

## IDENTIFYING THE CAUSE OF FIRE SAFETY ISSUES IN SELANGOR TAHFIZ SCHOOLS

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### ABSTRACT

The Malaysian National Tahfiz Education Policy has targeted to bring about 125,000 professional huffaz by the year 2050. Currently, there are more than 1000 tahfiz schools in Malaysia that have received a high demand by the public. However, the Fire and Rescue Department of Malaysia (FRDM) recorded that 211 fires had occurred at tahfiz school nationwide between 2015 and 2017. Furthermore, the FRDM has inspected 1657 tahfiz schools in Malaysia and found that 40% of the inspected schools did not follow fire safety requirements. Many studies revealed that the majority of fires that occurred at tahfiz schools were due to a lack of fire safety awareness and that constructions took place without obtaining an approval from the relevant authorities. Therefore, the objective of this study was to identify the causes that contributed to fire safety issues in tahfiz schools through a literature review and interview. Ten tahfiz schools in Selangor were selected as the case study. This study discovered that the majority of the schools failed to comply with the fire safety requirements of the Uniform Building By-laws 1984. The finding also showed that weakness in fire safety management among the schools contributed to the fire safety issues. This study aims to promote the importance of fire safety management among the tahfiz school's operators.

Key words: Fire safety, tahfiz school, Malaysia, fire safety management, Selangor.

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### INTRODUCTION

The 'National Tahfiz Education Policy' established by the Department of Islamic Development Malaysia (*Jabatan Kemajuan Islam Malaysia* or JAKIM) has targeted to bring about 125,000 professional huffaz by the year 2050. Presently, the numbers of tahfiz school in Malaysia are erecting due to the growing demand from the community. In 2017, 519 tahfiz schools were registered and the numbers continued to grow to 987 based on a recent report by JAKIM in 2019 ([simpeni.islam.gov.my](http://simpeni.islam.gov.my)). Previous report revealed that the occupants of such institution might involve 10,000 teachers and students. Nevertheless, there are 800 unregistered tahfiz schools believed to have existed privately without control by the respective authorities (*Utusan*, April 25, 2019).

Ironically, the fire incident of such premises has marked a consistent record each year. Thus, identifying the key issues that consist of mistakes and problems of fire in Tahfiz school is important. This is to prevent repetition of similar incidents in the future by promoting the importance of fire safety management among the tahfiz school's operators.

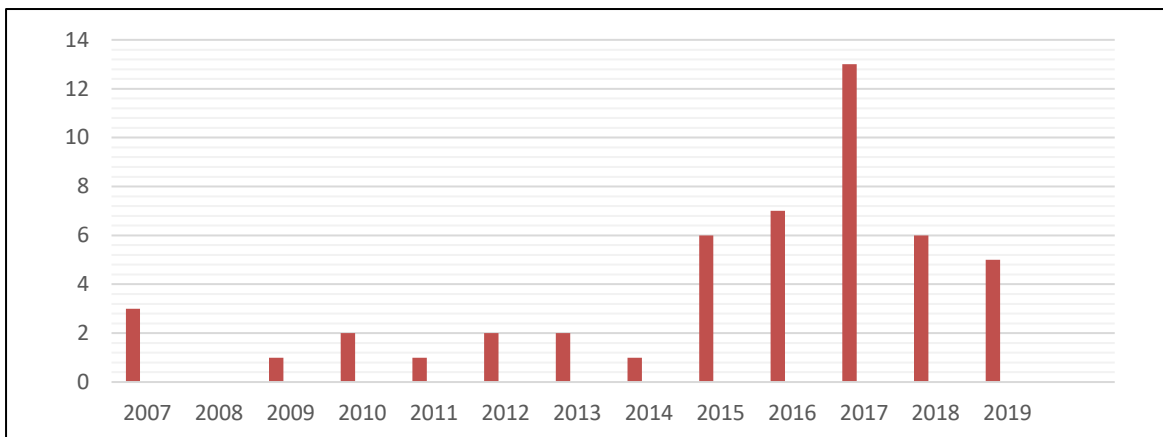
### INCIDENTS OF FIRE CASES IN TAHFIZ SCHOOL IN MALAYSIA

Throughout history, there are several massive fire incidents involving tahfiz schools in this country. The most tragic fire incident happened in 1989 where a fire had blazed a female hostel block in Madrasah Taufiqiah Al-Khairiah Al-Halimiah (or known as 'Pondok Pak Ya') in Guar Chempedak, Kedah. The loss of 27 students' lives was caused by a candlelight during their night study period. This was followed by another alarming fire case in tahfiz school in 2013 where a student was trapped and burn to death at Maahad Tahfiz Al- Baraqah in Tikam Batu, Kedah. Another big headline of fire cases in tahfiz school appeared on September 14<sup>th</sup>, 2017 when a blaze killed 23 lives at Darul Quran Ittifaqiyah Tahiz School in Kuala Lumpur.

The incidents of fire cases in tahfiz school was studied through reviewing the journals, news and FRDM reports. Based on the chronology, there were numerous fire accidents in tahfiz school from 2007 until 2019. Result shows that in total, the fire incident has caused 25 deaths and 9 serious injuries as well as the loss of valuable properties (Malay mail, Sept.14, 2017 & FRDM, 2019). The statistics of fire cases in tahfiz school was established based on the chronology and it is illustrated in Fig 1.1 and 1.2. There is an average of eight fire cases in tahfiz school each year since 20015, while the highest number of cases was reported in 2017. From the breakdown, Selangor marked as the most of fatal fire, followed by Perak and Negeri Sembilan.

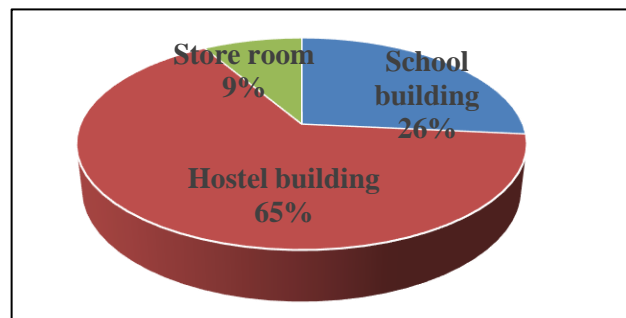
From a thorough study of the chronology, it was found that 65% of the fire blast was detected at hostel block and other common fire incidents were at school block (26%) and store room (9%). In addition, the average day fire hazard mostly occurred from Monday to Thursday; which was during the active school day. While the average time of such incident occurred was between 1am to 11.30 am; which took place while sleeping and studying that usually occupied the hostel, praying area (*musolla*) or classrooms.

**Figure 1: Statistic of fire cases in tahfiz school in Malaysia from 2007 to 2019**



**Figure 2: Breakdown of fatal fire occurred based on the affected area since 2007 until 2019**

(Source: analysis from chronology in Malay mail, Sept.14, 2017 & FRDM, 2019)



#### ISSUES OF FIRE CASES IN TAHFIZ SCHOOL FROM 2017 TO 2019

An outrageous report by FRDM concerns that there were 211 fires involving the unregistered and private tahfiz school nationwide between 2015 and 2017 (the Star, Aug.7, 2017). It was discovered that the majority of tahfiz schools nationwide were still failing to comply with the minimum fire safety requirement under Uniform Building By-Laws (UBBL) 1984.

Further to the fire tragedy in the tahfiz school, FRDM has imposed the 'Tahfiz Task Force' to assess all tahfiz schools in the country starting from September 2017. As a result, they have inspected 1657 tahfiz schools in Malaysia and found that 40% of the inspected schools including the unregistered school were not complied to the fire safety requirements (*Utusan*, April 25, 2019). Based on the inspection, FRDM highlighted four weakness and repetition issues of fire safety in such premises. For instance, poor condition of electrical wiring, overuse of electrical connection, usage of the fixed door and window grille and not providing fire safety appliances such as fire extinguisher, smoke detector, fire alarm, exit signs and emergency light.

On the other hand, in 2017 the National Institution of Occupational Safety and Health (NIOSH) also had formed their own team to visit certain tahfiz schools to identify problems faced by them and promote fire safety campaigns as part of their community service. According to NIOSH, 22% of government religious schools have not obtained a Certificate of Fitness (CF) from the local authority (*Utusan*, April 25, 2019). This at once risks to the occupants due to the incompetency found in the enforcement of fire safety requirements. Lack of awareness and budget are found as the main problems faced by the school administrator. Furthermore, NIOSH also analyses problems faced by the building occupants such as the non-existence of alternative fire exit doors and obstruction escape pathways.

The issues revealed above were identified as a contribution to the fire safety issues in tahfiz school nationwide. Those issues will merge with the fire safety management elements for further research to assess the current fire safety issues in tahfiz schools.

#### FIRE SAFETY MANAGEMENT FOR SCHOOL BUILDING

Fire safety management was defined as 'the combination or coordination of some activities or programs towards the prevention of damage from fire' (N.Nadzim, M.Talib, 2014). When a school catches fire, a massive result may lead to loss of life, serious injuries, property destruction and operational failure. Also, 'the psychological damage to students, families and teachers after a fire will impair the learning environment' (M. Hassanain, 2006). Tahfiz schools are not to be a risky place for the occupants as they play an important role in Islamic educational institutions to produce quality *huffaz* of future leaders. Thus, it is significant to promote the importance of fire safety management among the tahfiz school's operators to help them in creating a safe educational environment and preventing similar incidents from happening.

The objectives of fire safety management must focus on providing fire safety measures for buildings and occupants and assisting the escape of occupants to the safe assembly area. There are four suggested fire safety plans in preparation for the fire safety management (W.K Chow, 2001). The content of those plans includes maintenance plan, staff training plan, fire action plan and fire prevention plan. The detailed fire safety elements of the plan are stated in Table 1.

**Table 1: The fire safety plan**

<b>Maintenance plan</b>	<b>Training plan</b>	<b>Fire action plan</b>	<b>Fire prevention plan</b>
To regularly check and repair: i. Maintenance of passive systems ii. Maintenance of active systems iii. Verification of systems performance iv. Information for occupants (i.e.: using drawing layout) v. Good house-keeping (to keep escape route clean, ventilated and well lit)	To provide description and training; i. Description of staff duties ii. Fire wardens duties iii. Used of equipment iv. Guiding occupants to a safe place	To identify the possible source and area of ignition by: i. Accessing on building layout ii. Providing storage practice iii. Implementing electrical wiring observation	To access the: i. Report to the fire brigade ii. Assemble of occupants at the safe place iii. Attack of the fire iv. Assistance to the fire brigade

(Source: W.K Chow, 2001)

## METHODOLOGY

The primary data of fire incidents and issues in tahfiz school were clarified over reviewing from the Internet, articles, journals, newspapers and reports. Besides, the program of fire safety management was also elaborated to initiate with the issues of fire cases in tahfiz school in Malaysia.

The secondary data in this research were done through semi-structured and open-ended interviews towards ten tahfiz school operator and principal. This study was carry out to evaluate the level of fire safety management application in tahfiz school currently. The questions were established based on the fire safety regulation under UBBL 1984, tahfiz task force checklist (FRDM, 2017) and self-assessment checklist for safety, health and occupational environment premises (NIOSH, 2017). The arrangement of questions was done by referring to the fire safety plan whereby the inclusion of the fire safety elements is required as suggested by Chow (2001) in order to develop the checklist according to the current regulations or requirements.

The selection of ten participants was based on quota sampling where interviewees were selected randomly from ten administrators of tahfiz school in Klang district. This is due to the highest tahfiz fire cases detected in Klang, Selangor since 2017 (FRDM, 2019). The purpose of the interview was to analyse the state of fire safety issues in tahfiz school through the fire safety plan checklist.

## RESULTS AND DISCUSSION

In this study, all of the questions being asked is regarding the management of the tahfiz school administrators for their accountability in the provision of the fire safety requirement in the school building. Table 2 demonstrates the demographic information that consists of the background of the interviewees who are among owners, principals and senior assistant of the schools. The table shows the numbers of interviewees by gender, with seven males and three females. The majority of 70% of interviewees are aged 41 and above. Meanwhile, the percentage by experience is 50% of over 10 years of experience, 20% of 5-6 years and 30% of 3 years of experience. This indicates that most of the interviewees have sufficient experience as the administrator to contribute input in terms of management experience and issues that they are currently faced regarding fire safety issues.

**Table 2: Demographic information of interviewees.**

Tahfiz School	Gender	Position	Age	Years of experience
TS 1	Female	Principal	41 and above	3
TS 2	Male	Principal & Owner	41 and above	13
TS 3	Male	Senior assistant	41 and above	6
TS 4	Male	Principal	41 and above	3
TS 5	Male	Principal & Owner	36-40 years	12
TS 6	Male	Principal	31-35 years	4
TS 7	Female	Principal & Owner	41 and above	10
TS 8	Male	Principal & Owner	36-40 years	5
TS 9	Female	Principal & Owner	41 and above	10
TS 10	Male	Senior assistant	41 and above	10

Table 3 shows the fire safety plan and result of data gathered from the interview sessions. The compliance score percentage was calculated and provided in the table. The result was discussed to obtain the objective of the study on finding the issues of fire safety in tahfiz school in Selangor.

**Table 3: Fire safety plan for tahfiz school in Selangor**

1. Maintenance Plan												Compliance score (%)
No	Tahfiz school	TS 1	TS 2	TS 3	TS 4	TS 5	TS 6	TS 7	TS 8	TS 9	TS 10	
1.1	Fire active system applied in the school											
a	Fire hydrant	√	X	X	X	√	√	X	√	√	X	50
b	Smoke detector	√	X	√	√	√	√	√	√	√	√	90
c	Hose reel	X	X	X	X	X	X	X	X	√	√	20
d	Fire extinguisher (dry powder for fire type A,B,C)	√	√	√	√	√	√	√	√	√	√	100
e	Exit sign	√	√	√	√	√	√	√	√	√	√	100
f	Fire alarm	X	√	√	√	√	√	X	X	√	√	70
g	Emergency light	√	√	√	√	√	X	√	√	√	√	90
h	Frequency of maintenance active fire systems	1/ year	1/ year	1/ year	1/ year	1/ year	2-3/ year	1/ year	3/ year	1/ year	1/ year	20
1.2	Fire passive requirement provided in the school											
a	'No Smoking' sign	X	√	√	X	X	√	X	X	√	√	50
b	Displaying fire safety plan & place of assembly	√	X	√	√	√	X	X	√	√	√	70
c	Mark arrow along evacuation route	√	X	√	X	X	X	X	√	√	√	50
d	Alternative fire exit door (for hostel & classrooms)	√	√	√	√	√	√	√	√	√	√	100
e	Open able door & window grille	√	√	√	√	√	√	√	√	√	√	100
1.3	Verification of systems performance	X	X	X	X	X	X	X	X	X	X	0

**Table 3: Fire safety plan for tahfiz school in Selangor cont.**

<b>1. Maintenance Plan cont.</b>												Compliance score (%)
No	Tahfiz school	TS 1	TS 2	TS 3	TS 4	TS 5	TS 6	TS 7	TS 8	TS 9	TS 10	
1.4	Housekeeping (keep escape route clean, ventilated & well lit)	√	√	√	√	√	√	√	√	√	√	100
1.5	Frequency of housekeeping	1/ week	1/ week	1-2/ week	1-2/ week	1-2/ week	1-2/ week	1-2/ week	1/ week	1/ week	1/ week	100
<b>2. Training Plan</b>												Compliance score (%)
No	Tahfiz school	TS 1	TS 2	TS 3	TS 4	TS 5	TS 6	TS 7	TS 8	TS 9	TS 10	
2.1	Description of staff duties	X	X	X	X	X	X	X	X	X	X	0
2.2	Provide fire safety training for school occupants											
a	Establish 'squad BOMBA tahfiz'	√	√	√	√	X	√	√	X	√	√	80
b	Frequency of fire drill exercise	1/ year	1/ year	1/ year	1/ year	2/ year	1/ year	1/ year	1/ year	1/ year	1/ year	10
2.3	Provide fire safety education for school occupants											
a	Organize fire safety campaign	√	√	√	√	√	√	√	√	√	√	100
b	Frequency of fire safety campaign	1/ year	1/ year	1/ year	1/ year	1/ year	1/ year	1/ year	1/ year	1/ year	1/ year	100
<b>3. Fire Action Plan</b>												Compliance score (%)
No	Tahfiz school	TS 1	TS 2	TS 3	TS 4	TS 5	TS 6	TS 7	TS 8	TS 9	TS 10	
3.1	Accessible building layout	√	X	√	√	√	X	X	√	√	√	70
3.2	Storage practice											
a	Observing the storage room	√	X	X	X	X	X	X	√	√	√	40
b	Store room: provide material label & divided by materials	X	X	X	X	X	X	X	X	X	X	0
3.3	Electrical wiring observation											
a	Electrical wiring is observe and verified	√	√	√	√	√	√	√	√	√	√	100
b	Frequency of electrical wiring observation	1/ month	1/6 month	1/ 6 month	1/ 6 month	1/ year	1/ 6 month	1/ month	1/ 6 month	1/ year	1/ year	100
<b>4. Fire Prevention Plan</b>												Compliance score (%)
No	Tahfiz school	TS 1	TS 2	TS 3	TS 4	TS 5	TS 6	TS 7	TS 8	TS 9	TS 10	
4.1	Displaying emergency contacts in public / assembly place	√	√	√	X	√	X	X	√	√	√	70
4.2	Person in charge to report to fire brigade & count the assemble occupants at safe place	√	√	√	√	√	√	√	√	√	√	100

Based on the result in Table 3, the calculation of score by percentage was indicated to overview the level of compliance of each fire safety elements in the tahfiz school. Eleven items scored 100% are maintenance of active systems (fire extinguisher and exit sign), maintenance of passive systems (providing alternative fire exit door for hostel or classrooms and open able door or window grille), housekeeping (clear the escape route and frequency of the housekeeping), training plan (providing fire safety education to the occupants), fire action plan (electrical wiring observation) and fire prevention plan (person in charge to report to fire brigade & count the assemble occupants at a safe place). It was agreed by the interviewee that most of the extinguishers were given by FRDM, NIOSH and other non-government organisations (NGO) as part of their charity contribution. This was due to the aftermath fire incidents in September 2017, where the government had encouraged the NGO to aid all tahfiz school with fire safety equipment's (Yadim, October 5, 2017). Furthermore, the majority of interviewees informed that the compliance of fire safety requirements was due to the inspection done by the Tahfiz task force from FRDM effectively since the aftermaths in 2017 (Utusan, April 25, 2019).

In contrast, there are seven items that scored 50% and below and two items that did not comply with any of the tahfiz school (remark as 0% score). The details of non-compliance fire safety elements were listed in table 4. The result from this study shows that there are still important fire safety provisions required and that those need to be fulfilled by the tahfiz school to ensure total prevention to its occupants and properties.

**Table 4: list of non-compliance fire safety elements in tahfiz school**

No	Fire safety plan	Compliance Score (%)	Requirement / Recommendation
1.	Maintenance plan		
1.1.a	Fire hydrant / open water resources	50	Clause 225(2) under UBBL 1984 & guide to fire protection in Malaysia
1.1.c	Hose reel	20	Clause 230,231,248 (1) under UBBL
1.1.h	Regular maintenance of active fire systems	20	M. Hassanain, (2006)
1.2.a	Display 'No Smoking' sign	50	self-assessment checklist for safety, health and occupational environment premises (NIOSH, 2017)
1.2.c	Mark arrow along evacuation route	50	self-assessment checklist for safety, health and occupational environment premises (NIOSH, 2017)
1.3	Verification of systems performance	0	Chow, W.K. (2001)
2.	Training plan		
2.2.b	Frequency of fire drill exercise	10	self-assessment checklist for safety, health and occupational environment premises (NIOSH, 2017)
3.	Fire action plan		
3.2.a	Observe the storage room	40	Chow, W.K. (2001)
3.2.b	Store room: provide material label and divided by materials	0	self-assessment checklist for safety, health and occupational environment premises (NIOSH, 2017)

## CONCLUSION

The administrator of tahfiz schools should have taken into consideration and learned from previous issues that occurred due to the massive fire in such premises. Although most of the administrators understand the importance of fire safety requirements for the school building, there are still lacking in terms of providing several safety items for the sake of protecting the school occupants and properties. Those weakness can be seen through the result of this study that shows lacking in three items such as maintenance plan, training plan and fire action plan. Thus, applying a proper fire safety management plan leads to efficiency in organising the fire safety provisions and its maintenance. Increasing the building safety may reduce the building risk, hence providing fire safety management in building act as an enhancement that could defeat the risk of fire from happen. It is hope that the commitment of providing proper fire safety management by the Tahfiz School's operator together with prompt enforcement and attention by FRDM and the State Islamic Religious Department, may diminish the number of fire accident in such premises.

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