



UNIVERSITI PUTRA MALAYSIA

***PROFILES AND RESIDENTS' PERCEPTION OF ENVIRONMENTAL
SOUND AND MUSIC ACTIVITIES IN BANDAR DATARAN SEGAR,
PORT DICKSON, MALAYSIA***

PHYLLIS TOH CHZE WOON

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By

PHYLLIS TOH CHZE WOON

**Thesis Submitted to the School of Graduate Studies,
Universiti Putra Malaysia, in Fulfillment of the
Requirements for the Degree of Master of Science**

August 2014

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Abstract of thesis presented to the Senate of Universiti Putra Malaysia in fulfillment of the requirement for the degree of Master of Science

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August 2014

Chair: Professor Gisa Jähnichen, PhD

Faculty: Human Ecology

Bandar Dataran Segar is one of the newly developed townships located at the non-beach site in Port Dickson, in the state of Negeri Sembilan. It comprises hundreds of units of mixed commercial buildings, shops and houses (link houses, semi-detached, bungalow). This signifies the many new communities developing in the suburb of present Malaysia. Concerned about the development of future generations in dealing with the environmental sound and music activities, this study takes Bandar Dataran Segar as an example for its typical setting for a new township within the socio-economic context of Port Dickson. The objectives of the research are to determine and analyse each sound profiles, to identify the music in sound profiles of the temporary events such as celebrations and festivals, and, to evaluate the perception of residents regarding the sound environment in Bandar Dataran Segar.

Approximately 200 clips of sound in and surround Bandar Dataran Segar have been recorded. These clips have been screened through and grouped based on researcher designed 'Typology of Sound Profiles'. Selected sound profiles have been analysed according to the subareas of different building types and costs at different times, and according to the temporary events such as celebrations and festivals. In order to obtain the awareness and perception of the residents regarding the sound environment in Bandar Dataran Segar, 40 residents participated in filling in structured questionnaires and interviews where they provided views about sound environment of the immediate areas they stay

and the entire township in general. To probe further into their awareness, listening tests were also conducted to determine their ability in recognizing various sound sources existing in the township.

The findings of the study reveal that the types and cost of houses do not necessarily correspond with the quality of sound environment. The high cost housing area's sound profiles are complicated by the external sounds created by infrastructure or commercial activities nearby. In reverse, the medium low cost housing area is the least disturbed by constant anthropophony such as sound of machineries, air-conditioner compressors, and commercially run swallow houses. Hence, it is the most serene among all areas in this township. Music activities in sound profiles of temporary events such as celebrations and festivals display the characteristics of 'active-featured' as its main characteristic, where it consists of intersection of controlled-anthropophony, with constant presence of physiological-anthropophony.

Residents' observation of the sound environment of this township include the identification of the time zone that are the noisiest and quietest within their respective residential area, and areas within the entire township that has pleasant as well as unwanted sound environment. The two ends of the typology spectrum namely 'passive-incidental' and 'active-featured' seem to be the least recognizable sound types by the residents. Studies on sound waste, musical choice and musical production are recommended to further understand the sound environment in Bandar Dataran Segar as well as in other similar development areas.

Abstrak tesis yang dikemukakan kepada Senat Universiti Putra Malaysia
sebagai memenuhi keperluan untuk Ijazah Sarjana Sains

**PROFIL DAN PERSEPSI PENDUDUK
TENTANG BUNYI PERSEKITARAN DAN AKTIVITI MUZIK
DI BANDAR DATARAN SEGAR, PORT DICKSON, MALAYSIA**

Oleh

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Bandar Dataran Segar adalah salah satu daripada perbandaran yang baru dibangunkan yang terletak di kawasan bukan pantai di Port Dickson, dalam Negeri Sembilan. Ia terdiri daripada beberapa ratus unit bangunan komersial bercampuran, kedai, dan rumah (rumah teres, rumah berkembar, rumah banglo). Ini menandakan banyak komuniti baru yang sedang berkembang di pinggir bandar di Malaysia pada masa kini. Prihatin dengan perkembangan generasi masa depan dalam pengendalian bunyi alam sekitar dan aktiviti muzik, kajian ini mengambil Bandar Dataran Segar sebagai satu contoh kerana pengesetan tipikalnya untuk satu kawasan perbandaran baru dalam konteks socio-ekonomik Port Dickson. Objektif penyelidikan ini adalah untuk menentukan dan menganalisis setiap profil bunyi, untuk mengenalpasti muzik dalam profil bunyi pada acara sementara seperti sambutan dan perayaan, dan, untuk menilai persepsi penduduk terhadap bunyi persekitaran di Bandar Dataran Segar.

Lebih kurang 200 klip bunyi dalam dan di sekitar Bandar Dataran Segar telah dirakamkan. Klip ini telah pun diskriminasi dan dikumpulkan berdasarkan 'Tipologi Profil Bunyi' yang direka oleh penyelidik. Profil bunyi yang terpilih telah dianalisis mengikut kawasan sub jenis dan kos bangunan yang berlainan pada masa yang berbeza, serta mengikut acara sementara seperti sambutan dan perayaan. Dalam usaha untuk mendapatkan kesedaran dan persepsi

penduduk tentang bunyi persekitaran di Bandar Dataran Segar, 40 penduduk telah mengambil bahagian dalam kajian soal selidik berstruktur dan temuduga di mana mereka memberikan pandangan tentang bunyi persekitaran yang terdapat di kawasan mereka bertinggal dan seluruh perbandaran secara umumnya. Bagi menyiasat kesedaran penduduk dengan lebih lanjut, ujian mendengar juga dijalankan untuk menentukan keupayaan mereka dalam mengecam pelbagai jenis sumber bunyi yang terdapat di perbandaran tersebut.

Penemuan kajian ini menunjukkan bahawa jenis dan kos rumah tidak semestinya berpadanan dengan kualiti bunyi persekitaran. Profil bunyi kawasan perumahan kos tinggi dirumitkan dengan bunyi luaran yang dihasilkan oleh infrastruktur atau aktiviti komersial berdekatan. Di sebaliknya, kawasan perumahan kos sederhana-rendah paling kurang diganggu oleh antroponi yang berterusan, seperti bunyi jentera, pemampat penyaman udara, dan rumah burung layang yang diuruskan secara komersial. Dengan itu, kawasan ini adalah paling tenang di antara semua kawasan di perbandaran ini. Aktiviti muzik di dalam profil bunyi yang terdapat daripada acara sementara seperti sambutan dan perayaan memaparkan ciri-ciri 'aktif-rencana' (*'active-featured'*) sebagai ciri utamanya, di mana ia mempunyai persimpangan daripada 'antroponi-terkawal' (*'controlled-anthropony'*), dengan kehadiran 'antroponi-fisiologikal' (*'physiological-anthropony'*) yang berterusan.

Pemerhatian penduduk terhadap persekitaran bunyi di perbandaran ini termasuk identifikasi mereka terhadap zon masa yang paling bising dan paling senyap dalam kawasan perumahan masing-masing, serta kawasan yang mempunyai persekitaran bunyi yang menyenangkan dan juga tidak diingini di seluruh perbandaran. Kedua-dua hujung spectrum tipologi iaitu 'pasif-insidental' (*'passive-incidental'*) dan 'aktif-rencana' (*'active-featured'*) merupakan jenis bunyi yang paling kurang dikecam oleh penduduk. Kajian berkaitan dengan sisa bunyi, pilihan muzikal dan produksi muzik boleh dicadangkan untuk memahami dengan lebih lanjut persekitaran bunyi di Bandar Dataran Segar dan juga di kawasan pembangunan lain yang serupa.

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This thesis was submitted to the Senate of Universiti Putra Malaysia and has been accepted as fulfillment of the requirement for the degree of Master of Science. The members of the Supervisory Committee were as follows:

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CHAPTER 1

INTRODUCTION

1.1 Research Background

Port Dickson is one of the districts in the state of Negeri Sembilan in West Malaysia. It is a beach and holiday destination situated about 32 kilometres from Seremban and 90 kilometres from Kuala Lumpur. It takes just over an hour by car to travel from Kuala Lumpur to Port Dickson along the North-South Expressway. Tourism industry has become a crucial part of Port Dickson's development. It has some of the best tourist attractions in Negeri Sembilan because it has the only beach in the state. Furthermore, the close proximity between Port Dickson and states vicinity such as Malacca and Selangor also contributes to this city's development.

Meanwhile, Bandar Dataran Segar is a newly developed township at the non-beach site in Port Dickson which is only 2 kilometres away to the Lukut town. Its established property and commercial building developer is the Dataran Segar Sdn Bhd¹, now known as Segar Homes. It has been incorporating since 1981 and is actively involved in diversified businesses. Since the late 1990's, Bandar Dataran Segar is being constructed and is growing as the largest township in Port Dickson. It comprises thousands of units of mixed commercial buildings, shops and houses (link houses, semi-detached, bungalow). This signifies the many new communities developing in the suburb of the present Malaysia. According to the developer (Yeoh, 2010), the residents of Bandar Dataran Segar are mostly Chinese, followed by Indians and Malays, mainly taking the occupation of teachers, government servants, business persons, oil tank drivers and labourers. The numbers has been increasing particularly younger married couples and their children. Currently it is referred as a township which offers a complete and better living condition aimed by the people in Port Dickson, Lukut town and surrounding area. It comprises of former residents of different areas in Port Dickson with diverse social and cultural background and income groups.

Besides landscape and buildings, sound and music is also a vital constituent of an environment. Various sounds of different frequencies and amplitudes exist and are 'created' in everyday life, either in organized or random manner, purposively or unintentionally, functionally or indirectly, being enjoyed or

¹ Dataran Segar Sdn Bhd is actively involved in construction, development and management of properties such as houses, hotel, café, restaurant, retail and tourists conveniences shops; and supplying ready mixed concrete and building materials.

unwanted. Sound, as one of the primary perceivable signals, is one of the inevitable elements in the environment that may contribute to an atmosphere, creates connections and attachments, delivers meanings, as well as offering various stimulations in daily lives. Concerning with the awareness and development of a sonic environment for future generations, this study attempts to notate the sound profiles of Bandar Dataran Segar as this township.

1.2 Problem Statement and Research Questions

A construction plan of an area usually consists of mainly different types of buildings with its physical design of space, function and appearance in addition to its landscape. Though yet a professional practice in developing a township, it can be plausible that sound properties design in an environment can be a component not to be further ignored or neglected in a 'place' construction in search for designated comfort of living condition or preferred way of lifestyle. The problem of coordinating physical construction with an expected and later experienced sound construction seems to be the most important issue in this thesis though it can only partly be answered.

Bandar Dataran Segar is selected as it is one of the typical settings of a newly built living area in Malaysia. In existing literature, there is no detailed documentation done regarding the sound environment in suburb or in any of the township in Malaysia, what's more a newly developed township of Bandar Dataran Segar (LaBelle, 2010). This missing portion leads to these questions: what is the sonic environment in a newly developed residential area such as Bandar Dataran Segar? How many types of sound profiles can be found in Bandar Dataran Segar and what are their characteristics? How do we effectively analyse the sound profiles of such residential area and how does it reflect the lifestyle of the residents? How far are the residents in Bandar Dataran Segar aware of the various kinds of sound properties that are present in this residential area, and how do they perceive them? What implications could we derive from the present sound environment in Bandar Dataran Segar for future township designs? And finally, how do music activities conducted by the residents and music activities in which residents of various age groups participate relate to the sound environment?

1.3 Objectives of the Study

This research attempts to identify the sound profiles in the context of daily living conditions and socio-cultural occasions—including music or music-related activities—in an environment of the newly developed township, Bandar Dataran Segar. The specific objectives are:

- i. To determine the types of sound profiles found in Bandar Dataran Segar;
- ii. To analyse and examine the characteristics of each sound profile in the environment of Bandar Dataran Segar;
- iii. To identify related music activities conducted or participated by the residents that fit the given sound environment in Bandar Dataran Segar; and
- iv. To describe the actual awareness and the perception of residents regarding the sound environment in Bandar Dataran Segar.

1.4 Significance of the Study

This study provides an examination of the lifestyles in such residential area from the perspective of sound. The selection of this geographical area of Bandar Dataran Segar lies in its representation of newly developed residential area. The outcome of this study can be a source of reference that will help informing policy makers and housing developers to move towards a more holistic design of housing areas which includes the consideration of sound environment. This study is also presenting empirical evidence through completed questionnaires collected individually from the residents of Bandar Dataran Segar regarding the sound environment in the township and music activities conducted and participated in. This will ascertain findings on the extent of awareness of the residents and how they perceive the various sounds amongst them of which music is one important element.

1.5 Limitation of the Study

This thesis includes the study of sound environment of Bandar Dataran Segar. The outcome and implications derived from this study may not fully be applicable to other similar townships. It covers almost the whole Bandar Dataran Segar except one small residential area which is situated aside and seems detached geographically from the center of this township. The data of this research were collected from the year 2009 until 2013 and thus the sound profiles presented in this thesis refers only to the sound environment of that time frame. This research generally includes all the residents of Bandar

Dataran Segar regardless of age, race, religion and social status. The study includes public or collective activities and excludes widely personal sound making or enjoyment in private context. Though this study discusses sound as a type of distortion or pollution, it does not intend to define and generate systematic measurements for noise pollution as this kind of research is only possible under specific research conditions in a preferably quantitative approach as found mostly in the disciplines of health or environmental studies. Sound profiles are to be identified in types and frequency: it does not include exact analysis and measuring of amplitude and decibels.

Regarding music activities, this study is neither to provide a complete overview about all daily music activities nor to indicate typical musical behavior. It is to mainly show the relatedness such as the adoption to a given sound environment.

1.6 Literature Review

Sound as it is now explains as “the vibrations that travel through the air or another medium, and can be heard when they reach a person’s or animal’s ear”. In other words, sound is something that we can hear because of the “continuous rapid movements called vibrations that travel through the air or water” (Oxford Advanced Learner’s Dictionary Online, 2013).

Vannini, Waskul, Gottschalk and Rambo (2010: 332) stated that “we assert that sounds are sound acts (refer to what sounds do) from our interactionist and phenomenological perspectives where it is happened when people bring them into conscious and reflexive awareness, when they give them meaning or affect, and when they elicit some kind of manipulative response”, and that “we have tackled sounds as elements of the process mediated by the self’s meaning making and manipulative action (2010: 348). It can have elocutionary power, particularly vivid, striking, evocative, and attention-grabbing one that claim for our attention, focus, and care. For an example given, a symbolic sound like a starting gun going off to signal the beginning of a 100-meters dash, or a non-symbolic sound like a thunder startling us during our sleep” (2010: 334).

Leeds (2010²[2001]: 28, 29) also has explained that “sound is something that vibrates where the vibration at a certain rate (frequency) is created. Then it becomes a sound wave, spreading out to all molecules around it and the molecules transport the waves to the hearing organ which is the ear. So the ear converts the sound waves into the electrical energy that charges the brain.

² Updated Second Edition is in 2010.

Sound touches us and influences our emotions like no other source of input or expression. It is the stuff of tone and timbre, silence, and noise." "It is a frequency of vibration that we audibly heard between 20 and 20,000 Hz. Travelling through the air at 770 miles per hour (its exact speed depends on temperature, humidity, and wind), sound moves almost a million times slower than the speed of light" (Leeds, 2010: 14). In short, Leeds (2010: 23) describes "sound as a sensation caused by an object or objects that vibrate. It could be anything that creates the sensation of hearing. Hence, sound is ubiquitous, like air and water". To Leeds (2010: 14), "sound can be a great thing... or it can really be a problem".

Meanwhile, Oosterbaan (2009: 86) perceives sound that "marks the fluidity of the social boundaries where it also forms part of the sensual knowledge of the city that is much more difficult to grasp and 'fix' than those visual, symbolic representations of the city that we are accustomed to". He added that "in the dense urban space, characterized by proximity, it is not only through visual displays of style that groups and individuals try to maintain their positions vis-à-vis³ to each other, it is also through sounds that people exercise a politics of presence" (2009: 96).

The Oxford Dictionary Online (2010) defines 'environment' as "the surroundings or conditions in which a person, animal, or plant lives or operates" or "the natural world, as a whole or in a particular geographical area, especially as affected by human activity". Oxford Advanced Learner's Dictionary Online (2010) defines it as "the conditions that affect the behaviour and development of somebody/something; the physical conditions that somebody/something exists in".

Oosterbaan (2009: 86) stated that "Particular sound environment has a rhythm of their own, a way of repeating and attaching the particular community to specific moments of the day or the week, fusing temporal notions and bodily sensations, such as the Christian church bells or the Islamic call to prayer". Pinch and Bijsterverld (2004: 642) mentioned that "Modern soundscape is 'schizophonia': 'the split between an original sound and its electroacoustic reproduction'".

³ Vis-à-vis is from Old French *vis* 'face' that originated in the mid-18th century. It literally means 'face to face' (Oxford Dictionary Online, 2013).

On the other hand, Schafer (1994[1977]⁴: 274, 275) defined soundscape⁵ as the “sonic environment that may refer to actual environments, or to abstract constructions such as musical compositions and tape montages, particularly when considered as an environment”. In other words, it means “all of the sound from a particular environment that reaches the human ear” and “a soundscape consists of events heard not objects seen” (Schafer, 1994: 8). He then added “Sounds may be classified in several ways: according to their physical characteristics (acoustics) or the way in which they are perceived (psychoacoustics); according to their function and meaning (semiotics and semantics); or according to their emotional or affective qualities (aesthetic)” (Schafer, 1994: 133).

Noise is defined as “technical irregular fluctuations that accompany a transmitted electrical signal but are not part of it and tend to obscure it”, or culturally “a sound, especially one that is loud or unpleasant or that causes disturbance” (Oxford Dictionary Online, 2010). Oxford Advanced Learner’s Dictionary Online (2010) adds on to the definition that noise is “information that is not wanted and that can make it difficult for the important or useful information to be seen clearly”. Schafer (1994: 183) described noise as “unwanted sound” of which comprises qualitative legislation that involves public opinion and quantitative legislation that sets decibel limits to specified undesirable sounds. He also relate noise to “unmusical sound”, such as “the nineteenth-century physicist Hermann Helmholtz who employed the expression noise to describe sound composed of non-periodic vibrations (the rustling of leaves), by comparison with musical sounds, which consist of periodic vibrations”. Two other descriptions by Schafer include “any loud sound”, as well as “disturbance in any signalling system” of which “do not represent part of the signal” in electronics and engineering (Schafer, 1994: 182).

Jabatan Alam Sekitar [The Department of Environment, Malaysia] (2010) also defines noise as “unwanted sound that causes nuisance”. According to the Civic Noise Abatement Legislation in Asia and Far East (Schafer, 1994: 192), there is enforcement of noise control in George Town in the Penang State and Kuala Lumpur, Malaysia to any “nuisance or other type of by-law with some reference(s) to noise” with an addition of “community considering or engaged in preparation of new anti-noise legislation” in Kuala Lumpur. The Environment Quality Act 1974 allows the Minister, after consultation with the Environmental Quality Council to define objectionable noise and to prescribe standards for tolerable noise: “no person shall, unless licensed, emit or cause or

⁴ Earliest edition is in 1977.

⁵ This term will be used in the following chapters that represent the same meaning as ‘environmental sound’ or ‘sound environment’ (see page 14 for the definition of terms used in this thesis).

permit to be emitted any noise greater in volume, intensity or quality in contravention of the acceptable conditions". The Department of Environment presents recommendations upon which acceptable noise limits could be specified. Table 1.1 shows the "Maximum Permissible Sound Level (LAeq) By Receiving Land Use for Planning and New Development".

Receiving Land Use Category	Day Time 7.00am– 10.00pm	Night Time 10.00pm–7.00am
Noise Sensitive Areas, Low Density Residential, Institutional (School, Hospital), Worship Areas.	50 dBA	40 dBA
Suburban Residential (Medium Density) Areas, Public Spaces, Parks, Recreational Areas.	55 dBA	45 dBA
Urban Residential (High Density) Areas, Designated Mixed Development Areas (Residential–Commercial).	60 dBA	50 dBA
Commercial Business Zones.	65 dBA	55 dBA
Designated Industrial Zones.	70 dBA	60 dBA

Table 1.1: Maximum permissible sound level (LAeq) by receiving land use for planning and new development (Air Division and Strategic Communications Division, Department of Environment Malaysia, October 2007).

From the existing literatures, one of the lecturer from University Putra Malaysia, Assoc. Pro. Dr. Ramdzani Abdullah and his students also have been actively involved in studying the aspects of local environmental policy, environmental impact assessment and noise pollution (Ahmad, Daud, Zohadie, Ramdzani & Mizanur, 2000, 2001, 2003).

1.7 Literature on Methodology

Schafer (1994: 4) noted that “from acoustics and psychoacoustics we will learn about the physical properties of sound and the way sound is interpreted by the human brain. From society we will learn how man behaves with sounds and how sounds affect and change his behaviour. From the arts, particularly music, we will learn how man creates ideal soundscapes for that other life, the life of the imagination and psychic reflection.” He added that “The general acoustic environment of a society can be read as an indicator of social conditions which produce it and may tell us much about the trending and evolution of that society” (1994: 7). With that, it means soundscape design is helping to raise human’s awareness of the sonic environment in order to play an active role in its subsequent transformation of the community.

Schafer (1994: 6) also believes that “Because the production of sounds is so much a subjective matter with modern man, contemporary soundscape is notable for its dynamic hedonism”. “Thus, while we may utilize the techniques of modern recording and analysis to study contemporary soundscapes, for the foundation of historical perspectives, we will have to turn to earwitness⁶ accounts from literature and mythology, as well as to anthropological and historical records (1994: 8).

With Schafer’s concept on soundscape and personal interest in the collection of natural soundscape, Bernie Krause (2008: 73), another researcher who is actively involved in archiving the sounds of creatures and environments, was being inspired to explore further on the area of acoustic occurrences. He mentioned “in order to more accurately explain and probe the roots of the phenomenon about technological developments in field recording and data analysis, it has become necessary to focus more specifically on the complex sources of soundscape acoustics”. Hence, three basic active acoustic sources, namely biophony, geophony, and anthrophony were being described in his article “Anatomy of the Soundscape: Evolving Perspectives”. He explains that “These sources are sometimes independent of one another while at other times intrinsically related in various combinations. In addition, the active soundscape can only be understood in light of the passive surrounding environment in which the source is transmitted”.

Most clearly is Krause’s statement on the different acoustic sources in his early article on sound. He writes:

⁶ “One who testifies or can testify to what he or she has heard” (Schafer, 1994: 272).

the a more flexible research scheme for sound environment categories and corresponding music experiences, which can help to create adaptable strategies for more freedom of auditive choice.”

This introduction was one of the points of departure for this thesis. So, the questions mentioned lead to many of the approaches followed in the following chapters.

1.8 Methodology and Materials

This study is carried out from October 2009 to March 2013 and uses mainly qualitative research methods such as contents analysis, especially of sound recordings and observations (Benschop, 2007). The audio recordings on the sound profiles were collected within the compound of Bandar Dataran Segar which included the different housing areas, commercial areas, recreational park or field, and near the on-going construction sites or undeveloped lands. For the audio recordings, the researcher uses the ZOOM Handy Recorder H2 in Waveform Audio File Format (WAV) with the data rate of 48kHz / 24 bit whilst the photographs were taken using Nikon D3100 DSLR (Digital Single Lens Reflex) camera with dimensions of 3456 x 2304, resolution of 300 dpi, 24 bit depth. For further sound analysis, the software Cool Edit Pro 2.0 was used that allows for high resolution view of spectrograms. The audio files are stored safely in the Audiovisual Research Collections for Performing Arts (ARCPA) at UPM Music Department (see Appendix B: 104, 105).

However, a part of the research will involve narrative analysis via questionnaires and personal communication as material embedded in the actual situation. The residents or interviewees were being selected randomly around the township both in the circumstances of daily life.

As a basis, a domain analysis helps to position the study subject in the field of sound and environmental studies focusing on a relatively closed area in a compact time frame. This is to increase the value of data that will be comparable to each other due to creating equivalent conditions. Recording elements include: 1) sound layers, 2) infrastructure sound, 3) musical sound, and 4) cross sectional tracks.

Based on literature of methodology discussed above, a ‘Typology of Sound Profiles’ is devised according to the objectives of the research. Based on the categories of biophony, geophony, anthrophony and their subdivisions, sound profiles of a housing area can be considered in two broad categories designated as ‘passive’ and ‘active’ according to the extent of human involvement and

intention in sound making. Five sound profiles were identified across the passive-active spectrum. These five profiles are not mutually exclusive, but aim to describe the way different sound sources intersect. 'Passive' sound profiles refers to sound products that involves no or indirect participation of human beings without obvious human intention. On the other hand, 'active' sound profiles are sounds that are produced directly or intentionally.



PASSIVE (Indirect Participation, Less intentional)		ACTIVE (Direct Participation, Intentional)		
Uncontrolled	Incidental	Incidental	Featured	
Geophony & biophony	Anthrophony, mainly electromechanical	Anthrophony, mainly physiological, electromechanical, controlled	Anthrophony, mainly controlled and with message	Anthrophony, mainly controlled and organized
<ul style="list-style-type: none"> • Swallows • Frog • Cricket • Cat • Birds • Dogs • Wind • Thunder • Rain 	<ul style="list-style-type: none"> • Construction – pillar builder, digger, bull dozer • Vehicles – car, motorbike, airplane, lorry, van , trucks • Air-cond compressor • Domestic – kettle, frying wok 	<ul style="list-style-type: none"> • Festivals: New Year, Chinese New Year, Deepavali, Christmas, • Events: Giant Opening Day • Night market 	<ul style="list-style-type: none"> • Siren • Bell • Alarm • School announcement • Swallow sound playback 	<ul style="list-style-type: none"> • Year-end concert • Music class • Karaoke

Table 1.2: Typology of Sound Profiles.

distributed indiscriminately to different age group of residents at different locations in Bandar Dataran Segar. The questionnaire consisted of nine structured questions and was divided into three major categories where it attempts to survey the residents' observation of the types of sound profiles that are present in their township. It should give a rough orientation on how selected sound clips of Bandar Dataran Segar were recognized.

1.9 Definition of Terms

Environmental sound / Sound environment

In this thesis, the two terms are used synonymously to refer to the presence of sound in background in a selected area or event at a certain point of time. Both terms are included in this thesis due to grammatical convenience and to maintain fluency in expression (Waterman, 2000).

Sound profile

It is the description of the type of sound sources and the way they co-exist in a selected area or event. In this thesis, sound profile is approached through a researcher devised typology which defines the nature of sound profile in to passive and active profile, which is further divided into subcategories according to the combination of sound sources.

Music activities in relation to sound profile

It refers to the presence of music created by the residents in various ways (actively or with the help of technical devices), the expression of organized sound, which can be identified in a sound profile. The presence of music is more prevalent in active sound profiles where temporary events such as celebrations and festivals take place.

Residents' perception of sound environment

This refers to the view points and opinions extracted from a survey made through questionnaire distribution that reveals the degree of awareness towards the environmental sound perceived daily by the residents in Bandar Dataran Segar. Furthermore, it includes the researcher's observation on the immediate behavior towards the sound environment shown by the residents, as far as confirmation is needed. Also, some issues of taste and judgment are important to these terms (Bourdieu, 2013).

1.10 Organization of the Thesis

The body of this thesis comprises six chapters which begin with an "Introduction" that gives a general idea of the background of the study including the objectives, literature review and methodology. The ensuing chapter is the background information of Bandar Dataran Segar which includes housing development policy and planning, the development of Bandar Dataran Segar, and the overall sound environment in the township. Chapter 3 includes sound profiles of housing areas at different times (morning, afternoon and night) while Chapter 4 describes the related music activities conducted or participated by the residents that fit the given sound environment. Chapter 5 discusses the perception of sound environment by the residents of Bandar Dataran Segar. Chapter 6 concludes from the observations and analyses made on the connection of the circumstances regarding sound environmental issues. Also, this chapter summarizes insights on music activities as part of it.

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