

An Investigation of non-compliance with Building Regulations in Heritage Areas; A Case Study in Galle Fort-Sri Lanka

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Abstract

United Nations Educational, Scientific and Cultural Organization (UNESCO) has identified and listed some of the sites as World Heritage Areas based on the special cultural and physical significance of each. Responsible governments have introduced certain special regulations to maintain and improve the quality of the said sites, aiming to preserve the natural setting. Galle Fort in Sri Lanka is one such sites listed by UNESCO and to protect the heritage value, historical value and the archeological value of the site, several special regulations introduced by the Urban Development Authority (UDA) of Sri Lanka through the gazette No. 1604/29 on 05th June, 2009.. Currently, the authorities are facing difficulties ensuring to the said provisions by the occupiers. The research intends to identify the level of compliance to regulations introduced by the Urban Development Authority. To identify the violations of the regulations, observation was conducted in 83 buildings inside the said area from a systematic random sample. Face to face interviews through a self-structured questionnaire was used to collect data on the reasons for the non-compliance to the regulations from a random sample of 44 property owners. Thirdly a focus group discussion was conducted with invited seven numbers of professionals from Galle Heritage Foundation, UDA Galle, Galle Municipal council, Archeological Department and with the Grama Niladhari. Descriptive analysis

shows that 11 numbers of regulations have been violated by at least one occupier ranging from 4% to 30% while the majority violated the regulation on mar characters on roof (Characters which disturbing to the appearance on the roof). Minor violations are identified in the regulation of constructing ponds and swimming pools. Several reasons were identified on the non-compliance with the regulations by the occupiers. First, majority are reluctant to adhere to the regulations as they believe that the regulations are acting as a barrier to their promotions to attract tourists. Second, some members have poor awareness on the importance of the regulations. The focus group discussion pointed out to similar results which showed that there is a lack of awareness of people about the guidelines, the slow process of taking actions to regularize the shortcomings and the political influence to implement some of the regulations as the main reasons. Accordingly, it can be concluded that unawareness of the guidelines and the attitudes of the occupiers are the most influential factors on the shortcoming of adherence to the regulations. It is recommended to hold several awareness programmes to change the individual's minds to understand the value of the regulations.

Key words - Heritage Areas, Building Regulations, Non-compliance, Perceptions

Introduction

The construction sector is strategically very important to the country. Within the construction industry, building regulations take an important place. Building Regulations are also called Building code or Building control. Building regulations are a collection of minimum construction requirements and standards. Building Regulations determine how a building should be designed and

constructed. The regulations may apply on the materials, spaces, renovations etc.

Building regulations on Heritage sites or the buildings are necessary for the protection of them. Therefore, many countries impose building regulations or rules for protecting heritages within the country and those regulations must exist in the heritage name list continuously. Galle Fort in Galle which is situated in Southern Sri Lanka, is also a World Heritage site. It is a very valuable place due to its historical and architectural values. Currently, it has become one of the famous tourist designations. Within Galle Fort, there are many types of buildings, such as shops, cafes, residences, hotels, schools, banks, courts, religion places, grounds, lighthouse etc. Within Galle Fort, there are some special building regulations, which affect buildings.

On 07th of August 1997, Galle Fort was declared as a Special area by UDA. In addition, on 05th of June 2009 UDA published a Special Regulations gazette for Galle Fort. After that, Galle Fort was maintained under separate regulations. However, currently it can be observed that those regulations are not adhered to by most of the properties. It will seriously and injuriously affect the value of Galle Fort and this research was conducted to observe those violations of building regulations of the properties within Galle Fort.

Literature Review

The regulations can be used in many different aspects such as building regulations, business regulations and so on. Hertog (2003) as cited by Visscher, et al (2017) defined the word regulation as the deployment of legal instruments by public players for the benefit of public and private interests. (Visscher, et al., 2007). According to the above definition, it can be said that regulations

are connected with the benefits of public and private interests via legal instruments such as constitutions, statutes, legislation, standards, rules etc.

For many years, building codes were considered to be something of an enemy of historic preservation and the converse was also true: the general public and some code officials regarded old buildings as hazardous. Stories of disasters in dangerous old firetraps vied with accounts of landmarks lost to overzealous code enforcement. Two worthy objectives- public safety and heritage conservation were on a perpetual collision course. (Green, 2012).

A building control system enforces the minimum requirement of building regulations in order to ensure compliance (Pedro et al. 2009). According to Mitchell (1993) in Chayes, the meaning of compliance is to describe those instances when the behavior of an individual conforms to an explicit rule. Violation is an internal action (or inaction) that results noncompliance in known rules, policies, procedures or acceptable norms. (violation, 2018)

When considering Empirical Researches regarding building regulations, measures in curbing poor compliance to building control regulations among renovated terrace houses, research was conducted on the poor compliances of renovation of terrace houses in authorities' point of view. This article stated that there were many problems regarding the renovation of terrace houses and those renovations were not complying with the existing building codes. As a consequence, many problems have risen regarding these renovations. This research used qualitative analysis and face to face interviews for identifying problems faced by authorities. Semi-structured format was used for interviews. Also, focus group discussions were held with officers in those authorities. The research found that the local authorities get priority for increasing

their funds and it directly effected positively as well as negatively to the enforcement of building regulations. (Mohomad, et al., 2017).

Another research was conducted to identify various development control rules which were being violated. It was highlighted that due to lack of law enforcement and monitoring, people also violated the plans during the construction stage of their building and structure. The success of any law depends on its proper implementation. Lack of statutory authority to initiate action against officers erring in sanctioning plans seems to be one of the detriments in checking building by law violations. According to him the blame for such violation cannot be put on a single person. This research was conducted to identify various developments of control rules which were being violated. It was conducted in eight municipal towns of Yavatmal district of Maharashtra State (India). They used Personal interviews with house owner, Chief Officers, councilors, municipal engineers and eminent personalities and following major violations were observed. (Boob & Rao, 2012)

- Violation of Land subdivision and layouts
- Violation in plan permission and in execution stage
- Violation of Setbacks

According to the above research it was found that, the most violated regulations. The violation of building regulations can be identified in violations of setbacks. The violations of planning permission stage can be controlled. Also, it was found that owners/developers have sanctioned their plans from respective municipal councils, but those approved plans do not match with actual construction, with reference to planning provisions like location of rooms, door and window positions and their physical appearance (elevation). (Boob & Rao, 2012)

Sharifi, et al claimed that awareness level and socio-economic status plays the most significant role in regulation violation. (Sharifi, et al., 2012). However, there are findings indicating that awareness may not result in compliance. These contradictory results were explained by Winter & May (2001) in that awareness may not necessarily lead to compliance if regulates do not have the capacity to comply. In such situations, the cost to comply and the complexity of the rules could act as barriers to fulfilling regulatory conditions.

Special Building Regulations of Galle Fort Area

In addition to the building regulations of Galle Municipal Council area, the special regulations prepared by UDA for Galle Fort heritage site have been recommended to be applicable. Following section discusses the special regulations introduced by the gazette No. 1604/29 on 05th June, 2009 prepared and published by UDA and the expected control.

- **Regulation on Change of Use**

Under this title all land owners of Galle Fort shall develop their lands as per the zoning plan of Galle Municipal Council area and some uses such as Government Institutions, production Industries, Stores, Offices shall not be allowed within Galle Fort area. Buildings should be demolished only under the recommendations of the Authorized Officers.

The permitted uses are Tourism industry related handicrafts show rooms, Museums, Small Scale Hotels without swimming pool or pond, Tourist gift centers, Ticket issuing centers, Guest houses, Small scale restaurants, Appropriate recreational activities, Bookshops, Small professional offices, Art galleries, Small shops, Gems & jewelry shops, and related cottage industry.

Change of use of residential buildings for the above purposes shall maintain 35% of the building areas for residential purposes.

Non permitted property uses are Garage Buildings (for parking), Motor Vehicle Repairing Garages, Motor/Auto Service Stations, Fuel Filling Stations, Stores not exceeding 200.0 sq.m., Industrial Buildings & Industries, Government Institutions & Armed Forces buildings (Army, Navy, Air force & Police), Quarters for a high security person, Hotels exceeding 20 rooms, New schools or extensions to the existing buildings, Super Markets and Warehouses or other similar buildings

- **Regulation on Building roof and height**

The height of any building within Galle Fort shall not exceeds 10 meters and only two floors are allowed with only Calicut tiles, half round tiles or clay tiles for roofs. Radio television antennas and water tanks should not be a mar the characters of the roof of the buildings

- **Regulation on Building Colour**

The colours of the buildings should be in accordance with the stipulated colours for Galle Fort. There are some accepted colours which are white, grey and yellow and no other colours are allowed. Two storied buildings should be painted with a single colour. Light tonal differences are permitted and the facades of the building should be painted with a single colour. Colour of the two visible street facades of a building should be in harmony with each other.

- **Regulation on Finishes of the Building**

All internal and external appearances of the buildings should be in harmony with the existing historical buildings within the Galle Fort area. The reflecting or mirrored glass should not be allowed for the front elevation of the buildings and to cover the front arcade with ceramic tiles, mosaic tiles, and any tiles with colour patches or tiles of any type and inappropriate plaster textures are not allowed. Facade finishes of the buildings should be compatible with the environmental characteristics. The facades and the roof

materials of the buildings of any street should be in uniformity with other buildings. The floor finishes should be in harmony with the archeological features of the existing buildings. Permission may be granted for rendering of cement, terra cotta tiles, rough and polished granite and pressed cement tiles for floors. Painting of the floors are not permitted.

- **Regulation on Boundary walls**

The Front boundary walls are not permitted in front of the buildings facing the roads; only boundary walls, fence or live fence are permitted (on either sides of the buildings) and they should not exceed one meter in height. Boundary walls which are allowed should be plastered and painted using approved colour scheme (White, Ash, Grey). The mosaic tiles, ceramic tiles and coloured bricks are not allowed for the boundary walls.

- **Regulation on Swimming pools and ponds**

Swimming pools or ponds are not permitted within the Galle Fort.

- **Regulation on Hoarding structures and Advertisements**

All types of advertisements with dynamic and continuously changeable devisers, using neon lights or more dominantly and contrasting characters are prohibited within the Galle Fort. Each building is permitted to install one name board.

Horizontal name boards shall be installed at the space available between the top edge of the ground floor windows and the first floor level or the upper floor window sill level. Advertisements shall not be permitted to be installed at the railings of the building of the upper floor. Vertical name boards may be installed at the front side within the permitted height and the space given by the Planning Sub Committee.

The total area covered with advertisement should not exceed 1/3 of the allowed facades area of the building. Preliminary approval should be obtained from the Galle Municipal Council prior to the

installation of any hoarding. Galle Municipal Council shall provide appropriate places to install hoarding structures within Galle Fort. Any, hoarding structure/name board/notice shall not be installed / stuck on to the electricity posts, telecom posts, fortress, boundary walls, open areas, on trees, roads or on roofs and cover any historical monument or any carvings of such monuments. Size and type of the letters of the name boards and other hoardings should be determined by the Galle Heritage Planning Sub-Committee. All Installation of hoarding structures/notice boards within any private or public property are prohibited other than the area marked by the Galle Municipal Council and the notice boards shall not be kept covering windows and doors.

Methods

Case Study Area

Among the heritage sites in Sri Lanka this research selected, Galle Fort in Southern Province as the case study area, giving consideration as a place where the public has access and as an area with high tourist attraction. Galle Fort is located in the Bay of Galle on the Southwest coast of Sri Lanka. It is also known as Dutch fort. Galle Fort consists of two Archeological conservation zones which are World heritage site zone I and World heritage site zone II. As UNESCO World Heritage Site, the official name of Galle Fort is the Old Town of Galle and its Fortifications. This goes under a type of cultural item under the criteria iv.

Figure 3. 1- Arial view of the Galle Fort



Source: <http://www.mamas-galle-fort.com/>

Land extent of Galle Fort is 32.6ha. The administrative boundary of Galle Fort is the Grama Niladhari Division of No.96D. The fortification, contains 14 bastions and it is approximately 2.5 km in length. Within the Galle Fort, average per perch value is about Rs. 10Mn in the current market.

Data collection, sample and analysis

The analysis was conducted under three stages. In the first stage, the level of compliance to the regulations was analyzed. To analyze the level of compliance to the regulations, primary data and observation method were used as data collection method. Out of the total population of 280 buildings within the Galle Fort, a sample of 100 buildings were selected under systematic random sampling to avoid bias. Data was analyzed under descriptive statistics to identify the percentages of the violated properties out of the total populations to select regulations.

In the second stage, identifying the main reasons contributing factors to negligence of building regulations were focused. To identify the main reasons, the interview method and structured questionnaire were used as data collection method. The sample

was selected random and the sample size was 44 property owners of Galle Fort. The data collected under this stage were analyzed using descriptive statistics.

In the third stage, the Focus Group Discussion was conducted. Seven professional members of relevant authorities of Galle Fort, (Galle Heritage Foundation, UDA, Galle Municipal Council, Archeological Department and Grama Niladhari) participated in the discussion. The aim of conducting the focus group discussion was to identify the depth of the issue.

Analysis

Type of properties

The data in the following Table 1 reveals that the majority of the property type is residential and it is 31% of the properties. Second, out of the total properties the mixed residential shows the second highest use and it is 24%. Third, the important property types are commercial and buildings that cater to tourism. The lowest property types are the institutions and the professional office.

Table 1 - Types of Properties within Galle Fort

Type of Property	Frequency	Percent
Residential	26	31.3
Commercial	16	19.3
Institution	3	3.6
Mixed Residential	20	24.1
Tourism	16	19.3
Professional Office	2	2.4
Total	83	100.0

Source: Compiled by the Author

Building Regulations

Following Table 2 indicates that the percentages of violation percentages and percentages of adherence in each building regulations.

Table 2

Regulation No.	Regulation	Violation percentage	Adherence percentage
I	Change of property use	0	100.0
II	Buildings are allowed for single or double story or the height of the building shall not exceed 10m	7.23	92.77
III	Calicut tiles, half round tiles or clay tiles should be uses for roofs	28.9	71.1
IV	Antennas and water tanks should not be a mar the characters of the roof of the buildings.	30.1	69.9
V	Colours of the buildings should be in accordance with accepted colours which are white, grey and samara (cream colour)	12	88.0
VI	Reflecting or mirrored glass should not be allowed for the front elevation of the buildings	10.8	89.2
VI.I	Front arcade covered with any ceramic titles, mosaic titles, any tiles with colour patches or titles of any type or inappropriate plaster texture	8.4	91.6
VII	Permission may be granted for rendering of cement, terra cotta tiles, rough and polished granite and pressed cement tiles for floors	4.8	95.2
VIII	Front boundary walls are not permitted in front of the buildings facing the roads	16.9	83.1
IX	Swimming pools or ponds are not permitted	3.6	96.4
X.I	All types of advertisements with dynamic and continuously changeable devisers, using neon lights or more dominantly and contrasting characters are prohibited	0	100.0

X.II	Each building is permitted to install one name board	25	75.0
X.III	Correct placement	15	85.0

Source: Survey Data, 2018

Regulation I on change of property use comprised permitted property uses and non-permitted property uses. According to table 2, all properties within Galle Fort are permitted property uses amounting to 100%. Non property uses are not within Galle Fort.

Regulation II on building height comprised two ways. One of them is a number of stories. Only single-story buildings and double story buildings are allowed within Galle Fort. Within Galle Fort the majority of the buildings have one story and it is 51%. Second, the buildings have two stories and it is 41%. 8% of the buildings have three or more stories. Other regulation of the building is the height of the building. Within Galle Fort, buildings are allowed up to be 10 meters of height. Table 3 indicates the height of the buildings that are located in Galle Fort. The majority of the buildings are in the range of 5 m to 10m and it is 43%. Buildings with below 5-meter height have the second highest percentage and it is about 30%. 7% buildings are in the range of 16m-20m height. Each and every building should have an allowed number of stories or the allowed height. Table 2 shows the cross tabulation of the number of stories and height of the buildings

Table 2- Building height summary

No of Stories	Height		Frequency
	More than 10m	10m or less than 10m	
Single Story	0	42	42
Two Story	15	20	35
Three or more stories	6	0	6
Total	21	62	83

Source: Survey Data, 2018

Out of the total buildings 42 buildings are 10 meters or less than 10 meter high single story buildings. 15 buildings in Galle Fort are

two story buildings of more than 10 meters in height and 20 buildings are two story buildings with 10 meters or less than 10 meter in height. There are 6 buildings which have more than two stories of more than 10 meter height.

Regulation III is that buildings that locate within the Galle Fort are allowed only Calicut tiles, half round tiles or clay tiles for roofs. The majority of the property use half round tiles for the roof and it is 31%. Out of the total properties. Secondly, the other materials category has taken the second highest roof material and it is 29%. Other roofing materials category mostly comprised with asbestos sheets and slabs. Third, the mostly used roofing material is Calicut tile. The lowest used roofing material is clay tiles and it is 18%.

Regulation IV is on mar characters of the roof. Radio, television antennas and water tanks should not be a mar the characters on the roof of the buildings. The majority of the buildings do not have mar characters on the roof of the buildings and it is about 70%. Out of buildings about 30% have mar characters is on the roof.

Regulation V is the colour of the buildings. Within the Galle Fort there are some accepted colours which are white, gray and Samara and no any other colours are allowed. Two storied buildings should be painted with a single colour. The majority of the buildings are coloured with white colour and it is 51% of the buildings. Secondly, out of total buildings, the buildings used the samara colour as second highest colour and it is 31%. The minority of the buildings are used gray colour. Other colours are used only 12% of the buildings.

Regulation VI is front elevation of the building. Within the Galle Fort reflector mirrored glass should not be allowed for the front elevation of the buildings. The majority of the buildings do not use reflecting or mirrored glass at the front elevation of the building and it is 89%. Out of the total buildings 11% have used reflecting or mirrored glass at the building front elevation.

Galle Fort building should not cover the front arcade with ceramic tiles, mosaic tiles, and any tiles with colour patches or tiles of any type and inappropriate plaster textures are not allowed. The majority of the buildings do not cover the front arcade with any ceramic tiles, mosaic tiles, any tiles with colour patches or tiles of any type or inappropriate plaster texture and it is 92%. Out of the total buildings 11% has covered the front arcade with any ceramic tiles, mosaic tiles, any tiles with colour patches or titles of any type or inappropriate plaster texture.

Regulation VIII is on Floor finish. For tThe buildings that are within Galle Fort, permission may be granted for rendering of cement, terra cotta tiles, rough and polished granite and pressed cement tiles for floors. Painting of the floors are not permitted. Table 11 indicates that the details of the floor finishes of the buildings within Galle Fort. Most of the buildings used cement as floor finish and it is 41% of the buildings. Out of total buildings second, the buildings that used the tile floor finish as thesecond highest floor finish and it is about 34%. Terracotta tiles are used in 11% buildings as the floor finish. The minority of the buildings used the polished granite and pressed cement for the floor. It is 5%. Other materials are used 5% by the total buildings.

Regulation IX is on Front boundary walls. The Front boundary walls are not permitted in front of the buildings facing the roads within Galle Fort. Table 12 shows the details of the front boundary walls of the buildings in Galle Fort. It is revealed that the majority of the buildings do not have front boundary walls and it is about 83%. Out of the buildings that were considered for this reaseach, about 17% have front boundary walls.

Regulation X is Pond and swimming pool. Swimming pools or ponds are not permitted within the Galle Fort and Table 13 indicates the details of the ponds and swimming pools within Galle Fort. The majority of the buildings do not have Swimming pools or ponds within the buildings and it is about 96%. Out of buildings about 14% have Swimming pools or ponds. Swimming pools can be observed in the hotel buildings. Some restaurants and spa centers have ponds. Spa centers mostly use fish ponds to give fish therapy to their clients.

Regulation XI is on Hoarding structures and advertisements Within Galle Fort about 48% of buildings had installed Hoarding structures and Advertisements. 52% of buildings have not installed Hoarding structures and Advertisements.

All types of advertisements with dynamic and continuously changeable devices, using neon lights or more dominantly and contrasting characters are prohibited within Galle Fort. It is revealed that all buildings (100%) which installed Hoarding structures and Advertisements are installed not as changeable advertisements. No changeable or neon lights advertisements or name boards are used.

Within Galle Fort, each building is permitted to install one name board. The majority of the properties installed advertisements and heldup one advertisement or name board and it is about 75%. Second, two advertisements were held up by about 10%. Three advertisements and five advertisements were installed by the same percentages of the building as 5%. Four advertisements and eight advertisements or name boards were installed by the same percentages of buildings and it is about 2.5%.

When considering the placement of the advertisements or name boards, horizontal name boards should be installed at the space available between the top edge of the ground floor windows and

the first-floor level or the upper floor window sill level. Advertisements were not be permitted to be installed at the railings of the building of the upper floor. Vertical name boards might be installed at the front side within the permitted height and the space given by the Planning Sub Committee. Out of total buildings which installed advertisement and name boards, 85% were installed at the correct placement and another 15% buildings had not completely followed the correct placement of the advertisement and name boards.

Conclusion

The analysis shows that 10 numbers of regulations have been violated by at least one occupier ranging from 4% to 30% while the majority violated the regulation on mar characters on roof (Characters which disturbing to the appearance on the roof). Minor violations are identified in the regulation of constructing ponds and swimming pools. Secondly, most violation percentage has regulation of roofing cover material and it is about 29%. Thirdly, most violated regulation is front elevation cover with reflecting mirror glass and its violation percentage is 10%. 25% buildings are violated the allowed number of name boards and 15% of the buildings have not correctly installed name boards and advertisements. It can be observed that there are no violation percentage of the two regulations. Those are permitted property uses and type of advertisements or name boards. Significantly lower percentages of violation can be identified on ponds and swimming pools regulation and floor finishes regulation. Percentages of them are about 3.6% and 4.8% in respectively.

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