

MODERN REGIONALISM APPROACH IN DESIGNING CONTEMPORARY DJAMI' MOSQUE FOR SUSTAINABLE COMMUNAL DEVELOPMENT

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ABSTRACT

Modern regionalism approach is essential because it can contribute to the context of Malaysia's development in creating an architecture that respects the local context, as well as foster unity and integration among the community. Besides that, it can produce a built environment that is easily recognized to portray progressive values and achievement of the national civilization in line with the needs of the society and sustainable environment. However, most mosque designs in the current Malaysian context show less awareness of the approach and values of modern regionalism. As a result, most of the newer mosque features grand appearance with eclectic and Middle East revivalism approach and less on its role towards meeting users' sustainable needs. Therefore, the objective of this paper is to identify and analyze the characteristics and elements which favours the modern regionalism approach in djami' mosques for sustainable communal development. This study used the hermeneutic method through the interpretivism paradigm. The two indicators of modern regionalism which are the contextual and tectonic factors are for analyzing the djami' mosque design. The findings showed that for a mosque design with regionalism characteristics for sustainable communal development, it must meet the requirements of local climate, topography, and culture in line with current times. Based on these



findings, contribution in the form of djami' mosque design proposal from the context and tectonic factors are of benefit for future designers towards a sustainable built environment and communal development in Malaysia.

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Keywords: *Djami' mosque; Modern regionalism; Communal mosque; Sustainable communal development*

INTRODUCTION

The modern regionalism approach is an architectural concept which refers to the spirit of the region that encompasses the human life system including historical province, socio-culture of the community, local climate, and topography, as well as the use and access to technology capability in the contemporary context (Kelbaugh, 2013). The presence of the modern regionalism approach is crucial because it can lead towards the formation of architecture with a national identity that can contribute towards unity in the society and propagate nationalistic sentiment among the multiracial society. Scholars also stated that the presence of architecture with the characteristics of the modern regionalism approach could increase the quality of life and promote social interaction (Aly, 2011). The impact is a forming of unification value which will then strengthen the social relationship in local communities. Furthermore, architecture must feature the modern regionalism approach since it can shape the lifestyle of the community for a sustainable built environment. Besides, the regionalism approach also may produce built form that can be readily accepted and utilized by the community in terms of its functions and usability (Botz-Bornstein, 2016). In the Malaysian context, the modern regionalism approach is seen to be widely applied in many public buildings built during the post-independence era from the 1950s to 1990s (Chan, 1987). This era was also viewed as a defining period which portrays the dynamic perspective in Malaysia built environment, namely in the public building construction sector. In other words, the local built form displays the birth of many architectural design approaches as well as assimilation of international architectural styles in the country (Ismail, 2018). Since architecture is commonly viewed and often referred to as a symbolism of national identity that contributes towards shaping the lives of

people sustainably, it is vital to refer to the modern regionalism approach in all categories of building typology including public and government buildings. This matter, however, is really crucial in religious building design such as mosques built form for not to be separated from the lives of community appearing like a house of God in monumental expression(Ismail & Rasdi, 2010).

Scholars added that this is vital because the mosque is a social institution that can fulfil two objectives. First, by referring to modern regionalism approach, a mosque will display characters that are more communal-friendly in terms of its sustainable design and thereupon can serve as a centre to strengthen the brotherhood ties among the Muslims and within the multiracial society. Secondly, a mosque will be able to serve its function as a place of worship that can foster efforts towards the fortification of spiritual values for individuals as well as the Muslim ummah and universally for the sake of overall social development. Because of all the above, a mosque can be a symbol of progress and unity of the Muslim ummah. However, the awareness to embed the regionalism approach in the design of buildings are less focused upon by most designers nowadays due to three main factors. Firstly, there is a conflict of too much combination of external and international architecture styles due to the mindset of local designers. They are obsessed with international styles without taking into account local needs and context(Surat et al., 2010). Secondly, because of imbalanced political and economic development in the country where architecture was used as a tool to express the political ideology and desire of individual leaders, and as a result, produced architecture with iconic and pastiche in character without prioritizing the aspiration of the local community(Ismail, 2018). Thirdly, the change in lifestyle and society cultures happens so fast because of material discovery and the capability of modern technology that local designers are more focused in the external appearance aspect of architecture which focuses only in the aesthetic values(Zekrgoo, 2016).

Furthermore, there is a lack of detailed research on modern regionalism approach on public buildings design, including mosques for sustainable community requirements. To date, no study has yet to be undertaken by any local scholar to discuss mosques with modern regionalism characteristics for the development of a sustainable society. Studies on mosques in

Malaysia mostly focused on eight aspects which are: a) documentation about history and development of the mosque to classify the design styles, space typology, traditional and modern mosques (Baharudin & Ismail, 2016), b) documentation on the elements of the mosques including ornamentation on traditional mosques, decoration in mosques in general and the use of calligraphy (R Othman & Zainal-Abidin, 2011), c) the technology and technical aspect of the mosques when applying new technology or system in the building (Bakhlah & Hassan, 2012; Rashid, Alwi, & Manan, 2011), d) documentation on the foundation of Islamic principles based on Al-Quran and Hadith in construction (M. T. M. Rasdi & Utaberta, 2012), e) documentation on influences and thinking of mosque design which covers history, ownership, appearance and style, roles and elements of space towards mosque architecture in Malaysia (Rosniza Othman, Inangda, & Ahmad, 2008), f) maintenance and restoration of mosques which revolves around methods to maintain old mosques (Mustafa et al., 2011), g) issues with the design and roles of mosques which focuses on crises in mosque architecture (Said, Mohamed, Sanusi, & Yusuf, 2013), and h) mosque as an institution which centred on the social aspect of a community (M. T. H. M. Rasdi, 1998).

Therefore, the main objective of this study is to identify and analyze the features and elements of modern regionalism approach in the design of djami' mosques as a case study towards sustainable community development. This is vital in understanding why and how these mosques showcase the regionalism approach in promoting the development of a sustainable community. The outcome of the research will be in the form of a design guideline framework on designing a djami' mosque with modern regionalism approach that can contribute to the development of a sustainable community.

The scope of this study involves the analysis of djami' mosques constructed in the post-independence era (the 1970s to 1990s) in Malaysia. The choice of djami' mosques in this period is vital to explore the relationship between ideologies adopted by designers and elements involving political and social context, and economic factor to illustrate the modern regionalism values in the architecture of the mosques selected in the case study. This period was selected because of criticisms and thinking generated in the search for an approach towards regionalism or district values, that were

consciously driven by local designers on overall public buildings typology. For the benefit of the study and to fulfil the objectives, section two is divided into two parts. The first part will define the concept and definition of sustainable community characteristics followed by modern regionalism approach in architecture. The second part will review and establish relevant indicators that had influenced the shaping of modern regionalism on the architecture of djami' mosques. This also includes elucidating on the issues, definition as well as documentation of the characteristics of djami' mosques in Malaysia with modern regionalism approach to establish appropriate design guideline for the benefit of developing a sustainable society in the future.

LITERATURE REVIEW

Characteristics and Purpose of Sustainable Community

The sustainable community is a society that enhances a living lifestyle to promote the principle of sustainable development comprising of four interconnected social areas: economics, ecology, politics, and culture (Du Plessis, 2007). According to ISC (2020), four vital elements shaped the development of this sustainable community. These are leadership, civic engagement and responsibility; ecological integrity; economic society and social wellbeing. However, for the benefit of this study, the focus will be mainly on the maintenance and development of societal wellbeing to create a built environment which can cultivate a community spirit to create the feeling of belonging, placemaking and self-worthiness. The built environment, in this sense, refers to the environment created by and for humans, utilized for daily human activities. The outcome is a living condition that continues to meet human needs without compromising the reliability and systemic natural balance. Many scholars like (Kibert, 2007) agrees that "in framing the sustainable development, it can be understood within the regional context, capabilities and cultural behaviours." In other words, the ideology of regionalism like sensitivity to the context of social, economic, materials abilities and technology are embedded in the formation of sustainable living and in defining the sustainable architecture. For understanding the role of regionalism in architecture, the next section

will elucidate this in-depth.

Concept, Definition and Approach that Shape Regionalism in Architecture

In general, the term regionalism means as awareness and loyalty towards a region. According to scholars, the spirit of the region encompasses people's life system, including political values, economy and socio-culture. However, the socio-cultural aspect deems to be more critical because it is closely associated with architecture (Kusno, 2010). From the perspective of architecture, regional means an identity related to the tradition of a particular place or society based on the changes of time. This regional identity is vital because it can free the local architecture approach from ethnocentric characters which venerates foreign culture or identity more than their values such that it compromises the sense of ownership and belonging. A regionalism approach is needed because it will endure a built environment that presents an architecture with a national identity which respects the local politics, economy, socio-culture, climate and topography as well as utilizes the latest technology (Kassim & Nawawi, 2018a). Therefore, in brief, regionalism in architecture means the spirit of the region or local identity that comprises of local characteristics to spur the sense of ownership and belonging. The adoption of regionalism approach may produce architecture design with national identity and the spirit of the era. Regionalism approach in architecture is essential to advocate for not only at the global level but also at the local level. Therefore, nurturing the regionalism approach through architecture is necessary and contributed to the development of a country and nation especially in the context of Malaysia for three significant reasons; firstly, for the professionals; secondly for the development of society and thirdly for the progress of the nation.

In the first stage, the regionalism architecture approach is of benefit to architects. This is because buildings that considered the local context might save cost and energy from the aspect of topography, culture and technology (Kassim & Nawawi, 2018b). The topography aspect may save cost at the construction site when the architect does not have to level the ground to erect the building, but instead, redesign so that the construction fits with the site topography (Mousa, 2014). From the energy aspect, a regionalism architecture approach provides maximum opening on facades to

save cost on lighting and amenity within the space. The technology aspect, on the one hand, provides meaningful new ideas to other architects and has the potential for the building design to be a national icon.

In the second stage, the regionalism approach in architecture can contribute to the development of society in two main phases. The first phase is at the universal society where regionalism architecture approach can foster development, unity and integration of the community or better known as social cohesion and sustainability. Unity in the society is a state where people from various ethnic, religious, and territorial groups live in peace as a single united nation by giving their full commitment to their regional or local values based on the Federal Constitution or Rukun Negara (Schmitz, 2009). In other words, advocating for regionalism approach through architecture can conveniently foster social integration symbolically where various groups in the community unite by believing in the same ideology. Regionalism approach architecture will fulfil the needs of a particular ethnic, cultural requirement, and local religious beliefs. Indirectly, it has the potential to spur the national sentiments of patriotism among the people.

In the third stage, architecture with regionalism approach produces a design that is easy to recognize which displays progressive values and the nation's civilization achievements in the eyes of the world in line with the current needs of the society and environment. It is critical for a newly independent country because global observers readily accept architectural presentation with regionalism characteristics to become a symbol and landmark for the nation to be acknowledged economically by other countries at the international level. This provides benefit for the ruling government to be better known to showcase their achievement is at par with other developed countries and for claiming social acknowledgements from the local community. In short, architecture with regionalism approach is necessary and vital for newly independent states at the national and international level.

Factors that Shaped Modern Regionalism in the Architecture of Djami' Mosque

Scholars categorize regionalism architectural approach into three types based on the theory of Jadhav and Powel (Powell & Ozkan, 1983) which involves traditional vernacular, Kenneth Frampton's theory which

framed on modern regionalism approach (Frampton, 2002) and followed by the theory of postmodern regionalism approach outlined by Alexander Tzonis and Leani Lefaivre (Lefaivre & Tzonis, 2003). Based on the earlier regionalism thinkers above, regionalism comprises of three main approaches which are Vernacularism; with tradition at its core, Modern regionalism; with modern regionalism at its core, and Postmodern regionalism; with postmodern regionalism at its core. However, for this study, only modern regionalism will be discussed in detail. Modern regionalism is an approach that transforms architecture based on modern architecture philosophy. Architecture which adopts the modern regionalism approach has a progressive nature to fulfil the needs of a territory or place in the latest context. Based on the framework of local scholars, modern regionalism is divided into two types which are traditional transformation and territorial transformation (Mursib & Rasdi, 2016). However, for the benefit of this study, the researchers feel that there must exist a conceptual framework relating to modern regionalism that can be referred to as a basis to study the djami' mosque buildings specifically for societal sustainable development. Hence, the framework developed by past scholars on modern regionalism is not suitable to be used directly and literally. It is referred to only as a guideline because it did not classify according to specific themes as the elements of modern regionalism involving (territorial transformation) were mentioned at random and disorganized.

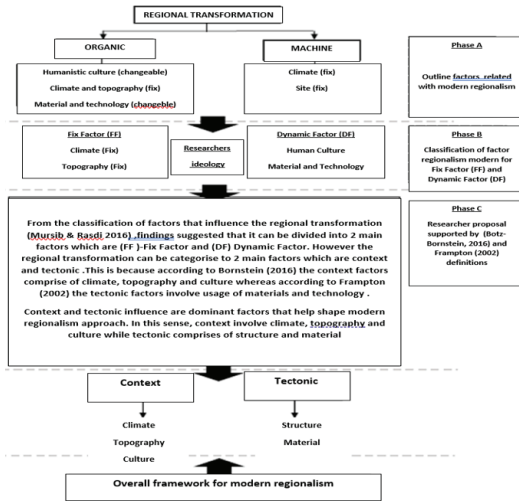


Figure 1. Conceptual Framework on Modern Regionalism

Hence, the modern regionalism factors have been reclassified by the author based on the correct and concise themes referring to the analytical justification from the literature review and the work of past scholars (Figure 1).

Based on the past scholars and literature review, the definition of modern regionalism is classified into two major categories which are elements influenced by local fixed factors and local dynamic factors (refer to Figure 1). Local fixed factors include climate and site, while local dynamic factors include culture and technology building materials. Both factors represent two main categories as according to Botz- Bornstein (2016) and Frampton (2002). These are the contextual elements (climate, topography, culture) and tectonic (structure, building materials). Based on Botz-Bornstein (2016) the contextual elements are strictly related to climate, topography, and culture because the context respects the environment surrounding a building, while according to Frampton (2002) tectonic elements are closer to building materials and technology that is utilized by a particular design. Therefore, after analytical justification, the author concluded that these two main factors which are context and tectonic would be selected as the leading indicators to form the conceptual framework when studying the djami' mosques as case studies to show the presence of modern regionalism characteristics portrayed in the form of religious architecture. Both the context and tectonic elements are explained in turn in the following paragraph.

Context is defined as the natural environment or surrounding at the building site at the macro or micro scale. Understanding about context is crucial to erect a building that is appreciated and stands firm for a considerable time (Botz-Bornstein, 2016). Tectonic in architecture is defined as the science or arts of construction where it is related to the use and creation of artistic design (Von Meiss, 2013). According to scholars, tectonic not only refers to the activities in construction to address a specific need but also to include construction activities that can produce something with an artistic form (Von Meiss, 2013). It is about employing the building materials with the use of technology to translate them into the latest context involving the physical world to the metaphysical. According to scholars, the term tectonic can be classified into three major categories (Von Meiss, 2013). The first is closely related to the technique and technology. In this matter, the term tectonic deals with a higher level of construction and not just the mechanical

structure. The technology utilized must be poetic and based on a rational approach. The second involves the structure and building materials of a built form comprising of façade and space-making, which does not prioritize the aesthetic values or decoration. Besides, the aspect of the elements of façade and space making must also be appropriately designed according to human scale and proportion with suitable anthropometry aspects. These two elements of façade and space making characteristics will become the primary indicator for analyzing the selected case study of djami' mosque. The third relates to stereotomic, which is the art and science of cutting three-dimensional solids into shapes. Typically, the tectonic approach using the stereotomic method would involve natural materials such as rocks or wood which are cut to be fit directly into the complex structure without modifying the natural conditions of the material to be used in geometrical shapes. In other words, the materials used still paid respect to the original features, textures, and grain of the materials from where it was from the surrounding site. These three aspects mentioned above are strategies to produce architecture with regional characteristics that respect the local context and time, as well as to create an architecture that is sensitive to the environment. According to Scruton (2013), tectonic is the first approach that is suitable in shaping architecture in the modern context associated with the regional context. Overall, two leading indicators which are context and involving tectonic technique, technology as well as the building structure and materials, may influence the establishment of modern regionalism on djami' mosque (refer Figure 2.0). These two leading indicators are essential as they will also help to shape the development of a sustainable community from the built form.

Djami' is known as a small local mosque which is a community mosque that provides a space for Friday prayers and Qariah prayers. Based on the standard *Perancangan Rumah Ibadat* (2013), the mosque is positioned under category 3 (region or territory) or category 4 (province/village/town). According to Baharudin and Ismail (2016) the mosques are typically located in big towns and provide many amenities from facilities to perform worship, receive education and for daily activities. Most Muslim countries also build djami' mosques to indicate the presence of Muslim communities in the area. Djami' mosques are known as mosques that are active with many community activities that involve the local community and once functioned as the centre of a town before. They are built out of the funds and efforts

of the local people as a community facility. Besides that, they are funded by local governments, private individuals or organizations who are aware of the crucial role that a mosque plays in a community. In order to identify how a djami' mosque can portray the modern regionalism characteristics, the next section will discuss the methodology and analysing technique using comparative analysis from a selected case study of djami' mosque in the global and local context. This is vital to derive the appropriate indicators in producing guidelines for a better design of djami' mosques with modern regionalism approach with an emphasis on the factors of context and tectonic through their design elements in the Malaysian context in the future for the benefit of a sustainable community.

METHODOLOGY

This study utilizes case studies as the research strategy under the framework of qualitative methods and approaches using interpretivism as research paradigm (Figure 2). Interpretivism paradigm serves to understand and seek the meaning as opposed to realizing the outcome of the study or to predict reasons and consequences. Interpretivism study emphasizes human behaviour which must be related to the environmental context. According to Williams (2000), it is a study of philosophy system which focuses on the reality of people that can be understood through subjective meanings.

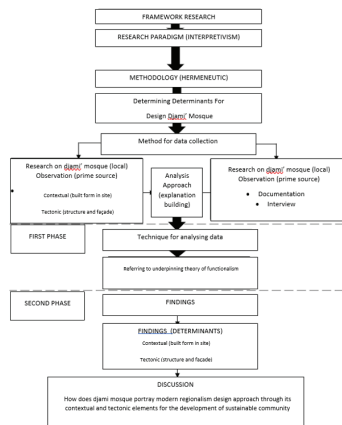


Figure 2. Framework of the Study

(Source: Author)

This interpretivism paradigm is suitable to fulfil the requirements of this study where it needs scholars to scrutinize the ideology of modern regionalism introduced by architects on the djami' mosque building design which was selected as the case study. To support the interpretivism paradigm, hermeneutic as a research methodology is adopted to examine and interpret the literal meaning of the selected case study. Scholars explained that hermeneutic is an art of interpreting the 'text', understanding the analysis of the 'text' to obtain an explanation that can be applied to a situation based on its contextual background. The term 'text' here is defined as something that can be seen to represent something or refer to something readable. This text includes written discourses, verbs, stories, aesthetic objects, architectural buildings, or anything else that is understood to represent expressions of the experience of the author or designer. This is so as the text is a medium of communication to convey the experiences, ideas, beliefs, and values of its owners. To understand the built form like 'a text', direct observation, interview, and documentation are used as a data collection method to gain an insight into the djami mosque. This is vital in understanding how and why the djami mosque adopts the regionalism approach for the benefit of promoting a sustainable community. The findings are analyzed in phase referring to the selected indicators which are divided into two essential elements which are from contextual aspect i) built form functionality in its existing context involving size and proportion including the tectonic technique involved, technology as well as the building structure and materials. These are represented in the mosque-built form ii) facade and structure (Figure 3) to answer the objective of the study.

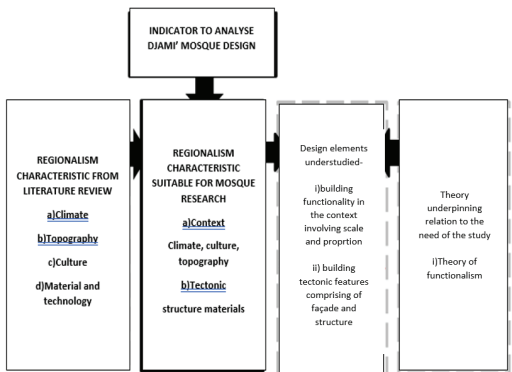


Figure 3. Development of Indicators to Design the Mosque

(Source: Author)

Functionality refers to dominant design elements that relate to regional characteristic as it is much influenced by the existing context such as climatic, culture and topographical factors which indirectly plays a significant role in shaping the physical design of djami' mosque in terms of its scale and proportion. According to Lanham (2007), proportion and scale are important as it creates and contributes to creating an architectural form that can be functional to meet human needs. Facade and structure, on the other hand, much associated with a tectonic approach are influenced by the construction system and building materials following the latest technology capabilities. These two elements are vital because they define the importance of modern regionalism in architecture so that the community may easily accept the built form as well as foster a sense of sustainable community (refer section 2.1).

Data analysis technique based on the functionality theory underpinning is applied by comparing the scale and proportion mosque built form functionality in its existing context is used for reading the first indicator on the building design. An analysis based on the technique of Malthis (2004) is introduced to assist the reading for the building tectonic features using the layering method for reading the second indicator. The technique of Malthis (2004) uses three layers of analysis to study the facade of the djami' mosque building through the layering method: 1. Explaining the basic structure of the central area of the mosque and adding a layer to the main building as the first layer; 2. Adding the structure of complete element line to the basic structure to view the elements that shape like windows, pillars and door forms; 3. The final layer as finishing on the facade of the mosque building, including geometry, building shades and others that form a facade. This is important to achieve the study objectives of developing design strategies or guidelines that are suited for the development of design guideline framework for djami' mosque which focuses on the modern regionalism approach as the central concept for the benefit of sustainable communal development.

The selection of the case study of the djami' mosque is justified based upon six characteristics. First is the location or position of the mosque, which is in the housing area, small residents area, village settlement centre, or neighbourhood centre and village. Such locations indicate that the mosque belongs to the society or surrounding community and not owned by any party. Secondly, the mosque needs to provide attraction in the form of




various facilities. Amenities such as recreational centre, accommodation for travellers, rental rooms for Muslims, clinic, library, and others can entice the residents to come to the mosque.

Furthermore, the function of a community mosque is a place that is often visited by society or the surrounding community. Thirdly, it is common for djami' mosques to organize beneficial activities such as public events, lectures or talks, exhibition, sales carnival and others for the local community. These activities are organized to foster good relationships among the local community members and to keep the mosque lively so that it is always functional, aside from generating funds for the mosque to be used for good causes. The fourth characteristic is that the local community manages the administration of the mosque. An ideal djami' mosque provides social services, including the opportunities for the local community to hold positions as the committee members of the mosque. This includes all posts, including that of the imam to realize the overall management for the djami' mosque. Fifth, is the year of the mosque construction which should be around the 1980s till 1990s. This is because the awareness towards regionalism architecture happened broadly during this era at the local and international stage, especially in Malaysia. Therefore, the choice of the design of buildings constructed in the 80s and 90s is really appropriate to be studied to identify the architects' ideology that meets the modern regionalism characteristics as examples for students, architects, and scholars in the future. The sixth feature relates to the ownership status, mosque funding and construction costs of the djami' mosque. By right, the ownership of a djami' mosque should not fall under any association or government body. This is because the design will be strictly built following individual preferences. Hence, any individuals or patrons must not own the mosque. Furthermore, the construction costs should come from community funding or the society surrounding it. When the ownership falls under the local society and community, they become heavily involved in the running of the mosque, from the construction to the mosque administration, including the salary payment, everything is managed and funded by the community. The findings of the case study will be discussed in Section 4. The conducted research framework is shown in Figure 3. There is a limitation to the method proposed, however, for future research, questionnaire and survey can be conducted to the building user to identify in much detail the relevancy of the djami' mosque design in fulfilling the needs for a sustainable community.

FINDING





This section describes the data findings from the selected five djami' mosques, chosen based on the prescribed criteria. These Djami' mosques are CS1 – Masjid Djami' Bandar Tangkak, Muar ; CS2 – Masjid Djami' Tabligh Sri Petaling, Bandar Baru Sri Petaling; CS3- Masjid Djami' Kampung Gong Tok Nasek, KualaTrengganu; CS4 - Masjid Djami' Saidina Abu Bakar Assiddiq, Bangsar and CS5 - Masjid Djami' Saidina Othman Ibn Affan, Cheras to answer how the djami' mosque portrays the approach of modern regionalism. The background of each mosque will be presented in order, followed by an analysis of the architectural element indicators that shape modern regionalism characteristics. Djami' mosque design indicators which include architectural elements of functionality that relate to the building in its existing context like i) scale and proportions, and ii) tectonic comprising of façade and structures are examined. Once the findings have been concluded, the information gained are used to establish guidelines for djami' mosques with modern regionalism characteristics for sustainable community development. This finding is shown in Table 1, 2, 3, 4 and 5.

Table 1. Findings of the Case Study of CS1 – Masjid Djami' Bandar Tangkak, Muar

Background of the case study	Figures (source : Author)	Regionalism indicator (HOW does the djami' mosque portray the regionalism approach from its design element?)	
		Through building functionality in its existing context involving j) built form scale and proportions	Through tectonic aspects of built form involving structural and construction materials that is represented in building façade and structure
<p>(CS1) Masjid Djami' Bandar Tangkak (source : Author 2020)</p> <p>Built-in the 1980s and reflects the modern regionalism approach in its design appearance (refer to Figure 1.0) to make it an effective and efficient community mosque.</p>	 <p>Figure 1.0</p>  <p>Figure 1.1</p>  <p>Figure 1.2</p>	<ul style="list-style-type: none"> • The mosque scale is functional in its existing context and blends in with the surrounding building skyline. • Mosque scale is following the capacity of the congregants in the area (refer to Figure 1.1) • Not awe-evoking monumental in scale but compatible with the function of the mosque as a community development centre. This is important so as not to intimidate the user. • The humanistic proportion and scale draws the community together and influences the level of comfort for social connection. 	<ul style="list-style-type: none"> • Post and beam structure supports the overall mosque form-making. • Form making concept uses platonic shape which is a combination of cube and cuboid shape • The mosque has white brick walls with no adornment or aesthetics decorations for the outer façade. • The inner facade walls of the mosque are painted white. This white colour reflects the light and gives a bright and clean atmosphere in the interior of the mosque for simplistic ambience (refer to Figure 1.2) • A mesh roof covers the main prayer room of this mosque to facilitate the flow of rainwater and topped with a golden dome as a recognizable landmark symbol from far. • The main prayer room area is built-in (triple volume) to get the stack effect to facilitate airflow and reduce heat trapped in the main prayer room. (refer to Figure 1.2) • This community mosque has many openings on the main facade, especially in the main prayer room for lighting and natural ventilation.






(Source: Author)

Table 2. Findings of the Case Study of CS2 – Masjid Djami' Tabligh Sri Petaling, Bandar Baru Sri Petaling

Background of the case study	Figures (source : Author)	Regionalism indicator (HOW does the djami' mosque portray the regionalism approach from its design element?)	
		Through building functionality in its existing context involving j) built form scale and proportions	Through tectonic aspects of built form involving structural and construction materials that is represented in building facade and structure
<p>(CS2) Masjid Djami' Tabligh Sri Petaling (source : Author 2020)</p> <p>The mosque was built in 1987 and up till 2012 has undergone several construction and renovation processes to its original building. (refer to Figure 2.0)</p>	 <p>Figure 2.0</p>  <p>Figure 2.1</p>  <p>Figure 2.3</p>	<ul style="list-style-type: none"> The mosque building scale following the surrounding context which does not dominate the existing landscape. The mosque building scale integrates with the primary and secondary function as a place for conducting prayers and as a communal centre. The building height of this mosque does not exceed the buildings around it so that it does not look odd in the surrounding area. The mosque placement is proportionate in terms of distancing as it is reachable by foot to housing areas and other communal facilities like public hall, shops and market. (refer to Figure 2.1)  <p>Figure 2.2</p>	<ul style="list-style-type: none"> Uses concrete post and beams as the main structure and aluminium cladding for the roof covering. This represents a contemporary style that is functional and acceptable to the local community. The main roof is in gable shape and applies castellated beam to allow long spans as well as having triple volume height for the main prayer hall. The interior ceiling finishing in the central prayer hall uses a plank wood ceiling for the reason of storing heat. For that reason, it consumes less energy whilst giving the entire prayer hall high insulation. The main roof is topped with a golden dome covered with yellow coloured aluminium lining. The dome is equipped with a motor for the stack effect that enables hot air to be released (refer to Figure 2.2) This triple volume provides maximum airflow and light to the mosque interior to help reduce the usage of a mechanical system for ventilation and lighting. This kind of design suitable for the tropical climate. The building exterior and interior facades have no lavish adornment except for simple calligraphic quranic verses at the mihrab. Horseshoe arches with no doors at the frontal and side facade for the prayer hall function both as opening and entrances for users to enter the mosque from various directions. This is important for promoting good social connections and easier access to congregants and visitors (refer to Figure 2.3).


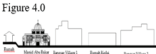




(Source: Author)

Table 3. Findings of the Case Study of CS3- Masjid Djami' Kampung Gong Tok Nasek, KualaTrengganu

Background of the case study	Figures (source : Author)	Regionalism indicator (HOW does the djami' mosque portray the regionalism approach from its design element?)	
		Through building functionality in its existing context involving j) built form scale and proportions	Through tectonic aspects of built form involving structural and construction materials that is represented in building facade and structure
<p>(CS3) Masjid Djami' Kampung Gong Tok Nasek (source : Author 2020)</p> <p>The mosque was built in late 1990's and completed in year 2014. It is located in the Gong Nasek village and is one of the djami' mosques which is different from other mosques. (refer to Figure 3.0)</p>	 <p>Figure 3.0</p>  <p>Figure 3.1</p>  <p>Figure 3.2</p>	<ul style="list-style-type: none"> The location of this mosque is in the middle of the city surrounded by resident housings. The mosque is strategically located and proportion in scale with the surrounding buildings. This mosque is accessible on foot and within walking distance to the main road and residential area. The mosque building scale following the surrounding context which does not dominate the existing landscape. This made the building flexible, permeable and open to social connectivity (refer to Figure 3.0 and Figure 3.1)  <p>Figure 3.3</p>  <p>Figure 3.4</p>	<ul style="list-style-type: none"> The mosque uses post and beam structure made of reinforcing concrete. The mosque facade yalls and minaret are made of brick plastered with cement, coated with white paint. The mosque is built in accordance with the technological context and available local materials at that time. The mosque building adopts rectangle shape in form and is covered by a pyramidal dome roof known as 'lunas bungkai' which is one of the features of local architectural roof style (refer to Figure 3.2). There are also openings under this pyramidal roof to allow natural ventilation and daylight to enter the prayer hall. (refer to Figure 3.3) The interior also has no extravagant decorations and is only decorated with stained glass mirrors below the mosque pyramidal roof. (refer to Figure 3.4)



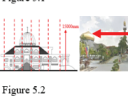




(Source: Author)

Table 4. Findings of the case study of CS4 -Masjid Djami' Saidina Abu Bakar Assiddiq, Bangsar

Background of the case study	Figures (source : Author)	Regionalism indicator (HOW does the djami' mosque portray the regionalism approach from its design element?)	
		Through building functionality in its existing context involving i) built form scale and proportions	Through tectonic aspects of built form involving structural and construction materials that are represented in building façade and structure
<p>(CS4) Masjid Djami' Saidina Abu Bakar Assiddiq (source : Author 2020)</p> <p>The mosque was completed in March 1982, the financing of the construction cost of the mosque is done through large-scale donation collection from Muslims, especially in the Bangsar area and throughout Malaysia. (refer to Figure 4.0)</p>	 <p>Figure 4.0</p>  <p>Figure 4.1</p>  <p>Figure 4.2</p>  <p>Figure 4.3</p>	<ul style="list-style-type: none"> This mosque has a height of 14 meters from the ground to the top of the dome roof with an estimating height of three and a half story buildings. The scale of the leading interior space at the prayer hall is at the height of 2.5 meters in accordance to human proportion. The human scale is essential in designing the mosque building to give familiar nature to visitors for a better human experience and social interaction. (refer to Figure 4.2) The mosque skyline is seen to be the same in scale and proportion as the surrounding buildings within the vicinity. This shows the design of the mosque building is in line with the surrounding context (refer to Figure 4.1) The scale of spatial arrangement is according to the Malay house planning concept. The division of space inside the mosque is very systematic and organized according to users needs. This is important to safeguard the privacy and <i>gaurah</i> (modesty) of users based on the needs of Islam.  <p>Figure 4.4</p>	<ul style="list-style-type: none"> The building structure responds to the existing environment where it focuses on natural ventilation and lighting by having many openings on its façade. (refer to Figure 4.3) The main structural element of this mosque utilizes concrete reinforcement system coated with Ashibuton concrete on its outer layer façade as it is a durable finish suitable with harsh Malaysian climate. The building materials for the openings in this mosque are made of metal-framed glass following the technology available at that time while the entrance door located at the central prayer hall is made of wood to maintain organic elements. This main entranceway to the mosque main prayer hall is opened without any doors. This situation creates a welcoming sense for the community to enter the mosque prayer hall (refer to Figure 4.4). The pedestrian pathway connects the mosque with the surrounding facilities and neighbourhood routes to allow human movement into the mosque area. (refer to Figure 4.5)  <p>Figure 4.5</p>

(Source: Author)

Table 5. Findings of the case study of CS5 - Masjid Djami' Saidina Othman Ibn Affan, Cheras.

Background of the case study	Figures (source : Author)	Regionalism indicator (HOW does the djami' mosque portray the regionalism approach from its design element?)	
		Through building functionality in its existing context involving i) built form scale and proportions	Through tectonic aspects of built form involving structural and construction materials that are represented in building façade and structure
<p>(CS5) Masjid Djami' Saidina Othman Ibn Affan, Cheras (source : Author 2020)</p> <p>This mosque was opened to the public in 1987. The cost of building this mosque is through the collection of donations made to the surrounding community (refer to Figure 5.0)</p>	 <p>Figure 5.0</p>  <p>Figure 5.1</p>  <p>Figure 5.2</p>  <p>Figure 5.3</p>	<ul style="list-style-type: none"> The height scale of this mosque is parallel to the adjacent building and follows human anthropometry. This human-scale proportion can attract and encourage the local community to come to the building (refer to Figure 5.1) The height of the mosque is 15 meters from the ground to the tip of the dome. The mosque scale is in proportion with the surrounding buildings which are at the same height as the existing school building, and residential housing as well as the existing public buildings (refer to Figure 5.2) Most of the community space in this mosque is located on the ground level to facilitate community activities. The interior height of the mosque from the corridor way to the mosque main prayer hall is designed according to human height for comfort so that users will not feel isolated and intimidated. (refer to Figure 5.3) The proportionate interior scale also allows enough natural light to enter and natural flow of ventilation from the presence of large openings like windows and foldable doors. This illuminates the main mosque spaces without mechanical lighting, and ventilation hence saves energy costs. (refer to Figure 5.4)  <p>Figure 5.4</p>	<ul style="list-style-type: none"> The overall mosque structure uses a system of reinforced concrete pillars and beams. The significant spanning distance between the concrete pillars maximizes the prayer space and provide comfort to the congregation. The main prayer hall and almost all spill areas surrounding the main prayer hall is a double volume in height to allow natural airflow and maximum daylighting into the mosque interior spaces. The exterior facade of the mosque is dynamic and harmonious with the use of pointed segmental arches. The mosque facade is made of bricks with cement plastered and faced finished durable to the tropical climate (refer to Figure 5.5). The entire facade of this mosque does not show any dominant elements and extreme aesthetic significance. It further reflects the functions of modern elements and simple aesthetics. The mosque form is in cubist architecture style that chiefly by an emphasis on formal structure, which is easily understood by the surrounding community in line with the changes of modernity in that era (refer to Figure 5.6)  <p>Figure 5.5</p>  <p>Figure 5.6</p>

(Source: Author)

In reference to the abovementioned tables of case studies, it indicates that the communal mosque built in the 1980s and 1990s mostly adopted the modern regionalism approach. Indirectly through this kind of design, it promotes the development of the sustainable community by empowering people to become more powerful and more involved in their communities. Why is this aspect important? According to scholars such as Roff (1998); Hadiz and Teik (2011), the '80s to 90s was the era of the rise of many Islamic preachers as a result of disagreements between various political parties and Islamic ideologies from local leaders. As such, Islam became the main agenda as a political tool in all matters of administration and leadership. This includes the aspect of the built environment for attracting the attention and support of the people towards the leadership of the government's ruling party. During this era, mosques were built in large numbers as a medium for unifying the community and were fully managed by the Religious Affairs Department so that government bodies could monitor each programme and activity. Every mosque, regardless of whether the state government builds it, an individual or a group, must be registered under the Religious Affairs Department (Ismail & Rasdi, 2010). This is because control must be exercised to prevent mosques or musollas from being used for political purposes. It is also a political agenda by the government to regulate militant dakwah movements that may disrupt the peace of the country, state and government party. In this regard, many djami' mosques in this era were built with a simplistic and straightforward approach for public acceptance. The mosque designs have greatly evolved based on local needs like climate and topography. The styles are, therefore, universal and widely adopts the modern regionalism approach as the main thrust to make the identity agreeable to the local community. The role and use of mosques with the modern regionalism characteristics are seen to be in line with the demand of using mosques the way they used to be during the time of the Prophet PBUH which significantly emphasis on functionality. In other words, it does not place any importance on the architectural design style, but the architecture formed naturally based on the contextual needs and desires of the local community (Rasdi, 2005). Indirectly, mosques have become easily acceptable and serve as a symbol of dakwah to convey the Islamic message properly.

DISCUSSION- DESIGN STRATEGY AND APPROACH

The findings explained how modern regionalism approach could influence the appearance of djami' mosques with sustainable features so that this place of worship can function as a centre for social development. This is important because djami' mosque is a symbol of unity that could reflect the socio-cultural achievement as well as portraying the identity of progress for the Muslim community. Furthermore, mosque design with modern regionalism characteristics like the integrated features of scale and size, as well as tectonic values, can foster the relationship between building design and users and the surrounding community. As a result, the building as the end product will be accepted by the community and can blend in with the local identity context. In short, modern regionalism approach can be implemented on any appropriate building components in terms of form and space to meet the needs of the society.

To sum up, the guideline in designing djami' mosque will be of benefit to future designers, as explained in Table 2. These four proposed guidelines and design strategy are as follows. Firstly, mosque design needs to be built based on an open concept so that anybody can easily access it regardless of religion, culture, and race to enter the mosque area. Secondly, the location of the mosque should be suitable and strategic such as the main road and central public area. Thirdly, the mosque design facade must have ergonomic features that promote sustainability which prioritizes functionality for users. Fourthly, mosque design encompassing building structure (floor, walls, pillar, and roof as well as ornamentation) should consider natural characteristics' values and responsive to the existing climate. This will ensure a quality interior and building exterior that are unique and effective in the aspect of visual appearance. The outcome will be a building design with natural features that provide much comfort to users. Hence, architecture that adapts the regionalism approach will meet the local needs and requirement which suits the environment climate and fulfils the local community cultural needs(Dougherty, 1996). By addressing this, the aspect of a sustainable community can be fulfilled (Refer to Section 2.1 & Refer to Table 6).

Table 6: Modern Regionalism Approach for Djami Mosque towards the Benefit of a Sustainable Community

The outcome of architecture with modern regionalism characteristics for the development of a sustainable community	Modern regionalism approach in Djami' Mosque Architecture
Will produce a design with – •Openness values and easily accessed fully •Strategic location	-Through proportionate building scale -Through appropriate facade and structural design
Will produce a design with – •Environmental friendly and economic features •Natural features (harmonious with the site) with social sustainability that celebrates the needs of the users' senses which respond to users' requirement and organic •Cultural features, local environment identity and fully-functional This will benefit towards the development of sustainable community because it can improve the quality of life in such a way that environmental and social impacts in building design are minimized.	

(Source: Author)

CONCLUSION

Based on the study above, modern regionalism approach can contribute towards the development of djami' mosque architecture as a communal centre which focuses on sustainable values from the aspects of context and tectonic through proportion and scale as well as the design facade and building structure. This study, therefore, is critical because it contributes to the establishment of djami' mosques' architecture identity with descriptive attributes based on local style and requirements rather than copying and referring to the style expressions of mosque architecture solely from the Middle East. Through clear and systematic understanding, reference on regionalism values in architecture is viewed as something dynamic and could be easily shaped in the latest design trend and concept. This is because the referencing on modern regionalism is much subjected to a local experience that is bounded by the existing context and environment which answers to socio-cultural needs for the development of sustainable communities. This study, therefore, is critical because it provides the guideline in developing the theory and philosophy of 'djami' mosque modern regionalism design characteristics in Malaysia. This study is also beneficial to assist the authorities, designers, historians and scholars who are looking for

interpretations about the relationship that exists between mosque architecture and modern regionalism characteristics for the sake of the wellbeing and sustainable communal development of the nation in the future.

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