

PERCEPTION OF USERS TOWARDS THE IMPACT OF MODERNISATION ON  
VERNACULAR HOUSING IN IRAN

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PERCEPTION OF USERS TOWARDS THE IMPACT OF MODERNISATION ON  
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*“To my beloved parents and dear wife”*

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## ABSTRACT

Modernisation is a perpetual phenomenon that offers more resources but the effect is often abrupt in vernacular areas, where traditionally life moves at a slower pace. Recently, it is evidenced that vernacular houses are facing changes, and the subjective phenomena of acceptance and adaptability are crucial to determine whether modern knowledge in the residents' perception should be integrated, rejected or gradually accepted as a lifestyle. Very few studies focussed on vernacular houses, particularly on construction materials and technologies in the villages of Northern Iran. The research investigated whether modernisation with respect to construction material and technology leads to sustain vernacularity in a particular context. The objectives were generated to demonstrate technologies and material of past and present typologies, evaluate the typologies on the basis of five core elements, namely, foundation, floor, wall, roof, and attachments, under three tangible (durability, cost, time), and five intangible (harmony, continuity, friendliness, aesthetics, and energy) criteria, and investigate the level of acceptability and adaptability of these elements based on the residents' perception. Three past typologies, namely, 'Kali', 'Lar deh ee' and Mud house, and three present typologies, namely, load bearing wall, concrete and steel structure were identified through a field survey. A total of 167 residents of villages were selected through conditional random sampling to evaluate the elements of these typologies for eight criteria through questionnaire survey. Eighteen experts selected through purposeful random sampling participated in a semi-structured interview to investigate the level of acceptability and adaptability of these elements. It was found that vernacular architecture could be the sources of modern architecture as far as sustainability is concerned. In the study, occupants have a propensity to adapt themselves against new environmental condition toward comfortability. Awareness of strategic components, rather than a particular typology holistically is the key to help users make decisions on acceptance, rejection, or adaptation for continued smooth transitions in their lifestyle. Based on the findings, it is the duty of local experts to keep locals aware of the overall sustainable issues, and help them choose from a wide range of possible materials offered through unlimited or uncensored globalisation. This would help villagers progress with modernisation in their own contextual way while maintaining a smooth continuity.

## ABSTRAK

Modenisasi merupakan satu fenomena yang wujud berkekalan yang menawarkan sumber yang lebih luas tetapi kesannya lebih mendadak ke atas kawasan vernakular, di mana kehidupan tradisional bergerak pada kadar yang lebih perlahan. Kini telah terbukti bahawa perumahan vernakular berhadapan dengan perubahan dan fenomena subjektif penerimaan dan penyesuaian adalah mustahak bagi menentukan sama ada ilmu pengetahuan moden perlu disepadukan, ditolak atau diterima secara beransur-ansur dalam gaya hidup. Tidak banyak kajian yang focus terhadap perumahan vernakular terutamanya pada bahan binaan dan teknologi di perkampungan Iran Utara. Penyelidikan ini meninjau samada modenisasi yang berkait dengan bahan binaan dan teknologi membantu kearah membentuk vernakular yang lestari mengikut konteksnya. Beberapa objektif telah dikenalpasti untuk menunjukkan tipologi bahan dan teknologi masa lalu sehingga kini, menilai tipologi yang berdasarkan lima tunjang utama iaitu asas, lantai, dinding, bumbung dan 'attachments' ke atas tiga kriteria yang ketara (ketahanan, kos dan masa), dan lima kriteria tidak ketara (keharmonian, kesinambungan, kemesraan, estetika, dan tenaga), dan juga melihat tahap penerimaan dan penyesuaian persepsi penduduk ke atas elemen-elemen di atas. Tiga jenis tipologi tradisional iaitu 'Kali', 'Lar deh ee' dan 'Mud', dan tiga tipologi masa kini iaitu binaan keluli, konkrit, dan dinding tanggungan beban telah dikenalpasti melalui kajian lapangan. Sejumlah 167 responden telah di pilih melalui kondisi sampel rawak untuk menilai elemen ke atas tipologi lapan kriteria di atas melalui soalan kajiselidik. Lapan belas pakar bidang yang di pilih melalui sampel terpilih, terlibat dalam temuduga separa stuktur untuk mendapatkan tahap penerimaan dan penyesuaian elemen-elemen kajian. Hasil kajian mendapati senibina vernakular berkemungkinan menjadi sumber kepada kelestarian senibina moden. Dalam kajian ini penduduk berkeinginan untuk menyesuaikan diri mereka dengan persekitaran yang lebih selesa. Kesedaran adalah lebih kepada komponen strategik daripada sesuatu tipologi secara holistik. Komponen strategik menjadi kunci dalam membantu pengguna membuat keputusan sama ada untuk menerima, menolak atau menyesuaikan diri bagi peralihan berterusan secara lancar dalam gaya hidup mereka. Kajian ini mendapati bahawa pakar-pakar tempatan bertanggung jawab bagi memastikan penduduk tempatan peka terhadap isu pelestarian, dan membantu mereka memilih bahan dari sumber yang luas dan global. Perkara ini akan membantu penduduk untuk lebih maju dengan modenisasi mengikut konteks mereka sendiri di samping mengekalkan kesinambungan.

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## GLOSSARY

**Vernacular:** In this research, all the houses in the vernacular areas called as vernacular house.

**Traditional:** All the houses, which were constructed with local available materials by indigenous knowledge and techniques are called as traditional, past or old houses.

**Modern:** All the houses, which were constructed with imported materials and techniques are called as modern, present or new houses.

**Past and present:** Two incidents happened in recent decades that had effects on vernacular society. First, in 1963 that was White Revolution that King offered reform in the land ownership system, and second was Iranian Revolution in 1979 when power moved from royal leader to spiritual leader. The term past used in the thesis as the time before 1979, while present used for the time after 1963. The time in between was a transition from past to present.

**Deep interview:** The word 'Deep' refers to long and detail interview.

**Theme:** The central idea, topic, or point of the results in this study called as theme. They are expressed as narrative statements.

**Domain:** Domain is a higher level theme, which constitutes of several lower level themes. It is expressed as a narrative sentence as well, just like lower level theme. It is not expressed with keywords only.

## CHAPTER 1

### INTRODUCTION

#### 1.1 Introduction

Modernisation is a model of progressive transition from past to present. This can include anything from art to industrial production, from cultivation to construction, etc. It existed everywhere perpetually at any point as far as human civilisation can be tracked. However, the rate of modernisation after industrial revolution accelerated at a much faster rate during the last two centuries, and it was also promoted even faster with the impact of globalisation.

Globalisation is a relatively recent phenomenon that started after the Second World War. This involves spreading the trade between countries by deletion of the geographical boundaries and allow the people to enter and advertise their products either industrial or knowledge freely in other countries. It gained speed after the commercialisation and growth of aviation industry, and reached its current peak after the wide spread of internet.

Globalisation is a flow, not a destination, and should not be resisted against (Berry, 2008; Jones, 1999; McNeill, 2000). According to some researchers such as Ngowi *et al* (2005), Athreye and Cantwell (2007) and Murray (2001), it has some positive aspects, for instance the spread of knowledge, experience, technology, material, and communication, which enhance the level of the society towards the ease of life. On the other hand, Van Veen-Groot and Nijkamp (1999), Hamouche (2004)



and (Scaramanga, 2012) suggest that homogenisation, fragmentation, acculturation, consumerism, pollution, and inequality are its negative aspects, which should not be overlooked.

Focusing on architecture, it has also been influenced by modernisation and globalisation. New materials, technologies, scientific approaches and knowledge enhanced the methods of construction and changed the features of cities as well as of villages.

## **1.2 Background of the Study**

Modernism as its concept and modernists as their point of views are quite different from traditionalism and traditionalists. The concept of traditionalism is evolutionary, and it reveals that the society has its steady change during time; while modernism is revolutionary within which construct of society is subject to change (Mann, 1985). There are studies that argued about the phenomena of changes in the society caused by modernisation. In many of them, modernisation has not treated solely but was brought with the issue of globalisation.

Globalisation is a flow within which every distinct things, from ideas to industrial products, could easily and freely be distributed all over the world (Berry, 2008). Some researchers account for its positive aspects, such as sharing the knowledge, enhancing awareness etc., while others enumerate its negative aspects such as homogenisation, acculturation, change of expectation etc.

One of the issues, which was influenced by modernisation and globalisation, is architecture. Modernisation concepts, and modern products through the flow of globalisation changed domestic and traditional architecture and industrialised it (Ngowi *et al.*, 2005). Therefore, due to the new material and technologies, which are same everywhere, all the global cities over the world have the same systems of setting, and similarity in the picture (Adam, 2008). However, whether it is a threat or opportunity for the tradition remains unanswered or unclear.

Vernacular architecture is also experiencing that threat from modernisation and globalisation; however, embedded sustainability is the strongest principle of vernacularity (Oliver, 2006). Sustainability of vernacular architecture has been investigated by other researchers, from social perspective McKenzie (2004), from economic perspective Aziz and Shawket (2011); Van der Vaart (2005); Vos and Meekes, 1999), and from environmental perspective (Anna-Maria, 2009; Engin *et al.*, 2007; Goodland, 1995; Kimura, 1994; Moldan *et al.*, 2012).

Moreover, some researches have done studies, which implicate that techniques and material used in vernacular methods were the best. For instance, some techniques in vernacular architecture considered microclimatic condition such as layout of buildings, the spacing, etc. Additionally, local materials used in vernacular architecture had some useful properties such as flexibility, compatibility with environment condition, renewability, lightweight, etc. (Anna-Maria, 2009; Singh *et al.*, 2009, 2010; van Hoof and van Dijken, 2008).

According to the above statements, the search for this study was whether modernisation catalysed by globalisation is a threat or not a threat to the embedded of sustainability of vernacular architecture, and whatever it is, to what extent could be the impact.

### **1.3 Research Problem and hypothesis**

Villages in the context of this study, i.e. Northern Iran, seems to be subject of losing their vernacularity in architecture. New buildings reflecting sheer consumerism seems to be peer-relying on external forces which are propagated by the rise of globalisation (Hamouche, 2004). Klafus (2006) mentioned that bad taste of nouveaux riches is another consequence of globalisation, which aggravates the fading of vernacularity particularly in architecture.

Despite many examples and researches that admire the vernacular materials in architecture, it is seen that every day witnesses replacing of traditional houses by

modern ones. Empirical observation suggests that vernacular features of traditional houses are changing to modern ones in a way that is not appreciated. People seek for new 'wants', which may not actually be their 'needs' (Rapoport, 1969), and globalisation might play a role here. They adopt the new technologies and change their lifestyles without paying attention to consequences. Many factors might have caused this problem, but a closer look might suggest that new technology and material in one hand and changing the behaviour and lifestyles of people.

Alexander (1964), in his book 'Notes on the synthesis of form' sought for "what is the problem, how to deal with and how solve a problem", and finally concluded that: "take a programme to solve the problem." Elsewhere in his book "A pattern language: towns, buildings, construction", Alexander *et al* (1978), he mentioned that to solve a particular problem it must be taken at whole with relevant.

Often problems are too complex to grasp intuitively. Many information and pictures exist, but for their fragmented organisation, they cannot be used conveniently. If possible, it should be broken into smaller pieces to be understandable. Alexander later defined that the problems occur in a pattern, as relationship existing between patterns are not isolated. Therefore, each problem related to a problem exists in larger pattern, and consists of sub problem with smaller patterns (Alexander *et al.*, 1978).

#### **1.4 Research gap**

People in rural areas traditionally used the techniques and instruments that arose from their culture and from the environmental context. These, in general, are passed the test of time, and were gradually accepted. However, due to human nature, which seeks for improvement in every stages and the concept of egocentric, some dissatisfaction are unavoidable, which brings in newer elements. Modern world, via globalisation, provided some technologies and materials, which people tempted to use it without considering its consequences.

Today, we are confronting dichotomy in selection between traditional and modern construction. On one side, traditional houses shows proven compatibility with environment, existing lifestyle, culture, etc. and on the other side, modern temptation with its new glorious lifestyle beckons for unexpected twists. Although evaluating of the impact of modernisation and globalisation on vernacular houses, in some cases, has discretely been done, but it has not done yet in a certain and comprehensive method, which leads to a concern, way that be useful for any determination.

However, before asking which of these two has positive or negative impact on lifestyle, some grounded questions needs to be clarified before proceeding to fulfil the gap. These can take shapes as follows:

### **1.5 Research aim**

The aim of the research was to investigate whether modernization catalysed by globalisation is endangering the vernacularity of the houses in the particular context, with respect to construction material and technology.

### **1.6 Research questions**

Research questions are useful at this stage in order to narrow the research focus and to identify the research objectives. The first question was, “What are the criteria (tangible and intangible), and elements (foundation, wall, etc.) of different types of vernacular houses (both old and new) in Northern Iran? The reason for identifying parameters (such as elements, criteria etc.) was that, these different typologies can be evaluated and compared more convincingly and more scientifically. However, the other benefit of asking this question was that it could enlighten some critical issues. For example, answering this question can enlighten the differentiation between ‘old’ and ‘new’, the different characters of vernacular houses in general, the key elements of material and technology, which was the chosen characteristics for this study. That can also make it easier to compare the impact of ‘newt’. To identify the characteristics

of vernacular houses was a prior requirement. Choosing one of the most significant ones, it could reduce the scope, and make the research more focussed. The chosen key elements could structure down the research into more scientific manner.

The second question was, “What is the significance of the elements of these different types of houses under different criteria? Answering this question can help to compare old and new typologies. This question also gave the idea to evaluate the elements from different perspective such as users, experts, and artisans.

The third question was “How can we measure the perception of users towards modern technology and materials?” This question opened up the possibility to search for users’ priorities on old or new typologies, not only holistically, but also specifically. For example, users might prioritize a particular element from old typology, but a different element from old typology to fulfil a certain criteria. Therefore, a more comprehensive knowledge about their acceptability or adaptability could be understood.

## **1.7 Research Objectives**

In order to achieve the aim, and with the help of research questions, three objectives were constructed which helped to focus down the research in order to keep it achievable.

1. To identify the characters and elements of old and new vernacular houses in Northern Iran
2. To evaluate the basic construction elements of different typologies of vernacular houses
3. To investigate Users’ acceptability and adaptability towards modern techniques and materials from users’ perspective

## **1.8 Research Significance**

Turan (1990) defined that growing interest in vernacular architecture, which started two decades ago, is not interesting nowadays. Putting the mental and physical health benefits of living in vernacular environments aside, with the eyes of sustainability, living in that condition is indeed preferable. Environmentally, using vernacular experiences in construction; economically, less expenditure and laying on self-products in agriculture and poultry; socially, a tight relationships with other community members; these are the advantages of living in vernacular lifestyle.

Unfortunately, we might be witnessing those advantages to be faded quicker than anticipated because of rapid modernisation. Besides, new technology and material brought by globalisation, is changing the marvellous features of the vernacular architecture with all its homogeneity.

The significance of the study is that by addressing which are the positive and negative aspects of modernisation, it might create a bridge between Indigenous Knowledge of the past and the innovation of modern technology so that the vernacularity has smooth continuity.

Consequently, it might be possible to find a way to have friendlier buildings, which pays heed to new wants of consumers with the power and abilities of external forces, but still restore the advantages of local material and technology that emerged through many of experiences.

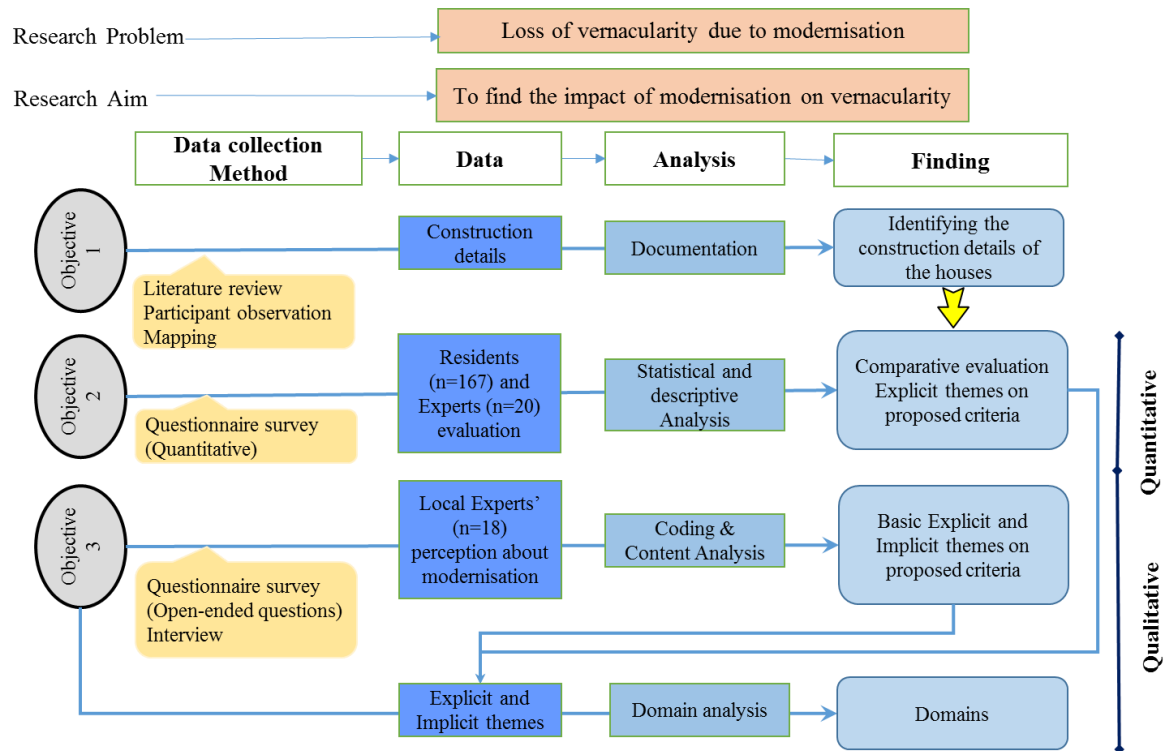
## **1.9 Research Methodology Outline**

The study followed simple steps by targeting to achieve the objectives one by one. However, depending on the analytic process, at some points, they were achieved concurrently as well. The following diagram illustrates the total methodological framework of the study.

To achieve objective one, knowledge gathered through participant observation and literature review helped to achieve the targeted construction details of both old and new types of houses. They were documented later on, and finally, the details of both old and new types of the houses were presented. Thus objective one was achieved.

To achieve objective two, a questionnaire was prepared carefully, which contained closed questions and open ended questions. Users were asked to respond to them. The content of the questionnaire targeted to gather their perception on different criteria based on different elements. Users from both old and new houses were the respondents. Experts were also participated. This eventually helped to judge the users' perceptions. The closed questions helped to provide knowledge on their perception quantitatively. The descriptive analysis helped to achieve objective two, which was presented through different explicit themes emerging through qualitative interpretation.

The open-ended questions helped to gather data on the users' perception on how they would like to face the phenomenon of modernisation. Interviews were used to gather data from experts to validate findings. Disintegrating the holistic concept of old and new types into elements and criteria helped the researcher to judge the priorities of users on smaller details. Coding and content analysis were used to translate their narrative responses into systematic themes. There were both explicit and implicit themes. In order to find out a set of more general outcomes, these themes were then grouped in order to derive higher level and more general themes. The method of 'Domain analysis' was used where a smaller number of higher level themes replace a bigger number of lower level themes. These themes eventually enlightened about the users' perception on their acceptability and adaptability of the new types of houses on the basis of particular criteria and elements. That gave a comprehensive idea about their responses towards modernisation.



**Figure 1.1** Methodological framework

### 1.10 Research Scope and Limitation

To have a comparison between traditional and new technology in the vernacular houses in this specific context, the categories of houses were first identified. Ignoring the variations in sizes and spaces, the courtyard houses were selected, which is the most popular in the region. From literature, numerous issues of housing were identified under to broader categories such as tangible (e.g. form, shape, technology and material, façade, etc.), and intangible (e.g. function, privacy, circulation, etc.). In fact, all of them deserve to be studied as the modernisation issues can invade into all of them to significant extent. However, the intangible issues were left out as they involve a broader perspective of subjective evaluation. Among the tangible issues of vernacular houses, again, all of them can easily be a topic for research. Technology



and material were chosen to be the focus of this study as the researcher was more confident to achieve the relevant data comprehensively.

The house can be structured down to many elements. However, according to Davies (1966), the five basic elements of houses (foundation, wall, floor, roof, and attachment) that are directly related with technology and materials were chosen for the study.

### **1.11 Thesis Structure**

The thesis consisted of eight chapters, which were briefly defined as follows. Chapter one was for identification of research problems, gaps, aim, research questions, objectives, significance, methodology, scope and limitations. In chapter two, background of study from the literature has been represented. Methodology of this research was discussed in details in chapter three. Elements of vernacular houses in the context were illustrated in chapter four. Then, in chapter five, these elements have been quantitatively evaluated. Residents' perception, which resulted from open-ended questions and interviews, were discussed in chapter six. Chapter seven accumulated the themes, and elaborated the domains generated from the themes. Finally, in chapter eight, conclusion of the research with its implication, contribution and suggestions for further researches were presented.

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