Thailand have lost their income to support themselves and their families due to the abrupt business closures and lockdowns. CARAM Asia took the initiative to carry out research on problems of migrant workers in three countries with the help of local partners in Hong Kong, North South Initiative (NSI) in Malaysia, and MAP foundation in Thailand.

Methodology: This qualitative research was done by using Focus Group Discussions (FGDs), Key Informants' Interviews, and Interviews of migrant workers. In the total sample of 289 respondents, 59% were male and 41% female.

Conclusion: It was found that migrant workers were in vulnerable condition where most of them had lost their jobs, others who were still working were facing low wages and less working hours. Living conditions were overall deteriorated with almost no social security from the government. It was found that migrant workers experienced exclusion, stigmatization as if they were virus carriers, lack of support and protection from government, and loss of jobs and livelihood. Access to health facilities for migrant workers was difficult as they were not included in the governments' social safety nets. It was also found that social and psychological distress caused depletion of living standards (20% responses in Hong Kong) and the experience of increased workload and insufficient protective equipment for combating the Covid-19 were also common. The total affected percentage of migrants who either lost their income completely or partially and socially affected due to the Covid19 pandemic was roughly 20% in Hong Kong, 20% in Malaysia, and 65% in Thailand.

Keywords Migrant workers, Covid-19, Pandemic, Problems, Hong Kong, Malaysia, Thailand.

Introduction:

Migration is a vital phenomenon where 15% of total migrant workers are from South Asia and South-East Asia (ILO, 2018). The high rate of migration from these countries is because of poverty and low economic opportunities for the large population in the region. East Asia is the most populated region, South Asia is the most densely populated, with a regional average of some 311 persons per square kilometer in the world (UNDESA, 2020). The Covid 19 pandemic has hit the world hard and it has affected the migrated workers as well. The mitigation process of the Covid-19 by governments especially developing countries lockdowns, shut down of public and private institutions, and border controls-has further deteriorated the social and economic situation of already vulnerable migrant workers. There were other pressing issues these migrant workers had to deal with such as abuses, stigma and discrimination, and unsafe living conditions. They had difficulties in fulfilling basic needs of life like, food, shelter, and access to health facilities. People Living with Human Immunodeficiency Virus (PLHIV) were vulnerable and required special health assistance for their survival. Domestic migrant workers were depending on the employer for their living, food, shelter, and health services. Like other destination countries, migrant workers in Hong Kong, Malaysia and Thailand have lost their income to support themselves and their families due to the abrupt business closures and lockdowns. In order to obtain in-depth knowledge about migrant worker's challenges, CARAM Asia took initiative of research for assessment of Covid-19 impact on migrant workers in Hong Kong, Malaysia and Thailand. This was a qualitative research where main strategy was Focus Group Discussions (FGDs) along with key informants' interviews, and interviews of migrant workers. The questions cover the main challenges faced by migrant workers during the COVID -19 situation in terms of labor, security, health, access to justice, international solidarity, cross border assistance, embassy support, solidarity and justice.

In Hong Kong, 3 FGDs with 15 Female Migrant Domestic Workers (FMDWs) were conducted. Interviews of key informants who were officials of 5 Non-Governmental Organizations' (NGOs) and one private employment service company's representative. Total participants were 23 (16 female and 7 male).

Telephone and zoom meetings were utilized to conduct these interviews due to mobility restriction during the Covid-19 pandemic. Two foreign migrant workers who run their own business in Hong Kong were interviewed face to face. There are mainly two types of migrant workers, migrant workers from Mainland China and migrant workers from foreign countries.

This report only studies the experiences of migrant workers from foreign countries.In Malaysia the study was conducted in partnership with North South Initiative (NSI). In this regard, a total of 240 respondents (88 female and 152 male) were interviewed. NSI conducted six Focus Group Discussions (FGDs) with 60 migrant workers to assess the impact of COVID-19). These participants were provided

with knowledge and information about their rights after getting answers for research questions from them. Since the Movement Control Order (MCO) implemented, all the discussions were done online.

In Thailand the research was conducted with MAP foundation, 4 FGDs were organized – two with male migrants and two with women migrants in Chiang Mai and Mae Sot. In total, the four FGDs had a total of 26 participants (12 males and 14 females) with an average age of 36, where 14 are Burmese, and 12 are of Shan ethnicity. More than 75% of them were married or living with a partner and 22 out of 26 had children. All activities took place in migrants' language – primarily in Shan or Thai in Chiang Mai, and in Burmese in Mae Sot. Results were transcribed and translated into English. The distribution of respondents and is in the figure 1. Overall female representation is 40% in the three countries, where 70% female participants in Honk Kong, 37% women participants in Malaysia, and 54% respondents were female in Thailand. The gender segregation is represented in the figure 2.
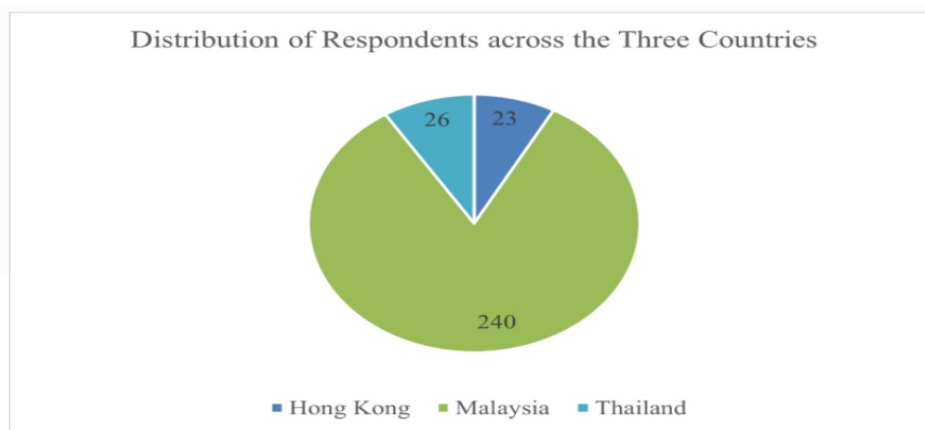
Figure 1: Distribution of respondents across the Three Countries
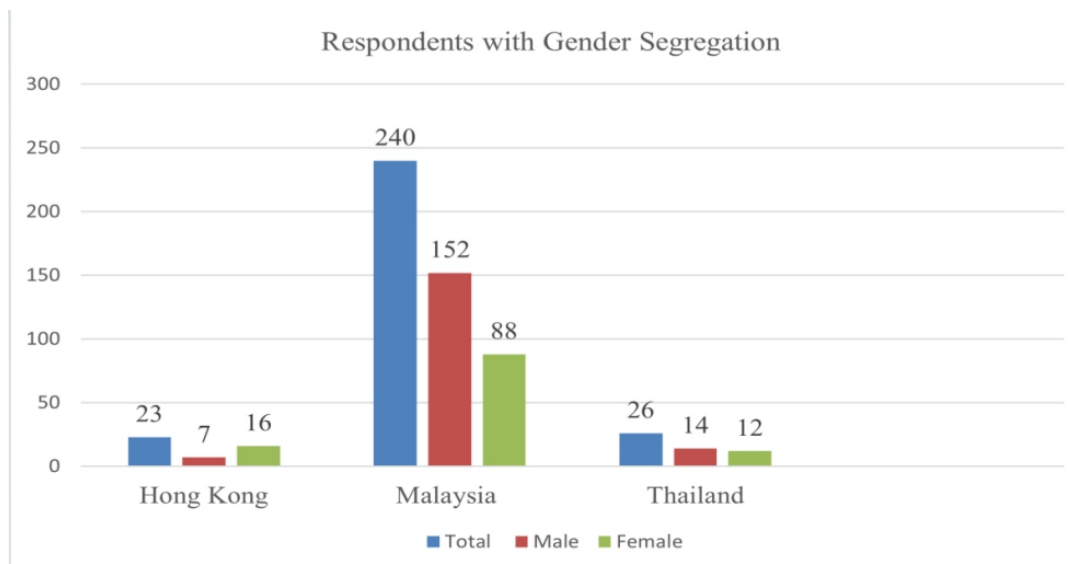
Figure 2: The Gender Segregation of the Respondents

The objective of this study was to do an assessment of the impact of COVID-19 pandemic on migrant workers and their families in Asian countries, and uncover concerns and unaddressed issues of migrant

workers, including those with special vulnerabilities. The results obtained from the research data for each country is discussed separately as follows.

Impact of the Covid-19 on Migrant Workers in Hong Kong:

The Hong Kong SAR government started to respond to the pandemic in early January 2020, days after a cluster of viral pneumonia of unknown etiology was first detected in Wuhan, China. This included a series of in-bound travel restrictions. Since then, like most countries in the world, more restrictions on cross-boundaries were imposed. Mask wearing was mandated in almost all indoor and outdoor public areas. Number of people in social events and gatherings were restricted. Most of the research conducted on migrant workers during the Covid-19 was in the early time period when the pandemic started, this research was conducted to assess the impacts in the mid of 2021 (May-September). The effects and tactics to mitigate the economic and social problems during the Covid-19 pandemic might evolve over one year. This field study suggested that migrant workers experienced exclusion, stigmatization as if they were virus carriers, lack of support and protection from government, and loss of jobs and livelihood.

Two NGOs' officials were interviewed, and they stated the miserable condition of children of migrant women workers. Those mothers were in miserable condition as they lost their jobs and were unable to raise their children. Travel restrictions and delay of government services such as birth registry resulted in a prolonged assistance. Another reason for increased shelter demand was FMDWs who were homeless due to the labor issues, immigration, criminal, and health issues etc., rendering them to an early termination of employment contract. Shelter allowing them to remain in Hong Kong for the purpose of enforcing their rights. Another issue was health assistance for the migrant workers, there was no support system for them being away from family, this caused psychological problems. Other health issues of FMDWs, like workers who were HIV positive, and their employers were unaware of their disease, so they could not get medical help because employers did not allow them to leave homes due to Covid-19. FMDWs were not able to attend their clinic appointments which affects their treatment and medication (the FDWs were not willing to tell their employers about people living with HIV (PLHIV status as they were afraid that their employers would fire them). The NGO was providing free HIV rapid test, HIV prevention and reproductive health related educational workshop, outreaches and HIV self-test kits to foreign migrant workers in Hong Kong. During Covid-19 pandemic, they stopped their outreach for more than 6 months.

Interestingly, it was found that FMDWs got rise in salaries-who were working there before pandemic, as employers did not want to recruit new FMDWs-who came to Hong Kong during pandemic. The owner of an employment service company (private owned recruitment agency-which helps local Hong Kong employers to recruit migrant domestic workers told that, "since the pandemic, Hong Kong

during pandemic. The owner of an employment service company (private owned recruitment agency-which helps local Hong Kong employers to recruit migrant domestic workers told that, "since the pandemic, Hong Kong employers do not prefer hiring migrant domestic workers from overseas. They mainly want to hire those who have been currently working in Hong Kong and their contracts are going to expire with their specific employers. As demand is bigger than supply and the competition for workers is high amongst local employers, many are happy to offer higher salary to hire those whose contracts are about to expire."

Two migrants owned shops-one selling food and the other trader of electronics itemscomplaint of their income loss due to travel restrictions and social distancing as most of their customers were FMDWs and foreign visitors. The reduction of income reflected in the amounts he could afford to give support to his family at home, and they had to cut all expenditures to meet basic needs: food, shelter and health only. This showed that loss of income has affected the living style of families in the native countries of the foreign workers.It was also found that FMDWs had to buy Covid-19 protection kits as employers imposed on them to wear masks and use sanitizers. Mostly workers found the items expensive, and employers did not provide them with these protection items. Many workers were uncomfortable with wearing masks and they complained that mostly, it was social media and television exaggerating stories that has caused this problem. It was also found that none of the respondents had objection to Covid-19 testing and vaccination and some had already vaccinated. Most of the respondents stated that they have been using social media such as Facebook, Instagram and WhatsApp to communicate with their family back home and their friends in Hong Kong. Now they had more time to talk with family/friends back home.

In the case of Hong Kong, life of FMDWs was affected as 20% of FMDWs got less rest days than they should be given and similar percent of them didn't go outside their employer's house for a month. Most of them felt being discriminated by issues related to COVID-19 pandemic. They felt their quality of life being deteriorated, experienced mental and physical stress. They also felt frustrated for not being able to go back to their home countries for vacations. Salary or income details are not clear as it was reported that they got salary increase during the pandemic.

Impact of the Covid-19 on Migrant Workers in Malaysia:

Most of the migrant workers complained about the increase in difficulties after the lockdown, also known as the Movement Control Order (MCO) which was imposed on 18thMarch 2020. This lockdown continued till Nov 2020, with various versions of the MCO with different degrees of rules, compliance standards, implementation and restrictions. Amongst vital aspects for looking at the conditions of migrant workers included the workers, employment conditions, housing, access to health, abuses, domestic workers rights, remittance, communications, access to information, job

opportunities, safety and social security, food, visa status and access to justice. The baseline survey data from 240 workers representing 6 communities showed that conditions of migrant workers have become more precarious during the Covid-19 MCO.

Many of the workers had lost their jobs or less working hours and had to search for alternative income. Figure 3 shows their income level before the pandemic where only 6.5% participants were earning RM 3000 and above. 22.9% workers were in industry and 20% were domestic workers. The respondents earning less than RM 1200 were 20% and they got worse off after the pandemic, only those in specific essential service sectors like food, security, and health continued earning regular income. A substantial number also reported that they faced some form of abuse or rights violations by various actors during the MCO. It was found that increase in abuse particularly for the women migrant workers and domestic workers had deteriorated mental and social health of these already economically marginalized workers. Many migrants also shared that they did not get clear information about mitigating and preventing Covid-19. MCO has caused the flow of misinformation to plague the migrant workers community. The consequences of MCO on Malaysian workers were loss of income, jobs and health risks, migrants face additional stigma from society and targeted risks as per enforcement agencies – the police, immigration and customs. Unlike Malaysians, migrants who violate the MCO related laws faced deportations. An undocumented migrant-tested positive for Covid-19-would be quarantined, treated and then deported. Some industries like essential services like health, food and security were exempted from the MCO related rules, hence work continued for migrants in these sectors. As the MCO caused many public service centers to close, it made access to essential services extremely hard. This caused workers visas to expire and many other complications like postponed court cases and missed opportunities to return home. While health services related to Covid-19 screenings were made available to the migrant workers, the stigma caused by past and present arrests and detentions by enforcement agencies made them skeptical to come forward to access those services. One of the respondents said that people became skeptic towards them as if they were carriers of the virus. Unfortunately, the discrimination at government level was found; the Malaysian government excluded migrant workers from the Workers Insurance Scheme (WIS) and the Wage Subsidy Schemes (WSS) which were meant to help employers to cover the workers' salaries during the economic down time. In any retrenchment or downsizing exercise, companies are needed to retrench first, the migrant workers, and only then Malaysians; using the Last in First Out formula.

Many of the migrant workers seem to have been directly hit but the MCO. While not all the workers lost their jobs but, many had both reduced earnings and reduced working hours. Most of the respondents complained about the working place negligence on preventing measures from corona virus, as the conditions were not in compliance with the MCO rules which called for physical distancing, sanitizing facilities and safe hostels. Another issue raised by the respondents was of lack of information because

of cultural competency gaps, language barrier affected the doctor-patient(migrant) relationships. Not having translators made it very difficult for migrants to understand the instructions from health personnel and describing their issues to health personnel. Miscommunications could lead to the pandemic going out of control especially if migrant workers did not understand the importance of testing and quarantine.
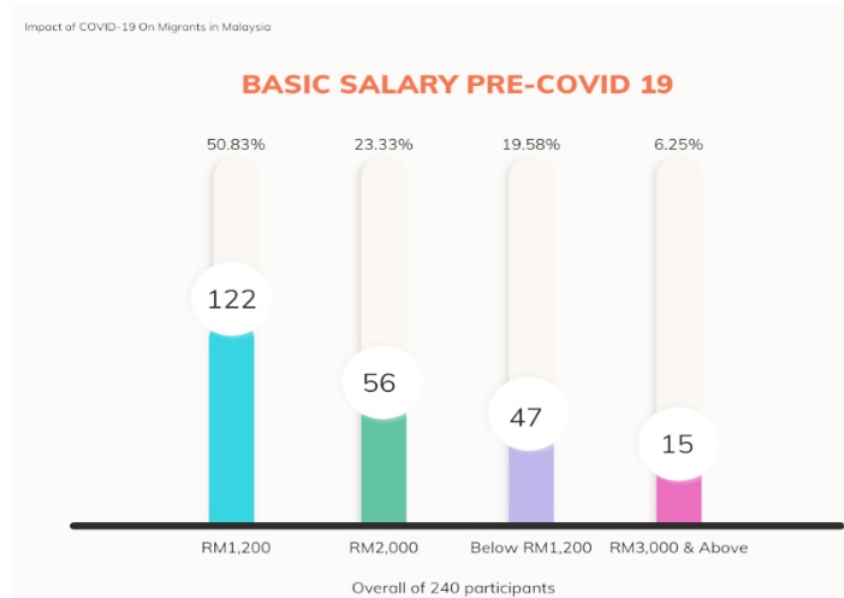

Figure 3: Basic salary of the migrant workers before the Covid-19

Many migrants lived in sub-standard or undignified conditions. This was even more critical for domestic workers who shared the house and burden with the whole family. Some migrants lost their jobs and hence, had to move out from hostels provided. The conditions of hotels were drastic and caused spread of the virus. This is most unfortunate as migrants make up around 30% of Covid-19 patients in Malaysia.

Women domestic workers were facing more challenges as compared to other migrant workers as most of the abuse complaints were from them; they were in vulnerable conditions. Domestic Work in Malaysia does not have a specific regulation and is even excluded from many basic aspects of the labor law. The loss of income from losing the jobs, put them in a very precarious situation. As for the part time cleaners, as the risks of infected themselves with the virus by cleaning became very high, many employers refused them to enter houses for cleaning, due to the MCO, they were not allowed to travel from house to house. Migrant workers in Malaysia were found to be in extremely vulnerable conditions. With multiple factors causing such vulnerability, it put migrants and their families at high risks in Malaysia in terms of their safety, work and heath conditions. While migrants are respected for showing resilience and determination, this is often exploited by the local employers.

Impact of the Covid-19 on Migrant Workers in Thailand:

Thailand has a large diaspora of migrant workers from Burma and the Shan state, they were interviewed for their problems during the Covid-19 and after the imposition of country wide lockdown in April 2020. The respondents in total 26; Most of them reported unstable and insufficient daily wages (17) that is 65% of the total respondents had unstable income, lost their jobs or they were uncertain of their daily wages, only 1 worker was having minimum wage as shown in the figure 4.
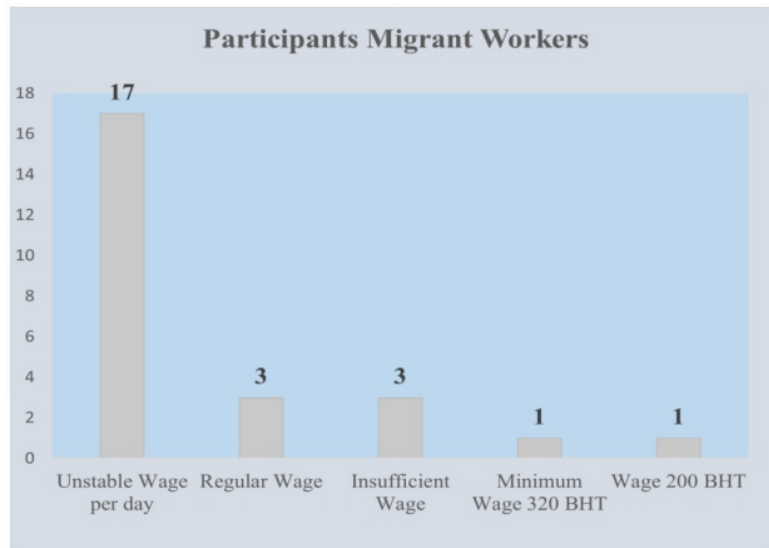
Figure 4: Migrant Workers' Daily Wages after the Covid-19

Living situations during the first year of Covid-19 ranged widely. Migrants reported consolidating their living conditions to save money. They moved into smaller rooms with family members, including in-laws, or friends on sharing rent. Some lived with up to six family members in single rooms meant for one or two persons. Some had young children, who were confined to the space as well. Some already rented houses or townhouses that could accommodate the increase in family members or co-workers. A camp for construction workers had 60 rooms close together with additional members in each room. Some families were isolated, living just a couple of people in a shed, in a field. Most of the respondents were staying in a row house or room. They lived outside of the workplace because dorms in the factory are narrow, crowded, expensive and dirty, and workers' freedom is limited. Migrants negotiated with landlords, some of whom were also their employers, about lowering the rent and paying later. Some were sympathetic and reduced the rent for a couple of months, but many migrants were already in debt, owing 3-4 months.

They had a comfortable living before the pandemic, and they were sending money back home regularly. After lockdowns it was a huge loss for these migrant workers, but they did not go back to Myanmar because they could not afford the travel and quarantine expenses. Those who were having families living with them in Thailand said that it was not possible for them to go back and start their life again in Myanmar, they have accustomed to life in Thailand. One of the participants said, "My child is studying in Thailand. There is a relative in Myanmar, but I don't know what I would do if I went

back."

Another worker interviewed told that, "Our child has obtained Thai nationality. In the future, we will be dependents."

The ability to stay under indefinite temporary visa extensions also encouraged respondents to stay. Some still had jobs, especially if they worked in a factory, and some migrant workers still had debts that needed to be paid off. After COVID-19, in agriculture sector, many migrant workers were unemployed. The employer took the opportunity to reduce wages again from 250 Baht per day, to only 150 or even 100 Baht. Workers accepted it because they had no income. When the first lockdown came, a lot of workplaces closed. Some respondents stayed with the same employer but there was no lacked regular work and income. One of the migrant worker-working in a shop said, "My employer informed that the shop must be closed, and he could not pay wages, I could not leave as my employer has not paid compensations or any advance notice."

One respondent at the sewing factory told, "When they have enough workers, they will tell us not to come; and if there are not enough workers, they will inform us to come and work." Some respondents had to change jobs and employers, but some workers couldn't find a new employer, their life was depending on daily work wages. One of the female participants said, "In the past, I have always worked with my employer and never changed the job or the employer. However, during the COVID-19 outbreak, the factory needed to shut down. During that time, I worked as a housemaid to earn extra income." In some situations, like in Mae Sot, workers could still work normally in the factory. However, they were not allowed by the employer to move outside of the factory due to fear of contracting the virus. Mostly migrant workers were ripped off as they received unfair wages of 180 Baht per day (minimum is 320); it was difficult to find work, so they accepted it. It was reported that even before Covid-19 employers were not paying wages as per the minimum wage rate. It was also reported by a respondent that his employer paid the wages for 15 days work only to compensate all workers and asked them to help each other by accepting half salary.

Migrants managed their food needs through assistance received from various sources, such as NGOs, CBOs, the Red Cross, local government at the municipal level, and Thai and migrant communities. Some migrants received assistance during the first wave only. Some migrants received no assistance whatsoever. Some migrants foraged for food in the forest or in canals depending on their locality, while many families stored up on dried goods when they could. There were also local food sellers who provided credit.

One of the respondents said, "We planned in order to have sufficient money for expenses for food and conserved by not buying anything unnecessary. Also followed the local news on Facebook to know information about where local food donations were and we would travel to pick it up. We also received some dry food from a local donation box in the community."

Many respondents complained about the inefficiency of government in providing no information on the Covid-19 and its prevention. Most of the awareness campaigns were conducted by NGOs. The poor segment of the migrant workers who were hand to mouth for basic needs were unable to buy personal protective kits. One of the respondents explained that NGOs and the Red Cross came and provided masks, washing gel and survival bags, including information about how to protect and prevent from the disease. Sometimes, there were volunteers who came into the community. There were no government agencies that came and helped in the community.

Health sector aided migrant workers without any discrimination and treated them free during the Covid-19 outbreak. It was found that migrants were pleasantly surprised by the commitment health officials showed in ensuring patients received their medicines. There were also numerous cases of pregnancy and delivery had complications due to Covid-19.

One respondent told that, "The hospital delivered medication for people with diabetes in the community."

Another migrant worker said, "I have a friend who is paralyzed and needs treatment. Hospital gave the person treatment according to his rights under the state health insurance (30 Baht scheme) at a public hospital."

It was also found that migrant workers were struggling for their legal rights and issues related deportation and abusive behavior of employers. Migrant workers' situation was precarious during the Covid-19 as employers and agents took advantage of the situation to cheat the migrant workers. For instance, withheld their wages, agents failed to assist migrants to return home safely during sudden flight cancellation and workers were not able to contact anyone for help since agents withheld their hand phones.

Discussion:

The situation of migrant workers was miserable in the three countries-Hong Kong, Malaysia, and Thailand- where the research was conducted. Economic, social, law and enforcement, living conditions, and workplace situation has deteriorated due to the Covid-19 pandemic. Malaysia has no system for migrant workers, Covid-19 has exposed the intersection of enforcement, between the health ministry and the home affairs ministry. Migrants who were Covid-19 positive and did not have their documents, were quarantined, detained and deported. As many undocumented workers and even documented workers felt threatened to come forward for testing, many went into hiding or went home using irregular channels. This led to the spread of the virus. The income lost after the Covid-19 pandemic in Malaysia was experienced by 20% respondents as they were earning less than RM 1200, which deteriorated their lifestyle further after the pandemic. Similarly, 65% participants in Thailand got unstable wages after the pandemic, they were uncertain about their daily wages and economically

devastated. In the case of Hong Kong, 20% of the respondents suggested the social and psychological distress showing depletion of their living standards (See Figure 5).

The experience of increased workload and insufficient protective equipment were also common. In the early months of the pandemic, more than 20% of FMDWs in Hong Kong got less rest days than what they should be given and similar percent of them did not go outside their employer's house for a month. These results are also supported by an online survey about the rest conditions of FMDWs, about 25% of FMDWs reported they slept less in this month than the month before. About 10% of FMDWs were not given any rest day at all for the past month while another 10% got less rest days than what they should get this past month. In addition, for the FMDWs who were given their weekly rest day, 23% did not go outside their employer's house in the past month (AMCB, 2020).

There was a positive impact in Hong Kong as respondents of the study mentioned the salary rise due to employers' fear of hiring new FMDWs who have just entered in the labor market and might have contacted Covid-19. The demand of already working FMDWs increased and thus employers raised the wage rate to keep them. This positive impact was not seen in Malaysia and Thailand, where migrant workers were mostly facing low income and less working hours. Many migrant workers have lost their jobs and were in debt for meeting their basic needs, food and shelter. Another benefit during the pandemic was, migrant workers had more leisure time, and they were able to communicate to their families/friends back home via Instagram, WhatsApp, and Facebook.
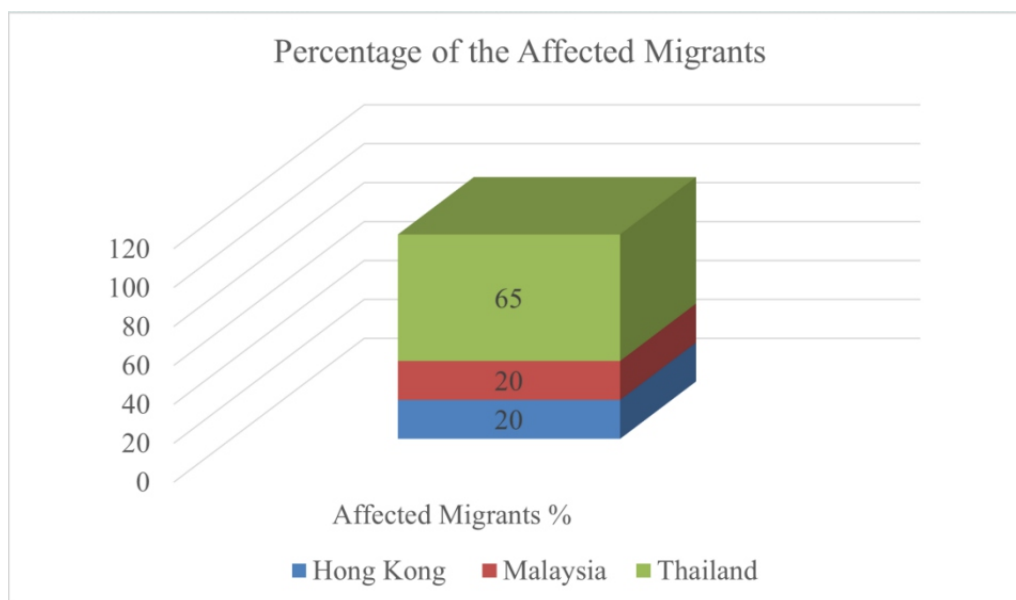
Figure 5: Percentage of Affected Migrants in the Countries

During the initial lockdown, migrants identified receiving assistance from NGOs, including the Red Cross, CBOs, local government and local communities in Hong Kong and Malaysia but no one said they received benefits from the Thai government. After the lockdown, migrants felt discriminated against, unable to access the same benefits as Thais, especially entitlements under social security or

cash handouts. It was found that health service was helpful to surprise of the migrant workers in Thailand under the (30 Baht scheme) at a public hospital. In case of Malaysia, government strategies like MCO further deteriorate the living conditions of migrant workers. This is also confirmed by other researchers that the implementation of various phases of Malaysia's Movement Control Orders (MCOs) and the way the government addresses the situation facing migrant workers have significant negative consequences on their already precarious living and working conditions. This includes a growing number of positive COVID-19 cases found among migrant workers in May 2020 onwards (Wahab, 2020).

Economic conditions of the migrant workers further depleted as mostly employers were not paying according to the minimum wage rate law, which left migrant workers with meager savings. After Covid-19, most of the migrant workers had no income so they used up their savings to pay fixed expenses like rent. Majority of the respondents lost their jobs after the Covid-19 or income loss due to less working hours. Income loss was reported by 20% respondents in Malaysia, 65% participants in Thailand reported unstable daily wages, social and psychological distress in Hong Kong as 20% migrants told about their worsen off life after the Covid-19. To survive, they moved in together, conserved resources by eating dry and canned food, went into debt, and took daily work (any work) to earn some money. With the continued closure of the border, migrants had no choice to travel back. Even when the borders were open, they didn't travel to save money.

The situation after the world is opening again might have different impacts but the lack of data and restrictions in mobility to collect data in the migrant's community need extensive research to understand the living situation especially in health sector. During the Covid-19, there is currently no literature on disease among migrant minorities. Public health attention is required for disease control among minorities and migrants (Joob & Wiwanitkit, 2020).

The phenomenon of migrant workers and the Covid-19 Pandemic is very complicated and need extensive qualitative and qualitative studies for getting the clear idea of what is going to happen and what measures are to be taken by the governments immediately. It was evident that social, economic, security, health, and access to justice were declined for the migrant workers in Hong Kong, Malaysia, and Thailand. Mostly migrant workers were unsatisfied with the government strategies which excluded migrant workers from social net.

Recommendations:

The study pointed out various problems, it is suggested that:

❖ Governments should engage migrant workers for policy making process. They should help domestic workers in all sectors without separating or discriminating by ethnicity or nationality.

❖ Migrants should receive social security benefits according to their contribution; and the state should

allocate funds to help migrants without Social Security with measures like special cash handouts and provide food and shelter.

❖ Migrant workers should receive the same health care and treatment as the general population, including non-discriminatory health services, free COVID-19 testing and treatment, and free vaccination with the vaccine of choice.

Conclusion:

It can be concluded that migrants are major contributors to economic and social aspects of country of origin and destination. However, during the pandemic, migrant workers were very vulnerable and could barely survive. It also shows that the gaps in law, regulations and enforcement are very vital to be bridged during this critical period. Migrant workers are in extremely vulnerable conditions. With multiple factors causing such vulnerability, it puts migrants and their families at high risks in terms of their safety, work and health conditions.This field study suggested that migrant workers experienced exclusion, stigmatization as if they were virus carriers, lack of support and protection from government, and loss of jobs and livelihood. While migrants are respected for showing high degree of resilience and determination, this is often taken advantage by the local businesses. The tragedy is that the very resilience and strength shown by the migrant worker is used to normalize abuses. government's preparedness in addressing the inequalities which contribute to the spread of Covid-19, such as vaccine equity, social safety nets, jobs security and housing conditions, and as a result, would face another year of battling the spread of the disease and the related economic hardship.

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Beer in Published and Unpublished Texts from the Third Millennium B.C

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Introduction

Alcoholic beverages were discovered in prehistoric times. The cuneiform texts demonstrated that there were many beers in Mesopotamia, beer of all kinds, which were considered to be refreshing and favorite drinks of the ancient Iraqis.

Alcoholic beverages were produced, perhaps by chance, and their industry dates back to the Neolithic era. The beer industry was associated with the pottery industry, and it is believed that the large jars with arched mouths that were found in different regions were specific to the beer industry. Therefore, the discovery of beer was made in Mesopotamia long before the invention of writing.

The Sumerians are familiar with the beverage industry. The first sign of beverage is contained in the cuneiform texts and its pictorial stage in the form of a jar with grains of barley in it, and another sign, which looks like a jar with an extension below, undoubtedly leads to another yard in which the brewed barley juice is filtered.

Early on, the population of Mesopotamia inferred this industry through drinking scenes depicted on seals and carvings.

The cuneiform texts referred to a great deal of information on beer (KaŠ), including texts that date back to the period 3200-3000 BC. Beer was not just a rural agricultural product of the primitive Sumerian settlements but was one of the products subject to the central economy of the large Sumerian cities. As information was available about beer in three types of cuneiform sources, the first of which is through administrative texts, texts of myths and epics, legal articles that mentioned beer, as well as administrative and economic texts that specifically mentioned the production and distribution of beer. It contains detailed records of the raw materials required to produce beer, the quantities of beer produced, and texts that represent commercial and economic transactions such as beer delivery texts.

The oldest reference to the term KAŠ is in a text dating back to Lukal Nada in the first year of his reign. We read in the text various materials about quantities of wheat and beer delivered as offerings to the god Mes-Ando and the high priest Dodo from one of the storehouses.

A text dating back to the ancient Sumerian era (2500 - 2430 BC) from the city of Adab, as an economic text mentioned quantities of beer, bread, and semolina as wages for the workers of the brewery (É-BAPPER). From the Akkadian period (2340-2200 AD), cuneiform economic texts containing various materials, including beer, were received from several cities, including (Ur -Nefer - Ashnona - Uma and others). Also, cuneiform texts included distribution lists of beer and its types and wine dated by month

and day from the city of Akkad.

Beer was widely used in modern Sumerian texts (2112-2004 CE) as offerings and ordinary supplies for worldly purposes from the twenty-fifth year of the reign of King Shulki until the sixth year of the reign of King Abi Sin, among several major cities that belong to beer drinkers, and it is often mentioned in the texts with bread.

Second: The Name

The cuneiform texts provided us with many names and descriptions of beer, and it came in the Sumerian language with the syllable, KAŠ, and Akkadian sikaru, meaning beer or alcoholic drink, and may refer to any intoxicating liquid usually produced from dates or other fruits. Several cuneiform texts mentioned beer of all kinds, types, prices, as well as the raw materials that go into its manufacture, and the strength of its impact.

In addition to beer made from barley, it is also made from wheat or a mixture of wheat and barley. Nineteen varieties of beer were reportedly known to the Sumerians. Eight of them are prepared from barley alone, which is of a good variety, and the other eight are prepared from wheat and prepared by adding a certain percentage of barley, while the remaining types are a mixture of wheat and barley and other scented materials.

Third: the beer industry

Since ancient times, man has been developing the processes of the beverage industry. The inhabitants of Mesopotamia have known the brewed beverage industry in the Neolithic era and were guided to prepare and obtain various kinds of beer.

The beer industry in the Mesopotamian civilization has been associated with the development of grain cultivation (wheat and barley), which occurred ten thousand years ago. About 40% of grain production was used in the manufacture of beer.

The beautiful art scenes that demonstrate the process of making beer and its different methods of drinking were found engraved on the cylinder seals. Drinks, which may have contained a large amount of sediment, were drunk in the Sumerian period with special drinking tubes whose ends were perforated with small holes to form what looked like a filter. The ancient Iraqis drank beer through a straw or tube to prevent the husks (seed husks) resulting from steeping barley with water from reaching the drinker's mouth.

The beer industry goes through several stages, the first of which is:

1. Fermentation of grains/soaking of grains: The process of soaking grains is known in Sumerian NUMUN4-E MA2 and Akkadian baqilu or buqlu. Beer is one of the common drinks, and barley is often

its raw material. Beer preparation is usually made by fermenting quantities of barley grains in water in a warm place inside beer jars with a curved and hanging neck that prevents the entry of oxygen and left for a certain period, where the contents of the barley kernels are transformed from starches to barley sugar, which gives the distinctive taste of beer. Yeast preparation was very important. The reason for preferring barley grains in the manufacture of yeast is because it produces a large number of decomposition enzymes, as well as proteolytic enzymes and decomposing gums, which produce additional substances that improve the nature, smell, and flavor of yeast grains.

This process is represented in drawing a beer sign, in which a jar appears and at the bottom of it an extension in the form of a tube that undoubtedly leads to another container in which the fermented barley juice filters. One of the months in the calendar of the city of Lagash from the era of Ur III, which is the fifth month, is mentioned as the month in which soaked grains are eaten ITINUMUN4-KU2.

The outer covering of the seed helps prevent damage during harvest and strengthens the structure of the soaked bean. It also keeps the embryo inside the barley seed from breaking. Therefore, it helps it in the germination process, and it is believed that some grain husks give flavor and taste to the components of the yeast. At the beginning of fermentation, preliminary germination of the barley seed occurs, after which the process of converting the contents of the barley from starchy to sugary substances begins. Malt sugar is an important factor in the beer's final taste (sweet taste).

The type of fermentation has a direct relationship with the length of storage for different beverages, as well as with the fermentation temperature. If, after soaking, the beer is heated for a short time at about 50 degrees Celsius, the rapid transformation of starch and then rapid fermentation at a low temperature is more guaranteed.

2. Drying the grains: this process is known in the Akkadian as šetu or pu'pa. After soaking, the grains are dried. Drying means stopping the germination process, and it is done in two ways, the first is by spreading the grains under the sun until they dry, and the water evaporates, and the second is to put the grains in ovens.

3. Crushing and sieving grains: After the grains are dried and crushed, the crushing process is called (GAZ in Sumerian) and (Hasalu in Akkadian) or using mills mentioned by some as isbukannu or nappu or grind using a mortar, and sieved to separate the seeds then kept in containers or bags until used.

4. Adding spices and flavorings: Some kinds of spices were added to the grains and some kinds of flavoring herbs.

The cuneiform texts gave us full details of the stages of the industry. Among some details, the added materials that may have a catalytic role in fermentation reactions as well as the duration of the fermented solution to obtain different degrees of products with different qualities.

There are several recipes indicating the addition of several specific plants to give a beer smell and a special taste.

The use of white, red, and brown barley, as well as emmer wheat and its mixture (with or without husks), allows the brewer to prepare beer of different colors and flavors, as the extract obtained in the fermentation bowl contains a different dye and other compounds coming from the husks.Crushed grains are treated in two ways:

a. Beer bread: It is bread-like pieces called beer bread. It is called in Sumerian (BAPPIR) and Akkadian bappiru, it works in the form of tablets, and various kinds of flavorings, herbs, and spices are added to it to give a special taste. Then it is baked in the oven, and after removing the bread from the oven, it is spread on reed mats to cool, because cooling is required to maintain temperatures during formation. The mats on which the bread is placed have certain specifications.

b. Fermentation of beer bread: The process is called Nadu or luhhumu. The beer bread is crushed while it is hot as soon as it is taken out of the oven, then soaked and salt is added. The marinade is mixed in a large container for fermentation. After it has brewed well, the solution is filtered, and it is packed in large jars, the mouth of which is well tightened to prevent the mixture from fermenting because this leads to making the drink sour.

Leaving the drink for a long period at variable temperatures determines the quality of the drink and its effect. In the fermentation process, the beer is mixed using a special mixer and then transferred to a container for filtering and sedimentation of waste. The fermentation process lasts about 3-4 days, and then the container is covered with mats or a piece of cloth at night to maintain the temperature as much as possible. From the filter container, the filtered liquid is transferred to clay pots of 2-5 liters and larger than that when stored.

Beer is made from barley, it is also made from wheat or a mixture of wheat and barley. It should be noted that brewed and crushed barley with spices was known as a mixture that was placed in special fermentation jars, then the brewed liquid was transported and purified in special containers in which all the remaining impurities were deposited, and finally, the pure beer was transported to containers prepared for drinking.

The techniques used in the brewing of beer were distinguished, which are similar to those found in Tell Bazi. Vessels were used to store or treat old beer. The excavation mission found a large number of pits containing jars in the form of barrels buried underground, with a capacity of 200 liters, in several houses from this site. The inside of these pits was coated with internal ceramics, as the beer brewed. The process of burying these containers in the ground will result in a weak temperature that helps them in the fermentation process. These barrels were accompanied by small containers with holes in their bottom, and the capacity of these containers was 100 liters.

The beer industry was once dominated by royal family officials and consisted of families belonging to the palace or the temple. The cuneiform sources and texts indicated that some good types were taken care of and were intended for the clergy of the temples and were given to visitors of the temple by

official and private figures, as well as religious sessions during which beer, wine, milk, and fruit juice were served.

Beer made is accompanied by the recitation of the poetic hymn that praises the goddess of beer Nankasi and describes the beer as the inspiration for poetry and the emotions of the individual. Besides, chanting various songs related to drinking. During the translation of the hymn addressed to the beer goddess, Nankasi, the stages of making beer are described, in which there is an enumeration of the most important activities of the goddess Nankasi, as well as mentioning some of the gods who were associated with its manufacture, such as the goddess Ninkharsak that was mentioned in the hymn.

(You are the one who eats the dough (beer dough) with a big shovel, mixes beer in a pit with sweet flavorings, You who bake the dough in a big oven, You arrange heaps of husks, You pour water on the dusty dough, you soak the grain prepared for beer in a jar, you are the nankasi who spreads the cooked on the reeds, you carry with both hands its sweet herb, you brewed it over honey and wine, in the fermentation vessel it makes a pleasant sound).

Several gauges of beer were used in ancient Iraq, with a measure of (PI) panu, which is approximately one-fifth of the GUR, i.e. equal to 60 liters according to the measures of the current capacity. The (PI) scale was used in the ancient Sumerian era in the city of Warka in particular, where beer was measured in this era for BÁN 36 sila, equivalent to 36 liters, and in the Akkadian era, the DUG scale was used in Sumerian and karapu-karpatu in Akkadian to measure beer, which is approximately 20 liters at present. In the modern Sumerian era, it was used for grain.

It was mentioned in cuneiform texts dating back to the Akkadian period that a measure of parisu, which is equal to half a kore, or approximately 150 sila, was used to measure beer.

1 Pa Gešten

There was a special container for measuring beer in Sumerian, DUG (MÚD) huburu is a Khabur, meaning beer container. One of the units in which beer was measured, which appeared in the Akkadian era, is the ku-li coli, as it was used only in this era, and it is equal to 0.5-1.2 liters according to the current measurements.

In the Akkadian era, the PI scale for beer changed, and it became equal to 60 sila, or 60 liters at present, as well as in the modern Sumerian era.

Beer was also measured with the SA2-DU11 scale as a measure of the weight of beer that appeared in the era of Ur III in one of the texts from the city of Kresu (Tulu). It belongs to King Lukal Nada and is undated. It includes quantities of different materials of bread and beer.

Furthermore, the NINDA scale was used in the modern Babylonian era to measure beer, as it is approximately equal to 0.1 sila, where this scale is equal to the kasu scale since both are equal to the same amount.

The brewer

A person who specializes in making and preparing beer. The beginning of the emergence of this profession is not known, but the oldest reference to it dates back to the third millennium BC, that is the ancient Sumerian era.

The brewery has many names, LÚ.KAŠ in Sumerian and bappir in Akkadian. Or LÚ.SIM and sometimes you write LÚ.GAR or LÚ.BABIR. The word LÚ.DUMGAL and the Akkadian sirasu also appeared. The term serving beer came in Sumerian LÚ.KAŠ.DE and Akkadian kasde. As for the Sumerian term KAŠ.A.GUB.The BA is for the person who works in its production and brewing. As for the name of the beer-working woman, it appears in the Sumerian form SAL.GAR as well as SAL.SIM and in Akkadian sirasitu, and the term KAŠ.SUR for the person who brews and clears wine.

Women used to make beers in bars and sell them, and they continued to do so until the modern Babylonian era. In this era, rations of barley and dates were distributed from the temples of the gods to the people responsible for brewing beer and making other kinds of wines (perhaps only related to beer or wines specially prepared for the temples of the gods). These brewers may take the oath before they begin beer preparation in the temples of the gods. Among the temples in which the oath was made is the temple of the god Enlil (É.KUR), i.e., a kur in the city of Nefer.

The brewer's profession involved both men and women and was not limited to either sex, whether it was in the process of making or serving. The brewer has many tools that it uses for industry, including the sieve that he uses to separate the crushed grains from the husks.

Both men and women brewers practiced their businesses in different places. This profession was practiced in public homes, and there were places designated in palaces and temples for brewers, considering beer one of the important drinks served with meals and at leisure as well.

From one of the clay figures found in the temple of Nabu in Kalhu (Nimrud) information about the brewer includes that (the wife got the beer for one portion, the brewer for one pitcher). There is information in the text about the brewer called su-nusi-su, who was the brewer of the temple of the god Nabu, it was described in the text that his beer contained dates, dried things, and raisins.

As for the winemaker, it is called in Sumerian LÚ.SUR.GEŠTIN and in Akkadian sahit karani.The wine maker performs several works throughout the process of preparing wine. He used some fruits as the main raw materials in his work, such as grapes, dates, and pomegranate.

The term rab Karani, which means (the professional specialist) for the manufacture and preparation of wine, and another title is known as rab shaqi, which means the ability, the apprentice, or the skilled worker in this craft.

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