

## SPONTANEOUS HOUSING IN SANA'A, YEMEN – CASE STUDIES

**1<sup>1</sup> Nashwan Abdoukarim Al-Ansi, 2<sup>2</sup> Wan Hamidon bin Wan Badaruzzaman, 3<sup>3</sup> Julaihi Wahid, 4<sup>4</sup>Zuhairuse Md. Darus**

1, 2, 4 Universiti Kebangsaan Malaysia, Bangi, Malaysia, 3 Universiti Sains Malaysia, Pulau Pinang, Malaysia

**nashwan\_ansy@yahoo.com, whamidon@vlsi.eng.ukm.my, julaihi@usm.my, ujang@vlsi.eng.ukm.my**

**ABSTRACT:** The influx of rural population after the Yemen's revolution in the early sixties, the union between North and South Yemen in the early nineties, and the returning of the war veterans after the second Gulf war in 1991 have contributed to many spontaneous and unorganized housing settlement areas that are not equipped with basic necessities. These settlements have created a negative impact on the social, economical, and the environmental conditions of the urban areas. The spontaneous housing settlements are considered as the most deteriorating urban communities due to insufficient infrastructure services available to the people. This study attempts to focus on the spontaneous settlement of Madbah (City by Night) and Sawad Hizyaz housing (Union Street) in Yemen. They are good examples that represent the status of spontaneous housing in Sana'a and other cities in Yemen. The discussion will delve into the nature of the housing situation and uncovered the problems and potentials of the dwellers in these living environments. The study relies on the data which has been collected via questionnaires, interviews, field visits, personal observations and photographs. It is discovered that the areas under study was completely spontaneous in nature; lacking in basic necessities, infrastructure services and public utilities as required by the dwellers. Based on the conclusions, the study produced few suggestions and recommendations on how to improve the living environment of the areas under investigation, and these findings will be used to assist the spontaneous housing in other areas of Yemen.

**Keywords:** Spontaneous housing, housing environments, infrastructure and facilities, housing in Yemen

### 1. INTRODUCTION

Yemen is one of the developing countries; it suffers, as other developing countries, from the phenomenon of spontaneous construction in the cities. The Yemen's revolution in the early sixties, the union between both parts of Yemen (North and South) in the early nineties, and the flow of population after the second Gulf war in 1991 all have contributed to many spontaneous unorganised housing areas that are not equipped with basic necessities (Sultan and Kajewski 2003). Sana'a is the biggest city of Yemen from the point of view of the density of the population, with its population exceeding more than one million. Lately, it has witnessed a huge urban expansion which has led to the

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<sup>1</sup> A. A. Nashwan, PhD student at Department of Architecture, Faculty of Engineering Universiti Kebangsaan Malaysia, Bangi, Malaysia (phone: 60-123047279; nashwan\_ansy@yahoo.com).

<sup>2</sup> Prof. Ir. Dr. Wan Hamidon bin Wan Badaruzzaman Department of Civil & Structural, Faculty of Engineering & Built Environment Universiti Kebangsaan Malaysia, Bangi, Malaysia (whamidon@vlsi.eng.ukm.my).

<sup>3</sup> Assoc. Prof. Dr. Julaihi Wahid is with School of Housing, Building and Planning, University Sains Malaysia, Penang, (julaihi@usm.my).

<sup>4</sup> Assoc. Prof. Dr. Zuhairuse Md. Darus is with Department of Architecture, Faculty of Engineering & Built Environment Universiti Kebangsaan Malaysia Bangi, Malaysia (ujang@vlsi.eng.ukm.my).

proliferation of spontaneous housing (Al-Waraqī 2001). As a result, spontaneous housing areas have appeared as cancerous areas inside as well as on the outskirts of Sana'a. Furthermore, continuous growth has been registered to the extent that spontaneous housing has reached the rate of 45% (Al-Abed 2003). The spontaneous housing areas are considered as the most deteriorated urban communities in the general environment because of the deterioration of infrastructure services in them (Haglan 1998). The locations of these spontaneous housing areas are normally situated in hilly areas, at the foot of hills, and along dangerous paths of waterways. The spontaneous housing areas are generally in need of the minimal infrastructure services (roads, drinking-water, sewerage system, electricity, and so on) and the social services (such as schools, clinics, social centres, and so forth) (Yemen 2003). This has contributed to the increase in the dangers faced by the inhabitants of these areas. Such deteriorating conditions have become the source of threat to their lives and properties (Al-Hazmi 2004).

This study will deal with this phenomenon of spontaneous construction in Sana'a, in general, and in the Madbah and Sawad Hizyaz housing areas, in particular as they are the largest spontaneous areas in the city. This study has two objectives; firstly, it aims to find out the general nature and reality of these two housing areas. Secondly, it aims to identify the specific problems related to the lack of services and public utilities. Therefore, field studies on specific areas chosen, have been conducted. The study concludes that the areas under study are completely spontaneous in nature; lacking in the most basic necessities of housing needs; infrastructure services and public utilities. Furthermore, the study has suggested and recommended on how to improve the living environment of the areas under investigation, and of all other spontaneous housing areas in Yemen.

## **1.2 THE SPONTANEOUS AREA IN SANA'A**

Over the last decade spontaneous settlements have been a very visible element in the urban landscape of Sana'a city (Ogaily 1994). In order to have a general understanding of the reality of Sana'a housing, the city can be divided into three zones. These are: the old city area before 1962, the transitional area 1962-1978, and the spontaneous area 1990 until now, Figure 1 illustrates the three housing zones of Sana'a city (Al-Abed 2003). The following will be an elaboration of the spontaneous area which will show the reality of Sana'a housing. This area is more important and more relevant than the other areas. In that the emergence of spontaneous housing began during these stages and continued in increasing trend until now.



resulted in narrow winding streets as well as difficulties in gaining access to some dwellings in these areas (Al-Abed 2003).

## **2. METHODOLOGY**

This section shows the methods of data collection by means of the field trips conducted by the authors, on specific areas, namely the Madbah, and Sawad Hizyaz areas in Sana'a, the capital city of Yemen. These two areas are good examples that represent the status of spontaneous housing in Sana'a and the other cities in Yemen.

The field trips can be divided into two main parts; first, interviews with 9 people in Madbah, and 7 people in Sawad Hizyaz to discuss the reality and nature of these spontaneous housing areas. The housing characteristics, structural and building plans of the areas, have been recorded by the personal observations and taking photographs of the sites. Secondly, questionnaires were distributed to the residents of the areas studied. The survey was conducted on 80 sample families that live in the research areas; 40 families from the area of Madbah, where people has settled since the early eighties, and another 40 families were from the area of Sawad Hizyaz, which was set up in the early nineties. The study tried to understand the differences between the two areas, since the settlements were established at two different time periods. The questionnaires were designed to assess the problems faced by the spontaneous housing areas, especially the lack of services and public utilities.

### **2.1 RESULTS AND DISCUSSIONS**

From the interviews with the residents in Madbah and Sawad Hizyaz areas, and personally observing and taking photographs of the sites, different points clearly became apparent.

#### ***a. Characteristics of Housing Area (Madbah & Sawad Hizyaz)***

After visiting the two areas of study, it became clear that the first (Madbah) area suffers from land erosion, especially in the rainy seasons; as it lies on a hilly topography. Spontaneous houses are built everywhere throughout the area, as are narrow paths, alleys and steps on hill slopes especially at the south-eastern part. These houses are randomly placed and unorganised, without any separating roads in between them. There are no open spaces to cater for the social activities that the residents need. No data are available related to the number of housing units in this area.

On the other hand, the second (Sawad Hizyaz) area of study is mainly low lying farmland, but has been neglected over time. Moreover, construction in this area was not concentrated in one area, but was in several, moderately separated areas that are linked

to each other via paved, dirt paths that are featureless in some parts. The area is a housing area, composed of about 500 housing units (Mahfoudh and Edrees 2003) linked to each other by paved roads that limit movement of pedestrians and traffic. It can be concluded that, the two areas do not follow proper architectural rules, and the houses do not follow traditional or modern engineering principles, and are limited in space (i.e. the houses are restricted in terms of area (80 to 100 square metres) when considering the number of people residing in them. Furthermore, each house has one to three rooms built from cement blocks and metal sheets, though some houses are made of zinc. These are illustrated in Photographs 1, 2, 3, and 4.



*PHOTOGRAPH 1 View of Land Erosion*



*PHOTOGRAPH 2 View of Unpaved Road*



*PHOTOGRAPH 3 House Built from  
Cement Blocks*



*PHOTOGRAPH 4 View of the  
Housing Area*

***b. The Questionnaires Presentation and Tabulation Charts***

This part analysed the questionnaires that were distributed by the authors to the residents of the areas studied. The reality of these spontaneous housing areas were analysed, as well as the public services available in these areas and their infrastructures, as follows:

**1) Reality of the Research Sites**

From the location and characteristics of the housing areas, the relationship between the variables were compared and studied. The nature of the two areas were then analysed in the context of (1) the type of housing in these areas, whether the owners possess legal ownership documents, or building rights, or they do not, (2) the level of privacy available of the housing, and (3) lighting and ventilation in the housing units. The similarities and differences in the nature and environment of these areas will also be part of the study.

From Figure 2, it can be concluded that 67% and 25% of the residents were completely squatters in the Madbah and Sawad Hizyaz areas respectively. 33% and 75% were houses legal land owners possessing legal ownership documents in the former and latter areas respectively. None of the houses built in the two areas possessed buildings license from the authorities.

From Figure 3, in terms of the level of privacy, 13% claimed to have complete privacy within their houses in both the studied areas. 40% and 57% have partial privacy, whilst 47% and 30% felt that they are having no privacy at all for the Madbah and Sawad Hizyaz areas respectively.

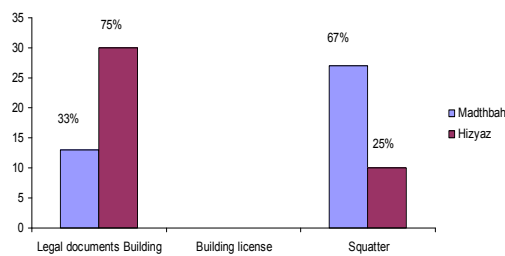


Figure 2 Survey Results on Legal Status

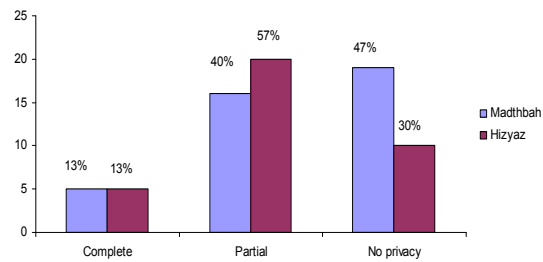


Figure 3 Survey Results on Level of Privacy

From Figure 4, 5% and 13% of the houses have lighting and ventilation everywhere; 25% and 20% have them in most places; 50% and 42% have them in some places; whilst 20% and 25% have no lighting and ventilation at all for the Madbah and Sawad Hizyaz areas respectively.

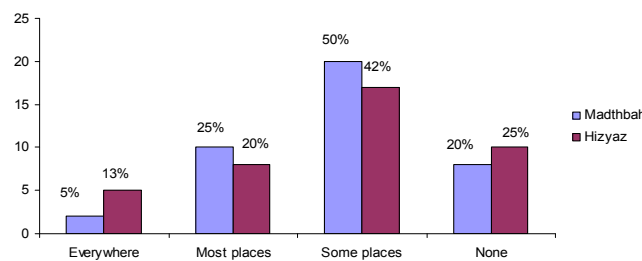


Figure 4 Survey Results on the Lighting and Ventilation

From the above, it can be seen that these areas are unplanned spontaneous housing areas, this study has thus contributed to the statistical analysis of the housing areas studied, where it was found that most of the land in the Madbah area had been illegally occupied (67%) and the area can be said to be spontaneous housing area. However, in the Sawad Hizyaz area, 75% of the residents legally owned the land, but none of them has their house built with proper permission from the authority; i.e. they do not possess legal license for the buildings; hence the area can be categorised as semi- spontaneous housing area. The reason for this is the fact that the houses are built spontaneously. This shows the unplanned nature and over-crowdedness of the houses, to the extent that most of the houses are side-by-side. It can be deduced that the majority of the residents do not follow the laws and regulations. The laws are only weakly implemented, which means that the grouping together of these people creates chaotic social structures.

**2) Services**

The study has focused on two types of services which include: (1) availability of drinking water, electricity, and sewage services, and (2) educational and health services.

**Availability of Services (i.e. Drinking Water, Electricity and Sewage)**

From Figure 5, it can be concluded that 100% and 60% of the entire areas are completely devoid of available drinking water, in the Madbah and Sawad Hizyaz areas respectively. And that all the residents had to resort to drinking water that is brought in from nearby areas by special water transport trucks. However 40% of the resident claimed to have available drinking water within their houses in Sawad Hizyaz area.

From Figure 6, in terms of available electricity, 90% and 62% of the residents claimed to have electricity in their homes, but the connection was illegal and haphazard in both the studied areas. The rest of the residents 10% and 38% had no electricity at all for the Madbah and Sawad Hizyaz areas respectively.

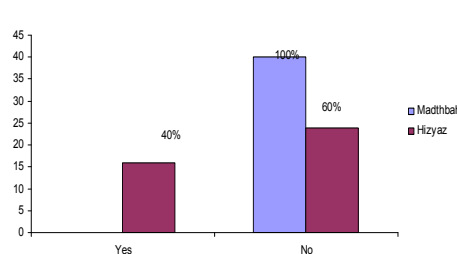


Figure 5 Survey Results on Availability of Drinking Water

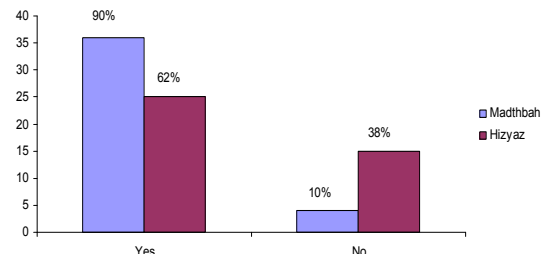
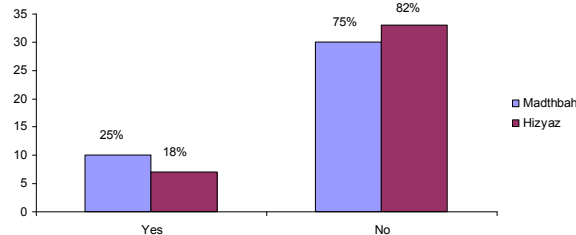


Figure 6 Survey Results on Availability of Electricity

From Figure 7, it can be concluded that 75% and 82% of the sample population of both areas studied said they had no proper sewage in their houses, and

had to dispose of light and heavy waste by digging holes in the ground in the Madbah and Sawad Hiziya areas respectively. 25% and 18% said they had proper sewage in their homes, but it was not well organised/connected, which caused many problems in the former and latter areas respectively.

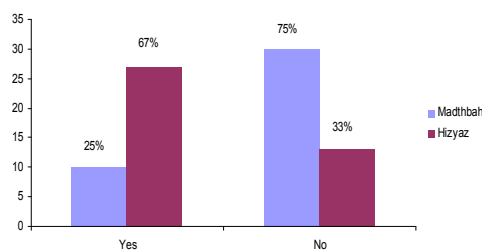


*FIGURE 7 Survey Results Availability of Sewage*

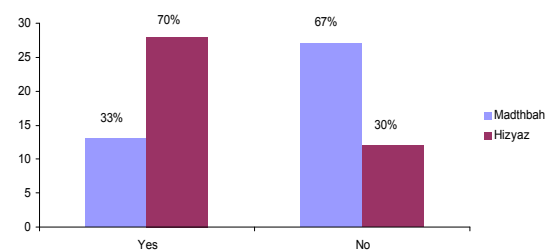
**Availability of Educational and Health Services**

From Figure 8 it can be concluded that 75% and 33% of the sample population of both areas studied said that educational services are not available in the Madbah and Sawad Hiziya areas respectively. 25% and 67% of the sample had available educational services. These are the people who live near the only available school, which teaches primary, preparatory and secondary students in the former and latter areas respectively.

From Figure 9, in terms of available health services, 67% and 70% of the residents had no access to health services; only about 33% and 30% said that they could access health services in the Madbah and Sawad Hiziya areas respectively.



*Figure 8 Survey Results on Availability of Educational Services*



*Figure 9 Survey Results on Availability of Health Services*

Thus, it was found that the areas lack proper government water and electricity supplies and sewerage disposal system. These reflect how hard it is for the residents to live here when the areas lack the basic services that people cannot live without. The shortage of these services shows the reality, the spontaneous nature of these areas, and that they were not planned by the government. It also shows that the government has not given these areas any importance. The areas are also severely lacking in educational services and the available schools are not enough to educate the population here. Only a

very few are able to take advantage of schools that are near the areas. The areas under investigation have no health services, and there are no hospitals or medical centres. It can be deduced to the absence of proper housing and population policies, coupled with the bad living conditions which make these areas a source of growing hatred towards the society as a direct result of poverty. The areas thus may also become a breeding ground for organised crime.

### 3) Social Characteristics

These are characteristics that describe the cultural and social aspects of the families in the areas under study. The results were obtained via questionnaires, and represent the social status of the residents. The study will compare the two areas, studying the social aspects of: (1) Origin, (2) Reasons for Moving, and (3) Gender of family members.

Social Characteristics: (Origins, Reasons for Moving and Gender of Family Members)

From Figure 10, it can be concluded that 85% and 67% of the sample population in both the studied areas are from the countryside, while 15% and 33% were from the city in the Madbah and Sawad Hizyaz areas respectively. Thus, there is a difference between the two areas, yet in both cases the majority of the residents are from the countryside. These prove that these areas are a result of internal migration within the country.

From Figure 11, in terms of reasons for moving, 13% claimed that they were looking for better educational facilities in both the studied areas. 62% and 74% of the residents moved to find a job, whilst 25% and 13% said they moved to look for better health services in the Madbah and Sawad Hizyaz areas respectively.

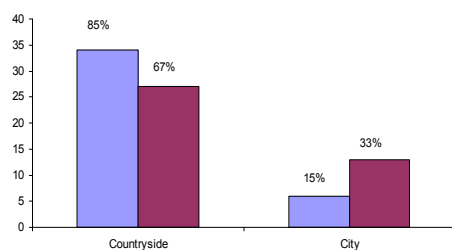


Figure 10 Survey Results on Social Characteristics (Origins)

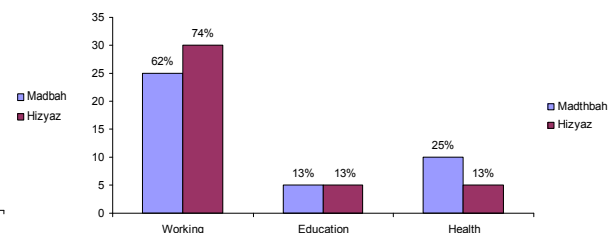


Figure 11 Survey Results on Reasons for Moving

Thus, it is clear that the majority of the residents are people from other towns, mainly from the countryside, looking for job opportunities to improve their financial status in both the areas studied. However, they have become poorer than they were. Most of the families have a low level of education. This shows that the level of education and awareness is low amongst the population. They are unaware of their rights or their duties towards their living area and environment. This is quite clear from the low number of

average members of the household that are in various levels of their education. It can be deduced that there is no development for these rural areas, small secondary cities and towns. The result is the increase in the migration from the countryside.

**5) Economic Characteristics**

This section deals with the economic characteristics of the families in the two areas in which the questionnaires were distributed. They describe the economic status of the residents. It can be analysed to found the relationship between area, location and economic characteristics such as: (1) family income, (2) and ability to build own house.

**Economic Characteristics: (Family Income, Ability to Build Own House)**

From Figure 14, 35% and 28% of the sample had an income that was above 16,000 Riyals; 18% and 15% had an income “between” 13,000-16,000; 34%, 25% had an income of between 9,000-12,000 Riyals; whilst 13% and 32% had an income “between” 5,000-8,000 Riyals in the Madbah and Sawad Hizyaz areas respectively.

From Figure 15, in terms of ability to build own house, 100% claimed they were unable to build their own house in the Madbah area, while 90% said the same in the second area Sawad Hazyaz.

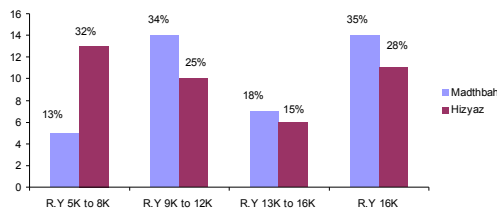


Figure 14 Survey Results on Family Income

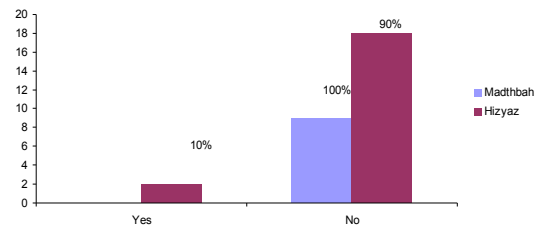


Figure 15 Survey Results on Ability to Build Own House

The majority of the residents are from the low income group who suffer many difficulties in their everyday life. Only a few have an income of above 16,000 Riyals, and even that is not enough to satisfy all their basic needs when compared to the income that is available elsewhere. It can be deduced that this is because of the economic slump which Yemen is going through due to recent political events. Some are local, such as the 1994 civil war, and others occurred in the same region, such as the 1991 Gulf War. These situations affect the local economy, mostly due to the difficulty of finding jobs for those who returned from the Gulf, and whose number exceeds a million people. This caused a decrease in the average personal income, and an increase in the unemployment rate.

### **3. CONCLUSION AND RECOMMENDATIONS**

Based on the results and findings from the data analysis in the previous parts in relation to the study's objectives the following points can be concluded. Firstly, the two areas studied are completely spontaneous in nature, as most of the houses do not follow proper architectural rules, and the houses do not follow traditional or modern engineering principles. Secondly, it can be seen that the Madbah area is an unplanned spontaneous housing areas (squatters), while the Hizyaz area is a semi-official housing area in which the land has been illegally occupied. The condition of the houses is bad, lacks privacy; lacks proper ventilation and lighting. Thirdly, the spontaneous housing areas (i.e. Madbah and Sawad Hizyaz) are lacking in the most basic of housing needs; infrastructure services such as roads, drinking-water supply, sewerage system, electricity, and public utilities such as schools, clinics, parks, and social centres. All these have contributed to the increase in the dangers faced by the residents of these areas. Such deteriorating conditions have become a source of threat to their lives and property. Based on the conclusion of the study the author makes some recommendations which can help in solving the current problems of spontaneous housing and to avoid the same problems in the future. Such recommendations are discussed as follows: Firstly, regarding the issue of the reality and nature of the spontaneous housing areas, they should be improved and upgraded so as not to negatively affect the living conditions there, and so as to provide a suitable, healthy living environment for their occupants. Efforts must be directed to the care of the urban aspects of the areas such as the buildings, the open spaces, and the facilities. Nevertheless, after improving and upgrading areas, if there are any new spontaneous housing areas appearing in the future, the authors suggest strict demolition policy to be implemented. Secondly, regarding the lack of infrastructure services and public utilities, it is recommended that the government should provide facilities and services to the currently existing spontaneous housing areas such as open spaces, paved roads, parks, mosques, electricity, drinking-water supply, sewerage systems, schools, clinics, cultural and trade centres by directing efforts and care on these areas and underling their importance.

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