



**ASSESSMENT ON FEASIBILITY OF CUBICLE TOILET
DESIGN IN PRIMARY SCHOOLS IN SELANGOR WITH
SPECIAL REFERENCE TO EPU GUIDELINES**

BY

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ABSTRACT

Surveys on the conditions of toilets both in the primary and secondary schools are found to be 90% unsatisfactory. In addition to bad maintenance and students' inappropriate toilet manners, inadequate facilities were also found to be a major design factors that contributes to the condition. In fact, inadequate facilities have received many complaints from the public in the media. As for the design guideline for local and overseas school toilets, significant differences were found between them. A local design guideline for local school toilet only highlighted on the provision of toilet cubicle for students. The objective of this study was to assess on feasibility of cubicle toilet design provided in RMK7 (current) primary schools. Sixteen (16) out of thirty-two (32) RMK7 primary schools in from rural and town areas in Selangor were randomly selected. The number of students for each of the sixteen (16) selected schools varies from 298 to 1837 students. The investigations were carried out by observations, interviews and guided questionnaires to 10 students, 4 teachers and a cleaner in each school. The findings were compared to the local guideline which showed that the number of toilet cubicles for girls is significantly inadequate compared to the number of toilet cubicles for boys. Toilets for boys comply with the EPU Guideline; however, teachers commented that the toilets were smelly, unclean and in bad condition. The finding also listed the additional toilet facilities that are required by users such as rubbish bin, clothes rod, durable floor trap covers, soap dispensers and dry counters. Finally, the result from the interviews and guided questionnaires indicated that 50% of the teachers think that the overall quality of facilities provided in primary school toilets is inadequate despite the design that complies with the EPU Guidelines.

ملخص البحث

يعتبر وضع دورات المياه في المدارس الابتدائية والمتوسطة حالياً غير مرضي بنسبة 90% حسب الإحصائيات. على الرغم من سوء الصيانة الدورية لدورات المياه و سوء الإستخدام من قبل الطلاب, تعتبر المرافق من أهم عوامل التصميم التي تؤثر في الحالة. تتلقى عدم كفاءة المرافق الكثير من النقد من الإعلام. أيضاً الإرشادات المحلية لتصميم دورات المياه في المدارس ألفت فقط الضوء على توفر مرافق دورات المياه ليتناسب مع أعداد الطلاب. و بمقارنة الشروط المحلية المتعلقة بتناسب مرافق دورات المياه في المدارس بأعداد الطلاب و الشروط العالمية نجد أن هناك اختلافاً ملحوظاً. وكنتيحة لذلك تهدف هذه الدراسة لتقييم مدى كفاءة مرافق دورات المياه في المدارس الابتدائية RMK7 (الحالية). ستة عشر (16) من أصل اثنين وثلاثين(32) مدرسة ابتدائية في ولاية سيلانغور اختيرت عشوائياً. مواقع المدارس المختارة تقع في كلا المناطق المدنية والريفية في الولاية. ويتراوح عدد الطلاب المختارين من الستة عشر (16) مدرسة ما بين 298 و 1837 طالباً و طالبة. ويتم التحقيق عن طريق الملاحظة و المقابلات و الإستبيانات الموجهة لعشرة طلاب و أربعة معلمين وعامل نظافة في كل مدرسة. يتم أيضاً مقارنة النتائج بالإرشادات المحلية. بالمقارنة بالإرشادات المحلية, أظهرت النتائج أن هناك قصوراً كبيراً في أعداد مقصورات دورات المياه المخصصة للفتيات مقارنة بأعداد مقصورات دورات المياه المخصصة للأولاد. دورات المياه المخصصة للأولاد تتماشى مع إرشادات EPU. ولكن هناك تعليقات من المعلمين عن الوضع السيء لدورات المياه وعدم نظافتها.و أيضاً تتضمن قائمة المرافق الإضافية المطلوبة لدورات المياه على سلات القمامة, علاقات الملابس و أغطية لفتحات تصريف المياه وموزع الصابون و مجفف اليد. أخيراً أظهرت نتائج المقابلات والإستبيانات أن 50% من المعلمين يعتبرون الجودة العامة للمرافق المتاحة في دورات المياه في المدارس الابتدائية غير كافية على الرغم من توافقها مع إرشادات EPU.

APPROVAL PAGE

I certify that I have supervised and read this study and that in my opinion, it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a thesis for the degree of Master of Built Environment.

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DECLARATION

I hereby declare that this dissertation is the result of my own investigation, except where otherwise stated. I also declare that it has not been previously or concurrently submitted as a whole for any other degrees at IIUM or other institutions.

Monaliza Mohd Hassan

Signature.....

Date.....

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LIST OF ABBREVIATION

EPU	Economic Planning Unit
RMK7	7 th Malaysian Plan
PST	Primary School Toilets
JKR	Public Works Department
PS	Primary Schools
SK	“ <i>Sekolah Kebangsaan</i> ”
SST	Standard School Toilets
GBH	Goh Ban Huat
TTL1	Typical Toilet for Boys Type 1
TTP1	Typical Toilet for Girls Type 1
UTB1	Main Toilet for Boys Type 1
UTB2	Main Toilet for Boys Type 2
UTG1	Main Toilet for Girls Type 1
UTG2	Main Toilet for Girls Type 2
TTS1A	Toilet Small Type 1A
TTS1B	Toilet Small Type 1B
TTM1A	Toilet Mirror Type 1A
TTM1B	Toilet Mirror Type 1B
WC	Water Closet
SJK(Cina)	“Sekolah Jenis Kebangsaan (Cina)”
SJK(Tamil)	“Sekolah Jenis Kebangsaan (Tamil)”

CHAPTER 1

INTRODUCTION

1.1 INTRODUCTION

This research is to investigate the adequacy of toilet facilities in primary schools. The investigation is focused on sixteen primary schools in Selangor. The investigation will be done by observing the type of facilities provided, calculating the number of toilet facilities provided and the number of pupils, both boys and girls, in every school.

Due to cost limitation, the design of government schools in Malaysia is enforced to follow the "*Garispanduan dan peraturan bagi perancangan bangunan*" (Guidelines and Requirements for Buildings Management), (EPU, Economic Planning Unit 2000), by the Ministry Department. This guideline is called EPU guideline. Toilet provision for school is clearly stated in the EPU Guideline. The number of toilet cubicles required for girls is double than for boys. The required number of school toilet cubicles of boys and girls for Malaysia is found to be lower than United States, Britain, Taiwan and even China. In addition, toilet cubicles are the only facility that is listed in the requirement. Other fundamentals toilet facilities that are needed for school toilets such as wash hand basin, soap, tissue paper, mirror, and door locks (Bog Standard, 2005) are not listed. As a result, an assessment on feasibility of cubicle toilet in primary school, with special reference to EPU Guidelines, need to be carried out.

1.2 BACKGROUND

Unlike private toilets at home and public toilets in public buildings, school toilets are communal toilets that are shared by a group of people. Primary school toilets are toilets that are shared by pupils 7 to 12 years old. In addition, Malaysia primary school toilets are shared by multi racial Malaysian community who are Malays, Chinese, and Indian. These school toilets are also shared by students from various backgrounds in terms of their religion, economic, culture, and education.

The design development of toilet especially in primary schools is still far behind and slowly improving (Metro, November 2005). For years, there are many complaints about school toilet condition especially in the subject of its cleanliness (UM, June 2005). Ninety per cent of school toilets are not in “proper working condition” as the investigation done in 2003 by the Ministry of Housing and Local Government. The main issues that pupils complain is 'toilet shortage' (NST, August 2003). Since then, the issue remains unsolved even though some efforts and struggles have been taken over by authorities, private sectors, school administrators and parents. School is expected to be a place to motivate learning and yet it becomes the place where children also experience unpleasant built environment (UM, November 2005). Solving school toilet 'bad' condition can be referred to many studies done on public toilets that are slowly improved (NST, 2006).

As referred to public complaints, the 'unsatisfactory' condition of school toilets are due to these issues (NST, 2004):-

- i. Smelly, most distinguish odor, stench and stuffy air;
- ii. Poor maintenance;
- iii. Wet floors;
- iv. Toilet shortage, far location toilet;

- v. Dysfunction flushing systems, water taps without water;
- vi. Leftover in toilet bowls;
- vii. Walls full of graffiti;
- viii. Bad quality facilities; and
- ix. Standard design but with difference maintenance program and toilet usage.

1.2.1 The need of a good school toilet environment

Unintentionally, when students, without choice are forced to go through the horrible experience firsthand in their life, they will set their level of expectation for school toilet conditions and they will create their own “special” behavior to adapt with the poor school toilet conditions that will last a lifetime (Fathol, 2001). This is true since children brain development experiences ‘growth spurts’ at the age 7-12 years old (Carol & Elizabeth, 2003). The built environment offered to students is required to facilitate and promote every aspects of education including toilet education (NST, 2003). Our future generations should be provided with more than satisfying, comfortable and healthy learning environment. The translation in verse Al-Isra’, Allah says:

We have honored the sons of Adam; provided them with transport on land and sea; given them for sustenance things good and pure; and conferred on the special favors, above a great part of Our creation.

Al-Isra (17:70)

Toilet manners among adults and children are developed from their childhood to adult life. The bad manners are developed through the adaptation of poor built environment offered to them during their childhood years. Children at primary schools are educated by the built environment that surrounded them (Santrock, 1997).

Toilets in government schools faced an even more stressful situation. They are not only in 'poor conditions' but the toilets are stuck with the same standard design for years due to cost limitation. Since 1963 the standard design remains the same and only in year 2001, a minimum amendment has been done (JKR, 2001). However recently, Datuk Sri Hishamuddin Tun Hussein has declared that a new budget specifically to ensure clean school toilet will be provided in the budget for the Ninth Malaysia Plan and this will include development to all old and new schools in Malaysia (UM, 2005). Both primary and secondary schools have the same typical standard design. The initial step should be taken by assessing the school toilets in government school by Jabatan Kerja Raya that has been repeatedly used for school projects all over Malaysia. It is hoped that this study, assessment and survey will assist and be referred to the formation of a new healthier and progressive design guideline for school toilets in the future.

1.3 LITERATURE REVIEW

Primary school toilet users are children who do not know to complain. And normally 7 to 12 years old pupils are very receptive, they will accept and follow whatever given to them. Thus, the subject of primary school toilet is normally assumed as hassle free and overlook by the school teachers, administrators, parents and architects.

Locally, unlike public toilets, there is neither study done at undergraduate level in the subject of school toilet by neither the Department of Educations nor any Department of Architecture in all the Universities in Malaysia. There is a report on public toilet having a case study on subsidized Primary School in Johor Bahru, Johor done by Yap Siow Chek from University Kebangsaan Malaysia in 2004 (Yap, 2004). Through interviews and observations, his study found out that the school toilet

condition and facilities was "fairly average" and it was properly maintained due to majority of interviewees decided that the subsidized Primary school toilet was "pleasant and satisfactory". However, the 'satisfactory' school toilet condition was due to good maintenance by the school administrators. He stated that the 'most critical problem' of public toilet is lack of 'civic awareness' among users and in this case are students 7 to 12 years old. The 'satisfactory' school toilet condition is also not initiated from a good design or from facilities provided. Even though his case study for the one particular school resulted with a "properly maintained and pleasant" school toilet, further survey on a number of schools in every states of Malaysia needs to be done to get an inclusive and majority observation of the actual school toilet conditions. His overall study gives extensive views on discussing towards the improvement of public toilets in Malaysia.

Internationally, there are a lot of studies done by Toilet Associations and Architecture Department in Universities all over the world, specifically on the subject of school toilet. Representatives from all over the world attended the World Toilet Summit annually discussed and presented papers on the subject of toilet in general.

Collectively, few valued and summarized papers on school toilets are presented during the summit. One of them is a study done by Koo Ue, the Secretary General Japan Toilet Association. He presented a paper entitled "School Education Programme" in a World Toilet Summit in Singapore in 19-21 November 2001. Koo Ue (2001) stated that school toilets should promote "happiness" that it will motivate children to learn more and develop children's personality. This is a very important perspective towards promoting better school toilet conditions. Normally, when discussing on this subject, the major issue is how it affects our health. But, rarely people perceive it on the subject of psychology and how dirty toilet can contribute to

student's frustration and indolence. Koo Ue (2001) stated that improved school toilet is expected to lessen school bullies, mischief and delinquency in toilet. He proposed a strategic design consideration of school toilet that focuses on student's satisfaction and happiness.

In addition, improperly function toilet and inadequate toilet facilities in school can cause renal, (kidney or the surrounding regions) and urogenital (urinary and genital system both its structures and functions) disorder or gastrointestinal disorders among children, according to Prof Shyh and Hsiao (2001), the disease is due to the attitude of avoiding toilet usage and holding back natural calls. As a result, Taiwan's building code requirement of toilet specification for school is in the process of revision and extensive investigation to further fulfill the needs of children in school. The study is focusing on the volume of usage of each toilet facilities and the different needs between male and female students. In addition, Clara Greed (2004) also suggested the number of fittings needed in primary school toilets in Britain. Both presentations, on the revision of Taiwan's toilet specification for schools and British Codes of Practice for toilet, will be further discussed and compared to Malaysian guidelines for government projects, *Garis Panduan dan Peraturan bagi Perancangan (2000)* (Guidelines and Requirements for Building Management), in the category for academic projects in chapter 2.

Barbara Devlin (2005) highlighted the affect of school toilet on the students' health. She instigates that it is crucial to have clean school toilets with adequate facilities. The current condition of school toilets in Malaysia that "is not in proper condition" needs to be reviewed and improved immediately since it is affecting our future generations. She stated that school toilets without basic toilet facilities like soaps, toilet papers or towels can cause "infection, elimination disorders and

psychological". Terrible school toilet condition can bring about psychological problems among students which are "fear, anxiety, embarrassment, shame, social isolation, school avoidance, lack of achievement, and vulnerable to bullying or even abuse." These problems can directly affecting pupils' education in school.

Lastly, in United Kingdom, an extensive research on issues related to pupils is successfully done through "Young People Investigate" project handle by Medway Youth. The team concludes all the findings into the Bog Standard. *Bog* is a British term for a lavatory or toilet (Bog Standard, 2005). Bog Standard is basically a "campaign to promote better toilets for pupils". The objectives of this campaign are:

1. "To increase awareness of the health benefits of better toilets for pupils;"
2. "To encourage schools to improve the condition of pupils' toilets and to allow pupils to use them when they need to; and"
3. "To get laws that will make pupils' toilets nicer to use."

As referred to Bog Standard, students are mostly complained about their school toilets being "dirty, smelly, do not give enough privacy, and most importantly do not have enough hand washing facilities and full of smoker and bullies." This resulted in major health problems such as "constipation, soiling, daytime wetting, residual urine, urinary tract infections, dehydration and dysfunctional voiding."