

Heritage Conservation of Historic Built Environment in Pyin-Oo-Lwin Town, Myanmar

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Abstract

Pyin-Oo-Lwin has the high quality built environment of the area, with its wealth of historic buildings, conservation areas and historic monuments, represents an important social, cultural, recreational and educational resource as well as helping to make it an appealing place to live, work and visit. This research is focus on conserving of the historic buildings and its surrounding environments in Pyin-Oo-Lwin town. As there is physical degradation because of the impact of urban development, the conservation of these areas will include their development and harmonious adaption to contemporary life" (UNESCO 1987). During 19th Century, British made well plan with impeccable signs of urban planning and local architecture and built the many famous buildings in Pyin-Oo-Lwin town. These colonial buildings are standing now as heritage buildings and structures so that targeting conservation resources towards particularly vulnerable group of sites and environments. Because of elevation, situation, climate and verdant environment, it becomes prominent as a famous highland town. In urban areas, increased attention must be paid by the institutions for its conservation; new issues have to be addressed, due to the dramatic changes occurring. It suffers from physical and functional decay and seems to have been seriously affected by inconsistent development. The historic architectural and urban features of Pyin-Oo-Lwin deserve a careful survey and assessment, in order to be protected as a substantial part of Myanmar heritage. It involves actively caring for the heritage, maintaining it in good physical condition, making it readily accessible for study, enjoyment, recreation, and tourism. In this research, it is thoroughly documented the existing conditions of Pyin-Oo-Lwin town and identified the possible heritage areas to be conserved with the development of this town. Then, the study on the principles and methods of conservation and criteria for conservation are presented as literature study to support this research. Finally, this research intends to give general guidelines for existing historic buildings and new buildings built harmoniously in the environment and to create encouragement and promote heritage awareness on historic built form of Pyin-Oo-Lwin Town.

Keywords: Urban Heritage Conservation; socio-culture development; Historic Building; Colonial Houses

Introduction

Every area has a distinctive character, derived from its topography, historic development, current uses, and features such as streets, hedges, archaeological monuments and buildings. The qualities of a place may change from daytime to night. Such elements of character can be identified, but not

directly protected or controlled. Defining and protecting what exists, such as buildings and the spaces between them (streets, squares, paths, yards, and gardens), can help to sustain the activities and uses that contribute to the special character of a place.

The historic environment in practice cannot remain unchanged, and the role of planning is to reconcile the needs for development against the need to conserve and protect the historic environment. To do this, there is a need to identify what is special interest in the historic environment. Buildings to be conserved are identified on the basis of their historical and architectural significance. Our heritage buildings serve as a vital link to our past and also represent our multi-racial and multi-religious society with a colonial background and immigrant society. They often assume the role of historic landmarks in the fast changing urban landscape and contribute to enriching the city's skyline with their unique silhouette.

In Pyin-Oo-Lwin Town, it has been famous for its a summer resort or a hill station attraction. These days, there are clear air; fresh breeze which are a feeling to get there. Developments here are all that are too rare in many places. Now the physical environment within Pyin-Oo-Lwin has been improved by apartments, shops and streets. So the historic built environment will need to conserve the characters of Pyin-Oo-Lwin Town.

Methodology

Method used in this research was an extensive literature study and analysis possible heritage conservation area within the development of this town and to categorize the heritage site and elements. And also focus to identify key features in historic built environment and giving general approach ideas to retain the characters of Pyin-Oo-Lwin Town by giving conservation guidelines.

Environmental, Architectural and Historical Understanding of Pyin Oo Lwin

Town planning history of Pyin-Oo-Lwin can be reviewed through its unique heritage sites and elements. It can roughly be divided into four following periods.

- (1) Pyin-Oo Village (1787)
- (2) Pyin-Oo-Lwin Village (1850-1896)
- (3) May Myo (1896-1989)
- (4) Pyin-Oo-Lwin Town (1989-present)

The earliest mentioned Pyin-Oo Village is found in a gazette issued in the reign of King on 1787 when residents of various villages rallied for contributing of the canal. It was then a small hamlet called Pyin Oo. In 1850 one Myanmar official from Amarapura came to Pyin Oo for duty. Because of its beautiful scenery they added "Lwin" to its name and thereby came to known as Pyin-Oo-Lwin. Throughout the British colonial period and after, the town came to be widely known as "May Myo." Pyin Oo Lwin is prominent as a famous highland town in Mandalay Division, Myanmar, located in on a plateau on the fringe of the Shan hills and east of Mandalay, at an elevation of about three thousand five hundred feet.

Its elevation, situation, climate and verdant environment it becomes summer resort town & it becomes prominent as an English town. In June 1896, it was decided to build a town on a typical English model. Roads and streets line with silver oak, cherry, pine and chestnut trees bore familiar English names. The original name, Pyin-Oo-Lwin, was restored under a notification in 1989. This hill station became one of the natural, historical and cultural destinations which attract travelers up country. One of the unique features is the touch of Tudor, Georgian, Victoria and Edwardian architecture of the 19th century. Well known for its colonial style bungalows with large compounds and pine trees and silver oak abound in town. The town was created as a humanized town. The town's historical value lies in its rich variety of buildings, streetscape, and open spaces. One of the unique features is the touch of Tudor and Edwardian architecture of the 19th century. Well known for its colonial style bungalows with large compounds and pine trees and silver oak abound in town. The town was created as a humanized town. The town's historical value lies in its rich variety of buildings, streetscape, and open spaces Pyin-Oo-Lwin is one of the places, which attract tourists up country. Either a two-hour car drive or a long zigzag train journey through many tunnels from Mandalay to the town is worthwhile especially for lovers of nature and solitude. Established in 1915, the National Botanical Gardens and the adjacent Pyin Oo Lwin Nursery are famous attractions of Pyin Oo Lwin. The beautifully created national garden and the new National Landmarks Gardens are unique. A 4-acre (16,000 m²) orchid garden is planned for 2007.

Facts about Pyin Oo Lwin Town

Topography

Pyin-Oo-Lwin is located on a hill and one third of flat. It is surrounded by mountains. A lake of 65 acres was created at the southern end and two miles from the town center. It is National Park. The Wet Wun Waterfalls, 13 miles from town and the Pwe Kauk Waterfalls, 5 miles from town at the east. The Anne Sakhan Waterfalls and the Dattaw Gyaint Waterfalls are 6 miles at the west of the town [07PDC].

Demographics

The town has approximately 10,000 Indian and 8,000 Gorkha inhabitants who settled in Maymyo during British rule. Today, Pyin Oo Lwin has a thriving Eurasian community, consisting mostly of Anglo-Burmese and Anglo-Indians. Now there has many races as Chinese, Chin, Kachin, Karen, Shan, and so on.

Commercial

Most of the people are employed in Agriculture, Damson Wine Production, Mulberry Fiber Production and Looms, Coffee Gardens and Brick Making Businesses [07PDC].

Water Supply

There are two sources for water supply. One source is from M.C.D.C lines, which is from Thit Ta Pa Hill and to Moe Gyo Pyit Thet Lake and the other is from Naung Khan Gyi. The other source is form tube well [07PDC].

Drainage System

For the whole town there is systematic drainage and the topography has up and down slopes which assist in drainage of water. Therefore there is no dirty musk and terrible smells in Pyin-Oo-Lwin [07PDC].

A Town of National Importance

Today, Pyin Oo Lwin is particularly noted for four centres of national economic importance. It is the centre of sericulture (silkworm rearing). It has a large research centre for indigenous medicinal plants. And it has one of the country's few pharmaceutical production facilities. In addition, Pyin Oo Lwin is the centre of the country's principal flower and vegetable production. The most important flowers grown intensively are chrysanthemum, aster and gladiolus, which are exported to every corner of Myanmar throughout the year. Pyin Oo Lwin is the centre of Myanmar's rapidly growing coffee industry. A number of factories in the town process coffee beans for country-wide distribution, with a growing amount now prepared for export [07PDC].

Pyin Oo Lwin's Historic Built Environment and Conservation Areas

Existing Characters of the Pyin-Oo-Lwin Town

The aims of conservation are not confined to keeping areas and buildings pleasant to look at, or as a record of some aspect of history. They must also involve the continuing life and function of the area and be receptive to change. Pyin-Oo-Lwin is well-known for its famous residential buildings in the quarter (6) that has been selected as Conservation Area I by field survey. There are having most of historic semi-commercial shop houses in the town center have been selected in Conservation Area II by field survey. Buildings or structures grouped together can have an overall quality which makes them of value. But most of the bungalows type residential buildings have now been converted for other uses such as hotels, office and company. The experience of living in the heritage buildings are welcomed by tourists. So by transforming the buildings into a hotel, office and company, that area can be turned into a tourist attraction too. Residential development is the largest category of this town's built environment.

The area that is chosen as conservation Area II is located within the Town Centre incorporating most of the commercial heart of the town and the major architectural set pieces including shop houses and south of town area having the well known architectural characters of town. The architectural conservation area could include, for example, a terrace of houses, a street, and any groups of buildings which together give a special character to an area. Built environments around bungalow type buildings and retail shop along Mandalay-Lashio Street are mainly contributed to the characters of the town. Many of the natural and built environments around administrative and educational buildings can express the characters of this town. Conservation to be effective requires not only the support of the government, but also the commitment of a wide range of interests in the community.

Conservation Area within the Development of Pyin-Oo-Lwin Town

Pyin-Oo-Lwin is organized by twelve quarters and the area of Pyin-Oo-Lwin Town is (8897) acres. The new three quarters are organized in 1993 by creating new residential areas. In this research, it is

considered only seven quarters having since the year 1920. After comparing the Pyin-Oo-Lwin at present and the town in 1920, the following has been found out.

1. 85% of the historic buildings are remained in Pyin-Oo-Lwin Town.
2. In remaining 85%, 77% of the buildings are to be functionally used and others are damaged and not suitable for living. In the town center, quarter (3) and (quarter 4), historic shop houses have been found. Now the historic town center has been changed by many modern buildings and additions in the historic buildings with by making modern style and materials.

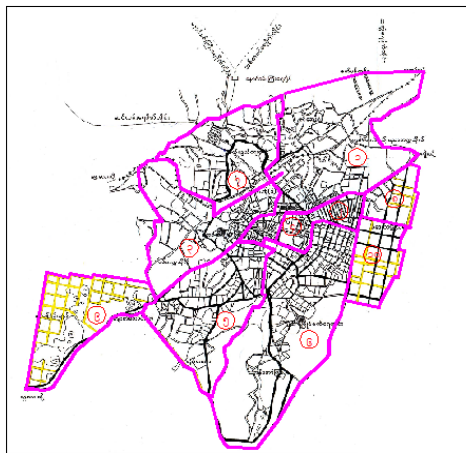


Figure 1. Map of Pyin-Oo-Lwin Town showing Quarters [07PDC]

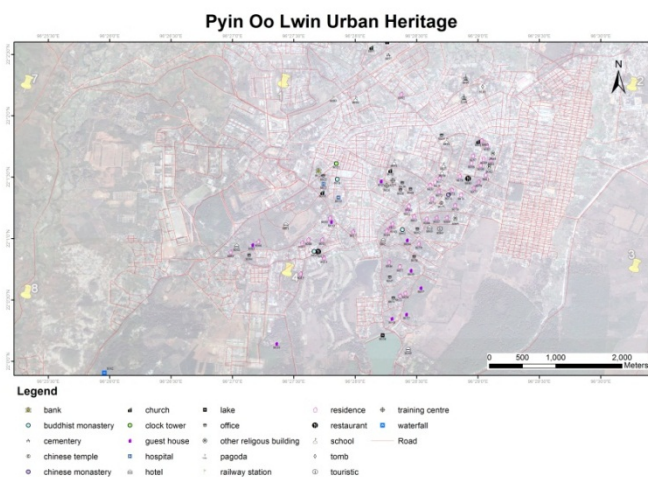


Figure 2. Map of Pyin-Oo-Lwin Urban Heritage Inventory [15DP]

No	Building Type	Classification	Past	Present
1	Residential	Residences	145	73
2	Religious	Churches	5	5
3	Infrastructure	Railway Station	1	1
4	Institutional	B.E.H.S	6	5
		Offices	10	10
		Health Care	5	3
5	Commercial	Bank	1	1
6	Recreational	Golf Club	1	-
		HARCOURT BUTLER Lake	1	1
		Cinema	1	-
		Rest Houses	11	11
	Total		187	109

Historic buildings in Pyin-Oo-Lwin mean colonial buildings, and other are ancient religious and cultural monuments, social and ethnic cultural Buildings and natural scenic settings. From Pyin-Oo-Lwin Urban Heritage Inventory by the project of department of Architecture, Mandalay Technological University, various heritage building and setting can be found and 95% are colonial buildings.

In the town center, quarter (3) and (quarter 4), historic shop houses have been found. Now the historic town center has been changed by many modern buildings and additions in the historic buildings with by making modern style and materials.

The quarter (6) has been found the historic residential buildings and the character of the town can be found in it. In this area, new buildings without careful consideration the historic character of buildings were appeared. Have been appeared around this historic built without attention this area character.

Now the built environment of these areas has been changed and from now, there is without having conservation of these areas, the character identity of Pyin-Oo-Lwin would be lost. It is, therefore, important that both the authorities and other groups who have an interest in conservation areas and residents should aware of those elements that must be preserved or enhanced. The area need to be retained from walk-up apartments in the town center because it contains most of the buildings of colonial period and social and ethnic cultural buildings.

The character of this area may relate to the architectural features of its buildings, its layout form or its special historic interest. In this conservation area other elements scene such as open space and trees, all contribute to the image of town. Therefore, these two areas have been selected as conservation areas that can express the character of this town.

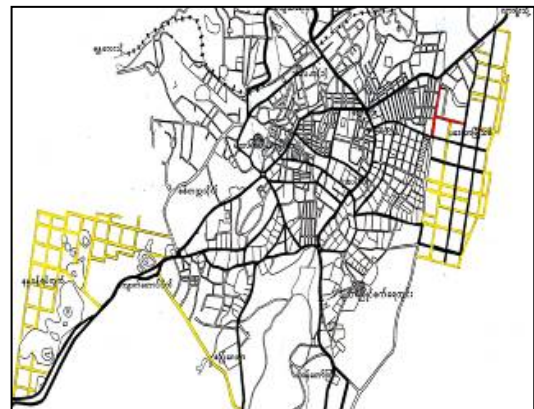
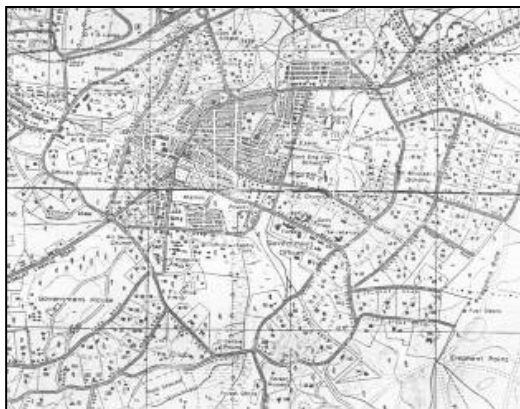


Figure 3. Map of Pyin-Oo-Lwin at 1920 [Google] Figure 4. Map of Pyin-Oo-Lwin at Present [07PDC]

Categorizing the Heritage Sites and Elements in Pyin Oo Lwin

The heritage sites and elements in Pyin-Oo-Lwin can be divided into five categories.

- (1) Ancient Religious and Cultural Monuments (e.g., Shwe Myin Tin Pagoda, Shwezigone Pagoda)
- (2) Buildings of Colonial Period (e.g., Education buildings, residential buildings, administrative buildings)
- (3) Social and Ethnic Cultural Buildings (e.g., Chinese Temple, Hindu Temple)

- (4) Natural Scenic Settings (e.g., Kandawgyi Lake and its environs, Pwe Kauk Water Falls, etc)
- (5) Others (Purcell Tower)

Ancient Religious and Cultural Monuments



(a) Shwe Myin Tin Pagoda



(b) Taung Kyaung Kyi Monastery

Figure 5. Ancient Religious Building

The history of most heritage sites and elements belong to this category can be traced back to the periods of 1896-1989. These are mainly religious shrines such as Shwe Myin Tin Pagoda, Shwezigone Pagoda. They are usually important not only historically and architecturally but also socially and culturally.

Buildings of Colonial Period

These are the buildings which are representatives of architecture, town planning and infrastructure introduced by British Colonial Regime during the period of the end of Second World War. The buildings typically included mainly six building types and these are Residential, Religious, Infrastructure, Institutional, Commercial and Recreational. Religious type is only church buildings. Institutional means basic educational high schools, offices and hospitals. Commercial means bank. Recreation is lake, Golf club, Rest houses and Cinema and infrastructure is railways station.



(a) East Ridge



(b) Tapsy Villa

Figure 6. Buildings of Colonial Period (Residential)

The total number of colonial building is 186; among them 145 buildings are residential buildings, offices are 10 and rest house or Boe Taes are 11 numbers respectively. Residential buildings type is

too much than the other. Most of the interesting building groups of colonial period and style in Pyin-Oo-Lwin can be found in town center and quarter six.



Figure 7. Buildings of Colonial Period

Social and Ethnic Cultural Buildings



(a) All Saint's Church



(b) St Mary Church

Figure 8. Social and Ethnic Cultural Buildings



Figure 9. Social and Ethnic Cultural Buildings

This category includes not only traditional religious and social ethnic gathering places such as Buddhist, Christian, Chinese and Hindu Temples as well as Mosques and residences of various social

classes and ethnic group. These are the elements which represent of the diversified social culture and architecture of ethnic groups residing in Pyin-Oo-Lwin.

Natural Scenic Settings

Pyin-Oo-Lwin is located on a hill and one third of flat. It is surrounded by mountains. The National Kandawgyi Garden is located at the southern end and two miles from the town center, the area of (344.81) acres. The Wet Wun Waterfalls, 13 miles from town and the Pwe Kauk Waterfalls, 5 miles from town is at the east. The Anne Sakhan Waterfalls and the Dattaw Gyaint Waterfalls are 6 miles at the west of the town.



(a) Kan Taw Kyi Park



(b) BE Water Fall



(c) Dat Taw Gyaint

Figure 10. Natural Scenic Settings

Others

The Purcell Tower is located in the town center and erected in 1936. The (75) ft height of Purcell Tower is the landmark in town center. The chimes of Big Ben still ring out the hours as they have done since Queen Victoria gave the clock to the town or it was made in 1934 to commemorate the Silver Jubilee of George Vth. Along the road of Purcell Tower, many of semi-commercial shop-houses can be found. It is as a Memorial Landmark of Pyin-Oo-Lwin city. Brick masonry tower with slim openings and timber roof. Building has well proportion.



Figure 11. Purcell Tower

Analysis of the Existing Conditions of Built Environment in Conservation Area

To be identified what is the special interest in conservation area, the followings are carried out as analysis to point out the special features in this area.

Key Characteristics of Built Environment in Conservation Area I

The quality of area becomes apparent from plot and house size and the exuberance of building style. The variety in building decoration and the framing of the buildings by garden and mature landscaping marks this area out from its surroundings. Significant landscape features that provide the area with a verdant quality are the many trees and hedges.

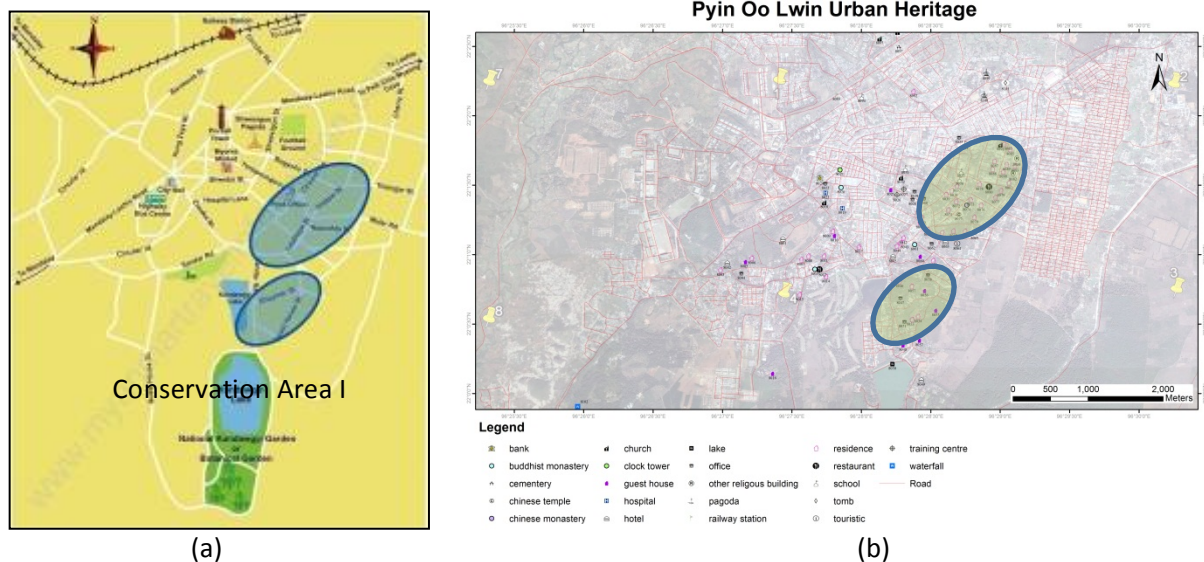


Figure 12. Location of Conservation Area I (a) [08Ano](b) [15DP]

Fundamental to the character of the area are the pressed red brick used in the walls of the dwellings and on chimneys. Timber is found in windows, doors and their frames, bargeboards and eaves. There are polygonal corner towers, which are decorated with plain and fish-scale tiles and cast iron

weather vanes. Chimneys stacks are a distinctive feature forming important architectural elements of many buildings. Stacks are generally large and tall, formed in dressed stone.

Properties in the area are set back from the road allowing front gardens, hedges to be visually prominent within the street scene. While there are front entrances that face onto the street, there are many that are located on the side elevation of properties. Commonly front entrances have decorative enclosed porches or open canopies.

Key characteristics of residential buildings in conservation area I are as follows.

A. Main Features

- A 1. Main building
- A 2. Porch
- A 3. Tower



Figure 13. Main Features of No.136 Building, Circular Road

B. Roof and Roof Features

- B1. Steeply pitched and gabled roofs
- B2. Chimneys
- B3. Weather vanes
- B4. Wood shingle roofs



Figure 14. Roof and Roof Features of Thiri Myaing

C. Secondary Features

- C1. Verandahs
- C2. Pent Roof



Figure 15. Secondary Features in Forest Guest House

D. Openings

- D1. Arched headed and rectangle openings
- D2. Casement windows



Figure 16. Openings in Cherry Myaing and Thazin Myaing Buildings

E. Materials and Structural System

- E 1. Brick (load bearing buildings)
- E 2. Brick nogging Buildings
- E 3. Timber Buildings
- E 4. Composite Structure



Figure 17. Example of Brick Construction Building (Cherry Myaing)(Left)



Figure 18. Example of Brick nogging Building (Historic Building in Circular Road) (Right)



Figure 19. Example of Timber Building
(Forest Guest House)



Figure 20. Composite Structure Building
(Russell Square)

F. Color

- F 1. Red
- F 2. Light Yellow
- F 3. Greenish Brown

G. Details

- G 1. Wooden trim on the eaves and around the porch and bargeboard
- G 2. Fish scale tiles roofing
- G 3. Decorative gables



Figure 21. Details in Moe Mate Haw and Thiri Myaing Buildings

H. Settings

- H 1. Plot size
- H 2. Approach routes
- H 3. Fence
- H 4. Landscaped areas



Figure 22. Settings of Thazin Myaing Buildings & Forest Guest House

Findings on Historic Built Environment of Conservation Area

Pyin-Oo-Lwin has rapidly gained popularity in recent years and vacant buildings plots are becoming scarce. A few properties sitting in plots of an acre or more and many owners are seeking to divide such land in two or more smaller plots. The buildings constructed in these smaller plots were

lost of character identity. New buildings in historic compound didn't match the existing historic building and make negative aspect of this area.



Figure 23. New Building in Old Building Compound and adjacent Historic Building

The scale and volume of the new building should respect its context and adjacent neighbors, not overwhelm them or stand out due to inappropriate size. A well designed building and site has a proportional relationship with adjoining properties and maintains the rhythm and scale of the streetscape by using similar massing, proportions and detail.

The perception of scale, massing and the rhythm of a building is greatly affected by its roof form and height. In the conservation area, new construction building erected in two historic buildings and key features of historic buildings were lost in these buildings. This conservation area has natural features, sloped topography, and existing mature trees. Building and site design should respond to and be influenced by natural features, adapting the building to the land rather than the land to the building. Now the new buildings were built without respect the existing natural features and using cut and fill and fence disturb the existing historic built environment.



Figure 24. Disturb the Visual Aspect of Historic Built Environment

Analysis of the Existing Conditions in Conservation Area II

To be identified what is the special interest in conservation area, the followings are carried out as analysis to point out the special features in this area.

Key Characteristics of Built Environment in Conservation Area II

From the early centuries to till now, town center was a centre of communications and central business district. Character of the town center had changed from two-storyed shop houses gradually replacing to most of the walk-up apartment buildings.

The Town Centre is formed from a combination of both small and large-scale elements of architecture, all of which integrate to give the town its special character. The Purcell tower can be considered as architectural set pieces. This provide landmark in the compact streetscape. The architectural and townscape qualities of the town centre are evident to all that know it.



Figure 25. Showing Conservation Area II, Town Center [08 Ano]

At the same time business activity and hence pressure on the physical and architectural quality continue to grow. The town center's road is a main Mandalay-Lashio road and other roads are diversifying from this main road. The street pattern was influenced by the need of the trades and the private owners changed the character of the town. The Town Centre Conservation Area is based around the historical thoroughfares into the town, which in turn form important focal points within the town. Although much new development has occurred in and around the area, the centre remains compact and its various stages of development are visible through the various styles of buildings. Attractive building facades and shop fronts are often themselves an important advertisement for an area and can enhance its overall character. Every effort will be made to achieve a proper balance between the visual amenity of the area and the needs of businesses to advertise effectively.

In town center, Purcell tower is a distinct feature. The town center road is focused to Purcell Tower, this street that historically provided the heart of Pyin-Oo-Lwin as a market place. The mature trees

provide the sense of this town's atmosphere. When the town is approached from the south, these trees provide an interesting contrast to the compact architecture of the shopping street.

In town center, historic shop houses were seen as characters of town center streetscape. Sometimes, the shops use both the ground and upper floors for residential. Most of the buildings' façade have been found the rhythm of arched and rectangular openings in ground floor. These features and their placement on existing buildings and on new construction are important design considerations.

The details described below are characteristic of this district and should be addressed, when applicable, in alterations, rehabilitation and new designs. Retain the historic façade elements found on existing buildings creates patterns along the face of the block that contribute to the overall historic character of the area.

Key characteristics of shop houses in Conservation Area II are as follows:

- (1) Two storey shop houses
These shop houses use the first floor for commercial purposes such as clothes shop, light industry or warehouses; and reside in the upper floors. In two storied, ground floor is taller than first floor height. These shophouse are repeated to create streets and town squares found in many town areas in Pyin-Oo-Lwin.
- (2) Hip and pitch roofs
Most of the shop houses were built with a series of hipped and pitch roofs.
- (3) Openings
Arched and rectangular openings
- (4) Verandahs
A shophouse is characteristically features a five feet verandah walkway. Most of the shop houses built in around 1920s are having long and thin rectangles, circles or continuous horizontal bands on the front facade.
- (5) Details
Architectural details have been found in roof and ornament verandahs.
- (6) Material and structure, Color
Bick and timber
Brick and brick nogging structure
- (7) Light Yellow and Green
- (8) Setback from main street

All the shop houses are setback from Main Street are same alignment and give the character of streetscape. The façade elements define a building's visual qualities and character. Respect the original design and materials of the building. Even when a building use has changed, it is still important to retain or interpret historic façade elements.

Evaluation Criteria for Buildings in the Historic Town Center

From the field survey, evaluation criteria for buildings in the historic town center, it can be found three types of buildings. They are significant buildings, existing historic buildings and new buildings.

(1) Significant buildings

A significant building is a contributing building which has major historical or architectural significance and substantially contributes to the historic character of the Pyin-Oo-Lwin Town.



Figure 26. Purcell Tower



Figure 27. Central Mosque



Figure 28. Merchant House

(2) Existing Historic Buildings

Existing historic buildings in town center are fifty years old or older and retain its character defining elements reflecting a particular architectural style or time period.



Figure 29. Existing Historic Buildings in Town Center

(3) New Buildings

In new construction buildings lost its major character-defining features and gave opposite visual aspect along the street. Without careful attention, the introduction of a new shop or commercial frontage can give visual dominance to the ground floor of a property in a way which separates this part from the rest of the building and degrades the overall architectural value.



Figure 30. New Buildings in Town Center



Figure 31. New Buildings in Town Center

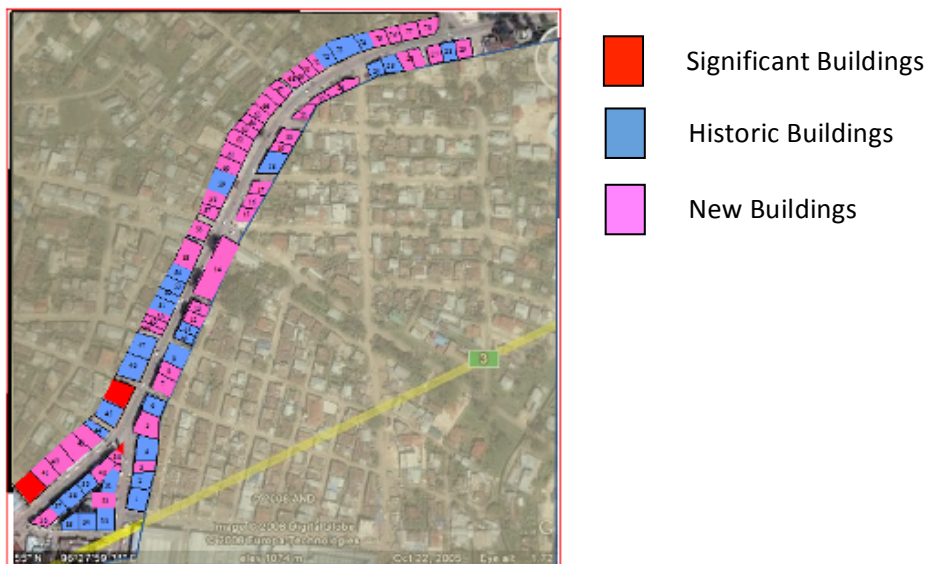


Figure 32. Map of Conservation Area II

Findings on Historic Built Environment of Conservation Area II

The streetscape of the town centre is characterized by a general continuity of building height, typically two storeys. While a variation of height (one to two storeys) provides some diversity and visual interest, the general continuity of a consistent building height contributes to the coherence and enclosure of the street space. Now the new buildings constructed in town center are without respect the character of historic building height.



Figure 33. New Buildings in Town center without respect in Building Height of adjacent Historic Buildings

Now, the buildings adapt existing ones didn't match the historic building facade and it cause the negative aspects on existing building and street scene. In historic buildings façade, additions were built with modern materials and without respect the historic buildings features.

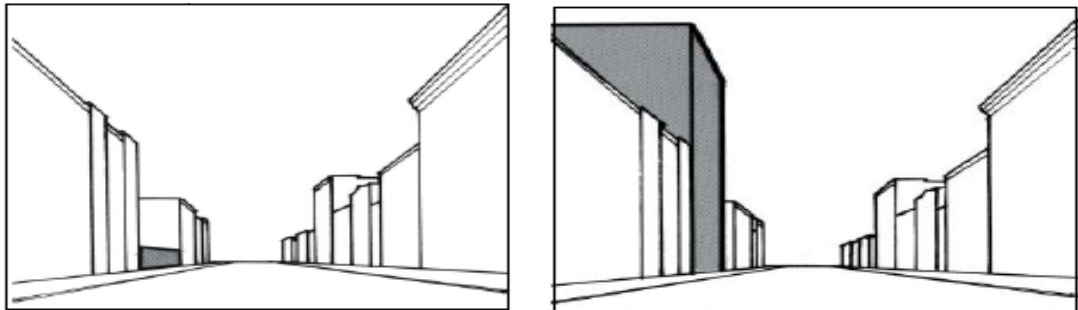


Figure 34. Inappropriate High of New Buildings



Figure 35. Alterations in Historic Building Façade

New buildings in historic town center built without respect any of the characters of historic buildings give strongly affect the negative characters of town center. Most of the buildings built the materials that didn't match the historic buildings and it give the negative impact on streetscape.



Figure 36. New Building using glass in Façade

The historic buildings use color to coordinate facade elements in an overall composition that is complementary to other buildings on the street. Now the buildings use the color more than three colors and opposite color of existing old buildings.

General Conservation Guidelines for Conservation Area I

Most of buildings in this conservation area I are having the key building features during the 1920s and these areas are needed to maintain because these can express the character of this town. If this environment is not maintained in time, the character of Pyin-Oo-Lwin town will be decrease very soon.

The following are general conservation guidelines for built environment in Conservation Area I.

- (1) Preserve the historic main features of buildings. The roof is such a large and visible part of the historic building, a change in its shape or material can radically alter the entire structure's overall appearance. The roof's shape, decorative features, and roofing materials should be retained and preserved.
- (2) Original chimneys, chimney pots and cupolas all contribute to the style and historic character of the building as well as to the visual integrity of the roof. These elements should be retained whenever possible.
- (3) Porches have traditionally been a social gathering point as well as a transition area between the exterior and interior of the residence. In this area, many buildings retain either large front or front and side porches. This means that the retention of porches is critical to maintaining not only the integrity of a building's original design but of the historic character of the town as a whole. Character-defining front and side porches should be retained.
- (4) Locate attached exterior additions at the rear or on an inconspicuous side of a historic building, limiting the size and scale in relationship to the historic building.
- (5) When possible, locate structures to follow the natural contours of the property. Preserve the natural features of the land and minimize grading and balance cut and fill. The relation of building and site design should respond to natural features will need to be retained.
- (6) Retaining original material whenever possible. Repairing or replacing, where necessary, deteriorated material with new material that visually duplicates the old as closely as possible.
- (7) New additions should not cause a lessening or loss of historic character, including the historic building's design, materials, location, or setting.
- (8) Generally, it is better to retain and maintain rather than remove, replace, rebuild, or alter original elements.

General Conservation Guidelines for Conservation Area II

The following are the general conservation guidelines for Conservation Area II in Pyin-Oo-Lwin Town.

Existing Historic Buildings and Additions in these Buildings

The shop houses along the street of town center are two storey shop houses. Now, most of the buildings in this area has been changed a lot and replaced and additions in these historic buildings without respect the historic characters. In historic buildings façade, additions were made with modern materials and it gave the negative aspect to the streetscape.

The design of buildings is an important part of shaping the character of the entire downtown. New buildings and addition of existing buildings should enliven the public streetscape; complement the character of adjacent buildings.

- (1) Where present the symmetry or unity of design of historic shop fronts must be retained. The architectural treatment and detailing of the facade must be acknowledged and respected, and every effort made to protect the character of the front of the building.
- (2) In order to preserve the visual continuity of buildings in the Pyin-Oo-Lwin, the height of the historic building should be maintained. Therefore, seek to maintain general patterns of building height where this contributes to streetscape character.
- (3) Additions that overwhelm the existing buildings, or those that render the building out of scale with surrounding buildings, are discouraged.
- (4) Maintain the rhythm of the historic arched and rectangular doors and windows in the facade of buildings.
- (5) The building materials used on a downtown commercial building, particularly those on the facade, are vital to the building's design character. Brick and timber were the historically dominant material in the historic area. Whenever possible, maintain the historic materials of the facade and other exterior walls. The addition in historic buildings must be replaced a material that is similar to the historic.
- (6) Repaint with colors that are historically appropriate to the building and area.
- (7) Replacement components that replicate historic building elements as closely as possible.
- (8) Signs should respect the building facade. Signs are most effective when the architecture and rhythm of the street are preserved or emphasized by the design of the signs.

It is normal for buildings to evolve over time as additional space is needed or new uses are accommodated. The followings are the guidelines for new additions in historic buildings.

- (1) New additions should be interpretations of the existing buildings where the architectural characteristics of the existing buildings are incorporated using modern materials and methods.
- (2) The uses of color brightly colored or strongly molded are rarely appropriate. Materials which contrast with traditional materials used in older buildings should also be avoided.
- (3) The primary focus in additions will be on aspects of new construction that are visible from public streets.

New Buildings

The alignment of architectural features and elements, from one building to the next, creates visual continuity and establishes a coherent appearance throughout the downtown.

- (1) The majority of existing buildings are between one and two storied. Buildings should be constructed to a height compatible with existing adjacent buildings. In the town center, the preferred height for new construction is one or two storied and maximum acceptance height is three storied. Avoid new buildings that vary significantly in actual height and number of stories from the surrounding buildings.
- (2) Maintain the historic facade lines of streetscapes by locating the front walls of new buildings in the same plane as the façade of adjacent buildings.
- (3) The roofs of new buildings should be visually compatible, by not contrasting greatly, with the roof shape and orientation of surrounding buildings.
- (4) Brick and timber are the preferred material for new construction, especially in the town center. Ornamentation should be simple and not detract from the character defining features of the nearby historic buildings. The use of architectural details that add visual interest to the street is encouraged.
- (5) Colors should be selected to complement the style and period of the house. Colors should blend with and complement the overall color schemes existing on the same street. Colors should not overwhelm the surrounding buildings and bright and obtrusive colors should be avoided.

Conclusion

From the study and analysis of the historic built environment of Pyin-Oo-Lwin, we can draw a number of conclusions. First of all, it is clear that Pyin -Oo-Lwin is the famous resort town in Myanmar. It has been designed as a summer resort town and built grand residential buildings and shop houses, educational and administrative buildings which become the characters of the town. The historic environment reflects the evolving knowledge, beliefs and traditions of multiple communities. Pyin-Oo-Lwin has a distinctive character, derived from its topography, historic development, current uses, and features such as historic buildings, street and green spaces. Now the historic built environments steadily decrease the value of their character identities. In this thesis, the possible heritage conservation areas within the development of Pyin-Oo-Lwin town are presented. To conserve and protect the historic environment, there is a need to identify what is special interest in the historic environment. In this aspect, key characteristics of historic residential buildings and shop houses are mentioned and thoroughly documented the existing conditions of this town and recorded the changing conditions of the town from 1920 up to the current year 2015. Moreover, the author analyzed the conservation areas such as features of historic buildings, alterations in historic buildings and new buildings in those areas.

The conservation of our built environment contributes to attractiveness of our county as a destination that we can enjoy and be proud of visit there. Legislations must be enacted in order to provide the conservation plan with the legal force which is necessary for rapid and efficient action. It must be set up to assure financial support for the conservation plan.

In the course of this aspect, the analytical observation has been noted that changes have been found mostly in historic shop houses in town center, although most of the historic residential buildings are

still remaining the historic building features. As a result of field survey, it is found that Pyin-Oo-Lwin is required for conservation in time to maintain the character and its values for standing as a unique town of Myanmar. It is firmly believed that this research would contribute towards the general conservation guidelines for historic built environment in Pyin-Oo-Lwin town.

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