

Review Article

Gaps Pertaining Evaluation on Built Heritage Conservation with Special Annotation on the Malaysian Context

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ABSTRACT

This review paper is concerned with two bodies of knowledge in particular, evaluation and conservation. Generally, evaluation is a popular management tool for both public and private sectors because of its useful purposes in improving organisations and programme interventions, investigating oversight and compliance, assessing merit and worth, as well as nurturing knowledge. Being practised in various programmes such as health, education, business and community, evaluation is still uncommon in the general conservation domain, specifically in the realm of built heritage conservation. Due to the scantiness of available literature pertinent to conservation evaluation, this paper provides an update to the literature body by reviewing and discussing the general theories of evaluation, followed by a highlight on gaps of conservation evaluation in relation to built heritage. Finally, a special annotation on the absence of evaluation in the current Malaysian Built Heritage Conservation Framework (BHCF) is made in the quest of shifting Malaysian conservation best practice to a new standard.

Keywords: Built heritage, conservation, evaluation, Malaysia, management

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INTRODUCTION

Evaluation practice is very important as it allows us to evolve, develop, improve, and survive in an ever-changing environment (Davidson, 2005). In fact, evaluation practice has gained worldwide acceptance and is utilised in various domains such as in the health, education business, and

community development programmes. evaluation based on definitions provided by evaluation scholars and organisations (Table 1). Considering the broad and diverse subject of evaluation (Rogers, 2014), it is thus essential to understand the meaning of

Table 1
An Overview on Evaluation Definitions

Author(s) and Date	Definitions
Scriven (1991)	Evaluation is a systematic determination of the quality (merit) or value (worth) of something.
Margoluis, Stem, Salafsky, & Brown (2009a)	Evaluation involves the acts of collection, analysis, and assessment of data relative to project goals and objectives.
DAC Working Party on Aid Evaluation (2010)	Evaluation is a systematic and objective assessment of an on-going or completed project, programme or policy, its design, implementation and results. It is the process of determining the worth or significance of an activity, programme or policy.
CeDRE International (2014)	Evaluation is a systematic assessment of a programme or process according to its appropriateness, effectiveness, efficiency, and/ or economy, which purpose is to assist stakeholders in decision-making about a programme, its strategies and operation.

Despite the pervasive explanations on the meaning of evaluation available in evaluation textbooks, reports and documents, there is still no universal or general agreement about the meaning of terms to describe evaluation. This scenario is due to the lack of agreement across disciplines and professions on the meaning of many evaluation terms as raised by the director of Programme for Public Sector Evaluation International, Australia (Jerome Winston, personal communication, 08th May 2015). Noticeably, different authorities in some disciplines assign different meanings to the same evaluation terms, reasonably due to historical factor where the understanding on evaluation has been independently developed throughout

various disciplines and professions. In other words, people developed evaluation terminology to suit the work they are most familiar with within their respective disciplines or professions.

For instance, auditors developed the concept of performance audit (which might be described as a type of evaluation) without, apparently, giving too much attention to how educators had developed the concept of educational evaluation. Similarly, educational evaluators developed their approaches to evaluation without, apparently, giving too much attention to how clinical researchers had developed the evaluation of medical treatments or how public health researchers developed the evaluation of public health measures. With

regards to the above mentioned definitions of evaluation, it is important to note that terms such as auditing, monitoring, as well as evaluation, are interrelated with each other, yet, those may not be used interchangeably (Kleiman, et al., 2000; Alton, 2014). In fact, auditing and monitoring are rather parts of the evaluation process as

evaluation composes more breadth than the said activities. Apart from that, evaluation should also be distinguishable from activities which are merely assessments. Table 2 and Table 3 show dissimilarities of evaluation with other interrelated terms such as audit, monitoring, review, performance measurement and assessment.

Table 2
Related Terminologies Commonly Associated with Evaluation by DAC Working Party on Aid Evaluation (2010)

Term	Definitions
Audit	An independent, objective assurance activity designed to add value and improve an organisation's operations. It helps an organisation to accomplish its objectives by bringing a systematic, disciplined approach to assess and improve the effectiveness of risk management, control and governance processes.
Monitoring	A continuing function that uses systematic collection of data on specified indicators to provide management and the main stakeholders of an on-going development intervention with indications of the extent of progress and achievement of objectives and progress in the use of allocated funds.
Review	An assessment of the performance of an intervention, periodically or on an ad hoc basis.
Performance Measurement	A system for assessing performance of development interventions against stated goals.

Table 3
The Key Differences between Assessment and Evaluation by Apple and Krumsieg (1998)

Dimension of Difference	Assessment	Evaluation
Content (timing, primary purpose)	Formative (on-going, to improve)	Summative (final, to gauge quality)
Orientation (focus of measurement)	Process-oriented (how it is going)	Product-oriented (what is the outcome)
Relationship between administrator and recipient	Reflective	Prescriptive
Findings (uses thereof)	Diagnostic (identify areas for improvement)	Judgemental (arrive at an overall grade/ score)
Modifiability of criteria/ measures	Flexible	Fixed
Standards of measurement	Absolute (Individual)	Comparative
Relationships between Object of Assessment/ Evaluation	Cooperative	Competitive

In addition, evaluation should also be distinguished from research (Cottrell, 2009). It is imperative to understand the distinctions between evaluation and research to avoid confusion and misconception, especially when the two paradigms are difficult to be differentiated with each other (Cottrell, 2009). Research is a process of investigation conducted systematically, consistently and rigorously with the purpose of nurturing new knowledge, solving problems, providing recommendations, revealing conclusion, and, to the extent of triggering further studies (Gillham, 2000; Awang & Ariffin, 2012; Mohd Tobi, 2014). On the other

facet, evaluation is performed to meet specific needs rather than generalising its results to other settings.

Internal recommendations provided through evaluation are not intended to be generalised beyond the setting in which evaluation take place (Cottrell, 2009). To understand the relationships between these two paradigms, Rogers and Macfarlan (2014) provided four different ways of viewing evaluation and research:

- i. Evaluation and research as a dichotomy
- ii. Evaluation and research as not mutually exclusive
- iii. Evaluation as a subset of research
- iv. Research as a subset of evaluation

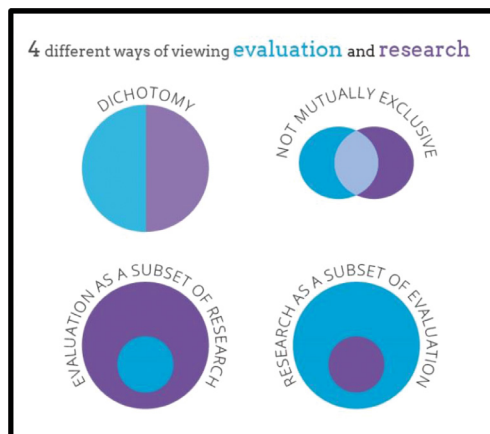


Figure 1. Four Ways of Viewing Evaluation and Research (adapted from Rogers & Macfarlan, 2014)

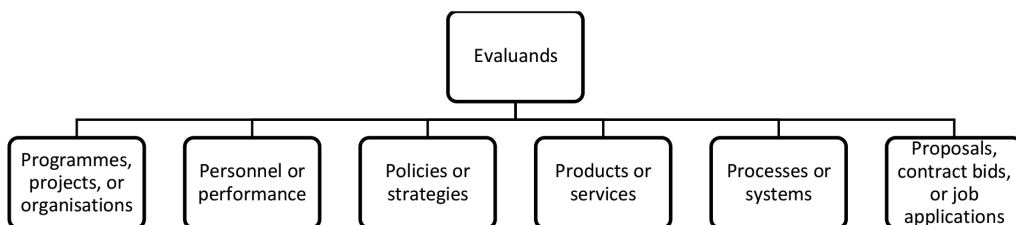


Figure 2. The Evaluands of Evaluation (adapted from Davidson, 2005)

In order to arrive at a common ground to understand evaluation, the context of 'professional evaluation' as discussed by Scriven (1991) is essential. The standard norm of professional evaluation basically involves several 'evaluands' which means subjects of evaluation, as presented by Davidson (2005) in Figure 2. Evaluation is considerably an essential management tool for both public and private sectors. As commonly seen in the public sector, evaluations were introduced to improve government performance and credibility for the sake of public accountability (Wholey, 1996), usually through several performance measurement activities and decision-making on agenda concerning budget. Meanwhile in the private sector, evaluations are mostly in the myriad forms of R&D on products and services, as well as on corporate marketing.

With regards to the advantages of evaluation for both sectors, further exploration on evaluation is therefore very beneficial and should be necessitated. Scholars such as Davidson (2005) and Patton (2014) have revered evaluation for its worth in providing a basis for any programme's judgements and actionable learning, also in the finding areas of improvement for reporting or decision-making purposes. In sum, the values of having evaluation lie in its four purposes of (Mark, Henry, & Julnes, 2000):

- i. Programme and organisational improvement
- ii. Oversight and compliance
- iii. Assessment of merit and worth
- iv. Knowledge development

Concluding from the previous statement, positive significance such as refinement of approaches and practices for upcoming projects, deriving lessons from previous intervention works, and deriving prior solutions and alternative possibilities can be anticipated through the advocacy of evaluation. With that, evaluation is a potential management tool to be utilised in the domain of built heritage conservation. This is supported by the claim that monitoring and inspection activities are useful to keep track of conservation objectives whereas evaluation is useful in assessing conservation values (Kleiman, et al., 2000). However, based on scrutiny an secondary sources, evaluation theory and practice are found to be underutilised in the field of conservation with special reference to built heritage conservation.

UNDERUTILISATION OF EVALUATION IN CONSERVATION WITH SPECIAL REFERENCE TO BUILT HERITAGE CONSERVATION

Conservation by characteristic is a dynamic process with cyclical basis that involves an on-going series of planning, implementing and evaluating activities (Margoluis, Stem, Salafsky, & Brown, 2009a). It must be distinguishable from the process of planning, which is of static nature and merely circumscribed to a beginning phase, a middle phase and an end phase. Despite having many theories and recommendations that support evaluation as a powerful tool in achieving improvements for any programme interventions, evaluation is ironically

found rare and uncommon in the field of conservation (Kleiman, et al., 2000). Howe and Milner-Gulland (2012) added that evaluation in the conservation industry is still lagging in both the quantitative and qualitative terms in comparison to other industries.

As a result of little attention and passive exploration by conservation communities in relation to evaluation aspects, conservation programmes rarely receive comprehensive, in-depth, external and peer-reviewed evaluation (Kleiman et al., 2000; Margoluis et al., 2009b). Kleiman et al. (2000) also informed that conservation communities were struggling to develop effective monitoring and evaluation (M&E) systems for conservation, especially when they overlooked lessons from other related fields and attempted to start building the system from scratch. Zancheti and Similä (2012) reminded that it would be a great challenge for conservation actors to develop instruments to assess conservation actions owing to the complex nature of heritage assets such as urban sites, cultural territories, landscapes and collections of many types of objects.

Reportedly, most conservation organisations merely use basic evaluation formula by simply defining indicators, collecting and analysing data, followed by recording and reporting of results (Margoluis, Stem, Salafsky, & Brown, 2009a). Judging from the limited availability of published materials on

evaluation of built heritage conservation, it is inferred that evaluation theory and practice are currently underutilised in the field of built heritage conservation. Hence, the rarity of evaluation should be addressed accordingly, presumably through an increase awareness within conservation stakeholders. In this way, enhancement on the current management measures for protecting built heritage resources would be triggered through the integration of evaluation domain into built heritage conservation programmes.

Moreover, a more comprehensive conservation management will assist in achieving a better result of conservation execution which Burden (2004) envisioned as the process to deter built heritage properties from defects, deterioration, misuse, or negligence. Incorporating evaluation into the management agenda for conserving built heritage is in tune with Feilden's (1999) conservation stance, which appreciates all actions to prolong the life of cultural heritage assets. The remainder discussions will touch on the issues in relation to limited evaluation measures which can be associated with built heritage.

UNAVAILABILITY OF EVALUATION TOOLS FOCUSING ON INDIVIDUAL HERITAGE BUILDINGS

There are a few tools in-use which can be associated with the measures of evaluation pertinent to built heritage conservation.

However, these tools are macro in scale, which were manoeuvred to focus on threats, significance or impacts of properties that collectively make up the values of 'heritage'. In other words, the scopes of these tools largely focusing on multiple buildings or historical sites as a whole rather than specifically evaluating individual heritage building unit. Below are some of the referred tools:

UNESCO's Reactive Monitoring (RM) and Periodic Reporting (PR)

UNESCO's Reactive Monitoring (RM) reports on world heritage properties that are under threat, which would lead into the inclusion of the List of World Heritage in Danger. Through RM, removal of world heritage properties from the UNESCO World Heritage List could also take place prior to detection of damaged Outstanding Universal Values (OUV) (UNESCO WHC, 2015). Meanwhile, the Periodic Reporting (PR) system acts as a monitoring instrument to assess key indicators that measure the State of Conservation (SOC) of World Heritage Sites (WHS). Conducted every six years' time, the PR is useful in determining any threats measured as Threat Intensity Coefficient (TIC) posed on the OUV of WHS (Rodwell, 2002; Patry, Bassett, & Leclerq, 2005; Turner, Pereira Roders, & Patry, 2012). These measures are more towards inspection and

monitoring activities rather than the full spectrum of evaluation process.

Cultural Heritage Impact Assessment (HIA)

HIA was developed by ICOMOS as a tool in identifying threats to the OUV (Roders, Bond, & Teller, 2013). It also provides a detailed and holistic framework to guide decision-making process and implement a coherent set of appropriate actions for the conservation of cultural heritage site (Idid, 2010). Various issues faced by heritage sites and urban areas such as management, conservation, monitoring, maintenance and the surrounding environment are examined via HIA (ICOMOS, 2011).

UNAVAILABILITY OF EVALUATION TOOLS FOCUSING SPECIFICALLY ON THE APPLIED ACTIONS OR INTERVENTIONS OF CONSERVATION

It is arguable that conserved buildings have not been evaluated as much as new buildings (Morris, 1877). There are no evaluation measures which specifically look into post conservation, in terms of management and operation applied to heritage building. To date, 'building evaluation' scopes heavily revolve around the aspects of building sustainability and performance. The followings are some common examples on the tools used for building evaluation:

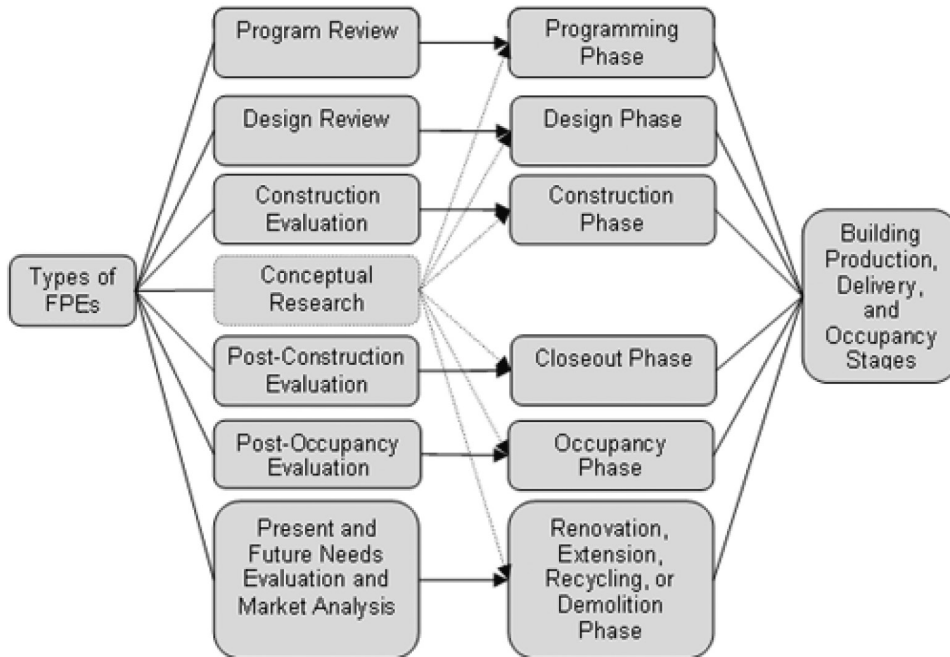


Figure 3. The Types of Facility Performance Evaluation (FPE) (adapted from Zimring, Rashid, & Kampschroer, 2010)

Facility Performance Evaluation (FPE)

Facility Performance Evaluation (FPE) is an example of evaluation in regards to building performance or effectiveness. It is deemed by the professions within the facility management discipline as a quality-assurance tool that involves a continuous and systematic evaluation process. FPE provides feedback to the design process and identifies opportunities for building improvements in relation to issues such as accessibility, aesthetics, cost-effectiveness, functionality, productivity, safety and security, and sustainability (NASFA & AIA, 2010; Zimring, Rashid, & Kampschroer, 2010).

Post Occupancy Evaluation (POE)

Referring to the various types of FPE as shown in Figure 3, Post Occupancy Evaluation (POE) is evidently the most common evaluation concept being discussed by building researchers worldwide. Provably, many countries such as USA, Canada, UK, New Zealand, and Australia have widely utilised this evaluation concept in order to assess and benchmark the performance of building (Mastor & Ibrahim, 2010). Adding to this, the uses of POE can be highly associated with the development of Sustainable Building Rating System (SBRS) available throughout the nations

such as Green Building Index (GBI), Leadership in Energy and Environmental Design (LEED), Green Building Challenge (GBC), Building Research Establishment Environmental Assessment Method (BREEAM), High Environmental Quality (HQE) and Comprehensive Assessment System for Building Environmental Efficiency (CASBEE) (Abdul Lateef, 2011; MD Darus & Hashim, 2012).

The essence of POE in studying building performances lies in understanding the extent of end users' satisfaction and expectation (Vischer, 2008; Woon, Mohammad, Baba, Zainol, & Nazri, 2015). Nevertheless, the practices of POE or SBRS are generally claimed to be more common to new and modern buildings compared to old buildings (MD Darus & Hashim, 2012; Abdul Aziz, Keumala, & Zawawi, 2014).

Although both FPE and POE promote buildings and premises to achieve ecological and environmental sustainability, their utilisation seem to be already in a common fashion. Owing to Ipekoglu's (2006) and Rainero's (2012) assertion that M&E activities are essential to enliven cultural heritage properties, further research and development on the tool of post conservation evaluation, which focuses specifically on conservation interventions applied to heritage buildings, needs to be embarked upon.

INCIPIENT OF MANAGEMENT ASPECTS PRIOR POST CONSERVATION PHASE IN MALAYSIA

Various researchers have reported on the problems inflicting Malaysian heritage buildings due to the inefficiency of local conservation framework, approaches and practices, despite the enactment of the National Heritage Act 2005 (Act 645), registration of numerous significant heritage buildings into the National Heritage Lists, and provision of conservation guidelines across state and local levels (Idrus, Khamidi, & Sodangi, 2010; Zuraidi, Akasah, & Abdul Rahman, 2011; Mohd Yusoff, Dollah, & Kechot, 2013). Conflicts involving heritage buildings such as defects and damages, negligence, lack of maintenance, obsolescence, trespass, vandalism, inappropriate interventions, violation to guidelines and illegal swiftlet breeding seem to have not been put to an end. Moreover, some buildings, despite being restored and conserved properly, are still facing problems such as lack of proper utilisation or even to the extent of no utilisation.

According to the very first former Deputy Commissioner of National Heritage Department of Malaysia, it is typical in most conservation projects executed by the Malaysian government that more changes or alterations are required to be done to the heritage buildings after the restoration or conservation took place prior

accommodate new functions. Ad hoc management practice is claimed to be the factor for this predicament since buildings are simply restored and conserved without having any proper planning and predetermination on the feasibility of its end-use (Assoc. Prof. Dr. Yahaya Ahmad, personal communication, 19th November 2014). Based on an interview conducted by Abdul Aziz, Keumala and Zawawi (2014) with Prof. Dr. A Ghafar Ahmad, the second former Deputy Commissioner of National Heritage Department of Malaysia posited that in Malaysian conservation endeavours, little emphasis is given to the heritage building post conservation phase, compared to the preliminary conservation phase and during the conservation phase.

Following this, it is essential to re-examine the situation by revisiting the

Malaysian Built Heritage Conservation Framework (BHCF). The Malaysian BHCF in particular guides the process of built heritage conservation in Malaysia, as presented in the official website of the Malaysian Department of National Heritage (Department of National Heritage, 2015) and also elaborated in Heading 2.2, *Proses Pemuliharaan of the Garis Panduan Pemuliharaan Bangunan Warisan* (Jabatan Warisan Negara, 2012). Besides, this framework is also common among local conservationists and researchers such as Ahmad (2010), Harun (2011) and Jabar, Ramli and Aksah (2012). Table 4 depicts the five phases of the Malaysian BHCF comprising preliminary research, dilapidation survey, preparation of tender documents, conservation works and heritage management.

Table 4
A Summary of the Malaysian Built Heritage Conservation Framework (BHCF) adapted from Ahmad (2010) and Harun (2011)

Process	Detail of activities
i. Preliminary Research	<ul style="list-style-type: none"> • Investigate building history and cultural background, assess significance and historical importance, relationship with individual and immediate surrounding • Obtain Information through; interviews with related and relevant individuals, organisations and stakeholders, as well as from documents, reports, old photos and maps and institutional archives
ii. Dilapidation Survey	<ul style="list-style-type: none"> • Diagnose the condition and level of building defects • Determine causes of defects • Identify appropriate treatments • Documentation via measured drawing and colour photos • Involve detailed information and technical aspects, normally carried by conservators and other professionals appointed by client • Prepare of A3 report containing defects explanation, conservation work method statement, non-destructive scientific studies and lab tests proposal and thorough survey

Table 4 (continue)

Process	Detail of activities
iii. Preparation of Tender Documents	<ul style="list-style-type: none"> • Preparation of tender documents for appointment of contractor • Bill of quantity (BQ) preparation by quantity surveyor • Proposed method techniques, scientific studies and lab tests are made accordingly to conservation principles, understanding of method and techniques as well as awareness of latest technology • Site briefing conducted by consultants to potential contractors • Appointment of contractors based on experience, skills and registration with Contractor Service Centre (PKK) and Construction Industry Development Board (CIDB) (category B03: restoration and conservation)
iv. Conservation Works	<ul style="list-style-type: none"> • Involve multidisciplinary professions (architect, conservator, engineer, quantity surveyor, archaeologist, historian, etc.) • Systematic marking, coding and labelling • Undertake structural, microbiological, archaeological and environmental studies • Involve various technical conservation methods (humidity and moisture level, Schmidt hammer rebound test, brick compressive strength, paint scraping, timber verification, ion chromatography analysis, etc.) • Final report preparation
v. Heritage Management	<ul style="list-style-type: none"> • Involves responsible agencies, stakeholders and local authorities • Management of physical, social and economic dimensions • Establishes conservation committee • Cyclical maintenance programme • Sufficient grant and financial aids • Marketing through heritage tourism and product promotion

As shown in Table 4 and Figure 4, the Malaysian BHCF has neither mentioned nor incorporated programme evaluation in its overall scheme. Although evaluation is central to conservation management, it is clearly absent in the process of heritage management in the framework. Rather, heritage management stage therein merely concerns on the use, care, repair and continuous maintenance of heritage buildings, as well as promotion and marketing of heritage tourism (Ahmad,

2010). Harun (2011) added that the final step of Malaysian conservation practice is typically and merely about the preparation of conservation report. Sensitising this inadequacy, Abdul Aziz, Keumala and Zawawi (2014) argued that this framework is in an incipient state which contradicts the comprehensive process of conservation which comprises of planning, implementing and evaluating activities as mentioned by Margoluis, Stem, Salafsky and Brown (2009a).

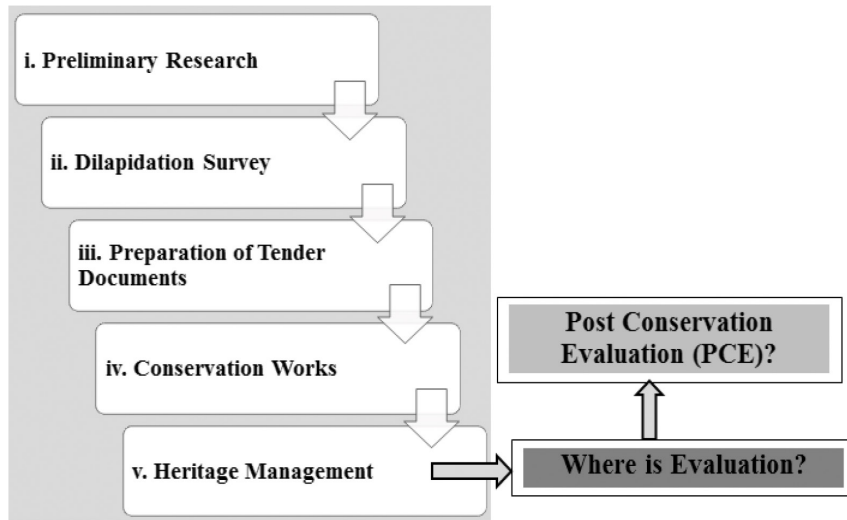


Figure 4. The Proposed Integration of Evaluation Phase in the Malaysian Built Heritage Conservation Framework (BHCF) (adapted from Abdul Aziz, Keumala, & Zawawi, 2014)

It can be observed that only preliminary building investigation and dilapidation survey processes of the Malaysian BHCF can be linked with measures pertinent to evaluation. Nevertheless, the two processes are circumscribed to the features of assessment rather than the full spectrum of evaluation. Owing to this shortage, Abdul Aziz, Keumala and Zawawi (2014) justified the essentiality of having an evaluation dimension to facilitate post conservation evaluation for Malaysian built heritage conservation programme.

Furthermore, the interview conducted by Abdul Aziz, Keumala and Zawawi (2014) with key individuals from four heritage authorities in the UNESCO historic cities of Melaka and George Town of Malaysia, namely the Penang Island Municipal Council (MPPP), George Town World Heritage Incorporated (GTWHI), Melaka

World Historic City Council (MBMB) and Melaka World Heritage Office (MWHSB) have strengthened the needs of having post conservation evaluation due to:

- i. Absence of standard evaluation framework currently in evaluating heritage buildings in the conservation zone after conservation phase. The current measures in use by the heritage authorities to assess heritage buildings are ad hoc, case specific and occasionally updated.
- ii. The heritage authorities refer the compliance of conservation guidelines and to the Certificate of Completion and Compliance (CCC) as their evaluation activities. This means that auditing and monitoring activities are accounted as evaluation by the heritage authorities, where they conduct daily

- inspections of heritage buildings within the conservation zone to prevent inappropriate conservation intervention from taking place.
- iii. The scope of management and monitoring by the heritage authorities is large in scale, where they merely focus on the larger urban context of the conservation zone rather than critically scrutinising on individual heritage building unit.
 - iv. Evaluation is agreed to be an essential and useful tool to be leveraged by the local authorities in deriving and indicating the level of conservation merit for individual heritage building units after conservation.
 - v. The heritage authorities suggested that conservation evaluation should be based on building typology, material, period of construction, place and types of intervention.

Given the incomprehensiveness of current Malaysian BHCF, development of internal evaluation capacity, within built heritage conservation stakeholders, would be much helpful. Alternatively, engagement of professional evaluators as specialists in conservation projects may be considered by heritage owners, organisations, or authorities to yield a better outcome and results. This can be done through collaboration of professional evaluators with other common professions involved in conservation such as project

consultants, conservators and maintenance contractors as mentioned by Kamal and Ab Wahab (2014). Liaison and cooperation with professional evaluators and organisations available in the country such as the Malaysian Evaluation Society (MES) and the Centre for Development and Research in Evaluation, International (CeDRE) would be beneficial especially in guiding the development of conservation evaluation which conforms to the appropriate evaluation methodology, design and theoretical approaches.

CONCLUSION

In a nutshell, this paper highlights the gaps of conservation evaluation, with a special reference to built heritage conservation, and thus serving as a literature resource to trigger further exploration on the conservation-evaluation topics. This paper also advocates conservation stakeholders and researchers in the field of built heritage conservation to develop evaluation tools which specifically cater for individual heritage building unit, besides focusing on the aspects of conservation interventions. Integration of evaluation praxis into management agenda for conservation programmes will lead to a better sustenance of our finite built heritage resources that are still remaining today. Through such enhancement, we would achieve a better retention of the historical, cultural, architectural, and economical significance of our finite built heritage resources for the sake of future generations.

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REFERENCES

- Abdul Aziz, M., Keumala, N., & Zawawi, R. (2014). Incipience of Malaysia's Built Heritage Conservation Framework on Evaluation of Post Conservation Phase. In *The 8th ASEAN Postgraduate Seminar (APGS)*. Kuala Lumpur, Malaysia: Faculty of Built Environment University of Malaya.
- Ahmad, A. (2010). Rangka Kerja Pemuliharaan Bangunan Bersejarah di Malaysia. In S. Harun (Ed.), *Pemuliharaan Bangunan Bersejarah* (pp. 21-39). Shah Alam: UPENA UiTM.
- Alton, J. (2014, May 26). Evaluation and Assessment. *Prezi*. Retrieved March 21, 2015, from <http://prezi.com/0g85w61wjfng/evaluation-and-assessment/>
- Apple, D., & Krumsieg, K. (1998). *Process Education Teaching Institute Handbook*. Pacific Crest Corvallis, OR.
- Awang, Z., & Ariffin, J. T. (2012). *Research Proposal: A Comprehensive Guide in Writing a Research Proposal*. Shah Alam, Selangor Darul Ehsan: UiTM Press.
- Burden, E. (2004). *Illustrated Dictionary of Architectural Preservation*. New York: McGraw-Hill.
- CeDRE International. (2014). *Glossary for Terms under the Integrated Results-Based Management (IRBM) System*. Centre for Development and Research in Evaluation (CeDRE) International (Malaysia & Australia).
- Cottrell, S. (2009, September). An Evaluation Tool Kit. *Guidance for Staff Undertaking Service Evaluations*. Bristol, NHS Bristol, South Plaza, Marlborough Street : Avon Primary Care Research Collaborative.
- DAC Working Party on Aid Evaluation. (2010). *Glossary of Key Terms in Evaluation and Results Based Management*. OECD. Retrieved March 28, 2015, from www.oecd.org/dac/2754804.pdf
- Davidson, E. (2005). *Evaluation Methodology Basics: The Nuts and Bolts of Sound Evaluation*. SAGE Publications. Retrieved August 13, 2015, from http://www.rismes.it/pdf/Sintesi_Davidson.pdf
- Department of National Heritage. (2015). *Conservation Process*. Laman Web Rasmi Jabatan Warisan Negara, Kementerian Pelancongan dan Kebudayaan Malaysia Retrieved April 17, 2015, from: <http://www.heritage.gov.my/>
- Feilden, B. (1999). Architectural Conservation. *Journal of Architectural Conservation*, 05(03), 7-13.
- Firzan, M., Keumala, N., Zawawi, R., & Ahmad, A. G. (2015). Arising issues in the execution of heritage conservation projects: collective reflections from case studies in Ireland. *Built Environment Journal*, 12(2), 12-23.
- Gillham, B. (2000). *Case Study Research Methods*. London: Continuum.
- Harun, S. N. (2011). Heritage Building Conservation in Malaysia: Experience and Challenges. *Procedia Engineering*, 20, 41-53.
- Howe, C., & Milner-Gulland, E. J. (2012). The view from the office is not all bad: conservation evaluation as a 'sexy' research goal. *Animal Conservation*, 15(3), 231-232.
- ICOMOS. (2011). *Guidance on Heritage Impact Assessments for Cultural World Heritage Properties*. Paris, France: International Council on Monuments and Sites.

- Idid, S. (2010). Melaka, World Heritage City: Enabling Developments in the Historic Living City of Melaka and Protecting the Outstanding Universal Values (OUV) through Heritage Impact Assessment. *First International Conference for Urban and Architecture Heritage in Islamic Countries: Its Role in Cultural and Economic Development*. Riyadh. Retrieved July 04, 2015, from https://www.academia.edu/1325432/Melaka_the_world_heritage_city_conservation_approach_in_the_urban_planning_perspective
- Idrus, A., Khamidi, F., & Sodangi, M. (2010). Maintenance management framework for conservation of heritage buildings in Malaysia. *Modern Applied Science*, 4(11), 66-77.
- İpekoğlu, B. (2006). An architectural evaluation method for conservation of traditional dwellings. *Building and environment*, 41(3), 386-394.
- Jabar, I., Ramli, R., & Aksah, H. (2012). Conservation Approaches on Historic Government Buildings in Malaysia. In *1st International Conference on Innovation and Technology for Sustainable Built Environment 2012 (ICITSBE 2012)* (pp. 739-744). Perak, Malaysia: UiTM.
- Jabatan Warisan Negara. (2012, July). *Garis Panduan Pemuliharaan Bangunan Warisan*. Malaysia: Jabatan Warisan Negara.
- Kamal, K., & Ab Wahab, L. (2014). *Bangunan Bersejarah: Kerosakan dan Penyataan Kaedah Kerja Pemuliharaan*. Shah Alam: Penerbit UiTM.
- Kleiman, D., Reading, R., Miller, B., Clark, T., Scott, J., Cabin, R., & Felleman, F. (2000). Improving the Evaluation of Conservation Programs. *Conservation Biology*, 14(2), 356-365.
- Margoluis, R., Stem, C., Salafsky, N., & Brown, M. (2009a). Using Conceptual Models as a Planning and Evaluation Tool in Conservation. *Evaluation and Program Planning*, 32(2), 138-147.
- Margoluis, R., Stem, C., Salafsky, N., & Brown, M. (2009b). Design alternatives for evaluating the impact of conservation projects. *New Directions for Evaluation*, 2009(122), 85-96.
- Mark, M., Henry, G., & Julnes, G. (2000). *Evaluation: An Integrative Framework for Understanding Guiding, and Improving Policies and Programs*. San Francisco: Jossey-Bass.
- Mastor, S. H., & Ibrahim, N. (2010). Post Occupancy Evaluation Practices: A Procedural Model For A Successful Feedback. In *Proceedings of the CIB 2010 World Congress*. Salford Quays, United Kingdom.
- MD Darus, A., & Hashim, N. (2012). Sustainable Building in Malaysia: The Development of Sustainable Building Rating System. In P. Ghenai (Ed.), *Sustainable Development- Education Bussiness and Management-Architecture and BUilding Constrution- Agriculture and Food Security*. InTech. Retrieved from <http://www.intechopen.com/books/sustainable-development-education-business-and-management-architecture-and-building-construction-agriculture-and-food-security/sustainable-building-in-malaysia-the-development-of-sustainable-building-rating-system>
- Morris, W. (1877). *The Society for the Protection of Ancient Buildings Manifesto*. London: SPAB.
- NASFA & AIA. (2010). *Facility Performance Evaluation (FPE) Guidance Document for Public Facilities*. Retrieved July 26, 2014, from <http://www.aia.org/aiaucmp/groups/aia/documents/pdf/aiab086623.pdf>
- Olanrewaju, A. A. (2011). Green maintenance management initiative for university buildings. *Built Environmental Journal*, 8(1), 17-24.
- Patry, M., Bassett, C., & Leclerq, B. (2005). The State of Conservation of World Heritage Forest. In *The Proceedings of the 2nd World Heritage Forest Meeting*. Nancy, France.

- Patton, M. Q. (2014). *Evaluation Flash Cards: Embedding Evaluative Thinking in Organizational Culture*. St. Paul, Minnesota: Otto Bremer Foundation.
- Rainero, C. (2012). How to Register Memory? Documentation, Recording, Archiving and Preservation of Intangible Cultural Heritage in Venezuela. *Measuring Heritage Conservation Performance* (pp. 59-66). Rome: ICCROM.
- Roders, A., Bond, A., & Teller, J. (2013). Determining effectiveness in heritage impact assessments. In *IAlA13 Conference Proceedings. Impact Assessment the Next Generation 33rd Annual Meeting of the International Association for Impact Assessment*. Calgary, Alberta, Canada.
- Rodwell, D. (2002). The World Heritage Convention and the exemplary management of complex heritage sites. *Journal of Architectural Conservation*, 8(3), 40-60.
- Rogers, P. (2014, May 09). *Ways of framing the difference between research and evaluation*. Retrieved June 23, 2014, from Better Evaluation: Sharing Information to Improve Evaluation: http://betterevaluation.org/blog/framing_the_difference_between_research_and_evaluation
- Rogers, P., & Macfarlan, A. (2014, December 17). *Better Evaluation community's views on the difference between evaluation and research*. Retrieved December 20, 2014, from Better Evaluation: Sharing Information to Improve Evaluation: http://betterevaluation.org/blog/difference_between_evaluation_and_research?utm_source=BetterEvaluation+Newsletter&utm_campaign=5753e8918b-Newsletter_19_December_2014&utm_medium=email&utm_term=0_a745b98c7e-5753e8918b-76096225
- Scriven, M. (1991). *Evaluation Thesaurus*. London: SAGE Publications, Inc.
- Tobi, S. U. M. (2014). *Qualitative Research & NVIVO 10 Exploration*. Kuala Lumpur, Malaysia: Aras Publisher.
- Turner, M., Pereira Roders, A., & Patry, M. (2011, March). Revealing the level of tension between cultural heritage and development in World Heritage cities-part 2. In *Proceedings of the 6th International Seminar on Urban Conservation: Measuring Heritage Conservation Performance, Recife* (pp. 124-133). Rome: ICCROM.
- UNESCO WHC. (2015). *Reactive Monitoring Process*. UNESCO. Retrieved August 11, 2015, from <http://whc.unesco.org/en/reactive-monitoring/#1>
- Vischer, J. (2008). Towards a User-Centred Theory of the Built Environment. *Building Research and Information*, 36(3), 231-240.
- Wholey, J. (1996). Formative and Summative Evaluation: Related Issues in Performance Measurement. *American Journal of Evaluation*, 17(2), 145-149.
- Woon, N., Mohammad, I., Baba, M., Zainol, N., & Nazri, A. (2015). Critical Success Factors for Post Occupancy Evaluation of Building Performance: A Literature Analysis. *Jurnal Teknologi*, 74(2), 41-49.
- Yusoff, Y. M., & Dollah, H. (2013). Perlindungan harta warisan: Keberkesanan usaha pemuliharaan dan pemeliharaan dalam pembangunan negara. *Geografia: Malaysian Journal of Society and Space*, 9(2), 64-77.
- Zancheti, S. M., & Similä, K. (2012). Measuring Heritage Conservation Performance. In *6th International Seminar on Urban Conservation* (pp. 5-6). Rome: ICCROM.

- Zimring, C., Rashid, M., & Kampschroer, K. (2010, November 6). *Facility Performance Evaluation (FPE)*. (N. I. Sciences, Producer) Retrieved July 23, 2014, from Whole Building Design Guide (WBDG): <http://www.wbdg.org/resources/fpe.php#eval>
- Zuraidi, S. N. F., Akasah, Z. A., Rahman, A., & Ashraf, M. (2011). Masalah Dalam Pemuliharaan Bangunan Warisan di Malaysia. Dlm *Persidangan Kebangsaan Sains Sosial UNIMAS 2011: Pembangunan ke Arah Masa Depan yang Mapan*. Sarawak.

