

THE QUALITY OF THE BUILT ENVIRONMENT: DESIGN QUALITY

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"Anyone knows what a good city is, the only serious question is how to achieve it". Kevin Lynch [1].

ABSTRACT

The quality of design in buildings has been gaining momentum. Cities in Egypt have been affected by visual pollution which is violating the cities architectural heritage, character and urban fabric. Buildings lacked the basic principles of architecture and could be regarded as outrage to the built environment. Many buildings are designed as separate entities, apparently without reference to their surroundings. The absence of control on design has produced poor architecture. The purpose of this paper is to highlight the importance of the quality of design in buildings in order to achieve a better environment. The study attempt to introduce a system of design control. A brief review of development control system has been carried out to gain experience. A number of design conditions has been set-up to provide local authorities with a device to control design and act as a performance criteria in evaluating building applications. Local authorities have to prepare their own design policies in order to produce appropriate design conditions which fit their circumstances.

INTRODUCTION

Recently there has been disquiet and much concern about the quality of design in buildings. The evidence of our surrounding today are measures of the degree to which many buildings are not architecture. Unfortunately, poor design produced architecture without regard for good composition or expression. Buildings are designed from abstract principles.

Zahran (1988) points out, that cities in Egypt are suffering from visual pollution which is violating the cities heritage and urban fabric. Our cities are facing a great urban and development challenge which is reflected on the cities aesthetic values, urban fabric, character and historic heritage.

The social, economical, technological, cultural and development changes, which Egyptian cities have experienced in the last five decades, have affected the cities character and quality. Most of these changes were materialistic and were transferred from societies of different identity. It has produced urban and moral transformations which influenced fundamentally the urban, the visual and the aesthetic qualities of the cities. The apparent features of the visual pollution are: [2]

1. The integration and conflict in the land-use and activities in a way which contradict the basic rules of

planning and hygiene.

2. The infringement of the building regulations and legislations.
3. Development does not comply with the regulations of population and building densities.
4. The use of various finishing materials without any order or harmony and regardless of building's context.
5. The ill-treatment of the architecture of waterfronts.
6. The disorder in the use of the architecture of waterfronts.
7. The lack of sufficient public open spaces.
8. The absence of the elements of landscape and street furniture in squares and streets and even in their presence they are of a poor quality.
9. The chaos of the skyline which deteriorate the city's visual image.
10. The visual menace of signs and posters on buildings regardless of aesthetic and visual values.
11. The negligence of buildings maintenance.

Unfortunately, growth and urban development in the cities of Egypt have been taking place without any controls. In such a case a prompt action becomes a necessity in order to control the consequences of

unplanned environment. To narrow down the problem to a specific situation, the study focus on the quality of design in buildings in the city of Alexandria. The city of Alexandria has been chosen because of its unique characteristics and because the city was one of the few cities in Egypt which carried out a comprehensive plan until the year 2005.

The main objective of this study is to highlight the importance of the quality of design in buildings in order to achieve a better planned environment. The study attempts to introduce a system of design control, where the design issue ought to be an important factor when determining building applications, to ensure the design quality of proposed developments/buildings. To gain a full awareness and experience of design control, the study reviews briefly the system of development control in countries which adopted a development control system.

THE MAGNITUDE OF THE ARCHITECTURAL CRISIS IN ALEXANDRIA

The city of Alexandria has experienced a tremendous growth in population and in the built up area without any controls. This has produced an unplanned environment. The construction of buildings is governed by building regulations and building codes. The building regulations cover primarily technical and safety matters of building construction. The regulations designate building lines, the permissible height and define the required provision of outer and inner open courts. [3] The regulations are general and applied to all types of buildings. Building regulations does not impose a system of control on development and does not give consideration to the quality of design in buildings. Obviously the definition of the building envelope is not enough to ensure an acceptable aesthetic impact. The city comprises a mixture of old and new buildings that are either in a dilapidated or in a deteriorating condition because of inadequate maintenance. A large number of buildings lacked the basic principles of architecture and lacked identity, aesthetic values are left aside. Actually, some of these buildings could be regarded as outrage to the built environment. The evidence of our surroundings manifests that the current building/ development planning rules and regulations failed to create a good environment.

Profit makers and developers are supporting commercial values to be an aspect that affected the quality produced architecture. The absence of an unplanned environment is

reflected on Alexandria's built environment through a state of disorder and confusion of building forms and materials.

However, the city of Alexandria was one of few cities in Egypt which produced a comprehensive master plan. But the situation needs further efforts to implement and enforce policies, where the local authority ought to exert its power to control development within the strategies of the master plan.

Figures (1), (2), (3), (4), (5) and (6) show the situation of the built environment in the city of Alexandria.

DESIGN PRINCIPLES IN ARCHITECTURE

Lawson (1984) has pointed out that, the architects primary and central task, is to produce a "concrete" three dimensional structure of space and form, to accommodate an abstract structure of related activities. [4] Hence, the architect must produce a sound and useful building. But equally we cannot excuse bad visual surroundings on the ground of efficiency or economy.

Architecture and beauty are achieved when all intentions are satisfied in one integrated whole. What constitutes good architecture? Basic visual standards, or traditional principles upon which architecture was based, should be essential components of the architectural vocabulary. A vocabulary which was used in the past or driven from examples of the past, still influences the public today. If people say they like the work of the past periods it is not to say that they like only that period of design in that form. They are expressing a liking for the visual qualities they see in those works and which they find lacking today. There is a need to find why they are lacking today, not to attempt to recreate past styles. [5]

It seems that the basic principles that have governed architecture since the early civilization have been forgotten. These principles are like the laws of grammar that create a language. If these basic principles of grammar are abandoned the result is disorder and lack of harmony. It is essential to appreciate that certain values and principles are eternal ones, in terms of human experience. [6] The principles represent a set of "constructs" which allow every aspect of design to be embraced. Although some principles are subjective and some have different levels of importance or acceptance. Thus design principles are not fixed objectives or rules. They represent a method of communication which reveals a designer's intentions and his attempt to satisfy them. [7] Design principles act as an ordering principles to allow



Figure 1. Alexandria City Centre. High density of the built up area and disorder and confusion.



Figure 2. Disorder and poor treatment of elevations.



Figure 3. Alexandria waterfront. The ill treatment of the architecture of the waterfront.

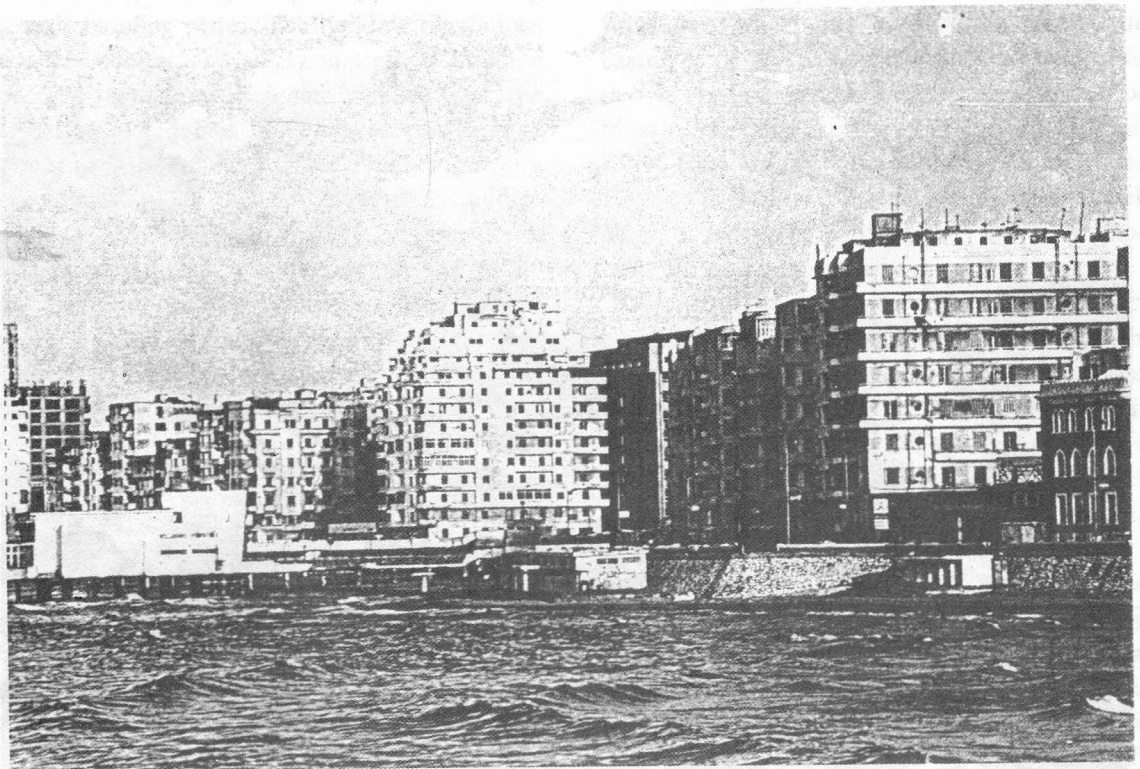


Figure 4. Alexandria waterfront. Lack of unity and identity.



Figure 5. The absence of Landscape treatment and features.



Figure 6. The Unfitting of development in the urban context.

forms and spaces to acknowledge the hierarchy inherent in the functions they accommodate, the user they serve, the purpose or meaning they convey, the scope or context they address. These ordering principles are seen as visual devices that allow the diverse of forms and spaces of a building to co-exist perceptually and conceptually within an ordered and unified whole. [8] Unity is achieved by the organic knitting together of functional, visual, and expressive relationship to make the design unique and self-contained thing. [9]

A set of ground rules will be briefly reviewed in order to rediscover the extraordinary richness of the architecture of the past, as well as the basic principles which allowed architecture heritage to develop as it did. These rules are common ground which seem to be lost.

THE PLACE

The relationship between a design and its setting is most important. In designing any building its composition must be considered as a total potential unity, but in fact every design must be seen in relation to a much wider setting. Designers must establish an appropriate relationship between new and old at locations that share a visual field. Buildings can be intrusive or they can be designed and sited so that they fit in their context. The lie of land and its contours should be respected. Building ought to blend carefully with nature and give a gentle skyline and enhance the picturesque quality of the landscape.

HIERARCHY

Real differences exist among forms and spaces of architectural compositions. These differences reflect the degree of importance of these forms and spaces, and the functional formal and symbolic roles they play in their organization. [10] Buildings should reflect these hierarchies in their forms and spaces.

SCALE

There are two main factors which influence the scale of buildings. First, building scale must be related to human proportion. Second, building should respect the scale of the place as each place has a characteristic scale and proportion. The development of out-of-scale buildings in inappropriate places would spoil the scale of the place. Sources of scale in architecture exist in essentially three

forms in the inherent scale giving qualities of the material we use, in the natural world, and in the human body. Orr (1985) put forward a definition of architectural scale: "Scale is the aspect in architecture that makes buildings intelligible to us, it gives us a sense of how to relate to the buildings, and it does so in a way that either attracts us and reinforce our values or repels us and contradicts our values". [1]

HARMONY

Harmony is the playing together of the parts. Each building that goes beside another has to be in tune with its neighbour. Rhythm can be a powerful element in providing harmony of composition. The expected recurrence of forms and spaces would produce harmony. Like in music the sequences of tones follow each other in time. In architecture would be a regular series of shapes with the same interval between them. It is a time-based expression of balanced movement in a processional sense. Rhythm refers to the regular or harmonious recurrence of lines, shapes forms, or colour. It incorporates the fundamental motion of repetition as a device to organise forms and spaces in architecture. [12].

PROPORTION

Proportion can be a powerful element in establishing harmony between different parts of the composition. The relationship of one part to another is compared on a proportional basis. Concern for proportion has been eroded in favour of the pressure of technical integration which forced architects to concentrate more upon dimensional co-ordination of details. It is important to analyse designs in terms of proportion to study the extent to which shapes and spaces could be related to one another in order to create unity of form.

BALANCE/SYMMETRY

Balance is another aspect which provides unity of composition. Balance can be provided by the effective visual weight of elements and the positions of solid and void. The balance of masses can be achieved by symmetry. Symmetry is a specific type of balance. Symmetry enforces a special organisation of forms and spaces of an architectural composition. In addition, symmetry enables the building to respond to the exceptional conditions of its site or programme.

CONTROL ON DEVELOPMENT

Generally, development control is a device to regulate the use, development and appearance of land and buildings. Control on development are intended to achieve two objectives:

- a. Control of the use of land, so as to maintain a balance between activities and services in the area, and to provide space for those activities which are socially desirable but may not be able to compete for spaces on free economic bases.
- b. Control of the form and plan of the buildings for reasons of safety, aesthetics, hygiene and/or general environmental advantage.

The latter is the concern of this paper with special focus on control for aesthetic reasons.

To protect the built environment from inappropriate development and to improve the quality of design in buildings a system of development control is essential. There is a variety of initiatives to improve the quality of design in the environment. These initiatives encompass a wide range of activities; competitions and awards, lectures and seminars, environmental education, design and proposals of projects. But these initiatives should be aided by a system of design control. A system of design control would be a device to enhance the quality of design in buildings. Design control is defined as control over the external appearance and visual impact of development on the built environment. Obviously, a design control system would be a requirement for building permissions. This would ensure that development takes place in a planned and effective manner and would promote a desirable urban environment. Design issue ought to be an important factor when determining building permit.

THE CONTROL OF DEVELOPMENT

To gain experience a look at the systems for the control of development is reviewed in countries which has adopted a system. The aim is to find out how development is controlled in terms of both its scope and its procedures. The review will look at the system in England, West Germany, France and the Netherlands. In England building and development control (within a system of planning control) are two separate permits, while in the other three countries building and development control are combined in a single permit where the relationship between plans and building regulations is much closer. [13]

Control of development in England has a distinct feature. Planning permission is exercised independently from building control where separate permits are required and planning permission is decided by reference to a development plan and to any other material consideration. The planning system in England gave power to the local authorities to make decisions about application for planning for the use and development of land and a duty to prepare a development plan showing the future use and development of land within their area. [14]

There are other regulations within the system which control more specialised area, including for instance, listed buildings of historic or architectural interest and conservation areas. The basis of control is that every proposal for development has to obtain planning permission from a local planning authority. Building control about the safety, stability and construction of the building itself is a separate permit. The local authority makes the decision, unless delegated to a planning committee or planning officials, either to grant permission with or without conditions, or to refuse permission. The characteristic feature is that each application for development is decided on its merits. These are two categories of application for planning permission. It can be in full, down to the precise details of site planning and layout, elevational treatment, materials, landscaping, etc. or initially it can be in outline, in order to establish the broad principles of what can be permitted, for instance the use of land, the amount of development and so on, but specifying the so-called reserved matters (design, landscaping, etc.) for which subsequent approval is required. [15]

Design control is exercised through the comprehensive system of development control. Design control (aesthetic control) has been employed to embrace the exercise of planning control over the external appearance and visual impact of development. The central government gives advice on design matters through circulars on aesthetic control. For example in 1983 the central government issued a circular on aesthetic control indicating means of promoting good design. It provided a list of factors including scale, density, height, access, layout, landscaping, materials, and other functional or environmental factors. [16] Local authorities are able to develop their public consultation and guidance procedures in control. Thus local authorities are faced with requirements to consider design in determining applications and a freedom within certain limits to impose conditions which may well cover

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buildings on a plot and the relationship of a building to its surroundings. Also, it covers the siting, layout and height of buildings on the plot and in relation to neighbouring plots. The building regulations also cover the matter of aesthetic control, meaning the outward appearance of a building in itself and in conjunction with the surrounding existing or planned development.

A proposed building must comply with reasonable aesthetic requirements. Further to that large illuminated advertisements and bill boards all fall within the definition of aesthetic control. A significant point is that every municipality or group of municipalities has to appoint its independent aesthetic commission (Welstandcommissie) made up of architects and lay members. All applications for a building permit have to be referred to the commission for comment on the outward appearance of building, whose recommendations have to be accepted, or a second independent opinion obtained. [22]

DESIGN CONTROL

The main concern for highlighting the importance of the quality of design in buildings is to protect the built environment from inappropriate development and to enhance the quality of design in buildings. Design issue should be considered as an important factor in evaluating applications for building permit. The initial course of action has to be the preparation of design policies which deal with all aspects of design. This would provide a basic for adopting a system of design control in conjunction with building regulations. The exercise of control over the external appearance and visual impact of development requires the set-up of a list of conditions in order to guide proposed development. The list of design conditions has to be within the scope of the design policies. Every local authority has to prepare its own design policies and list of conditions in accordance with its given circumstances. The list of design conditions/guidance would provide a list or performance criteria in evaluating applications for building permits. In addition it would be a device for improving the efficiency and effectiveness of design control system. Hence, conditions would provide a useful means of ensuring design control. The scope of design conditions comprises factors relevant to architectural design and basic principles of architectural and urban design. In theory, conditions would be the mechanism by which the development that is generally acceptable in terms of building regulations can be made specifically acceptable in

terms of aesthetic qualities. Design conditions should be flexible in order to allow local authorities to build on experience by retaining conditions which have proved to be effective and eliminate those which have been difficult to uphold. The proposed design conditions are based on the classification of conditions. But, what aspects of "design" features should be taken into account?

Two proposed categories of conditions to control design quality are:

1. Conditions relating to architectural design and layout.
2. Landscape design conditions.

Conditions relating to the detailed design of schemes are highly significant in the overall design control system. Attention to details is of great importance especially in conservation and historic area for the preservation and retention of the urban fabric.

Architectural design conditions comprise the following:

- (a) Materials:
 - * To match existing buildings.
 - * Specified finishes.
 - * Colour and type of facing.
- (b) Openings:
 - * Solid and void relationship.
 - * To match existing in style and design.
 - * Treatment of elevations (unity, balance).
 - * Restriction of openings in particular elevations.
- (c) Layout:
 - * Layout on the site in relation to the context.
 - * Adequate plot size/shape/openspaces/access.
- (d) Size:
 - * Adequate size of the proposed development (mass, bulk, height, scale).
 - * Vertical or horizontal emphasis.
 - * Intensity of the proposed development (plot ratio, overdevelopment, density).
- (e) Impact:
 - * Relationship between the proposed development and their surroundings.
 - * Fitting the development into its context.
 - * Integration of development with their sites.
 - * Contribution to the urban context.
 - * Character retention.

Landscape conditions comprise the following:

- (a) Requirement of a landscape scheme.
- (b) Maintain and protect existing landscape features.

Figure (7) shows a flow diagram for the proposed design control system.

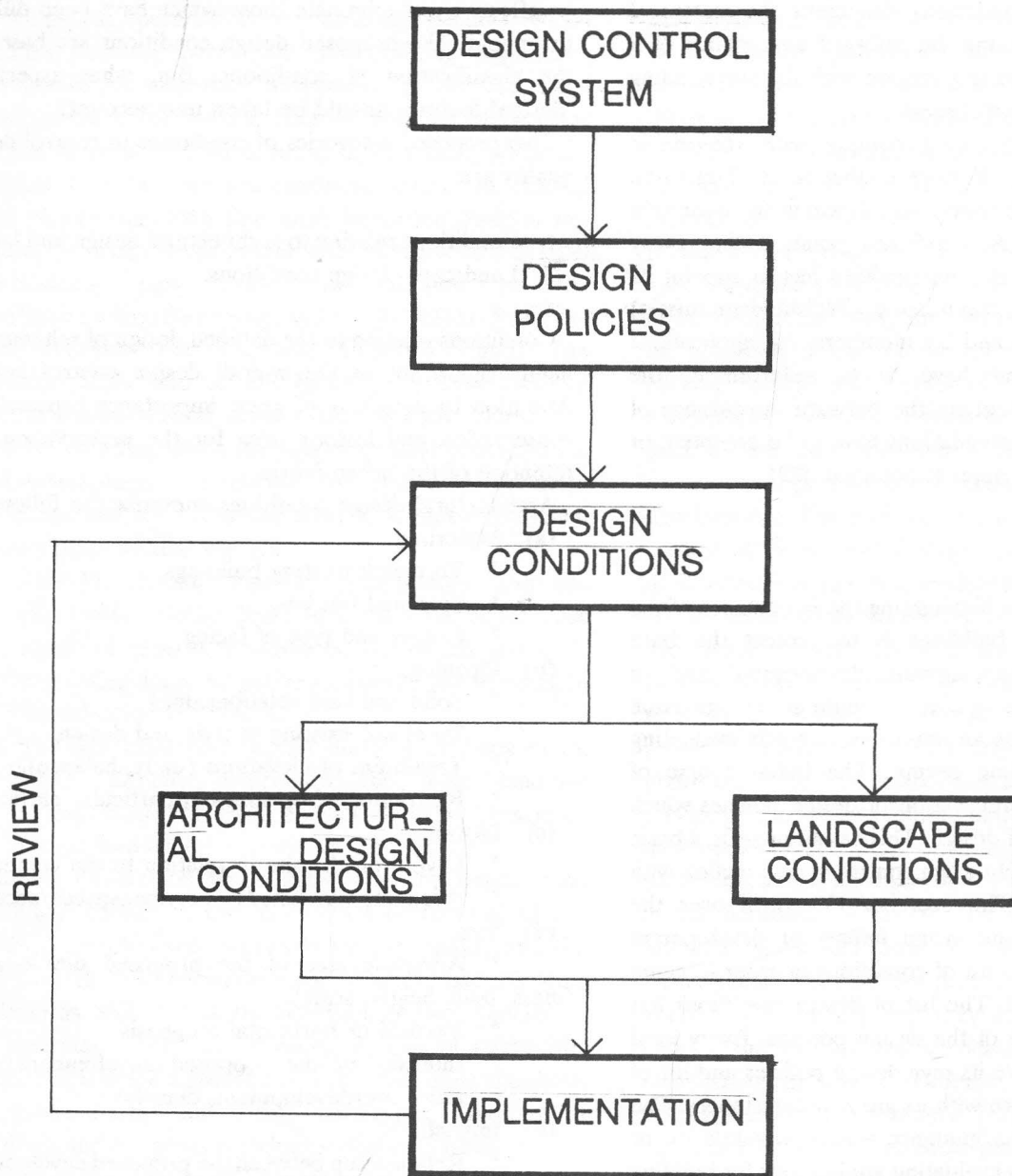


Figure 7. A flow diagram for the proposed design control system.

CONCLUSION

The effective means of controlling and improving design quality in buildings has to be a system of development control. The appropriate approach to challenge the violation of the visual appearance of our cities and its urban fabric should be the endorsement of a design control system. To achieve an effective and efficient design control system a list of design conditions should be prepared to enable local authorities to evaluate building applications. Design conditions ought to be on local level rather than national level where each locality has its distinct features of urban fabric and architectural character.

A number of key issues has to be considered for the endorsement of design control system:

1. Local authorities should play a much more positive role in design matters.
2. Local authorities should believe that design is an important issue and view conditions as a powerful means at their disposal for controlling design.
3. Each local authority has to prepare its own design policies according to their circumstances before setting up design conditions.
4. Professional design skills should be made available among officers examining building applications. The success of the design control system is attributed to professionally qualified architects.
5. A training scheme on design conditions should be carried out for local authority officers before practicing.
6. An independent commission should be appointed to evaluate projects of extraordinary importance.
7. Greater use of architectural competitions. Competitions are a powerful means of raising the standard of design. It could contribute to the review of design conditions and would raise important design issues.
8. Public participation should be considered, as the public has the right to discuss matters concerning the built environment.

REFERENCES

- [1] Lynch, Kevin, *Good City Form*, MIT Press, Cambridge, Mass, p. 2, 1981.
- [2] Zahran, Mohsen, "Visual and Aesthetic Pollution", *The Architectural Scientific Journal*, No. 4, pp. 28-38 (Arabic), 1988.
- [3] Ministry of Housing, Egypt, *Building Act, 1976 Codes of Practice*, General Authority of Governmental Press, Cairo, 1977.
- [4] Lawson, P.R., *Cognitive Strategies in Architecture Design*, in N. Cross (ed), "Developments in Design Methodology", Chichester, John Wiley & Sons Ltd., p. 209, 1984.
- [5] K.W. Smithies, *Principles of Design in Architecture*, Van Nostrand Reinhold Co. Ltd. Berkshire, p. 4, 1981.
- [6] The Prince of Wales, *A Vision of Britain; A Personal View of Architecture*, Doubleday, London, p. 76, 1989.
- [7] K.W. Smithies, *ibid*, p. 5.
- [8] F.D. Ching, *Architecture, Form, Space and Order*, Van Nostrand Reinhold Co., New York, p. 332, 1979.
- [9] R.G. Scott, *Design Fundamentals*, McGraw-Hill Book Co. New York, p. 33, 1951.
- [10] F.D. Ching, *ibid*, p. 350.
- [11] F. Orr, *Scale in Architecture*, Van Nostrand Reinhold Co., Inc., New York, p. 13, 1985.
- [12] F.D. Ching, *ibid*, p. 368.
- [13] H.W.E. Davies, "The Control of Development in Western Europe", *The Planner*, p. 11, April 1989.
- [14] H.W.E. Davies, "Development Control in England", *Town Planning Review*, Vol. 59, No. 2, p. 127, 1988.
- [15] H.W.F. Davies, *ibid*, p. 131.
- [16] P. Booth, "Development Control and Design Quality", *Town Planning Review*, Vol. 54, No. 3, p. 267, July 1983.
- [17] J. Punter, "A History of Aesthetic Controls Part 2", *Town Planning Review*, Vol. 58, No. 1, p. 81, 1987.
- [18] A. Hooper, "Plans and Control in the Federal Republic of Germany", *The Planner*, p. 16, 1989.
- [19] A. Hooper, "Planning and the Control of Development in the Federal Republic of Germany", *Town Planning Review*, Vol. 59, No. 2, pp. 183-204, April 1988.
- [20] A. Hooper, *ibid*, p. 18.
- [21] J.V. Punter, "Planning Control in France", *Town Planning Review*, Vol. 59, No. 2, pp. 159-181, April 1988.
- [22] H.W.E. Davies, "The Control of Development in the Netherlands", *Town Planning Review*, Vol. 59, No. 2, pp. 207-223, April 1988.