University of Glasgow

The Role and Standardisation of Geographical Names on Maps: Oman as a Case Study

by

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Abstract

Geographical names play prominent roles in various fields in Oman. While working in the National Survey Authority in Oman, the researcher found that there are some problematic issues related to the use and management of geographical names such as the lack of databases and the contradiction of geographical names caused by having more than one establishment dealing with geographical names. This study seeks to consider these and contribute to developing the use of the existing geographical names on maps in Oman. The aims are: (1) to investigate best practices for collecting, approving and managing geographical names; (2) to identify the existing policies, procedures and use of geographical names in Oman; and (3) to propose a system for collection, approval and management of geographical names in Oman.

The concepts and importance of maps, map history and their relationship with geographical names are discussed. This is in addition to highlighting the importance of geographical names and their functions and roles. The relationship between the proper names and the scale of maps was investigated. The results show that the proper names generally decrease in density in relation to the ground area covered as scale is reduced, but names increase in density on the map with reducing scale.

Methods for collecting geographical names are reviewed, followed by a discussion of the methods of recording and storing geographical names. The particular problems that face collecting geographical names in Oman were highlighted. They are the pronunciation of geographical names, the language differences, the inaccessibility of some areas and the lack of cooperation of local residents in provision of accurate information. The transliteration of geographical names in general and in Oman specifically is investigated with the most prominent problems that face geographical names transliteration in Oman identified. The first problem is the variety of languages and dialects in Oman as a result of Oman's rich history of trade and location which encouraged immigration. Other problems are the qualifications of the geographical names team and the lack of a responsible establishment for geographical names.

The standardisation of geographical names and its advantages are discussed, highlighting Oman's case in dealing with geographical names. From this discussion the importance of having a geographical names committee responsible for geographical names was

demonstrated and some examples of geographical names committees in a range of countries presented.

An analysis of the problem of standardisation of geographical names in Oman culminates in a proposal for a geographical names committee in Oman in order to overcome the problems identified. A committee structure is suggested, along with membership and responsibilities. This is followed by recommendations for supporting the proposed committee. For example, unifying geographical names and training all the geographical names team members. Finally, some other recommendations for further studies, such as creating geographical names gazetteer and studying geographical names in the Holy Quran, are suggested.

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Dedication

I dedicate this thesis to the soul of my father who was my first teacher. He did not teach me to read and write only, but to strive to be the best I can be and to achieve my aims. He was my role model and I feel he is always with me inspiring and supporting.

My mother, her love, caring and support was continuous source of motivation and inspiration throughout my study as she has ever been. She did not see much of me during my study, but her endless support meant a great deal to me.

My brother Ahmed, the father brother, who taught me to fight hard for what I believe. His encouragement and support has been greatly appreciated.

My brothers Mahmood, Mohammed and Moosa, they have always been a constant source of inspiration and encouragement.

I can not express the sense of gratitude I have for my mother in law, her patience, care and concern will never be forgotten.

My wife, her dedication to my success meant a lot to me. When my confidence was down and my spirits lagging, she was always there encouraging by supporting, love and inspiring regardless of her busy workload.

My children Basil, Reem and Rahaf, their love, cuddles, smiles and presence have been a continuous source of motivation and inspiration throughout my study. This thesis is as much theirs as mine.

To my uncles, aunties, sisters in-laws, my cousins, nephews, nieces and the rest of my family and all who have helped me along the way, and all who are interested in the geographical names I dedicate this thesis.

Acknowledgement

The Master's program at the University of Glasgow was a wonderful growth and learning experience for me. I have gained a great deal which will help me personally and professionally. First and foremost, my deepest gratitude and thanks go to God. Without his will and generosity, neither this journey or any other accomplishment would have been possible.

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Eternal thanks are extended to all who helped me along the way I can not mention them by name but they know who they are. In particular I would like to thank Naser Al Shekili, Rashid Al Alawi, Khalid Al Alawi, Mohammed Al Rawahi, Zayed Al Rahbi, and Khamis Al Qasmi.

My deepest thanks go to all of the National Survey Authority members. I extend my sincerest appreciation to the Glasgow University staff and colleagues. Thank you all.

Chapter One - Introduction

The role and standardization of geographical names on maps: Oman as a case study.

1.1 Background to the Project

Geographical names play prominent roles in our lives. They are not only used in Geography to identify positions and places in maps but they are also used in various other fields. For example, historians use them to identify the place of events. Moreover, in military geography names are used in war plans. In addition, they play an important role in the economy. Although geographical names have great importance in different fields, there are few studies considering their importance, roles and the ways of their collection, documentation and standardisation. While the author was working in the National Survey Authority in Oman (1995-2006), he discovered that there are no complete databases for geographical names in Oman. He also found that there is a lack of national documents about geographical names, uses, importance, collection, documentation and unification or standardisation.

1.2 Aims

The main aim of this research is to contribute to developing the use of the existing geographical names on maps in Oman. This overall aim is achieved through the following:

1. To investigate best practice for collecting, approving and managing Geographical Names. This includes discussion of the various ways of translating and transliterating names from Arabic into Roman (Latin) script and the problems of the various dialects which form an obstacle to collecting names.
2. To identify the existing policies, procedures and use of geographical names in Oman.
3. To identify the best system for collection, approval, management and use of Geographical Names in Oman. This includes clarifying the importance of a unified system for recording and managing geographical names and highlighting the need for a committee for geographical names to work with a unified system in Oman.

1.3 Objectives

By completing this research the author hopes to have:

1.3.1 Objective 1

Identified principles of best practice for collecting approving and managing geographical names.

1.3.2 Objectives 2

Described the current policies, procedures and the use of geographical names in Oman.

1.3.3 Objective 3

Compared systems for translating and transliterating geographical names from Arabic to Roman (Latin) script and discuss issues related to local language variations and dialects in Oman.

1.3.4 Objectives 4

Explained the advantage of a unified set of officially recognized geographical names for Oman.

1.3.5 Objectives 5

Identified a system for recording and managing the geographical names for all the maps in Oman.

1.3.6 Objectives 6

Presented a possible structure for a geographical names authority for Oman.

1.4 Methodology (tasks, methods, data, equipment)

The main problem is the rarity of Omani references related to this topic. Most references are from United Nation Group of Experts on Geographical Names(UNGEGN). However while the author was working in the National Survey Authority (Oman) and considering geographical names he discovered that the geographical names in Oman needed more attention and some problems needed to have solutions. Below are some paragraphs on how to achieve the objectives listed in section 1.3.

1. Analysis of the United Nations and national Geographical Names authority documents to identify policies and procedures for collecting, approving and managing geographical names.

2. National Survey Authority in Oman established a section for considering the geographic place names. As well in Muscat Municipality there is a geographic information system department. Moreover, the Ministry of National Economy and the Ministry of Interior have similar departments. The existence of different bodies considering geographical names causes confusion. In this study the researcher will analyse documents to highlight the differences. This is especially because every unit has its own methods.
3. Identify existing policies for transliterating and translating geographical names in Oman from Arabic to Roman (Latin), and the problem of local dialects. This will come through the analysis of some documents and references considering the different between dialects and the main language. Moreover, the experience of other countries who have the similar problems with dialects will be considered.
4. Over the last 40 years the United Nations and others have presented much argument supporting the need for official recognition and management of geographical names. By analyzing this theory and practice in other countries, the key elements relating to the situation in Oman will be identified and presented, supported by specific case studies from other countries.
5. Based on best practice identified in objective 1, issues of transliteration and other specific issues related to Oman, the proposed policy will be closely modelled on the UNGEGN suggested procedures.
6. Analyse documents describing the geographical names committees of different countries and assess the structure which will be most suitable for Oman given its existing structure of Government, government committees and mapping activities.

1.5 Structure of the Thesis

Altogether there are six chapters in the report

Chapter one is this introductory chapter.

Chapter two addresses the concept and the importance of maps and the relationship between the maps and geographical names. (This include the roles and use of geographical names.)

Chapter three discusses how geographical names are collected, approved and managed.

Chapter four includes the geographical names transliteration from Arabic to Roman (Latin) script and the local dialects in Oman.

Chapter five identifies the standardization system of geographical names and the geographical names committees.

Chapter six is the conclusions of the thesis. It includes the proposal for a geographical names committee in Oman and other recommendations.

Chapter Two - Maps and Geographical Names

2.1 Introduction

Spatial knowledge starts for all of us at birth, and continues as we store up impressions of our surrounding environment by direct experiences through the senses of touch, sight, smell and sound and by indirect experiences through T.V, photographs, the written word and other secondary sources. Spatial knowledge acquired in this way can be called mental or cognitive maps (Muehrecke & Muehrecke, 1992). As our mental cognitive maps are limited, cartographic maps are essential. Cartographic maps have been used for centuries to visualize spatial data. Maps help their readers to better understand spatial relationships and geographical names make maps even more understandable. In this chapter map history, definition and function are presented. Particularly, geographical names and the relationships between maps and geographical names are examined. A map classification is considered, in order to more clearly show the relationship between maps and geographical names; to this end the researcher carried out an analysis of different scale maps. This chapter also considers the functions of geographical names on maps and concludes with a consideration of the particular roles and use of geographical names in Oman.

2.2 Map History

Maps are an ancient invention; people discovered their importance probably over four thousands years ago. The oldest known map is the remnants of clay tablets discovered in Baghdad, dating from about 2500 BC (Figure 2.1). The map shows mountain ranges on each side and two rivers joining near the right of the map. The localities of special interest are designated by circles, within which the names are written (Campbell, 1993). Other ancient maps of the world have been discovered, for example in Ancient Greece, in about 500BC, Hecataeus (a Greek historical and geographical writer) produced a map of the earth with the Mediterranean at the centre (Dorling & Fairbairn, 1997).

Figure 2.1 Clay-tablet Map, the oldest known map, Circa 2500 B.C. 7 Centimetres Wide (Thrower, 1972)

Considering map history, one cannot ignore the input of Claudius Ptolemy who worked in the Alexandria library and lived from 90 to 168 A.D. Ptolemy's reputation as a geographer rests mainly on his book "Guide to Geography". The "Guide to Geography", which was divided into eight books, included information on how to construct maps and lists of places in Europe, Africa, and Asia tabulated according to latitude and longitude. (Dorling & Fairbairn, 1997). Nowadays, "Guide to Geography" cannot be considered a good geography book as it contains many faults. However, from a historical point of view it helped to improve map development. For example, the earliest "Age of Discovery" map publications, produced around 1480, derived the coordinates of more than 8,000 places from the "Guide to Geography", and provided a basis for a set of 27 maps of the ancient world (Potter, 2007).

In the Islamic and Arabic worlds, there were some scholars in cartography made famous in two ways: first by translating into Arabic the scientific works of a range of neighbouring societies, and second, more independently, scholars such as Al-Balkhi (died AD 934) and Al-Bairuni (AD973-1050) who concentrated on the determination of the *qibla* (direction of prayer towards Mecca), or Al-Idrisi (AD1100-1170), who was employed at the court of King Roger in Sicily and completed a map of the known world in the 12th century (drawn with the south at the top (Dorling & Fairbairn, 1997).).

For Europeans, the so-called "Age of Discovery" (early 15th century to early 17th century) added more details of cartographic knowledge through their expeditions to other parts of the world. The Portuguese were the main initiators of such expeditions. During the middle of the 15th century, the Western Coast of Africa became familiar to the Portuguese and by the end of the 15th century a route around the Cape of Good Hope towards Asia had been opened up by Vasco da Gama. Portuguese charts helped remarkably in providing details of the East African Coast, India and islands such as Madagascar and current day Sri Lanka. This is in addition to the Spaniards, such as those led by Columbus, and the English expeditions under John Cabot. However, most of the maps produced for and by sea born expeditions were navigational charts for sailing ships (Dorling & Fairbairn, 1997).

Developments in science and technology have affected the framework within which mapping has taken place, the content of the map and the method by which the map has been manufactured. Advanced knowledge of the principles of mechanics, magnetism, chemistry and electronics has found application in the mapping process. Moving from manual techniques based on simple hand-held tools, which dominated map making for thousands of years, toward printing technology, was a prominent stage in cartography. Printing and the related mechanical technology is a major technological innovation. The use of printing machines in the map making process increased the speed and efficiency of map production. Although map printing was an important step, the greatest change in cartography took place in the last quarter of the 20th century, when the computer became indispensable to cartography. As a result, all data gathered could be managed by Geographic Information Systems, which is easier for reading, using, changing, adding and understanding the data (Robinson et al., 1995).

2.3 Map Definition

What is a map? There are many definitions. **Mappa** is a Latin word and refers to the material on which the map is drawn, such as signal clothes, towels and napkins, used to guide the armies through unknown terrain. The word **mundi,** which means 'world' was added in medieval times to give **mappa mundi or** 'maps of the world' (Dorling & Fairbairn, 1997).

The map is a picture of the earth, as is clear from figure 2.1, to which lettering is added for identification. Indeed, maps are not limited to the earth only, but have been extended to represent the moon and other planets. Moreover, they present patterns that exist on the ground (topographic maps), under it (geologic maps) or above it (weather maps) (Southworth & Southworth, 1982).

2.4 Map Functions and Uses

The variety of roles that maps play is astonishing. Sometimes we try to use our mental cognitive maps to remember where we were, where we are and where we will go next day. However, this may be ineffectual, for example in strange places. Here maps are necessary and the location names are important to guide us for both the direction and position we seek. In addition to these most important map functions of orientation or navigation, maps have some other uses in our life (Dorling & Fairbairn, 1997; Campbell, 1993; and Southworth & Southworth, 1982), including :

- Representing the world in which we live;
- Preserving the location attributes of information we acquire (and to show the locational relationships between one feature and another);
- Providing tools for governance to help in making policy and regulation;
- Indicating the distances and directions between locations;
- Determining the patterns formed by many types of distributions on the Earth's surface;
- Showing the distributions of more abstract features, such as the flow of trade, use of communication facilities, the extent of political influence, the areas occupied by people of various races, languages and religions;
- Indicating the features found on the surface of extraterrestrial bodies such as the Moon and the other planets;
- Comparing studies, planning and strategic patterns;
- Analysing and planning military strategies in peace and war situations;
- Evaluating property and keeping land records, for examples maps were used for this purpose before 2500 B.C. in Babylonia and ancient Egypt.;
- Simulating the real world by using computers and maps. This method is used in military training for soldiers and pilots. The computer flythroughs present the data to

the user, realistically. In addition, maps are used to present urban and redevelopment plans.

The functions of maps vary from simple, such as indicating distances, to more complicated and important, such as helping in making policy and regulations. These map functions reflect the importance and necessity of maps in human lives. Reviewing the definitions of maps has highlighted that maps are pictures of earth to which letterings are added for identification. These letterings are geographical names which will be considered in the following section.

2.5 Geographical Names

The naming of places and geographical features is a very human activity, springing in the first instance from a need to know and relate to landscape. The mass movements of people, in the last several centuries, and nostalgia for "home" places, has uniquely marked the geography and history of the landscape. Despite the importance of geographical names, there is no single definition of them. However, all different definitions are related, as is clear from the next section.

2.5.1 Definitions of Geographical Names

The United Nation defines a geographical name in their documents as "a name applied to a feature on the Earth" (UN, 2006). But in general, a geographical name is the proper name used consistently in a language to refer to a particular place or feature, or to provide a recognizable identity on the surface of the Earth. The features that have geographical names include (UN, 2006):

- Populated places
- Civil divisions
- Natural features
- Constructed features
- Unbounded places or areas that have a specific location; for example grazing land, fishing areas and sacred areas.

A geographical name may also be referred to as a topographical name or toponym (a term that in the wider context can also include extraterrestrial names, such as the names applied to features on the Moon or on the other planets) (UN, 2006). However, the South Africa Geographical Names Council defined geographical names as names of features on the Earth that are natural, or man-made and adapted and they can be populated or unpopulated

(South Africa Geographical Names Council, 2002). In this South African Geographical Names Council definition, geographical names are defined as the names of features on the Earth, without mentioning extraterrestrial names on other planets (South Africa Geographical Names Council, 2002).

From these, it can be seen that some definitions are limited to the names of features on the Earth, such as the South Africa Geographical Names Council's definition; other definitions are more comprehensive such as the third definition, which include the extraterrestrial names in addition to the names on earth. Thus geographical names refer to features on Earth and extraterrestrial names.

2.5.2 The Relationship between Maps and Geographical Names

There is an "argument" between some cartographers about names on maps (Robinson et al., 1984); some cartographers think the names complicate the representation of information and they call names a "necessary evil", others think that names on maps are important to indicate the features and to identify the mapped items. A use of geographical names on maps is to understand, how, where and who made the map. Returning to the functions and uses of maps, one can see that names are essential elements and the inclusion of place names is an important part of the map information. Moreover, place names might help maps to function properly.

Names came before maps. In the Holy Quran, in the second surah Al-Baqara, or the Cow, verse 31 reads "And He taught Adam all the names (of everything)". In the Ibn Katheer commentary of the Quran names are the names which the people used with each other such as the sky, earth and sea. Similarly in the Bible names also were highlighted, in Genesis, Chapter 2 "19 And out of the ground the LORD God formed every beast of the field, and every fowl of the air; and brought them unto Adam to see what he would call them: and whatsoever Adam called every living creature, that was the name thereof. 20 And Adam gave names to all cattle, and to the fowl of the air, and to every beast of the field". Although the Quran seems a bit different from the Bible as in the Quran Adam was given the names by God whereas in the Bible God allowed Adam to select the names, both versions stress the importance of assigning names.

The most important issue about the relationship between maps and geographical names is that maps without names are “dumb” or silent. Maps without geographical names are difficult to understand, and vice-versa. The relationship between maps and geographical names is that the names make maps more useful and understandable. But also maps define the names, giving them meaning and making them clear. To understand this relationship more fully, it is necessary to understand first maps and then geographical names and their functions.

2.6 Map Classification

There is no single classification system for maps. However some efforts have been made to classify maps by both their contents and their scales. Within such classifications geographical names may be expected to differ in text, colour, size or direction. This will be seen later in this chapter as the researcher compares four maps with different scales. First the categories, forming the bases of classification systems, will be considered.

2.6.1 Map Categorised by Function and Content

Categorising maps according to function and content can result in the following:

1. Topographic maps. This type of map portrays terrain, physical and cultural features in a measurable way, as well as the horizontal positions of relief features. They divide in two groups; the first one is produced by an official agency such as the National Survey Authority (Oman) and the second one is concerned with particular places and is used for special purposes (Keates,1989). Normally this type of maps uses contour lines for relief representation.
2. Thematic maps. This type of map concentrates on the visualisation of a single attribute or relationship (Figure 2.2.). Thematic maps range from satellite cloud cover images to maps of election results. They are typified by maps of precipitation, temperature, population, atmospheric pressure and average annual income (Robinson et al., 1995).
3. Image maps. This type of map is an orthorectification of an aerial photograph or remotely sensed image with added grid lines, marginal data, place names, important elevations, boundaries, scale and direction.

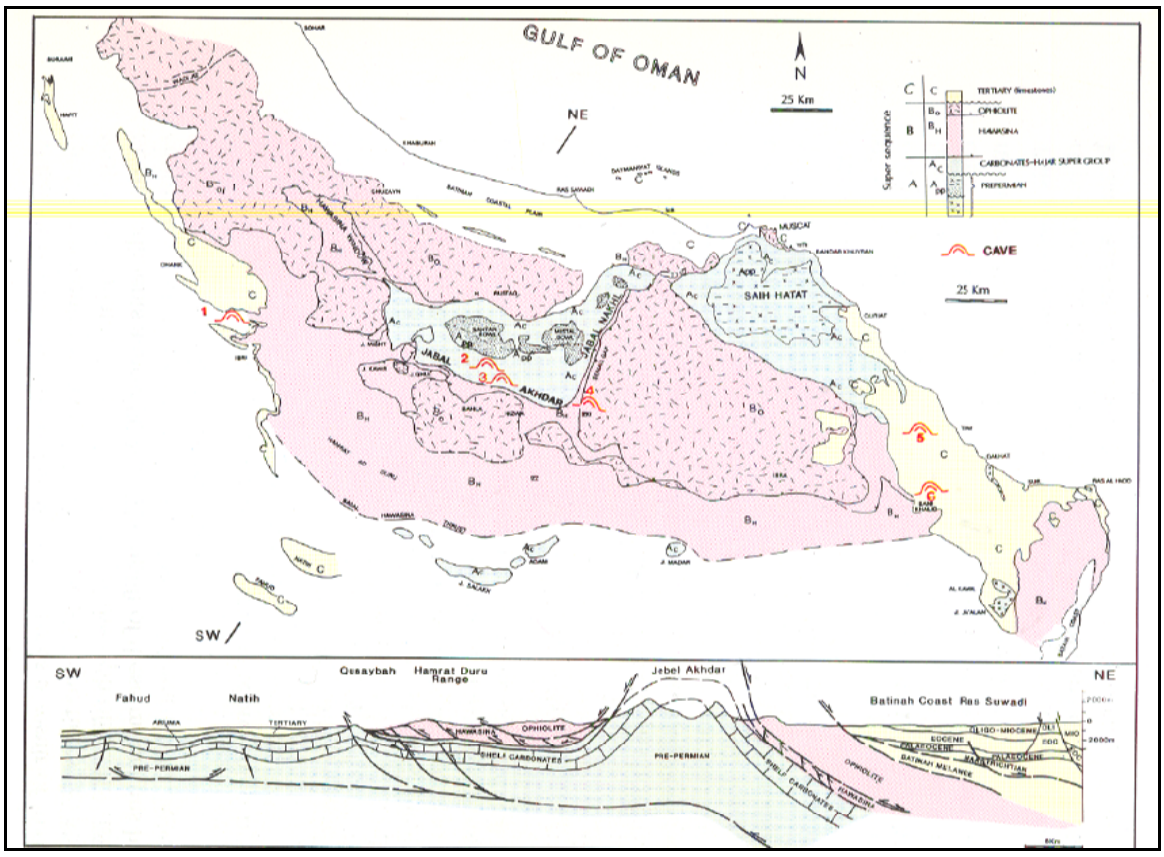


Figure 2.2 A thematic map; in this case a geological map of part of the northern Oman mountains (Samir and Al-Belushi, 1996)

4. Special purpose maps. The emphasis is on the information required to carry out a particular task, generally related to navigation or way finding, such as charts, road maps or street plans.

2.6.2 Maps Categorised by Scale

A map's scale is the relationship between a map's unit of length and the corresponding length on the ground. Four major scales categories can be identified: large, medium, small and very small (UN, 1991 and Branderburg et al., 1991), typically ranging as follows:

1. Large scale

1:1,000 - 1:35,000 (1.8 or approximately 2 inches to 1 mile) and larger

2. Medium scale

1: 35,000 – 1:200,000.

3. Small scale

1:200,000 – 1:1,000,000.

Small-scale maps often have more classes of names than the larger two scales; this is because of the large area they depict in a smaller space on the map. 1:250,000 is one of the most common scales for general topographic maps.

4. Very small scale

<1:1,000.000. Sometimes referred to as 'atlas scale' or 'geographical' maps, such maps can show large regions in a relatively small space.

Figure 2.3 Example of Part of a Very Small-Scale Map (NSA Sultanate of Oman, 1:1,300,000, 2005)

2.7 Function of Names

A map is dumb and illiterate without names and text on it. Thus names on maps are essential. There are various types of geographical names, such as proper names and descriptive names on maps. Proper names are the nouns used to refer to specific places and geographic features, such as countries, states, oceans, seas, major cities or rivers and lakes (Kadmon, 2000). Descriptive names are the names that designate a topographic feature by its properties, but that does not constitute a toponym such as airfield, canal or water tower (Kadmon, 2000).The main functions of names on maps can be summarized as follows:

- **Identification – what is there?**

Names on the maps identify features and their location. So in reading, they create voices reflecting the meaning of features, which are contained on maps (Robinson, 1978).

- **Location / extent of features – where is it?**

Spreading area names gives an indication of extent. The position of a name can show the linear and aerial extent of features such as mountain ranges and national areas (Robinson et al., 1984).

- **Classification – by using appropriate typographic characteristic**

This could involve classifying the features or classifying the elements that are contained in the each feature. The names help to show the differentiation between the natural features and the human features. For example, in Oman the researcher found that the natural features are written on maps as they are without translation to the English such as Wadi (valley), Raml (sand) and Tall (hill), while the human or industrial features are written in maps after translation to English such as University not Jamaa, Station not Mahatta, Castle not Hisn (Hourani & Heyda, 1983).

- **Increase the reader's comprehension of the map content**

The correct name in the proper place with good distribution in the features help to increase the understanding of the map content. Moreover, this makes the maps more attractive (Rimawi, 1992)

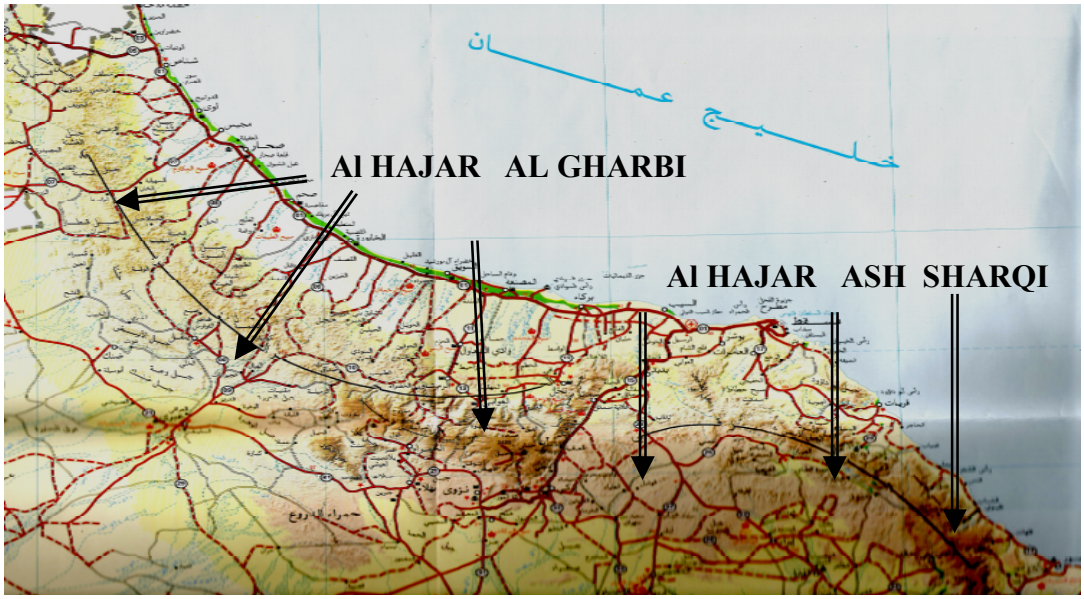


Figure 2.4 The Names Direction Shows the Areal Extent in Mountain Ranges (NSA Sultanate of Oman, 1:1,300,000, 2005).

2.8 The Type Characters and their Relationship with Names and Features

Type on a map is a graphic symbol and by its elements such as form, size, style and colour helps to indicate the feature classification. In the English language the order of reading is from left to right while in Arabic is from right to left (Fig 2.6 and Fig 2.7).

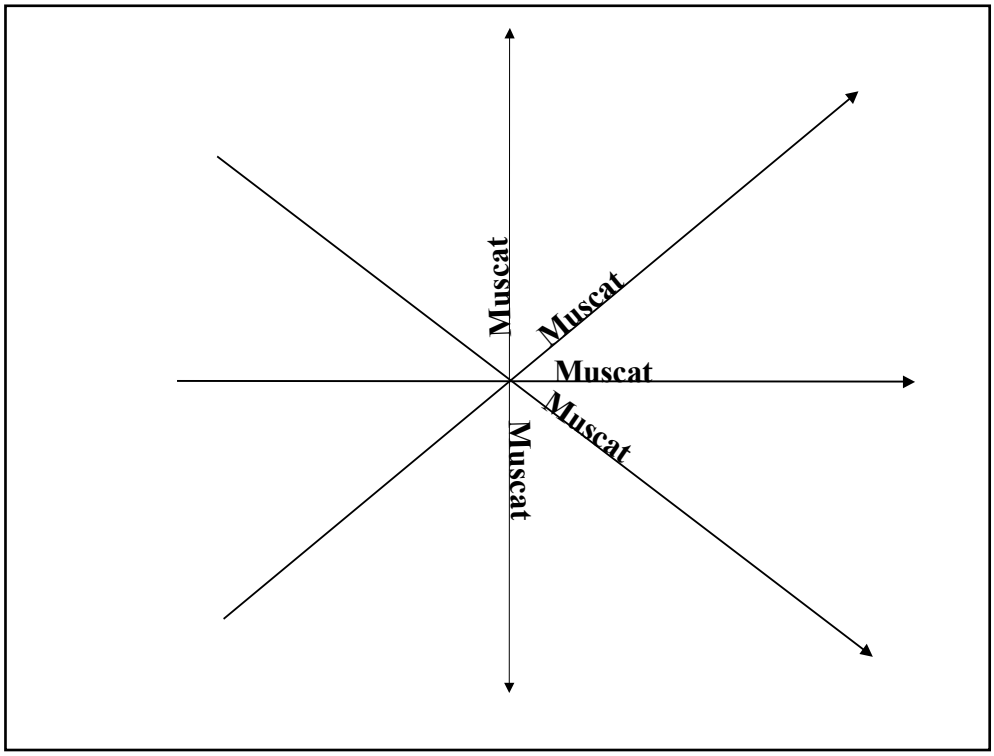


Figure 2.5 The Direction of the Names and Type in the English Language

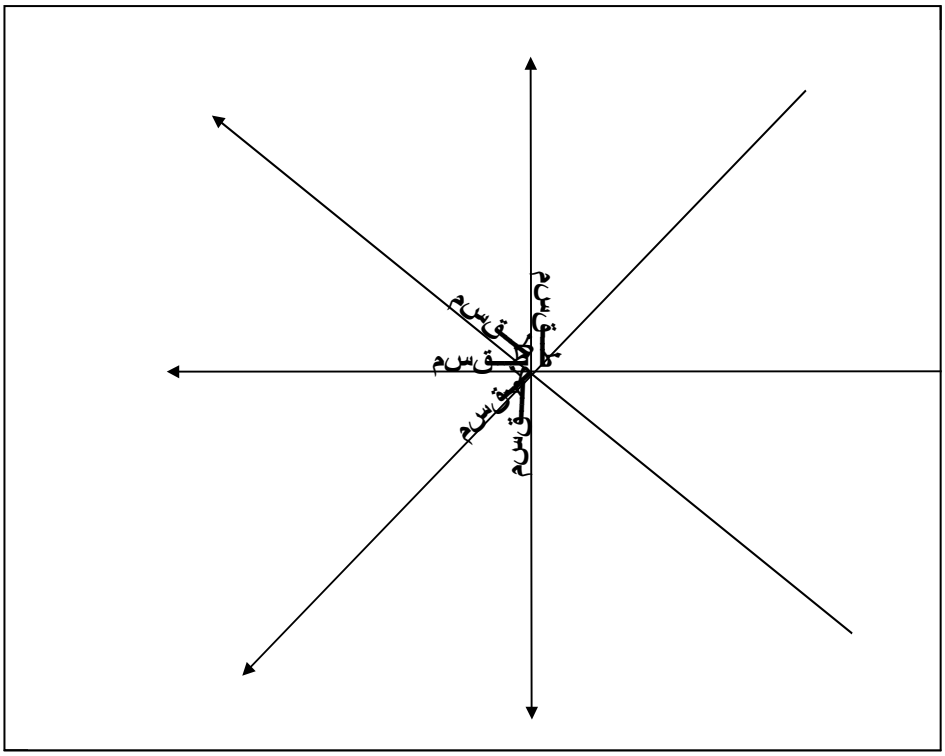


Figure 2.6 The Direction of the Names and Type in the Arabic Language

Moreover, the typical position for the names in relation to the associated features establishes the features more clearly. For example, for the point feature below and in the English language the best position is to the right of the symbol. This also depends on the projection and map scale. Figures 2.8 and 2.9 illustrate the preferred positions for point feature names for the English and Arabic languages.

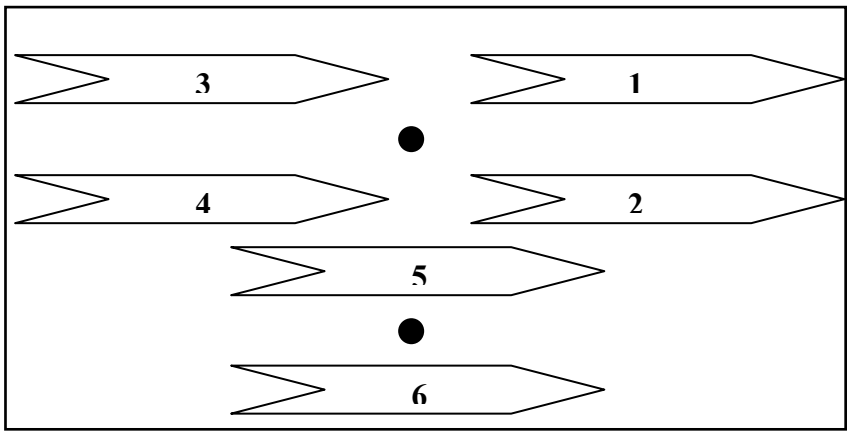


Figure 2.7 Preferred Name Positions for Point Features in the English Language

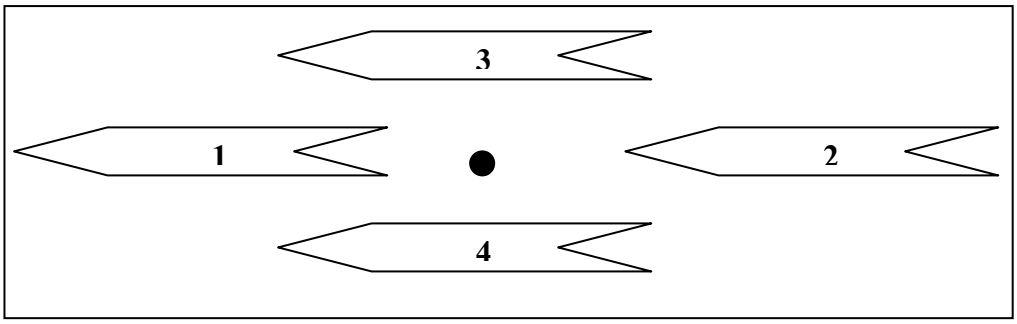


Figure 2.8 Preferred Name Positions for Point Features in the Arabic Language

For linear features, the names should be alongside the line and follow its direction. For the area features, the names must be adjusted to the area's extent. For example, in the mountain ranges and seas, which do not have symbolised boundaries, the names should make clear the feature extent (Fig 2.10) (Keates, 1989).

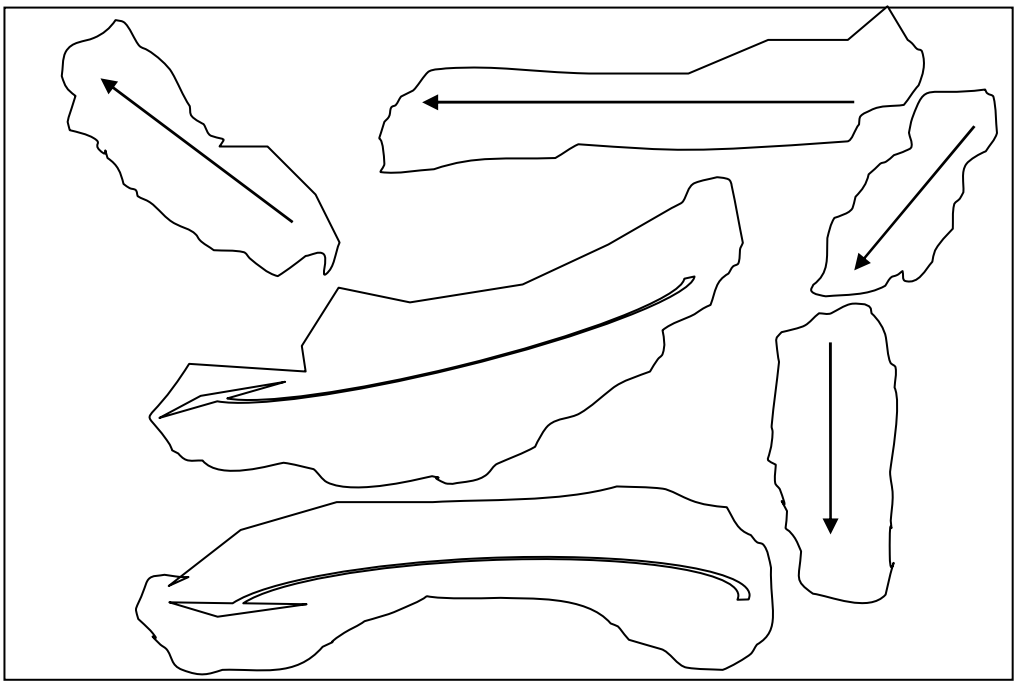


Figure 2.9 Names Arrangement and Direction for Area Features in Arabic.

2.9 Map Scale and Name Density

In order to study the relationship between map scale and the density of names several maps at different scales were evaluated for three different areas. These maps cover three large cities in different countries and the nature of the landscape is urban. Four different scale maps of As Seeb, Oman, four different scale maps of Ad Dawhah, Qatar, and four different scale maps of Colchester, UK were used. These three cities have different populations: the

population density in As Seeb (Oman) is 172 people per km^2 (Oman, 2007); it is 472 in Colchester (UK) (UK, 2007); and more than 6000 in Ad Dawhah (Qatar) (Wikepedia, 2007).

The table below shows the details of the above comparisons.

Table 2.1 The Relationship between the Scale and the Density of Geographical Names

Map and Scales	Proper names	Descriptive names	Total	Ground Area (km^2)	Map area (cm^2)	Proper names per km^2 in the ground	Proper names per cm^2 in the map
As Seeb (Oman)							
1:20,000	**18**	**130**	**148**	**1300**	**6500**	**0.0138**	**0.0028**
1:50,000	**20**	**3**	**23**	**1300**	**2600**	**0.0154**	**0.0077**
1:100,000	**19**	**7**	**26**	**1300**	**1300**	**0.0146**	**0.0146**
1:1,300,000	**4**	**-**	**4**	**1300**	**11.6**	**0.0030**	**0.3448**
Ad Dawhah (Qatar)							
1:10,000	**3**	**10**	**13**	**50**	**5000**	**0.0600**	**0.0006**
1:50,000	**11**	**5**	**16**	**50**	**100**	**0.2200**	**0.1100**
1:100,000	**10**	**3**	**13**	**50**	**50**	**0.2000**	**0.2000**
1:200,000	**6**	**1**	**7**	**50**	**25**	**0.1200**	**0.2400**
Colchester (UK)							
1:25,000	**66**	**394**	**460**	**200**	**800**	**0.3300**	**0.0825**
1:50,000	**30**	**268**	**298**	**200**	**400**	**0.1500**	**0.0750**
1:250,000	**25**	**3**	**28**	**200**	**50**	**0.1250**	**0.5000**
1:1,000,000	**3**	**-**	**3**	**200**	**12.5**	**0.0150**	**0.2400**

The comparison shown in Table 2.1 use 'names density', particularly 'proper names density per km^2 on the ground' and 'proper names density per cm^2 in the map'. Names density means the number of names in the study area divided by the ground or map area.

In general, in this small sample, the total number of names within an area reduces with scale. Descriptive names are most extensively used at larger scales, becoming relatively scarce at small scales. For proper names, the main focus of standardisation, the data is less consistent, but general trends can be observed. As scale is reduced the number of names per square kilometre on the ground decreases, but conversely, the number of names per square centimetre of map increases. This is to be expected as the space available on the map decreases with scale. This relationship is expressed simply in figure 2.2.

In addition, the relationship between the font size and the scale has a direct relationship to name size. When the scale is large the name size on the maps tends to be large, and on the small-scale maps the name size is small.

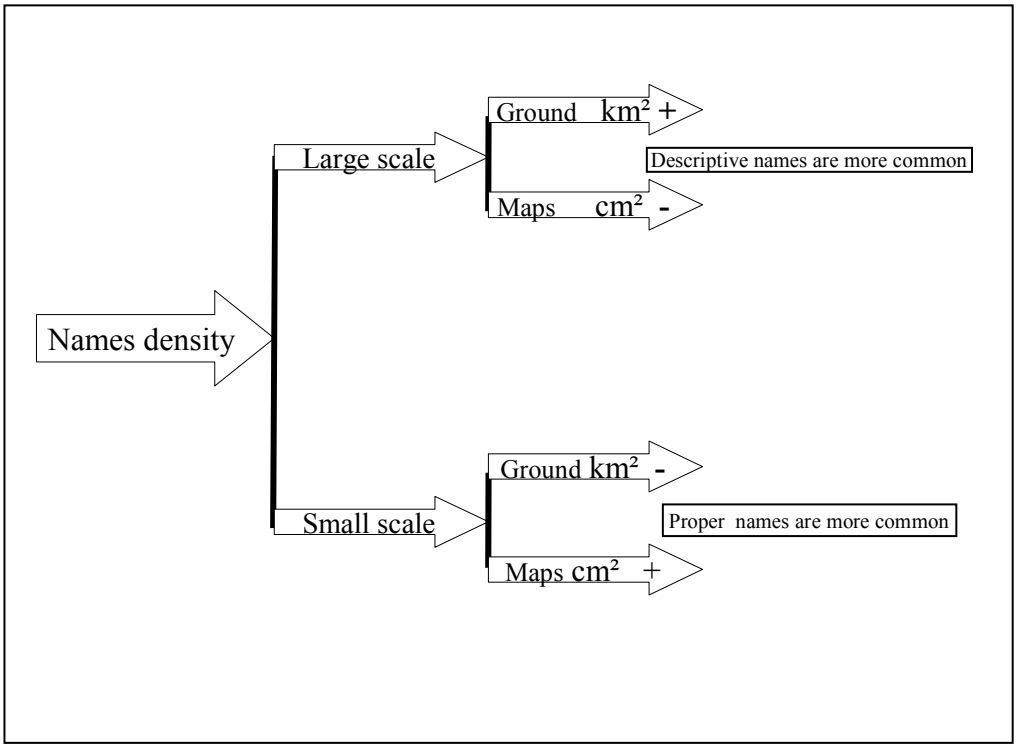


Figure 2.10 The Relationship between the Scale and the Density of Geographical Names

2.10 The Roles and Use of Geographical Names in Oman

Geographical names have several functions. They are an indispensable part of language, for identifying places and they are an important part of a nation's cultural heritage.

Turning to Oman, before 1970 there was a lack of basic facilities such as electricity, schools, and hospitals. Since then the situation has changed; the government started a new plan for the whole country, developing the infrastructure such as establishing hospitals, schools, roads and communication services. As a result, the use of geographical names increased and the following are some examples of how this has happened:

1. Helping to make censuses of population and settlements. Oman established the censuses of population and settlements in 1993 and completed a second one in 2003. The Gulf Council of Arab States (GCC) agreed to carry out the first simultaneous census of population and housing in all GCC states in 2010 on a unified basis (Ministry of National Economy, 2007).

2. In urban and regional planning. The committee for town planning was set up in 1985. It prepares general town planning policies within the context of the development plans (The Supreme Committee for Town Planning, 2000).

3. In the media field. The three parts of Omani media, TV, Radio and the Press, use geographical names in their work such as newscasts, and present place names for local and foreign users (Oman, 2005-2006).

4. Producing maps and atlases. Since the Omani government established the National Survey Authority, it became the responsible body for considering map production and geographical names collecting and publishing them on maps (NSA, 2007).

5. Natural disaster relief, emergency preparedness and receipt of aid (The Supreme Committee for Town Planning, 2000).

6. Environmental management – sustainable development and conservation (Ministry of Regional Municipality, Environment and Water Resources 2007).

7. Tourism. It is worth mentioning that the recent establishment of a Tourism Ministry in Oman gives rise to more need for using geographical names especially in their English form. Navigation, for the different means of land, air and marine transportation.

8. Military use, for both training and war. Maps that include the geographical names. coordinates and the topographic relief are necessary to illustrate positions.

9. Recently geographic information systems have become indispensable in many sectors such as transport systems, education, health service departments, trade and commerce. For example, geographical names are used to manage any difficult situations such as overcoming traffic jams and carrying out a rescue. Moreover, the system, by using geographical names, creates more benefits for the health and education services such as distributing supplies to schools, health centres, and the hospitals in the cities, countryside and housing settlements.

10. Defining the boundaries with other states. Oman has completed the delimitation of its international boundaries and signed agreements for these with its neighbouring states: the Kingdom of Saudi Arabia, Republic of Yemen and the United Arab Emirates, for the land boundaries. In such cases, the main details, such as geographical names, are essential to define the boundary line position (Ministry of Foreign Affairs, 2007).

11. Municipalities' publications and services. Issuing and changing a geographical name is one of the municipal councils' roles for Muscat and Dhofar Municipalities. Moreover, they use geographical names in their publication such as maps and books (Muscat Municipality, 2005) and (Dhofar Municipality, 2007).

12. Publishing gazetteers and encyclopaedias. Recently a Land Encyclopaedia and Wadi Atlas, for Oman, was published in Oman. The availability of geographical names helps in that (The consultant's Office for His Majesty the Sultan for the Affairs of Economic Planning, 2005).

Figure 2.11 Sultanate of Oman and its Neighbourhoods (NSA, 2007)

Maps are great a invention which have been used for centuries. This chapter explored maps history, definition, and their relationship with geographical names. Moreover this chapter highlighted the importance of geographical names, their functions and roles in general and in Oman. The next chapter will discuss the methods and means of collecting, recording and storing geographical names. Moreover, the ways of approving and managing geographical names in general and in Oman, specifically, will be discussed.

Chapter Three - Collecting, Approving and Managing Geographical Names

3.1 Introduction

Collecting geographical names from the field is a very important process as creating the approved set of feature names depends on this process. The names become official for subsequent reference, public circulation and all other uses. Moreover, collecting geographical names in the field is sometimes the only way to identify names of features which do not have any other available references (Al Zoqurti, 1997). As a way of securing native language and cultural heritage, both native communities and non-native bodies are now taking steps to ensure that geographical names are collected. There are various ways of collecting geographical names; traditionally, geographical names have been passed orally from one generation to another but nowadays as well as the oral route and through writing, there are the cartographic, audio and information technology routes. In this chapter, the goals of collecting geographical names are considered. In addition, the various methods of recording and storing geographical names are discussed. Specifically, the steps for collecting geographical names from pre-preparation, through the interview and on to data analysis, after the field work, are discussed.

3.2 The Goals of Collecting Geographical Names

There are some important goals associated with collecting geographical names. The most important one is collecting new names. However, sometimes the names are not new but there is some other need to collect them. For example, all known geographical names are collected to be identified linguistically. This is in addition to being able to precisely locate the named geographical point or area. Moreover, known geographical names are collected to obtain relevant background information to situate both the name and its space in the cultural, political and socio-economic arenas. Another goal for collecting geographical names is to fulfill the United Nations task (UNGENGN) to complete a list of geographical names in each country (UN, 2006; Canadian Permanent Committee on Geographical Names, 1992).

3.3 The Methods and the Means of Recording and Storing Geographical Names

Work by Kadmon (1993) has identified five procedures, discussed below.

3.3.1 Mental Storage and Oral Transmission

Geographical names are passed from one generation to the next by word of mouth (orally) and remembered mentally. This method is still used now in those societies which have no writing, but is prone to inconsistencies being introduced.

3.3.2 Bibliographic Storage

Bibliographic storage means storage in a written form, biblia being the Greek for books. Lists of geographical names are found in some of the oldest written documents, such as the Tellel-'Amarna tablets of the 17th century B.C., found in Upper Egypt. One of the best-known ancient name lists is that produced by Claudios Ptolemaio (Ptolemy) of Alexandria in his "Geographia" in the 2nd century. Nowadays, such written, usually printed, records include name lists, name indexes and gazetteers.

3.3.3 Cartographic Storage

From an early stage, maps included geographical names. The main advantage of recording a toponym on a map lies in the fact that its location on the map is partly analogous to its location on Earth. In the past, maps were produced manually on various materials such as clay, papyrus and vellum, whereas today paper as well as some other materials such as polyester constitute the main medium. Moreover, digital computers files often replace the physical map (and the computer screen the paper!).

3.3.4 Audio-Mechanical and Electronic Storage Media

As soon as human speech was reproduced by phonographs on wax cylinders in the late 19th century, geographical names were also recorded. Later, phonographic records (discs) replaced the wax cylinders. From the 1930s, voice including the vocal expression of geographical names was recorded on film for the movies, magnetic tapes and after the World War II, cassettes, served to record geographical names. Today, compact disks provide a similar facility. The major advantage of audio recording is to record the precise pronunciations by a native speaker.

3.3.5 Computer Media

The advent of digital computers brought with it a development along two lines: numerical and alphabetical or verbal. Geographical names with relevant information can be introduced into a computer as input. Then, they can be processed and stored in digital media such as magnetic tapes, hard disks and small diskettes. Later, they can be turned into output. They can also be transferred to other computer system. Each of the previously discussed methods of recording and storing geographical names has its own advantages and disadvantages.

3.4 The Abilities and Tasks of Team Members

Selecting survey teams to collect geographical names needs considerable care. The team members must have certain abilities. Some of them are based on personal experience and others are associated with their qualifications and training in collecting geographical names. Regarding personal abilities, the team members must be able to speak, read and write the native language of the country. Moreover, the team members must have sufficient knowledge of most of the working area dialects. It is also preferable that the geographical names collecting team includes a member who is from the area, whenever this is possible. The team members must also understand the local situation and have reasonable knowledge of the area's history, available relics and civilizations. This is in addition to understanding the working area's customs and norms. It is also preferable that the team members have some other personal abilities such as being fluent and having the ability to deal with the people of the area and gain their trust. In addition to their personal abilities, there are some essential qualifications such as having the necessary skills in map reading. Moreover, it is important to have appropriate training in collecting geographical names. The team members should also have complete facility with maps, aerial photos and how to deal with them - this is in addition to the knowledge of basic natural phenomena such as rocks and geomorphologic features (Al Zoqurti, 1997; Canadian Permanent Committee; on Geographical Names, 1992).

3.4.1 Some Roles or Tasks of Geographical Name Collecting Team Members

Besides the abilities of the geographical name collecting team, there are some roles or tasks that each member plays in the team (Canadian Permanent Committee on Geographical Names, 1992), which are listed below.

1) **Coordinator**: communicates with native agencies and name authorities; responsible for the conduct of the survey; assigns tasks to team members; applies and accounts for funding; directs training sessions; supervises processing of names; and submits names for official recognition.

2) **Team leader**: leads the field survey; plans interviews; directs the team; maintains liaison with native organization; and reports on progress.

3) **Interviewer**: carries out interviews; records information on the maps or on forms.

4) **Interpreter/translator**: Undertakes interviews; interprets names; and translates information.

5) **Secretary/records clerk**: files maps and forms; safeguards information and equipment; ensures completion of forms; arranges for copying and accommodation and types correspondence.

3.5 The Sources of Geographical Names

There are various sources of geographical names such as documents and the field. As a main source for collecting and verifying geographical names, the fieldwork needs some considerable pre-preparation and facilities.

3.5.1 Documents

Before going to the field, the team must refer to the official and non-official documents to get an idea of the names in the work area. These documents include gazetteers, census reports, government decrees, official letters, and historical and contemporary maps (Canadian Permanent Committee on Geographical Names, 1992). In Oman, some of these documents might contain some problems. For example they do not show the geographical location of some of the features which causes confusion or the same name may arise in different locations. This is in addition to the variation in spelling for the same place (NSA, 1999).

3.5.2 Field

The aim of the fieldwork is to verify existing names and to collect new names.

3.5.2.1 The Preparation for the Field Work

Obtaining information on geographical names from the field can be divided into three stages: pre-field preparation; field investigation; and field information review (UN, 2006). The first and third stages are done in the office before and after the fieldwork. They are to prepare for the fieldwork and to analyse the data collected from the fieldwork.

3.5.2.2 Pre-field Preparation

There are some preliminary procedures carried out in the office before going to an area for collecting names. These procedures can considerably reduce the time and cost of the fieldwork. Moreover, the work will be more accurate and complete when it is well prepared. The pre-field preparation procedures are listed below (Al Zoqurti, 1997; UN, 1990 ; Hermayulis et al, 2006).

1. Gather all the available topographic maps of the area regardless of scale, language, and date of production.
2. Indicate the administration boundaries between the regions, governorates, councils, cities and districts.
3. Use state gazetteers, if available.
4. Use geographical names gazetteers.
5. Use other references specially the geographic, historical and population census.
6. Use aerial photographs of the working area.
7. Prepare the interview questions.
8. Prepare and provide information as an introduction about the project to the local authorities.
9. Provide instructions to the fieldworkers.
10. Draw up a list of existing names from previous maps and other sources.
11. Transform all the names in the field work maps; give them codes and document their sources.
12. Prepare a list of general names of the area with the various languages used.

3.5.2.3 Facilities for Field Work

The geographical names collection project needs facilities in the office and the field that help to make it successful, some of which are listed below:

1. Convenient accommodation, easily accessible and suitable for all team members.
2. Convenient field offices with enough space to display large maps and include tables and chairs to allow the interviewer and expert discussions.
3. Video camera.
4. Still photograph camera.
5. Tape recorder, useful for recording sounds and pronunciations of names.
6. Navigation system equipment to indicate the feature and record the information in it as shown in fig 3.1(National Survey Authority, 1999).

7. Magnifying glasses.
8. The names and addresses for all the experts and elderly people in the area.
9. Portable PC and printer.
10. Pocket stereoscope to use with aerial photographs.

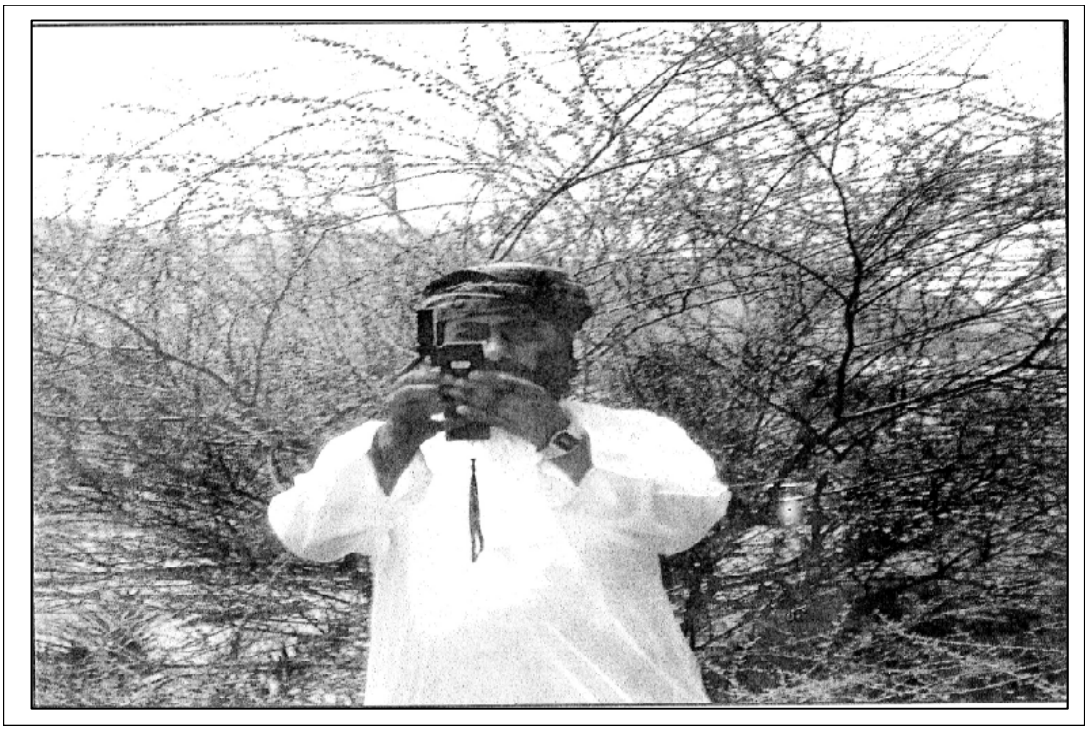


Figure 3.1 Use of Navigation System for Indicating the Location of Geographical Names by Geographical Names Staff in Oman (National Survey Authority, 1999)

3.6 The Field Work

The purpose of toponymic field investigation is to learn how local people use geographical names in their environment, in their official forms, and with the correct spelling. This might include the names that are already published on maps, or those collected from the field and not available from any other sources (UN, 2006). The field investigation to obtain information can be brief (part of a day) or longer in time (more than one day or a few days) (UN, 1990). This depends on the procedures. There are some requirements for the field work such as the initial contact with the local authorities. To start the work in an area, legal documents are required before arriving at the working area. These documents should be addressed to the local area head person, the regional governor, an important or known person in the area, or any authorized bodies in the area. To avoid any delay, misunderstanding, negative replies or embarrassment, documents should be sent a long time before the intended project time, for example 12 to 18 months before. The documents must include all the necessary details such as the purpose, the methods of the survey, the area covered by the project, the period of the assignment and the names of the team members. The agreement must indicate the material that would be retained by the local

authority after the survey completion. In addition, the agreement should include authorization for proper access and approval of the communities interested in cooperating with the survey team (Canadian Permanent Committee on Geographical Names, 1992).

When recording the names information on maps in the field, it is preferable to use a pointer to locate the specific features. Furthermore, it is helpful to use coloured pencils to identify features, such as red for cultural features, purple for flowing features, brown for land features, orange for travel routes, green for vegetation and black for the water features. For topographic features, such as a section of a tidal zone, which cannot be precisely delineated on charts or maps, the approximate outline/boundary should be given. The placement of numbers to identify features depends on the type and size of the feature and the density of named features. Normally, arrows have to be used to avoid information becoming too crowded if different names are given to the same feature they should be assigned the same location number (Canadian Permanent Committee on Geographical Names, 1992).

The team members should, ideally, be experts in field interview techniques and toponymic studies. This, however, is not always possible. Nevertheless, the work must be done by someone who has some training in geographical names or perhaps a surveyor or administrator who has been authorized to work on the names domain as an adjunct to their regular work. However, if possible a short training course can be provided by experts in geographical names at a college or university by those people working with names. This would promote their skills in this field (UN, 1990).

3.7 The Interview

The success of the interview depends on several factors, some of which are not easily controlled because the process involves persons who are not familiar with each other. Personality can play a role in the success of the interview. Personal interviewing requires tact. The qualitative selection of informants can reduce the problems related to personalities or informants' lack of knowledge about local use of geographical names. The fieldworker should make it clear that the purpose of the visit is not to sell anything or get involved with any controversial issues. In conducting the interviews, fieldworkers develop their own procedures. Some may push forward at meetings and sacrifice certain social courtesies and small talk. Others may attempt to establish more intimate relations with the informants and their families. Sometimes, another method is used if the fieldworker is dealing with informants with another culture and language. The interview is arranged after

the fieldworker meets the informants and explains the purpose of the interview in another meeting. This procedure reduces the possibility of surprise and anxiety that may result from meeting a stranger and getting involved in the interview. This method makes the informants more ready and cooperative than if it were a one-visit event (UN, 1990).

The above procedures are preliminary to the interviews. Furthermore it is important to find appropriate accommodation for interviews, such as community rooms or council halls, Interviews in the open (on land or water), or in private residences require special arrangements and special care (Canadian Permanent Committee on Geographical Names, 1992).

The local authority should be required to nominate knowledgeable members of the community, to announce the proposed survey and the need to participate. Beside this it is an opportunity to invite interested people to drop in to watch the progress of the work, to inform them about the work, to ask questions and to obtain the answers from both sides. An example of a conversation is shown in table 3.1, this aims to build an open relationship between the survey team and the community members (UN, 1990).

Table 3.1 Interview Conversations in the Field Work (Canadian Permanent Committee on Geographical Names, 1992).

TRANSLATION FROM AN INTERVIEW IN THE DE NE DOG RIB **LANGUAGE, IN RAE,** N.W.T
The following text is based on a translation of a transcript from an interview conducted and taped in the Dene Dogrib language, in Rae, Northwest Territories. The material was provided by Randolph Freeman, N.W.T. Geographical Names Program, Yellowknife. The area under discussion is approximately 30 km northwest of Rae and is shown on NTS map 85 *Nil*. Native geographical names shown in the text are written in the local orthographic form.
INTERVIEWER INFORMANT
"Which areas on these maps are you familiar with and do you have names for? The Interviewer shows the informant 1:250 000 scale topographic maps of the area. When I was younger I had a trap line that started here [Informant indicates a points on the north end of Idha K'e' Ti (Marian Lake)] going up this river way past Beacho Ti (Shoti Lake). I have traveled in summer and winter all over this country and used to have cabins here ." [Informant points to three places on maps.] **This place here, on this large scale[1:50 000] map, where you said you had a cabin, does it have a name?"** "This island is called Xae'lill. There used to be an old village on the island but now nobody lives there." **"What does Xae'lill mean?"** "Xae'lill means 'it flows out.' You can see how the island is long and thin looks as though it is flowing with the river." **"Does this island have any other name or names?"** "I have never heard it called anything but Xae'lill. All the Dogrib people call it by this name." **"Does this area have a name? [Interviewer point to a range of hills a few miles west of Xae'lill.]**"We call all these mountains Wezhi' Ts'ara." **"Why are they called Wazhi'Ts'ara and what does the name mean?** "The name means 'we went in there'. Long ago, the people had tribal wars, and many of them left, trying to escape. The high mountain range that is there, they lifted it up and it is said that a large number of people went into mountain. Some of them carried their children on their backs. Also there were a few of them who were warrior like. They did something to the mountain and it opened up. That's how the people went in there. They kept going and did not look back until they came to [James Lake] That is why all the Dogrib people call it Wezhi' Ts'ara."

Interviews should be kept as brief as possible, not more than one-and-half hours, to preserve a social atmosphere and not jeopardize their success. In some societies which have different dialects, or are multilingual, care, patience and understanding must be taken while the translation is taken. To avoid any embarrassment to the local people, interviews begin with an introduction of the team and local experts including an explanation of the purpose and process of the project. Surveyors of the region should have an explanation for the various scales of maps, photos and charts. The task of the interviewers is to guide the name experts through the survey procedures and their equipment and to assure that the expert's knowledge comes to light through the interview (Canadian Permanent Committee on Geographical Names, 1992).

3.7.1 The Questions and Instructions from the Interviewer or Field Investigator Presented to the Experts and Local People

It is expected that the procedures listed below will be followed.

- Show and describe the maps to the experts and ask them whether the area is familiar to them.
- Request from the informants the features in the map with and without names.
- Know the main and major physical, natural and economic characteristics of the features such as historical sites and events, mountain peaks and drainage systems.
- To know what the name means literally and figuratively.
- To know what is the origin of the name.
- To know who named the feature.
- To know when the feature was named.
- To know what is the correct spelling for the name.
- Find out if they know if there are any documents such as books and maps that show this name in it.
- Find out if there is any other local individual who may have more information concerning this name.
- Find out if there are any names, which were used previously.
- To know what is the original language for the name (UN, 2006).
- Indicate, if possible, boundaries between named areas.
- The maps that are used by the interviewer should be identified by indicating the date the communities were in existence and any other details, this will be useful to processing the data and storage in the archive.

After the interview is finished the interviewer should ask the expert whether the interviewee wants to suggest other experts familiar with the survey area. The experts should be thanked for their interviews and the information they have provided. All the work should be compiled and the experts should be encouraged to return to the work if it is necessary (Canadian Permanent Committee on Geographical Names, 1992).

As much as possible the information that is collected must be (UN, 1990):

1. Factual;
2. Clear;
3. Appropriate; and,
4. Adequate.

3.7.2 The Data Sheet (Note book)

All the names' details should be recorded in the data sheet or card file. Figure 3.2 shows an example of the data sheet for collecting geographical names in the field.

NAME FORM
(Use Roman Alphabet)

Page : ..... Date/month/year : .....

. DATA REFERENCE

I. REGION

1. Province : .....
2. Sub-province (Kabupaten) : .....
3. District (Kecamatan) : .....
4. Sub-district (Kelurahan) : .....
5. Village (Desa) : .....

II. DATA SUPPORT

1. Map sheet nr. : .....
2. Map sheet name : .....
3. Nr. of name : .....
4. Feature type : .....
5. Feature Code : .....

. FIELD

1. a. Name used by local government : .....
   Written : .....
   Oral (pronounced) : .....
   b. Original language of name : .....
   c. Meaning (if known) : .....
2. a. Any other name now used locally ?
   1. ..... 2. .....
   Written : .....
   Oral (pronounced) : .....
   b. Original language of name : .....
   c. Meaning (if known) : .....
3. What is the meaning of the name which has literal relation with the feature (yes / no)
   If yes, clarify .....
4. Name used previously (if any) .....
   a. ..... Year of use .....
   b. ..... Year of use .....
5. If feature is kampung/dusun, in which desa / town ? .....
6. Population .....
7. Historical name (if any) :
   .....
   .....
   .....
8. Field remarks : .....
9. Informant : 1. ..... 2. .....

. OFFICE TREATMENT

1. Recommended name : .....
2. Location of feature (Center / Mouth) : Lat. ..... N/S Long. ..... E
   Head : Lat. ..... N/S Long. ..... E
3. Length of feature : ..... Km
4. Area of feature : ..... Km^2
5. Elevation : ..... m (mean sea level)

Figure 3.2 Data Sheet for Collecting Geographical Names in the Field (Hermayulis, Pantimena, Pribadi, Moch & Isnin, 2006)

Each feature's name should have a separate data sheet, although if there are two or more names for each feature each name should have a separate data sheet (Canadian Permanent Committee on Geographical Names, 1992).

Regardless of the different data sheet designs from one country to another, they are similar in most of the following details:

1. Page number
2. Sheet number
3. Feature number. Must be put on to the map when the experts define the features.
4. Feature type.
5. Name used by local government, written and oral.
6. Any other names used now locally.
7. Transliteration of the name.
8. Historical name.
9. Field remarks.
10. Elevation.
11. Depth.
12. The expert name, age and address.
13. The interviewer's name.
14. The place of the interview.
15. The coordinates of the features, which should be referred to the nearest minute of latitude and longitude.
16. Drawing of the places and the features or area is useful to give more understanding about their shape, size and extent.

The interviewer should be accurate and record all the details that are received from the experts.

3.7.3 Field Information Review in the Office

At the end of the fieldwork all the information is passed directly to the office for several subsequent processing steps including:

1. Office processing.
2. Approving.
3. Managing.

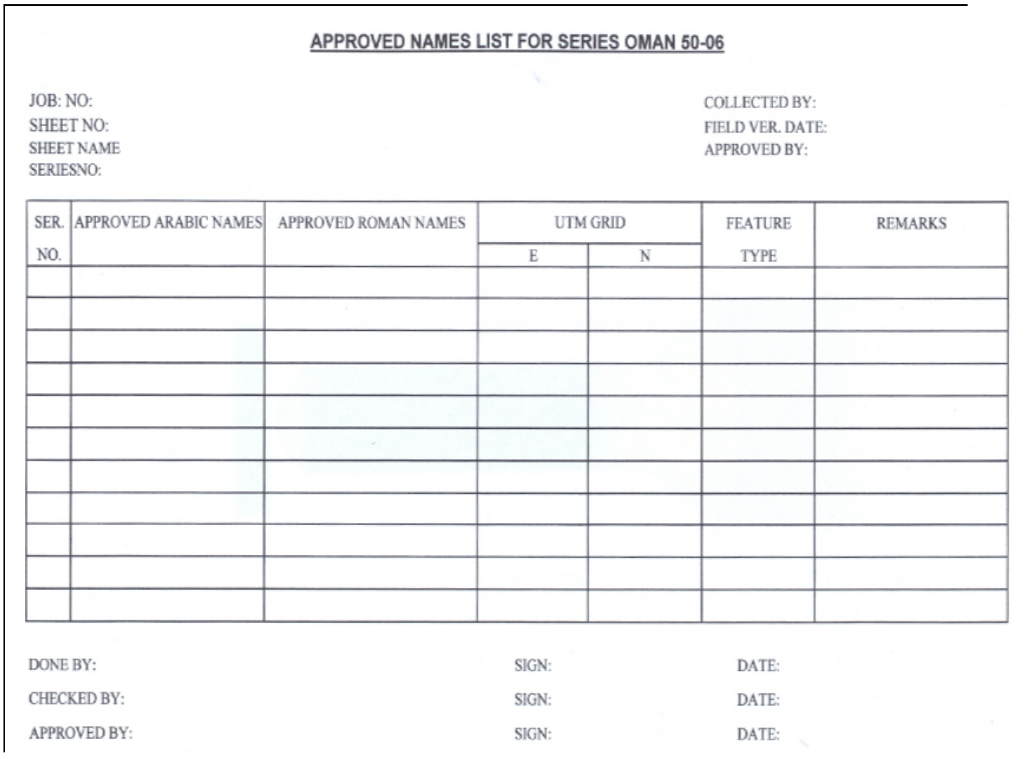
Office processing involves analyzing the data collected from the field. This includes checking the correct spelling of names. This means the names have to be spelled as correctly as possible, in accordance with current orthographic practice. In the case of a duplicated name, the local community must refer to the interviewer to determine whether there has been confusion with the same name given for other features and if they are aware of these other features (UN, 2006). Recently in Canada the principle has been established of allowing duplicate names for cultural and physical features where there is no local confusion (Canada, 2007). However if the same feature has two names and these cause confusion, one of them has to be approved, and the local authority will give a pronouncement on this. The staff should check and compare the details in the data sheets and the maps which must confirm each other. All the various data records such as data

sheets, tape records, still and video camera photos should have codes and stored in a safe place after analysis and treatment of all the data in them (Canadian Permanent Committee on Geographical Names, 1992).

3.8 Approving and Managing Geographical Names

After completing the analysis of the data collected, several bodies have to approve the names (whether these names are new, changed, or duplicated) such as the local authority, the team worker and finally the geographical names authorities. The local authority is different from country to country. For example, in Canada the local authority is the community council while in the Kingdom of Saudi Arabia it is the Prince of the region or area. In the Sultanate of Oman, it is the Governor or Wali office. In South Africa, the local authority is the municipality. In all data sheets there is a place for the approval of these bodies. The second approval comes from the team worker or the leader of the team. Indeed, this approval is necessary for many purposes such as obtaining the approval from local authority, and subsequently for the work and the details collected to be regarded as completed.

At the end, the geographical names listed should be submitted to the authority of geographical names council or committee in the country to issue the final approval. When a complete set of maps and lists have been assembled, multiple sets are copied for the project team's files, for the various names' authorities and for submission to the native community. A glossary of the generic terminology should be gathered, with a clear explanation for each feature, as identified by the various generic terms. Then, sets of maps and lists are submitted to the appropriate authorities for approval. Once the names have been approved by the various official bodies and these names are recorded in the geographical names data bases, they then become official names. Figure 3.3 is an example of an approved names list. This means that the names can be used officially in all fields that require geographical names. These official geographical names can be furnished to a community for users to publish maps, gazetteers and atlases. This is because the users requirements vary. It will be easy for those who need names with specific features to obtain them from maps. Moreover, the United Nations has requested that each country establish a national gazetteer of geographical names, and support the standardisation of geographical names.



APPROVED NAMES LIST FOR SERIES OMAN 50-06

JOB: NO:
SHEET NO:
SHEET NAME
SERIESNO:

COLLECTED BY:
FIELD VER. DATE:
APPROVED BY:

SER. NO.	APPROVED ARABIC NAMES	APPROVED ROMAN NAMES	UTM GRID		FEATURE TYPE	REMARKS
			E	N		

DONE BY: SIGN: DATE:
CHECKED BY: SIGN: DATE:
APPROVED BY: SIGN: DATE:

Figure 3.3 Example of Approved Geographical Names Data Sheet in Oman (National Survey Authority, 2006).

Gazetteers in each country are compiled and published when the geographical names collection is completed (UN, 1990). In the office or the department of the geographical names authority, card files should be preserved in a secure and safe place, carefully. This preservation should be official; for example in the appropriate native cultural resource centre or in the archives accessible for research by the general public (Canadian Permanent Committee on Geographical Names, 1992). Because the data change through time, recording the names in a computer database helps to reduce the problems of the information's maintenance, as shown in Fig 3.4**.** In addition, the updating of the gazetteer's information will be easy and require very little preparation in the future.

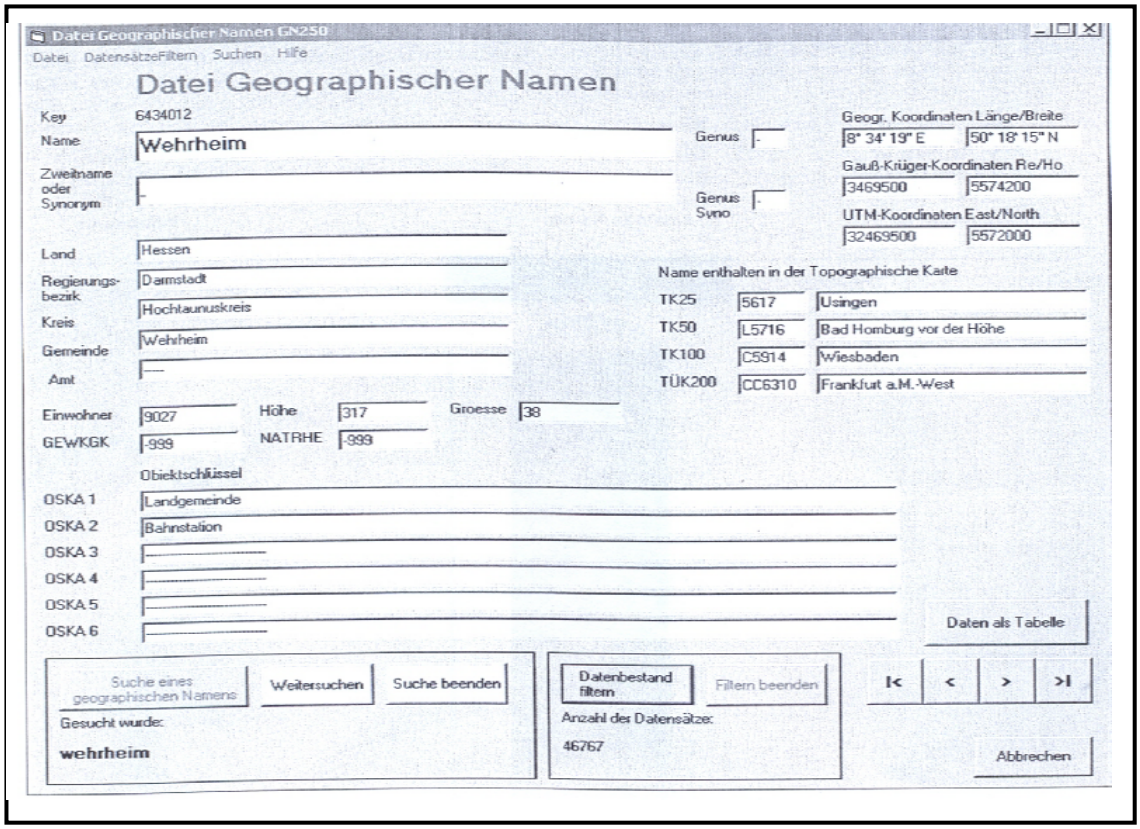


Figure 3.4 Recording the Geographical Names in Database (Ormeling, F et al. 2003)

3.9 Computerizing the Names Data (Database)

For some time, UNGEGN have encouraged countries to have a digital database of geographical names (UN, 1994). Since the end of last century this has been an increasing focus, with all data recorded and saved in digital database and in some cases made available online for public use. This allows better access to the information (UN, 2006).

If portable computers have not been used in the field, it is recommended that the collected data be computerized when they are returned to the home base. This is to allow sorting by map sheet, numerical code, expert, interviewer, and generic type. It must be also possible to sort by current approved names, approved names recommended for retention, recommended native names, recommended new names for approval, and names not recommended for approval. The names and information (such as coordinates) should be unambiguously defined. Each name should have a code defining it. The data base should include the field data for each geographical name, and will sometimes include data provided by another state. However, the data generally contains:

- **Feature type.** It is important to show the feature type to help define the feature such as: mountain, desert, river, and lake and population place.

- **Geographical coordinates**. In some databases both coordinates in longitude, latitude and UTM system are requested.
- **Location narrative.** As a description of the feature and relating it with others some times it is required to define the feature by distance and the size.
- **Map sheet details.** To show the one (or more) map sheet's name, scale, sheet number and date published in which the feature is located.
- **Feature Name.**
- **Status.** If the name is approved or not yet.
- **Remark or note** In some databases to be more accurate and give more details the handwritten cards could be scanned and associated with the digital records. This has the advantage of giving more detail and saves these handwritten cards.
- **Date of approval.**

Beside these, some other details can be shown such as, the language of the name, the meaning of it, the origin and the translation to English or any other second languages used in the country (UNGEGN, (2006).

3.9.1 The Advantages of the Digital Database

The main difference between the digital database and the old method for recording the data is the flexibility. It is at the same time an advantage of the digital database. It makes the registration and standardisation of names simple. The users can find the names and their details in a much shorter time. Moreover, it is easy to represent the linguistic and history of the names. Finally, the digital database contains massive details.

3.9.2 Examples of Digital Names Databases

- Canada Geographical Names Digital Base (CGNDB)

This was developed in 1978 to replace the card-index register, which was maintained since the Geographical Board of Canada's creation in the 19th.Century. In 1987 the digital database was updated to a relational database. It was upgraded again in1999 to its current form. The CGNDB contains more than 510,000 names. Two third of them are approved by the Government Names Board of Canada and managed with Oracle software. The database is updated on a daily basis. Each record has a unique identifier, codes, feature types and region fields. The CGNDB is linked to other federal databases, such as the link between CGNDB and population data and postal codes. It also links with the Canadian Geospatial Data Infrastructure. One of the objectives of CGNDB is to provide the public with the data records by on-line access. This was started in 1994 and access to the CGNDB data can be purchased on-line (UN, 2000).

- Japan Geographical Names Database

The Japan Geographical Names Database was completed in 2000, it contains 480,000 geographical names. The date of geographical names has been available on the website since July 2000. The user can get the geographical names from different options like, “geographical names and public facilities”, “geographical names only” and “geographical names in Japanese hiragana only” (Koide, 2004).

- Australia Geographical Names Database

This is a database of 58,000 place names in South Australia. In the beginning the records were on cards. In 1985 the card system was replaced by computer database. In 1998 this was represented within a Geographic Information System. The aim of this database is to create and maintain the data to be source of place names to use in databases, GIS and in mapping. The data is available free for anyone to use (Watt, 2002).

- Sultanate of Oman Geographical Names Database

This database was established in 1994. When complete it was expected to contain between 4,000 and 8,000 place names (UN, 1994). However, the project is not completed at this time Eventually, with the evolution in technology the database has been updated with a new design which includes more details, such as the name in bilingual forms (Arabic and Roman), type of feature, the date of field verification, sheet number and scale. Today the database contains 1,800 names and still there is a lot to install in it.

3.10 Collecting Geographical Names in Oman

3.10.1 The Office Preparation

This involves preparing maps and the rest of the required equipment for the fieldwork. After that gathering all the names from the maps of the working area and the names gazetteers as shown in figure 3.5 where an officer is gathering names from gazetteer. Then making a list of the approved and not approved names. After that, comparing the lists with the names found in the field.

Figure 3.5 Preparation in office for fieldwork (National Survey Authority, 1999).

If the area is desert and there are no residents, the team asks the Ministry of Interior to provide guides from the area. The Ministry of Interior coordinates with the area's governor (Wali) to provide the guides.

3.10.2 The Field Work

This requires recording the geographical names of all features such as valleys, villages, mountains and others. They must be recorded with the correct pronunciations in a special form to make it easy for later translation.

Also during field work, take the coordinates of the feature and record them in the special form and in the navigation equipment.

3.10.3 The Interview

Visit the governor's office and specify the work area and the working hours. Then, get to know the guide(s) and answer any enquiries about the work. Meet the guide; explain the nature of the work and what is required from him.

Meet the people of the area, the experienced and the elderly and check the pronunciations of the names from various people and recording the names with the correct pronunciations. Figure 3.6 shows the expert pointing out a feature (National Survey Authority, 1999).

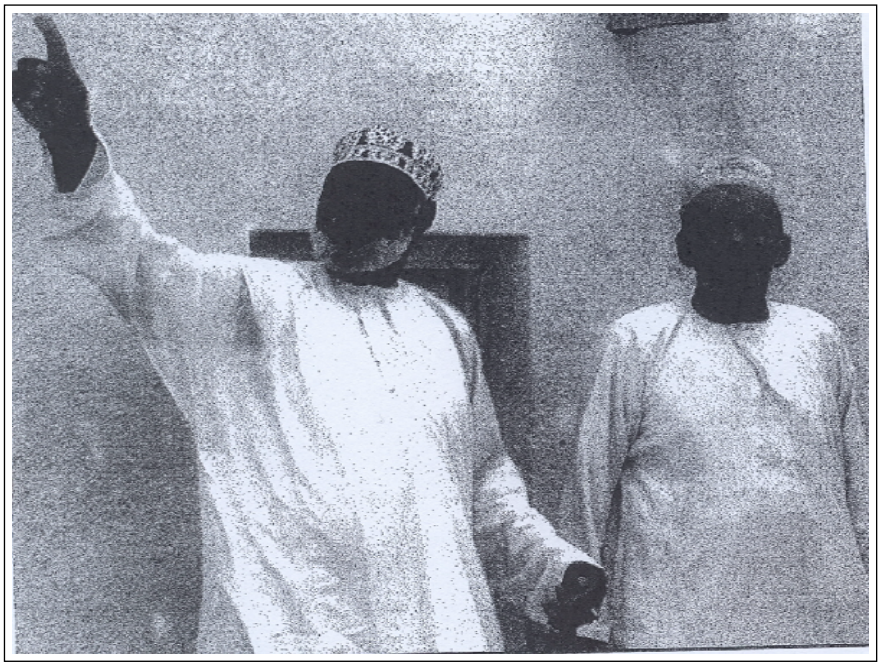


Figure 3.6 Omani experts point to a feature in the field (National Survey Authority, 1999).

Take the coordinates of the feature: if it is a residential area, the coordinates are taken in the middle of the area and if it is a valley, the coordinates are taken from more than one point along the valley.

3.10.4 Reviewing the Data during the Field Work

This involves:

- Writing the collected geographical names in a clear way.
- Identifying the visited areas on map.
- Preparing for the next working day.

3.10.5 The Office Work after the Field Work

This involves:

Checking the names collected from the field.

Checking the approved and not approved names.

Comparing and contrasting the approved names and the previous names.

When there are differences between the previously approved names and the current approved names, they are kept within a special “not proved” list and then sent to special bodies to approve them. For example, in the eastern area, the interior, the Al Wosta and Ad Dahira area, the names are sent to the Ministry of Interior. For the rest of the country, the names are sent to the governors of the areas.

While waiting for the reply from the concerned bodies mentioned previously, the following things are done:

- Listing the approved names (those with no problems).
- Translating names using the United Nation System for Romanisation of Geographical Names.
- Prepare tracing papers the same size as the original map and write the names on the tracing paper. This aims to allow the names to be read easily and to be easily drawn on the maps by automated cartography.

After the reply arrives from the concerned bodies, the approved names then are written on the tracing paper following the same steps as above.

After writing the geographical names, they are reviewed by other staff to check their location and translation. This is also to improve the quality of the work.

Send the whole work to the department of auto cartography.

After drawing the map and produce a preliminary version, it is sent back to the team for final checking.

Finally the map is printed with the new approved geographical names ready for using.

The data and names are saved in lists classified according to the areas for future reference.

3.10.6 The Problems of the Field Work in Oman

The field work in Oman faces some problems; some of these are linked with the country's nature and others with its people. Below are listed some of the problems arising during field work in Oman;

1. Pronunciations of place names.
2. Language differences
3. Inaccessibility of some areas.
4. Determining the limits of large areas or linear features.
5. Non-cooperation of local residents.
6. Sometimes there is no one to ask or anything to see in the area (National Survey Authority, 1999)

Other bodies in Oman who are concerned with geographical names do not use the National Survey System. They collect the names from different sources such as documents which contain unapproved geographical names and have many mistakes in writing them with other languages.

Figure 3.7 This summarises the steps in the treatment of names from pre-field preparation, field investigation to field information review (UN, 1990).

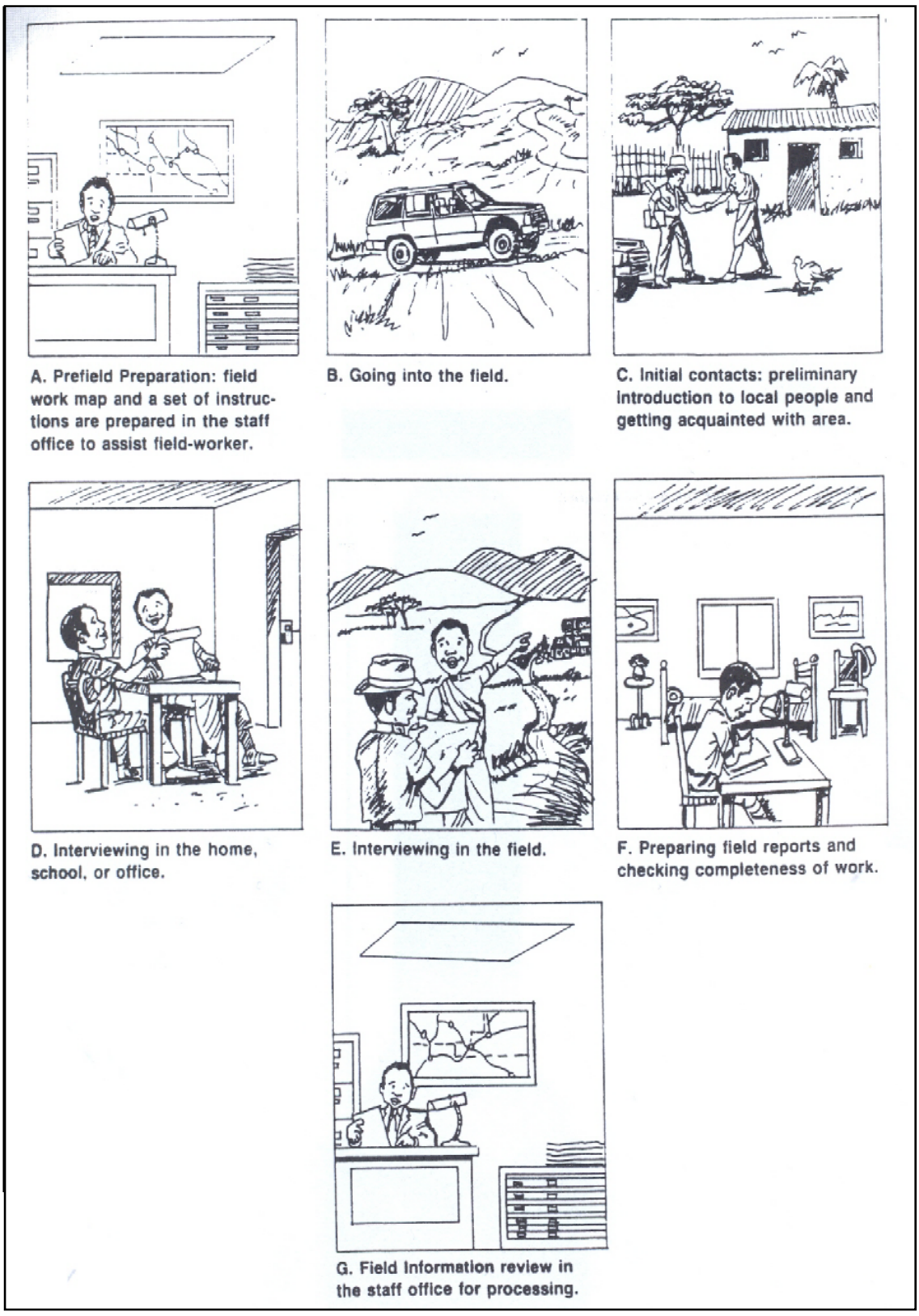


Figure 3.7 The Steps for Treatment of Names. Pre-Field Preparation, Fieldwork, Interview and Field Information Revision (UN, 1990).

3.11 Conclusion

This chapter discussed the steps for collecting geographical names. Moreover, it included the different methods of recording and storing the geographical names. Beside this there is some discussion of the abilities and tasks that team members who are working in this field should have. Then it mentioned how the geographical names are approved and managed. Computerizing the geographical names data is discussed and some examples of digital database are given. This was followed by a discussion of the geographical names collection in the Sultanate of Oman. Then next chapter will discuss the geographical names transformation and local dialects in Oman.

Chapter Four - Geographical Names Transformation and Local Dialects in Oman

4.1 Introduction

Our traditions hold that at the beginning of Earth, there was one language (Kadmon, 1993, 1). As time passed, the people increased and lived in various places which meant different communities, and therefore different manners, conventions, languages and dialects. Communication between these communities was necessary, so translation was a tool for facilitating the communication. Translation played and is still playing a prominent role in the development of world culture in general and of geography in particular. This chapter discusses translation and transliteration within the context of geographical names. Then the factors that cause geographical name problems are considered. A brief discussion of the Sultanate of Oman's location and its impact on the local dialects in Oman follows. Finally, the chapter concludes with a discussion of the problems that face the transliteration of geographical names in Oman.

4.2 Translation

The glossary of toponymic terminology (UNGEGN, 2002) defines translation as the process of expressing meaning, presented in a source language in the words of a target language. Translation is used particularly in the case of topographic features transcending national boundaries and for other large areal features. It is often accompanied by an adaptation of the specific element from the source language to the receiver or target language. For example, Pacific Ocean as against Stiller Ozean (German) and Stille Oseaane (Afrikaans), where Pacific means quiet. In other cases the entire name is translated such as Red Sea and Bahr al-Ahmar are English to Arabic translations of each other (Kadmon, 1994 20). Although translation plays a key role in geographical names, there is considerable scope for mistakes. Mistakes in translating geographical entities can destroy the credibility of a given document as highlighted by Albin (2004, 1). Hence, the translator should have enough experience in the subject or otherwise seek experienced advice. Pointing out the problems that face geographical names translation, Al Zoqurti (1997, 27) states two main problems. First, he mentions illiteracy in the language of the

geographical name which might be dead, like Latin or classical Greek. Secondly, Al Zoqurti notes that the development and change that occur to languages and geographical names as a result of the development of the language or the introduction of another culture is another problem.

4.3 Transliteration

Transliteration is the second method of transforming geographical names. Transliteration means name conversion between different alphabetical scripts and syllabic scripts, in which each character of the source script is represented in the target script in principle by one character, a diacritic, or a combination of these (The Glossary of Toponymic Terminology, 2007, 2). Transliteration converts the name from one script to another. Transliteration often employs diacritics or diacritical marks. A diacritic mark is a graphical marker which changes the phonetic value (and thus the pronunciation) of a character or a letter. German ä is formed from 'a' by the addition of two Umlaut dots. These forms constitute part of a universally accepted alphabet (Kadmon, 1994, 21).

4.4 Problems Faced in Geographical Names Transliteration

In contrast to translation, transliteration is a reversible process. It has the advantage of better adherence to the original sound with the help of the diacritical marks. Although transliteration is a good method in transforming geographical names, there are some problems that it faces and cause mistakes. These problems are related to the language knowledge of the geographical names team, qualifications of the geographical names team and the variety of the dialects.

4.4.1 Sufficient knowledge of the Language

As discussed in the previous chapter, it is important that the geographical names collecting team has sufficient knowledge of the mother language, such as Arabic in Oman, otherwise mistakes in geographical names will occur. In the Arabic language there is the definite article الـ [**Al**], which when it comes before the moon letters (there are fifteen of these letters) is pronounced and written Al (الـ)such as in القمر which when transliterated into the Roman system is given as **Al Qamar.** On the other hand, when the definite article comes before the sun letters (fourteen further letters) it is not pronounced at all, but written in Arabic for example as الشمس which when it is transliterated into the Roman system, is

written **Ash Shams.** The following chapter includes more discussion about this system. In Figure 4.1, this board which is written by the Muscat municipality shows mistakes in the transliterated geographical names for سيفة الشيخ Seifat Al Shiekh and for السيفة Al Seifa. Both have the sun ل L but are written Al Shiekh and Al Seifa as if with a moon letter, in place of Ash Shaikh and As Saeifa.

Figure 4.1 An Example of Mistakes for Transliterating Geographical Names in Oman

According to Al Zoqurti in a project in Jordan aimed at producing topographic maps in English, the non–Arabic speaking expert used the help of a Jordanian who had no qualification in collecting geographical names. The only reason behind using his help was his ability to speak the English language. The number of the mistakes in the project was so high that they repeated the entire project (Al Zoqurti, 1985, 3).

4.4.2 The Qualifications of the Geographical Names Team

This problem of the names team qualifications is closely related to the previous one. This is that the training and qualifications of the geographical names team is essential to minimize the mistakes. In the example explained in the previous section, the person who helped the geographical names expert had a problem not only in efficiency in the mother language (Arabic) and the area's dialects, but also in the skills needed for collecting geographical names (Al Zoqurti, 1985, 3).

4.4.3 Dialects

Another major problem that faces the geographical names is the variety of dialects especially in the Arabic language. Al Zoqurti (1985, 4) states that some of the problems which face the geographical names collectors are related to the variety of the dialects. Dialects vary in pronunciation and word structures. Diacritical marks which are known in Arabic (Tashkil) include: “fathah” sounding like the Roman letter “a”; “kasrah“ sounding like the Roman “i”; and, “dammah” sounding like the Roman letter “u” (Al Amri and Forrest, 1997, 146-147), and play a role in Arabic geographical names as is clear when transliterating the names. This sometimes causes problems. For example, the name "عمان" is used for two different places. "عُمـان" with “dammah ُ ” is (Oman) in The Sultanate of Oman, but on the other hand "عَمـَّـان" with “Shadah ّ “ and fathah َ” is the capital city of Jordan (Amman) with the same spelling but different pronunciation, and only the diacritical marks can guide towards the correct pronunciation.

4.5 Transliteration in the Sultanate of Oman

In the Sultanate of Oman, transliteration is used to transform geographical names from Arabic into English. Before discussing how this is used and the problems related to it, a brief introduction to the Sultanate of Oman’s location, language, dialects and how these affect geographical names is provided.

The Sultanate of Oman is the third largest country in size and population in the Arabian Peninsula, with about 309,500 square kilometres (193,000 square miles), which is equal to the size of the United Kingdom and Ireland (Ministry of Information, 2006, 7). It lies in the Northern Hemisphere, within the tropical area between latitudes 16 degree 39 minutes and 26 degree 30 minutes North and Longitude 52 degrees 00 minutes and 59 degrees 50 minutes East. It is bounded to the west by Saudi Arabia, to the South West by Yemen and to the North by United Arab Emirates (UAE). In the West, Oman shares the extraordinary Rub Al Khali desert, Empty Quarter, with Saudia Arabia and the UAE. It has a 3,165 kilometres coastline extending from the Strait of Hurmuz, that separates Arabia from Iran in the North, to Ras Darbat Ali at the Southern border with the Republic of Yemen (NSA, 2005). It extends to the Arabian Sea, the Gulf of Oman and the Arabian Gulf. This is in addition a number of islands scattered near its shores. The most important of these are Masira in the Arabian Sea and the Juzor Al Hallaniyat, off the southern coast of Oman.

Exploring this unique location of the Sultanate demonstrates how geography influences the variety of dialects and the rich history of travelling and immigration.

The geography and history of the area has lead to different dialects throughout the country. In addition, having a long coastline encouraged commercial voyages. In looking at Oman's history, there is some evidence that Oman had commercial relationships with the Sumerian culture (Ministry of Information, 2006). In addition, many other tribes had relationships with and lived in Oman through history such as Babylonians and Persians. These relationships with various tribes and languages affect the language of Oman in many ways. In some areas, there are people who speak Persian and Swahili, as well as Arabic. Moreover, there are various local dialects in the different regions of Oman. These languages and dialects cause problems in collecting and documenting geographical names as will be discussed in later sections of this chapter.

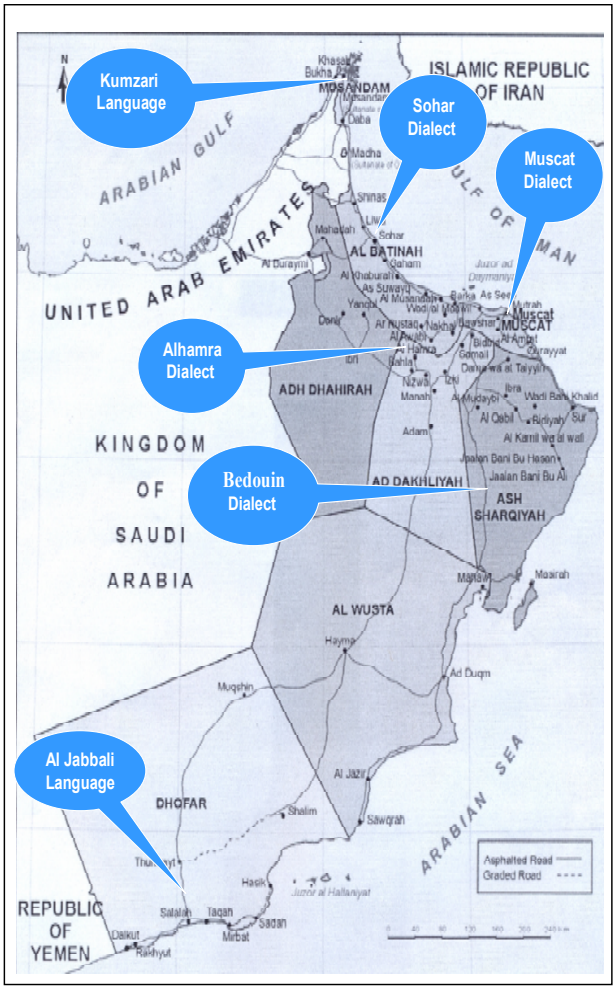


Figure 4.2 An Example for the Distribution of the Variety Dialects in Oman

4.6 Problems Faced in Geographical Names Transliteration in Oman

This section considers the problems of dialect variety, the names team qualifications and responsibility for geographical names.

4.6.1 Variety of the Dialects in Oman

In Oman, there are many Arabic dialects used. These dialects were a result of the various geographical conditions in the Sultanate and the relationship with other countries. Moreover, in some areas there are some other languages spoken beside the Arabic language. During work for the National Survey Authority, the researcher and his colleagues found that these dialects cause many problems for the geographical names collecting teams. This is especially true in the far North (Musandam) and far South (Salalah). Sometimes, the geographical names team collected one name with various pronunciations and then they had to send it to the Ministry of Interior which then sends it to the old people of the area to check the correct pronunciation.

Oman is an Arabic country and the main language is Arabic which is used officially in the governmental establishments. Most Omanis speak Arabic, but there are some tribes which use other languages beside Arabic. In the far North and because it is close to Persia, some Omanis speak Persian in addition to Arabic. Most of the Non-Arabic tribes, “Balushi Tribes”, speak Balushi as well as Arabic. Most of them live in Muscat and Mutrah. Moreover, in Muscat and the interior, there are some Omanis who returned from Africa, i.e. Zanzibar, who speak Swahili. In addition, there is the “Lawati Tribe” who are originally from India and still use the Lawati language. In the far south, Salalah, some Omanis who live in the mountains speak the Jabbali language. The languages and dialects which cause most problems for the geographical names collecting team are discussed briefly in the following section.

4.6.1.1 Kumzari language

Kumzari is a language spoken exclusively by certain coastal elements of the Shihuh tribe, the Kumzari section, which occupies Kumzar at the head of the Musandam Peninsula of Oman, and where people are found at various areas such as Dibah, Khasab, the coastal villages of Elphinstone and Malolm Inlets and at Larek Island. Although Kumzari is a compound of Arabic and Persian, it is distinct from them both. It is a non-written language.

According to Thomas (1930, 1) 44% of its words come from Persian roots, 34% come from Arabic roots and 22 % are untraced. For example, the Kumzari use the word "**taybib**" for " doctor" whereas in Arabic it is "**tabib**" and in Kumzari they use the word "**lazim**" for "necessary" which is the same in Arabic.

4.6.1.2 Al Jabbali Language

The Dhofar Governate is in the south of the Sultanate of Oman. It is 1000 km from Muscat. It has a border with the Al Wusta (central) Region in the east, the empty quarter (Ar-Rub al Khali) in the north, the Kingdom of Saudi Arabia in the north west, the Arabian sea on the south and the Republic of Yemen in the west. In the past, Dhofar was a link between Oman and eastern Africa. Moreover, it was the route for old trails to the south of the Arabian Peninsula. All these elements play a specialising role in this area, including language, such as the Al Jabbali language. It is an unwritten language and different from Arabic in pronunciation and is distributed from Habrut to Muqshin in the north, Hasik and Juzor Al Hallanyat in the east and Dalkut in the west (Al Hafeedh, 1989, 5). Al Jabbali is the language for the habitable area of the mountains and the coastal towns in Dhofar (Johnstone,1981, X). The old people in the mountains use it and some of them cannot speak Arabic well. Today the new generations speak and understand the Arabic language (Al Ma'shani, 2003, 8). Collecting names in this area needs an expert who understands Arabic and Al-Jabbali for recording and documenting the names properly. There are several studies about this language, some of them by native people and others from outside the country. Table 4.1 shows some examples of terms in this language and their script and meaning in Arabic and English (Al Ma'shani, 2003, 14).

Table 4.1 Different Terms Used in Al Jabbali and the Meaning in Arabic and in English

No	Al Jabbali	Arabic	English
1	**Gadreet** جَـدْريت	**Ardh** أرض	**Land**
2	**Ramnam** رَمَنَمْ	**Bahar** بحـر	**Sea**
3	**Gazeerat** جزيرات	**Gazeerah** جزيرة	**Island**
4	**Khadr** خَــدرْ	**Kahf** كـهف	**Cave**
5	**Shotum** شُوَتَـمْ	**Sama'a** سمــاء	**Sky**
6	**Luftain** لفْتينْ	**Namlah** نمله	**Ant**

The differences are clear. In some words all the letters are completely different such as in **Khadr** خَــدرْ (al Jabbali) and **Kahf** كـهف (Arabic) with the meaning cave, while in

example 3 **Gazeerat** **جزيرات** Al Jabbali shares most letters with **Gazeerah** **جزيرة** in Arabic, which means Island.

4.6.1.3 Al-Hamra Dialect

Al-Hamra willayat is 221 km from Muscat, the capital city (figure 4.2). The Al-Hamra dialect has 27 consonants and twelve vowels. It has some significant differences from the classical Arabic. For example, the consonant [d] and [q] are lost, and the vowels [**e**], [**o**], [**e:**] and [**o:**] are added. This is in addition to velarition which means making the consonant sound longer by adding a long vowel after it, such as sound "**s**" is **(Sa)** in Al-Hamra dialect. There is also delication which makes the sounds shorter such as the (**T**a) becomes [ta] in the Al-Hamra dialect. Moreover, there are some letters that are omitted, or, as in English they are silent. For example, the word [**mezru**] is [**mezu**] in Al-Hamra dialect which means [planted] in English. The Al-Hamra dialect has another phenomenon, which is called **Alkashkasha,** which means changing the letter **ك K** to **ش Sh,** specially used when talking to females as in this example **بَيْتك bayitik** to be **be:tiŠ بيتش** (your house). Moreover, they change the letter **ق q** to **ك k** in this word **al qalah القلعة**castle to **الكلعة al kalah** and **الطريق at tareeq** to **الطريك at tarrek** [road] (Al -Abri, 2002, 87).

4.6.1.4 Sohar Dialect

Sohar city is located in the north of Muscat. The Sohar dialect is a part of the Arabic language. Those who speak the Sohar dialect can understand Classic Arabic and can be understood by Arabic speakers. It can be considered as a local Arabic dialect. The Sohar Dialect has some special characteristics. It has some unique sounds, words and structures. Al Shezawi (1987, 17-20) states that Sohar has a mixture of Arab, Balushi and Persian. This mixture affects the spoken language, producing the Sohar dialect. For the purpose of this study, the following examples show the differences between this dialect and the classic Arabic, to highlight the issue of the difficulty of geographical names collecting. In the Sohar Dialect, the sound (**ya**) **ي** is used instead of the classic Arabic (**ga**) **ج** though these two sounds are completely different. Moreover, in the Sohar dialect there are some sounds which are not from the Arabic language such as a sound like (**k**) but it is between (**k**) and (**g**) and the sound (**ch**).

4.6.1.5 Bedouin Dialect in Remal Alwahiba.

Bedouins are one of the main components of Oman's residential structure. They live in different parts of the deserts which cover most of the area of Oman, such as Ramlat Al

Wahaybah in the east of the country in and Ar Rub Al Khali in the North West. They have their own cultures and dialects, which differs from one place to another. The author will try to give an example of one Bedouin dialect (Al Wahiba); the purpose of this is to present the main differences with the Arabic language and how these differences impact in collecting the correct geographical names. The author assumes that the dialect of Al Wahiba is a result of the immigration of two groups into the area. The first group is from the North Country from east Arabia along the west coast of the Arabian Gulf and the second group is from a southern route, from Yemen and Dhofar. In their dialect they use **yim** ي in place of **jim** ج. They also pronounce **g** in place of **q**, for example gahwa instead of qahwa. Sometimes, they pronounce some names incompletely such as **Abu Dhabi** becomes **Budhabi** (Webster, 1991, 473,475 and 482).

4.6.1.6 Muscat Dialect

Muscat is the capital city of Oman. In the past, it was a prominent port and the administrative capital of the coastal region. The Muscat dialect belongs to the larger Omani Arabic dialect group, but has many external influences. It originated with the migration eastward, beginning in the second century, of nomadic Arabian tribes from the central and southern sections of the Arabian Peninsula (Glover, 1988, 2). As a main port and the capital city of Oman, Muscat attracted various tribes from Iran, India and East Africa. Among these tribes are Kutchi and Gujarati speaking Hindu Banyans, resident Indian merchants, whose ties with Oman date back several decades. This is in addition to the Baluchi from Baluchistan on the other side of the Gulf of Oman whose language of origin belongs to the Iranian language. The Portuguese, who invaded Oman in the sixteenth and seventeenth centuries, left behind them not only some fortifications, but also a handful of linguistic borrowings. In addition, the British, who prevailed over the French for control of the area in the late eighteenth and nineteenth centuries, established an advisory presence and, in the late 1890s, an American mission established a school and a hospital. This mix of various tribes and people with various languages affected the Muscat dialect prominently, as there are many words that are used belonging to different roots. For example the word “besht” is a Persian word meaning “cloak”, the word “bohar” is an Indian word which means “spices”, and the word “bandeira” is a Portuguese word which means “flag”.

4.6.2 The Qualifications of the Geographical Names Team

As discussed in chapter three, the geographical names collecting team should have appropriate training and qualifications or the geographical names would probably contain mistakes. From the researcher's experience in the National Survey Authority, not all of the geographical names team have the appropriate training needed. In addition, he noticed that not all of the geographical names teams are qualified for this task. For example, many of them do not have sufficient knowledge of the Classic Arabic Language or the working area's dialects.

4.6.3 No Responsible Establishment for Geographical Names

Another major factor that affects the accuracy of geographical names transformation is that there are various bodies responsible for the transformation in the Sultanate of Oman, each of which uses its own system. While the researcher was working in the National Survey Authority in Oman, he found that the National Survey Authority used the United Nations Standardized system for transliteration. However, other bodies such as the Municipality, the Ministry of Interior and the Ministry of Housing use various other systems. This causes problems as the same geographical name is written with different spelling in different documents. In a big project called "Muscat Explorer" which aims at producing service maps for the Muscat area, the Muscat Municipality produced two copies; one is a paper copy and the second one is an electronic copy. In the paper copy, they produced four maps that show the services in Muscat with the help of the National Survey Authority. In the electronic copy they produced one map divided into four parts. In the paper copy, there are no mistakes; however in the electronic copy there are many mistakes in the geographical names. Although both copies were produced by the same establishment, one of them contains mistakes because of a lack of using a unified system. This shows the importance of cooperation between the different bodies that deal with geographical names. In addition, it reveals the necessity of a unified standardized system for geographical names transformation.

4.7 Conclusion

In Oman, there is often a disparity between the Arabic form of the geographic place name and the English transliteration, basically because of the non-centralization of such activity and the lack of required skills in the geographical names team. This can be improved

through using a standardized system. The next chapter will discuss the standardized system, geographical names in Oman and the committees of geographical names.

Chapter Five - Standardisation of Geographical Names in Oman and Geographical Names Committees

5.1 Introduction

Geographical names play important roles in our life. They not only identify the location of places but play various other roles. Geographical names are important for history, culture, religion and social values. Because of the great importance of geographical names, the United Nations started, in 1967, a series of conferences concerning geographical names standardisation, held every five years. The Sultanate of Oman values graphic name standardisation. In this chapter, the author will present the importance of geographical names standardisation and how the Sultanate of Oman deals with such an issue. In addition, some experiences from different countries of geographical names standardisation are discussed. Finally, the chapter concludes with the proposal for a Committee for Geographical Names in Oman to standardise the nation's geographical names.

5.2 Standardisation of Geographical Names and its Advantages

Standardisation of geographical names plays a prominent role in avoiding any confusion. Confucius (551 BC) said that the first task of a true statement is to rectify the names (Munro, 2006, 2). That was a long time ago, but shows the historic importance of names. "To rectify the names", or in other words to standardise them, has many meanings. The most common one is that of the United Nations who, in their glossary of terms, define the standardisation of the geographical names as, "the prescription by a names authority of one or more particular names, together with their precise written form, for application to a specific geographical feature, as well as the conditions of their use" (United Nations, 2002).

The consideration of standardised geographical names started in 1890. In that year, the first national names board was established in the United States of America. In 1919 the Permanent Committee on Geographical Names (PCGN) was set up for British official use,

although this only provides advice on names outside the United Kingdom. At the international level, geographical names standardisation started with the United Nations involvement in the late 1940s. From then the discussions concerning geographical names developed until in 1967, the first United Nations conference concerning geographical names was held in Geneva. As a consequence of this conference, the United Nations Group of Experts on Geographical Names (UNGEGN) was established. Since that time nine conferences have been held in different places and their main targets and recommendations are as follows:

- To encourage countries to establish an authority for national names' standardisation.
- To stimulate the establishment of national gazetteers to define the toponyms in alphabetical or sequential order, indicating their location and including the type of features they are and other descriptive information.

Other suggested objectives for Oman, concerning geographical names, are:

- To encourage education and training in the treatment of geographical names. These training programs should aim at improving the collection and standardisation of geographical names. Such training is important for the staff who are working on geographical names so that they acquire the abilities needed for the treatment of geographical names. Those operating training programs have to submit their course designs to UNGEGN for advice (UN, 1996 34).
- To automate the data processing of geographical names and to support easy and flexible exchange of names' information at the local and international level.
- To encourage collaboration between neighbouring countries to standardise feature names, especially for trans boundary features such as rivers, mountains, deserts, valleys, forests and lakes. For example, Ar Rub Al Khali, the desert between the Sultanate of Oman and Saudi Arabia and the Hormuz Strait between the Sultanate of Oman and the Islamic Republic of Iran, are standardised names.
- To encourage the country to use endonym names (the name form in the language that is spoken in the area where the named object lies), and moreover to reduce the use of exonym names (a geographical name in a language which is not spoken in the area in which the named object lies) (Ringston, 2005, 44). For this reason, many countries have changed place names to reflect the culture of the country. In Oman, recently, they changed some names which are clearly not Arabic, particularly in how they are pronounced. For example, Nazi Moogi نازي موجي which means in Swahili the coconut tree, was replaced with Hillat as Saghah حلة الصاغة which is familiar to local people (Oman Land Encyclopedia, 2005, 31). Or another example, Rhodesia changed its name to Zimbabwe and its capital Salisbury to Harare (Al Zoqurti, 1997, 44).
- To establish a unified system for transliterating geographical names from any language to Roman (Latin) script.

These are, in brief, the main targets. The following are the activities for which advantages accrue following standardisation of geographical names:

- Urban and regional planning.
- All types of communications, saving time and money.
- Reduces the duplication of work when there is a central office to manage the correct names and the use of them (UNGEGN, 2006, 2).
- Names are part of the culture and heritage of a nation and standardisation encourages countries to setup and establish their own officially accepted names which is better than to derive these names from other sources such as atlases, maps and gazetteers or UN directives (UNGEGN, 2006, 2).
- Useful and necessary for search and rescue operations.
- Useful for population censuses and national statistics.
- In some situations standardisation and accurate names help international aid organizations to handle food and medical aid faster to war-torn areas or those suffering natural disasters (UNGEGN, 2001, 2).

Geographical names pass through several steps to be standardised and officially used, starting from collecting the names to finally approving them by the official body, as discussed in chapter three.

5.3 The Efforts to Transliterate Geographical Names from One Language to Another.

Transliteration from one language to another started with the invention of writing. The use of transliteration has risen with increasing communication between cultures (Al Zoqurti, 1996, 27). Transliteration is necessary whether it is inside the country, especially in multilingual countries, or internationally.

Various publications, such as maps and books, which included the transliteration of names from Arabic script to Roman (Latin) script made a great contribution to this field despite distortion in spelling and location for some of the feature names. When he was in the desert in 1926, TE Lawrence, “Lawrence of Arabia”, sent about 130,000 Arabic words to the UK. The proof reader spotted many contradictions in the spelling of proper names, such as “Jidda” throughout the book. Lawrence refused to change any and said "Arabic names won’t go into English, exactly, for their consonants are not the same as ours, and their vowels, like ours, vary from district to district".

The first published efforts on standardising Arabic geographical names were in 1936 and used the transliteration system in the Hans Wehr Arabic Dictionary (Al-Ghobashy, 2007, 1-2). Thereafter, the U.S. Board of Geographical names (BGN) and the U.K. Permanent Committee of Geographical Names (PCGN) adopted a Romanisation system in 1946 and

1956 respectively (Groom, 1983, 6). The UN defined the Romanisation system as a system for conversion from non-Roman into Roman script (UN, 2002).

Arab experts in geographical names had their first conference in Beirut in 1971. At that time the 'Beirut system' adopted a Romanisation system for Arabic geographical names which had some differences to the PCGN and GBN systems. These differences in brief are: to use the diacritical marks below some Latin letters, while the PCGN and GBN system used dots which caused ambiguity in maps. Moreover in the 'Beirut system' the letter ذ is represented by **DH** and the letter ظ presented by **DH** with a line below it. But in the PCGN and GBN system these two letters ظ/ذ are represented by DH and Z, with a dot below the Z, respectively. The ص in the 'Beirut system' is written as S with a line below it while in the PCGN and GBN system the same letter is used but with dot below it. Figure 5.1 illustrates some differences between the two systems.

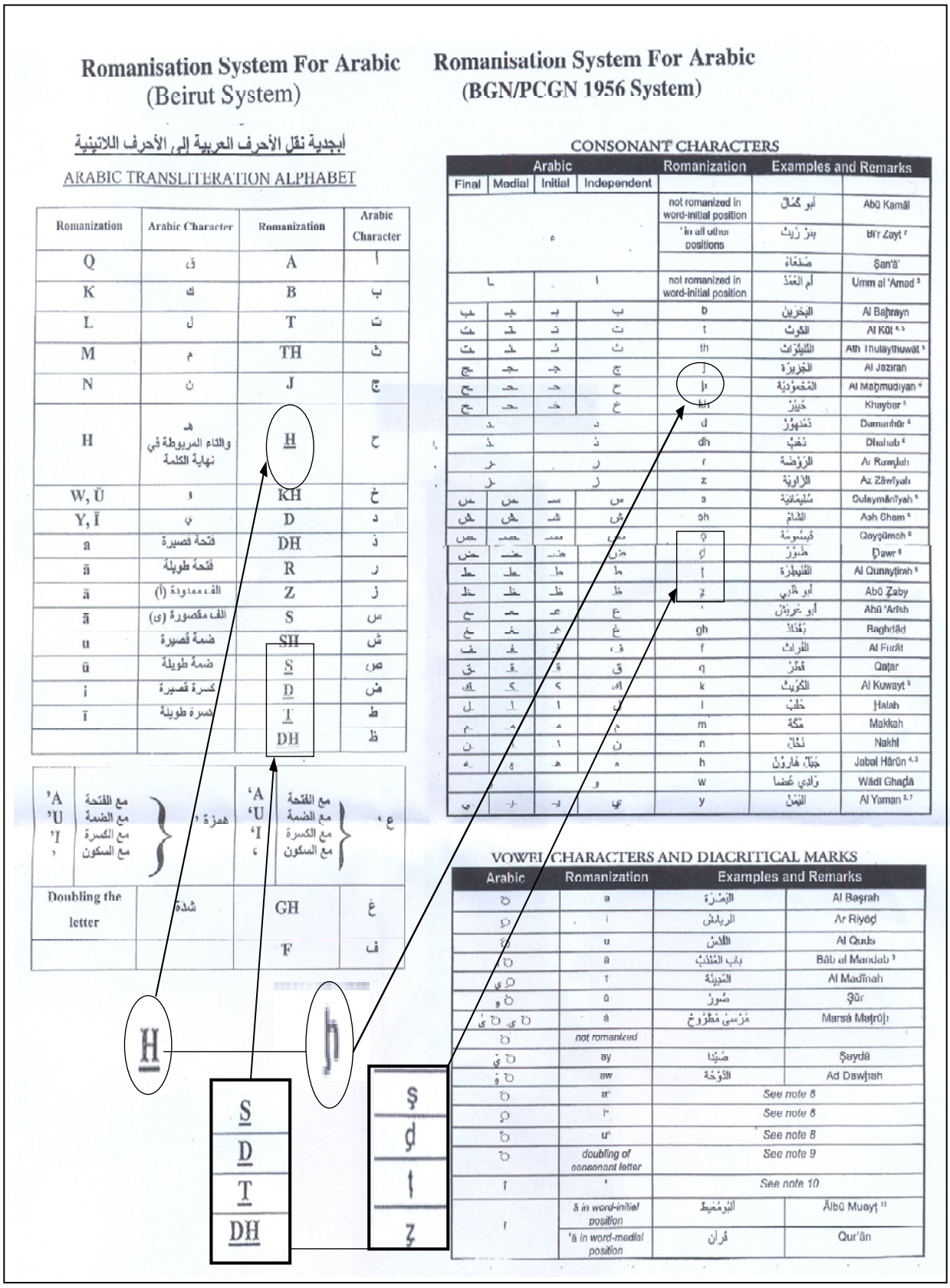


Figure 5.1 Some Differences in Romanisation System for Arabic between Beirut System and PCGN/BGN

One year later, in 1972, at the second UNGEGN conference on the standardisation of geographical names the United Nations Romanisation system (resolution 11/4 which was based on the previous Arab conference) was approved. However, some Arabic countries use the Beirut system as recommended by UN, such as Iraq, Kuwait, Saudi Arabia, United Arab Emirates, and the Sultanate of Oman, while others prefer a French-oriented approach such as that in local use in the Syrian Arab Republic and some Arabic Maghreb countries (Northwest Africa).

At the seventh UNGEGN conference for standardising geographical names in 1998, Resolution 7 requested that Arabic countries submit an Arabic Romanisation system. At the next conference in 2002, the Arabic division in the UNGEGN reported that it had submitted its final proposal for approval by the League of Arab States (UNGEGN, 2007). The Arabic experts division on standardising geographical names had their second conference in Tripoli in Libya from 18 to 20th December 2004. The conference recommended standardising the Arabic writing system for non Arabic geographical names such as country names, capital cities and famous natural places. Also the conference encouraged countries to establish a national and historic atlas, geographical names data base and a national geographical names committee in each country.

The Arabic experts group in the UNGEGN had a meeting in Tunisia in April 2004 with Helen Karfoot the chairman of the UNGEGN, the vice chair of UNGEGN and some Arabic members from ten Arabic countries in Tunisia. In this session, Sudan presented a request to add some letters to the 'Beirut system', as Sudan is a unique case with many different languages and dialects (there are more than 136 languages (PCGN, 2007, 1)) and there are some special phonetics in some parts of the country. In May 2007, the third conference was held in Beirut for the Arabic division in the UNGEGN to prepare for the ninth conference of the UNGEGN in August 2007. At this conference most of the Arabic countries attended and many papers were presented. At this conference they established the by-law for the Arabic Division for the standardisation of writing and pronouncing Arabic geographical names. The Beirut Arabic Romanisation system was adopted by the attendees and this was submitted to the League of Arab States for approval. The office for the Arabic division was established which contained five members and seven working groups (UNGEGN, 2007).

The conference agreed to some changes in the Beirut System including:

- The fifteen basic letters in Arabic which have their analogues in the Roman (Latin) alphabet and these letters are;
  ب، ت، ج، د، ر، ز، س، ق، ك، ل، م، ن هـ، و، ي
  B, T, J, D, R, Z, S, Q, K, L, M, N, H, W and Y.
- There are some diagraphs which have no analogue in the Roman (Latin) alphabet and these letters are;
  ث، خ، ذ، ش، غ TH, KH, DH, SH, GH and the letter **ظ** written as **TH,** with a line below it.
- The Ligature or digraph and diacriticals mark.
- The definite article **الـ Al** which, when it comes before the moon letters **أ، ب، ج، ح، خ، ع، غ، ف، ق، ك، ل، م، هـ، و، ي A, B, J, <u>H</u>** line below it**, Kh**, ʿ , **GH**, **F, Q, K, L, M, H, W and Y** (fifteen letters not fourteen as the reference states), is pronounced and written Al **الـ** such as in **(القمر)** and when transliterated into the Roman system is given as **Al Qamar.** On the other hand, when the definite article is before the sun letters **ت، ث، د، ذ، ر، ز، س، ش، ص، ض، ط، ظ، ن T, Th**, **D, Dh, R, Z, S, <u>S</u>** line below it, **<u>D</u>** line below it, **<u>T</u>** line below it, **<u>Dh</u>** line below it and **N** (thirteen letters not fourteen as the reference states), it is not pronounced at all, but written in Arabic **(الشمس)** and when it is transliterated into the Roman system, it is written **Ash Shams** (Khraish, 2007).

However, the system offers a good opportunity to standardise Arabic geographical names in all Arabic countries. Nevertheless the author can see some problems, namely:

1. Although some countries follow the system others render the French orthography.
2. System approval process takes a long time. It started in 1971, and still is not approved by the League of Arab States.
3. The disproportional and unregulated participation at the conferences and sessions from Arab countries.

In spite of all this, the author is optimistic that the system will be adopted. That will come about if the members adhere to all the resolutions and recommendations to improve their division. The UN has played a role in this field since 1972 and directs, if not all, then most of the conferences and sessions in this field. The Arab division of experts on geographical names has established an office and bylaws. The author sees that the division should make use of the UNGEGN toponymy courses to help solve the problems of the geographical names in each country.

Beside this system there are other systems which are in brief:

1. The PCBN and GBN systems, 1956.
2. IGN system, 1973 (sometimes it is called Variant B of the Amended Beirut system).
3. ISO 233:1984.
4. Royal Jordanian Geographical Centre (RJGC) system.
5. The Survey of Egypt System (UN, 2003, 3).

A Romanisation system considers other languages beside the Arabic language. The United Nations has recommended 28 scripts and 17 are still under discussion. In brief some examples of those languages are:

- **Amharic**.
  Adopted in Ethiopia and approved in 1967. It has 34 characters with different forms for each character.
- **Bengali**.
  Approved by the UN in 1972 and amended in 1977 and used in Bangladesh and India.
- **Bulgarian.**
  Approved in 1972 by UN and used in Bulgaria. It is a Cyrillic alphabetic script.
- **Chinese.**
  Approved in 1972 and used in China.
- **Greek.**
  The United Nations approved the system in 1987. Greece and Cyprus use the system.
- **Hebrew.**
  Hebrew is written like the Arabic from right to left. The Romanisation system recommended by the UN was approved in 1977. The system is used in the Survey of Israel

(UNGEGN, 2007, 7, 15,17,18,20 and 23).

5.4 Geographical Names in the Sultanate of Oman

5.4.1 Oman Names

The archaeologists have found that the culture of Oman goes back more than 5,000 years. During its history Oman was known by different names. **Magan** is one of these names and Sumerian tablets refer to it; it is connected with Oman's famous shipbuilding and copper mines. Oman **(Magan)** had a relationship with Sumeria and this is mentioned in their tablets **(Magan Land). Mazon** was another name for Oman and means affluence of water. This is still supported today when considering the quality of agriculture in Oman compared with the neighbourhood Arab countries. Oman was mentioned in the emigration of Arab tribes from a region in Yemen. Moreover, in another story a son of the prophet Abraham was called Oman or Uman (Ministry of Information, 2007, 1).

5.4.2 Omani Geographical Names in Non-Omani Documents, Maps and Books

Al Istakhri 10th century (Jan, M. (1836)) mentioned Oman and some geographical names within his book "Al Masalik wa Al Mamalik". On p.25 he described Oman as a hot country with independent people. It had a lot of palm trees and fruits. The major city was

Sohar صحار on the coast. Another city mentioned in this book was Nizwa, but he wrote it as Nazwah نزوة. Al Idrisi, who was born 1100, showed Oman on his 1154 map of the World (figure 5.2), but he wrote the names upside-down with the directions. The Arabic traveler Ibn Batota who started travelling from his home Tanja in Morocco on 26 April 1325 visited Oman and some places within it. He mentions these in his book (Tohfat Al Nodhar fi Ghara'b Al-Amsar Wa aja'b Al Asfar). He described some places and these are their names, as he wrote them, with the name as pronounced beside in brackets, for some of them; Oman عمان , Muscat مسقط, Dhofar ظفار, Masirah مصيرة, Qalhat قلهات, Tibi (Tiwi) طيوي, Nizwa نزوى, Ziki (Izki) إزكي, Al Qurayyat (Qurayyat) قريات, Shaba (Daba) دبا and Soharصحار (Ibn Batota, 1870, 14).

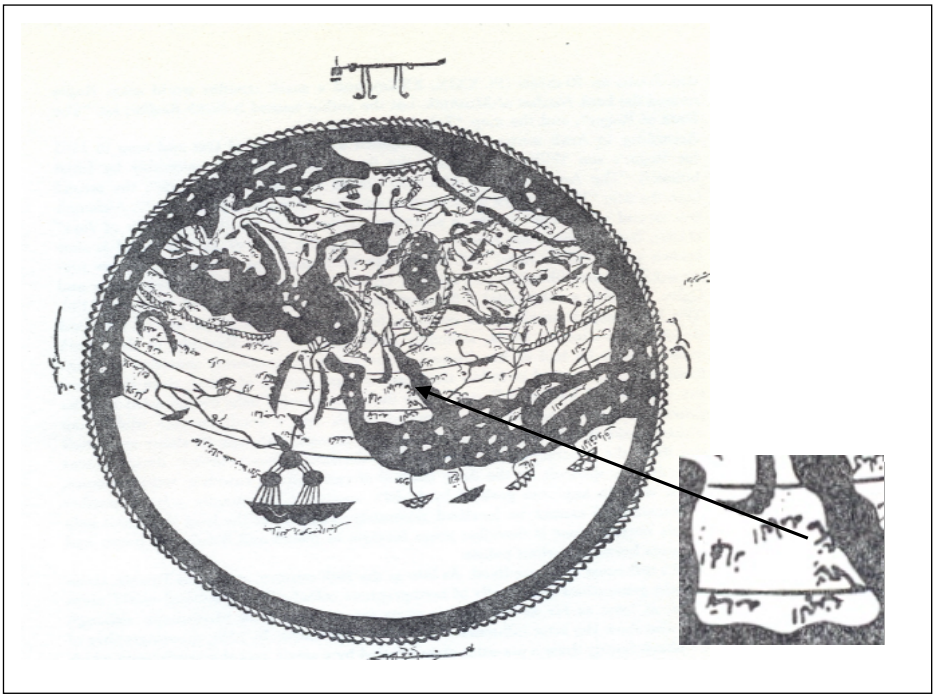


Figure 5.2 Oman as Appeared in Al Idrisi World Map (Watt, 1964, 57)

Al Qasimi, in his book "The Gulf in historic maps throughout the period of 1493-1931" (1996), presented the Gulf and the area around it. Some names on the maps are distortions of the originals. What the author is interested in from these maps is Oman and its geographical names. Al Qasimi chose maps from different centuries. Through presenting these, he has two aims. The first is to show the maps which presented and mentioned Oman and its geographical names from that time. The second is to illustrate the distortion of these names and to indicate the names as they are written and pronounced. Ortelius, who lived from 1528-1598, produced a map in 1570 of the Persian Gulf and the countries beside it. He included Oman in his map and mentioned the geographical names in it,

especially the coastal cities (figure 5.3). Ortelius indicated the names on the map using the spelling as he knew it. As an example Daba in this map appears as Doba, Sohar as Soar, Muscat as Moschetto, Qurayyat as Curiat, Qalhat as Calayat and Masirah as Mazira (Al Qasimi, 1996).

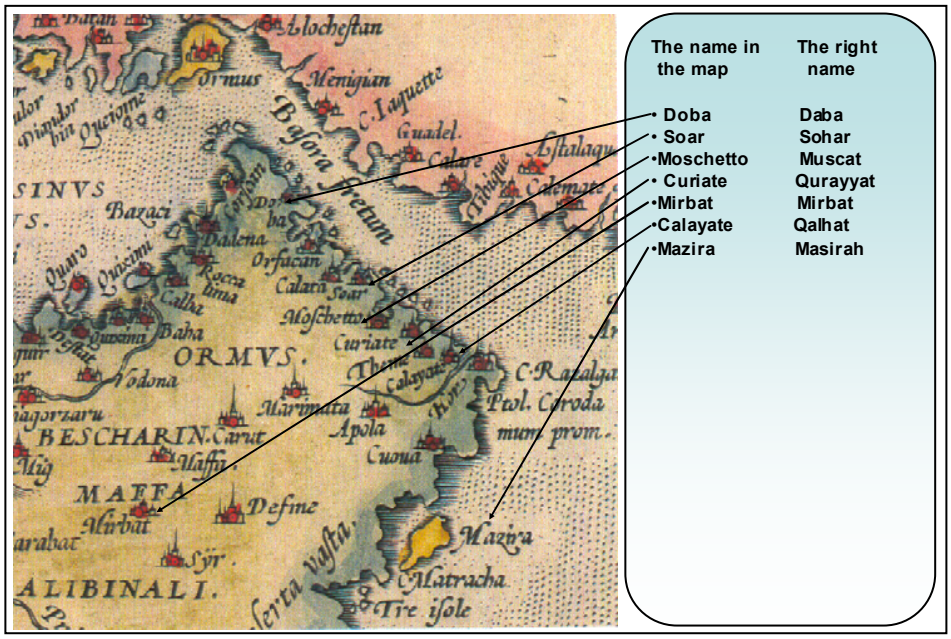


Figure 5.3 Omani Geographical Names in Ortelius Map (Al Qasimi, 1996).

In 1780, Neibuhr produced his map of the area (Al Qasimi, 1996). He included in this map more than fifty Omani geographical names. Figure 5.4 shows the names and their distortion in both writing and position. As Sawadi was written ‘Sowadi’ and positioned in the north of the country behind Sohar which is near Barka between Muscat and Sohar. This means it is far from its correct place, displaced about one hundred and eighty kilometres. Furthermore, some names written in the maps included spelling mistakes.

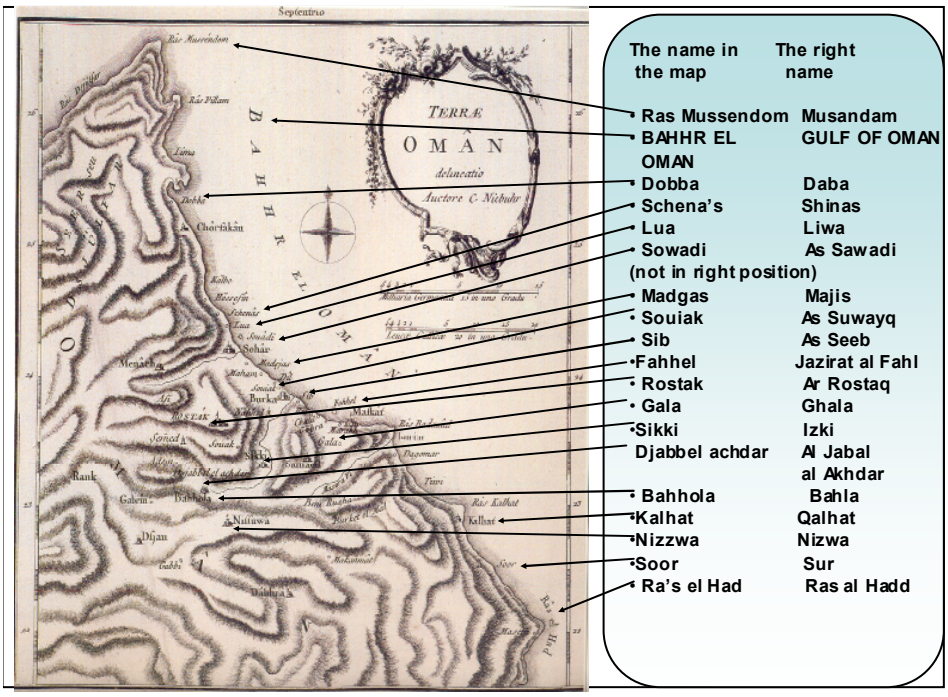


Figure 5.4 Some Omani Geographical Names in the Neibuhr Map(Al Qasimi, 1996)

In the map of Persia and Arabia produced by Teesdale, 1834 (Al Qasimi, 1996) the name of Oman was written as OMAUN, Muscat as Moskat and Sohar as Sehr, as shown in figure 5.5.

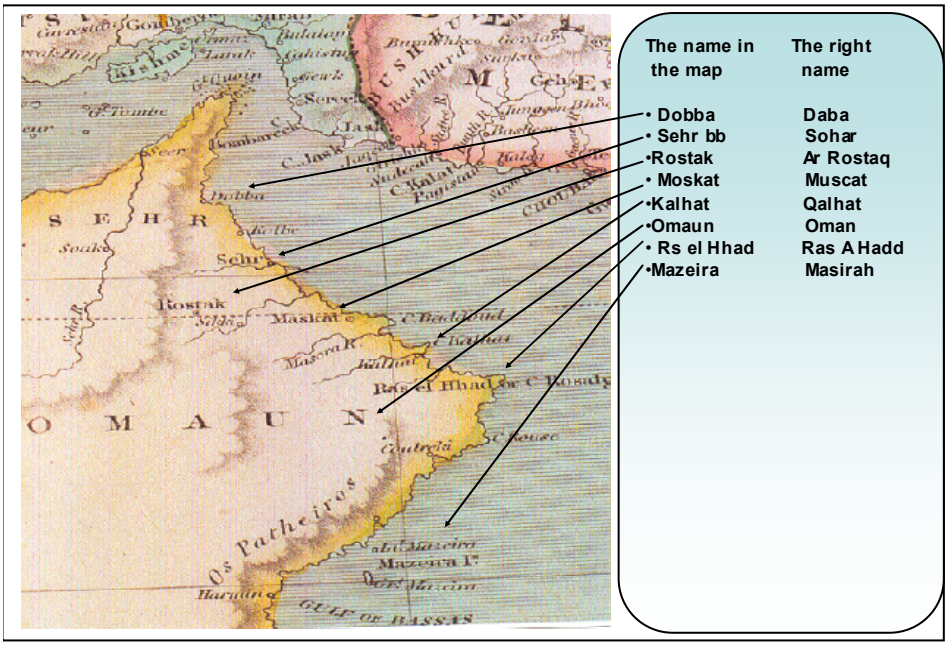


Figure 5.5 Some Omani geographical names in the Teesdale map(Al Qasimi, 1996)

Lizar's map (fig 5.6), produced in 1840, again has different spellings, for example OMMON which is pronounced totally differently from the correct name "Oman" (Al Qasimi, 1996). Alignment

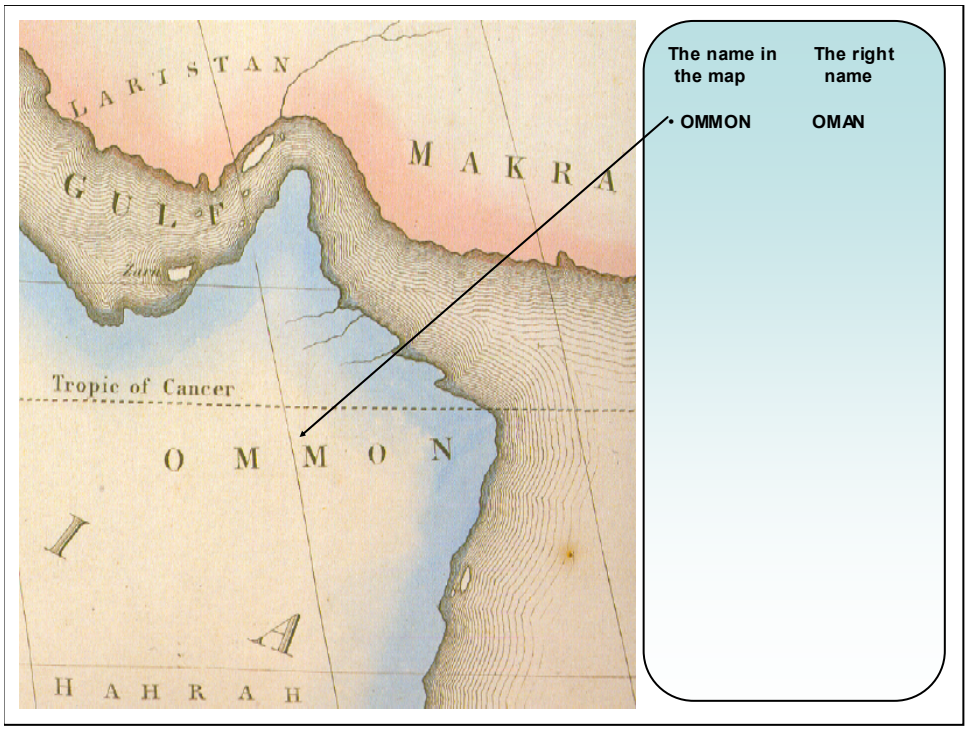


Figure 5.6 Some Omani Geographical Names in Lizar's Map(Al Qasimi, 1996)

In 1865, a map of Arabia was published for the Royal Geographical Society, about the routes of W.G. Palgrave Esq. in 1862-3 (Al Qasmi, 1996, 226). It includes Oman and some place names in it. In this map Al Buraymi was written as Bereimah, Nizwa as Nejwah, Sultanate of Oman as Kingdom of Oman and Gulf of Oman as Sea of Oman. The name Gulf of Oman had started to be used in maps from 1820 (Al Qasmi, 1996, 226).

At the end of the 1800's, (Lorimer, 1914), Lorimer visited the area and gathered many geographical names and put them in a gazetteer called the Gazetteer of Persian Gulf. He included a map of the Persian Gulf, Oman and Central Arabia (Lorimer, 1914). However the gazetteer, in spite of the great effort involved, contained spelling mistakes in the geographical names, such as Bakhah which is Bukha, Khaburah is Al Khaburah, Suwaiq is As-Suwaiq, Muladdah is Al Muladdah, Hazam is Al Hazm, Matrah is Mutrah, Quryat is Qurayyat, Kalhat is Qalhat, Raikhut is Rakhyut and Masqat is Muscat. In this last name the author agrees with Lorimer in his writing of the name Masqat مسقط and not Muscat because in the Arabic Romanization system the Arabic letter ق transliterates to Q, but, nevertheless,

Muscat is more conventional in this situation. This is similar to the case of Oman عُمان the letter ع is ‘**U** in the Arabic Romanization system which makes Oman into ‘Uman’.

In 1945 two maps of Oman were published by the U.S. Army Map Service at the scale 1:1,000,000. Their titles are ‘Muscat-Masira’ and ‘Salala’. The following are the names as written in the first map (Muscat-Masira) and their spelling using the Arabic Romanization system: Khaburah is Al Khaburah, Suwaik is As Suwayq, Wadhám is Wudam as Sahil, Sib As Seeb, al Keiran is Al Khayran, Sifa is As Sifah, Quryát is Qurayyat, Bimma is Bamah, Kalhat is Qalhat, Ja’ Alan is Jaalan (National Survey Authority, 2005) and by the Arabic Romanization system Ja‘lan, Masira is Masirah, Jabal Akhdar is Al Jabal Al Akhdar, Saiq is Sayq, Dhahirah is Adh Dhahirah and Mudhaibi is Al Mudaybi. The second map (Salala) contained some geographical names as follows with their Arabic Romanization system: Salala is Salalah, Jabal Qara is Jabal Al Qara, Taqa is Taqah, Rizat is Razat, Murbat is Mirbat, Andour is Wadi Andhur and Risut is Raysut.

In the beginning of the 1980’s, the United States Board on Geographical names published a Gazetteer of Oman. It contains about 5,600 names identified by the UTM reference system with their coordinates. Table 5.1 shows the details of the names included in an extract of this gazetteer.

Table 5.1 Details of Oman Geographical Names in the Oman Gazetteer (Hourani, M. and Heyda, M. (1983).

NAME	DESIG.	LAT.	LONG.	AREA	UTM	JOG NO.
'Ajam, Khalīj al:						
see Persian Gulf	GULF	27°00′N	51°00′E	MU00	WK08	NG39-06
Ajayiz: see Al 'Ajā'iz	WLL	19°33′N	57°12′E	MU00	EG26	NE40-03A
'Ajīb	PPL	24°46′N	56°17′E	MU00	DN23	NG40-14B
Ajjāl, Wādī al:						
see Ājāl, Wādī al	WAD	23°41′N	57°55′E	MU00	EB93	NF40-03B
Ajma, Ramlat	DUNE	19°31′N	54°27′E	MU00	BG36	NE40-01A
'Ajmanāt	HLLS	19°47′N	57°23′E	MU00	EG48	NE40-03A
Ajrad, Falaj al	CNLA	22°53′N	57°14′E	MU00	EL23	NF40-07A
Ajrān	PPL	24°02′N	56°10′E	MU00	DM15	NG40-14E
Airān, Wādī	WAD	24°03′N	56°02′E	MU00	DM06	NG40-14E
Akaisha: see 'Ukayshah	WLL	22°33′N	55°45′E	MU00	CK79	NF40-06A
Akbul: see Ḍāhir	PPL	24°29′N	56°04′E	MU00	DN00	NG40-14E
Akd, Wādī: see 'Āhin, Wādī	WAD	24°12′N	56°50′E	MU00	DM87	NG40-14F
Akeet, Ras: see Eikeit, Ra's	PT	20°03′N	57°49′E	MU00	EH81	NF40-15E
Akhadar, Jabal al:						
see Akhḍar, Al Jabal al	MTS	23°15′N	57°20′E	MU00	EL37	NF40-03D
Akhbar, Jabal	HLL	23°07′N	58°53′E	MU00	FL95	NF40-04D
*Akhḍar, Al Jabal al	MTS	23°15′N	57°20′E	MU00	EL37	NF40-03D
Akhḍar, Jabal: see Nakhl, Jabal	MTS	23°17′N	57°52′E	MU00	EL87	NF40-03E
Akhdhar, Jabal:						
see Akhḍar, Al Jabal al	MTS	23°15′N	57°20′E	MU00	EL37	NF40-03D
Akkad: see 'Awqad Bayt Fāḍil	PPL	17°00′N	54°02′E	MU00	AD88	NE40-13A**
Aktam	PPL	23°54′N	56°34′E	MU00	DM54	NF40-02C

This Gazetteer is unique, it is used by the National Survey Authority and it is more accurate than the previous references. This gazetteer is used by the Permanent Committee

on Geographical names (PCGN) and the Board of Geographical names (BGN) systems to transliterate the geographical names from Arabic to English. Although it included some spelling mistakes and incomplete names as they are known in the area, such as Samad which is Samad Ash Shan, Khatmat Malaha is Khatmat Milahah, Ghayl Shabul is Ghayl Ash Shabul, Rusayl is Ar Rusayl and Al Mintrib is Al Mintarib (USBGN, 1983, 46, 73, 88, 108 and113).

In the period from the end of the 1950's to the beginning of the 1990's many maps of Oman were produced by different bodies. These maps contained the geographical names of Oman. They rendered the geographical names in accordance with the BGN/PCGN system for transliteration from Arabic to Roman (Latin) scripts. By the end of the 1970's these names started to be supplied and checked by the Ministry of Defence in Oman. Since 1986 the National Survey Authority has started collecting and managing the geographical names. However, at that time most of these maps were produced by other bodies such as the Directorate of Military Surveys, Ministry of Defence in United Kingdom and the Army Map Service, United States of America. A few of them were produced by Omani bodies such as the Company of Petroleum Development of Oman which produced some maps such as 'Oman North' in 1968, 'Oman South' in 1968 and 'Oman Dhofar' in 1972. All these were the same scale of 1:500,000. The other Omani body producing maps at that time was the Directorate General of Civil Aviation. Indeed these names had some mistakes either in pronunciation or in spelling when transliterated to the Roman (Latin) scripts. That was a result of the system of collecting, managing, approving and transliterating from Arabic. Table 5.2 shows the different bodies (The Directorate of Military Survey, UK or the Army Map Service, Washington USA) that produced the Omani maps and the area of these maps with the year in which they are produced.

Table 5.2 Omani Maps Produced by Omani and non Omani Bodies and the System used to Transliterate the Names to the Roman (Latin) language

No	The body producing the map	Area	Year	Scale	The system used to transliterate the GN from Arabic
1	Army Map Service Washington USA	North Oman and UAE	1957	1:250,000	PCGN/GBN
2	Army Map Service Washington USA	Musandam	1957	1:50,000	PCGN/GBN
3	The Directorate of Military Survey, UK	Ath Thahirah area	1959	1:250,000	PCGN/GBN
4	Army Map Service Washington USA	Ash Sharqiyah	1961	1:250,000	PCGN/GBN
5	Directorate of Military Survey, UK	Al Batinah south	1962	1:100,000	PCGN/GBN
6	Directorate of Military Survey, UK	North Oman	1963	1:100,000	PCGN/GBN
7	The Director of Military Survey, UK	Musandam	1963	1:250,000	PCGN/GBN
8	The Director of Military Survey, UK	Masirah Island	1966	1:50,000	PCGN/GBN
9	Petroleum Development (Oman)	Oman(North)	1968	1:500,000	PCGN/GBN
10	Petroleum Development (Oman)	Oman(South)	1968	1:500,000	PCGN/GBN
911	Petroleum Development (Oman)	Oman(Dhofar)	1972	1:500,000	PCGN/GBN
10	Directorate of Military Survey, UK	Dhofar	1967	1:250,000	PCGN/GBN
11	Directorate of Military Survey, UK	“Photo mosaic” Salalah	1967	1:5,000	PCGN/GBN
12	Directorate of Military Survey, UK	Al Batinah	1968	1:100,000	PCGN/GBN
13	Directorate of Military Survey, UK	A part of Qurayyat & Gulf of Oman	1969	1:100,000	PCGN/GBN
14	Directorate of Military Survey, UK	Muscat & Mutrah	1970	1:5,000	PCGN/GBN
15	Directorate of Military Survey, UK	Salalah	1971	1:50,000	PCGN/GBN
16	Directorate of Military Survey, UK	Al Buraymi	1971	1:10,000	PCGN/GBN
17	Directorate of Military Survey, UK	Dalkut	1975	1:50,000	PCGN/GBN
18	Directorate of Military Survey, UK	Dhofar	1976	1:50,000	PCGN/GBN
19	Directorate of Military Survey, UK	A part of Oman, Saudi Arabia and UAE	1978	1:50,000	PCGN/GBN
20	Directorate General	Muscat	1980	1:50,000	PCGN/GBN

	of Civil Aviation (Oman)				
21	Directorate of Military Survey, UK	Dhofar	1980	1:50,000	Since this time the geographical names have been starting field checking by MOD Oman
22	Directorate of Military Survey, UK	Dhofar	1986	1:100,000	The geographic names produced under the direction of National Survey Authority Madwoman and used the PCGN/GBN system
23	KLM	Al Buraymi	1988	1:50,000	
24	Directorate of Military Survey, UK	Marmul	1991	1:250,000	The geographic names produced under the direction of National Survey Authority MOD, Oman and used the PCGN/GBN system
25	National Survey Authority		1993		First civilian map produced in NSA by hand tools
26	National Survey Authority	Al Khaburah	1999	1:50,000	First topographic map produced by using some digital tools and Arabic Romanisation (Beirut) system for transliterating the names to the English language

5.4.3 National Survey Authority and Geographical names

In 1975, the government survey agency was established. At the beginning of the 1980's the MOD started to supply and check the names in the maps. In September 1983, the Council of Ministers approved the establishment of the National Survey Authority (NSA). After that, in October 1984 the National Survey Authority was established to be responsible for all the survey activity in the country and collecting and maintaining the geographical archives in Oman (NSA, 2006). Nine years later in 1993, the first civilian map was produced, using manual methods, and in 1999 the first topographic map at the scale 1:50,000, for Al Khaburah, was produced using some digital tools and the Arabic Romanisation system for transliterating the names to the English language. Since that time all types of maps have been produced at different scales and for different purposes covering the whole country, including digital maps at 1:5,000 and other scales. Recognising the importance of geographical names, a geographic place names section was established in the National Survey Authority and assigned several tasks. Some of these tasks are: collecting the geographical names from all sources; treating them; documenting them; approving and transferring them to other languages when needed.

The conferences and sessions, which were held under the umbrella of the UN and the League of Arabic States, have a target to unify and standardise geographical names. The Sultanate of Oman, represented by NSA, has participated in geographical name conferences and sessions since 1994. The following are the conferences and sessions that Oman participated in:

1. **UNGEGN Conferences;**
   - The Seventh conference from 13-22 January 1998, New York.
   - The Eight conference from 27 August to 5 September 2002, Berlin.
   - The Ninth conference from 20-30 August 2007, New York.
2. **UNGEGN Sessions;**
   - The Seventeenth session from 13-24 June 1994 in New York
   - The Nineteenth session from 12-23 January 1998 in New York.
   - The Twentieth session from 17-28 January 2000 in New York
   - The Twenty-second from 20-31 August 2007 in New York.
3. **Arabic Conference on Geographical names;**
   - The Third conference from 30-31 May 2007 in Beirut.

The author noticed that the NSA participation in these conferences and sessions are mostly attendees rather than active participation. Moreover, NSA have not benefited significantly from the experience of the UNGEGN. They could have used the experience of UNGEGN to improve the existing courses in toponymy, databases of geographical names and to support the establishment of the national geographical names gazetteer in Oman.

Beside NSA there are other bodies in the Sultanate of Oman who are producing maps and using geographical names. These bodies include Muscat Municipality, Dhofar Municipality, Ministry of Interior, Ministry of Transport and Communication, Royal Oman Police, etc. These bodies do not following the UN Romanisation system for transliterating geographical names. Some of these bodies obtain the names, despite the mistakes in these names, from different sources such as the maps, which are not produced by the NSA and gazetteers, while NSA collects the names from their original sources such as the field and the local people. Moreover, these other bodies use an unofficial transliteration system which causes mistakes in the names and runs against the demand to standardise the geographical names by using the UN Romanisation system. The author has noticed the different ways of writing on maps produced by other bodies. As Seeb السيب city in Muscat Municipality's digital map (Mustakshif Muscat) is written Alseeb while the same city in the official website of the Ministry of Information it is written A'seeb. Moreover, بوشر in the NSA maps is Bawsher, in Muscat Municipality maps it is Baushar and in the Ministry of Information web site it is Bowsher (NSA, 2005; MOI, 2007; ROP, 2007).

5.5 Changing and Adding Geographical Names

The first UNGEGN conference in 1967 recommended, in resolution 1/4, that unnecessary name changes should be avoided (UNGEGN, 2006, 35). However, countries need to change names for many reasons. In Oman during the period from 1980 to 2004 more than 86 names were changed (Al Nabhani, 2004).

Changing geographical names takes time and effort. South Africa is another country with good experience in this field. As an example Johannesburg International Airport became O.R. Tambo International Airport. The task was not easy and took a long time. The process started on the 2nd of October 2003 when the executive Mayor of Erkurhauleni Metropolitan Municipality proposed the name change for the airport. He presented the proposal to the national government. Two years later the Ministry of Transport requested from all South Africa any comments about the proposal and gave 9th December 2005 as the closing day for comments. All the comments were forwarded to the ministry of Arts and Culture through the South African Geographical Names Council. The council presented the advice to the minister based on their criteria. On the 30th June 2006 the ministry published, in the government gazetteer, the proposed name change and invited comments and objections up to 30th July 2006. On 27th October 2006 they announced, officially, the new name (UNGEGN, 2007, 1).

5.5.1 Some Reasons for Changing Geographical Names

5.5.1.1 First Reason: Some Names have a History Associated with the Colonial Period

In Jordan Al-Jufurin replaced H4 and Al-Jifayf replaced H5, which meant Haifa 4 and Haifa 5 respectively and were numbers for Petrol pumping stations in the Karkok-Haifa petrol pipe line which was built by British Government in the 1931 of last century to transfer the petrol from Iraq to the Mediterranean and stopped work on it by it in 1948 (Al Zoqurti, 1997, p43).

5.5.1.2 Second Reason: Some Names are Odd and Unfamiliar to the Public

Some names have an unacceptable meaning. In Oman, as an example, the Al-Fasiqah name, which means the debauched, was changed to العفيفة Al Afifah which means chaste (The Consultants Office for His Majesty Sultan for the Affairs of Economic Planning

(2005) 24). In Jordan they changed أم الدجاج Um Ad Dagag, which means the mother of hens, (Al Zoqurti, 1997, 32).

5.5.1.3 Third Reason: the Political System Changing

The political system changing in a country may influence place names. Yemen, after the joining of North and South Yemen states, became The Republic of Yemen. On the other hand, Czechoslovakia, after it divided into two states, changed its names to the Czech Republic and the Republic of Slovenia (Al Nabhani, 2004, 31). The situation was the same in the former Soviet Union, after Stalin's rule in 1956, many place names changed, such as Stalin St to Marx St and Stalin Park to Lenin Park (Murray, 2000, 5). Also the nation's name 'Soviet Union' changing to 'Russia', and other states names' changed.

5.5.1.4 Fourth Reason: Independence

Under colonialism the imperial powers changed the names of the countries they occupied to show their ascendancy over the country and its people. Later when the countries become independent they returned to the previous names or issued new names. The Spain Desert الصحراء الإسبانية became the West Desert الصحراء الغربية and Philadelphia فيلادلفيا became Amman after the independence from (classical) Greek colonialism عمّان(Al Zoqurti, 1997, 43).

5.5.1.5 Fifth Reason: Expansion and Development

As a result of development and modern expansion, new names are issued and appear in these places. In Oman after Khrais Al Awamir and Khrais Al Hoboos خريس العوامر وخريس الحبوس joined each other they had one name Al Hayl As Shamaliah الحيل الشمالية,. Hillat As-Shamal and Hay Al Meena حلة الشمال و حي الميناء expanded and developed and changed their name to Hay Al Meena حي الميناء,. Murtafa't Al Qurm and Lowlag مرتفعات القرم و لولاج expanded and developed and changed their name to Alqurm القرم. , Awqad Al Gharbia and Awqad As Shaarqiah عوقد الغربية وعوقد الشرقية to Al Awqadyn العوقدين, and Al Watayyah and Ar Rimailah الوطية والرميلة to Al Watayyah (Al Nabhani, 2004, 32).

5.5.1.6 Sixth Reason: Correlation of Names with Families, Tribes and Persons

These names change through time, following requests from the authorities or the people. In Jordan, Beer Al 'Ata'atah بير العطاعطه was changed to Al Qadisiyyah القادسية (Al Zoqurti,

1997). In Oman also they changed Hillat Al Zadgal حلة الزدجال to Az Za'faraniyyah الزعفرانية. Hillat Al 'Agam حلة العجم to Hillat An N'aeem and Qurhat Al Busaid قرحة البوسعيد to Hillat As S'ad (Al Nabhani, 2004 32). Table 5.3 includes some name changes in Oman (Al Nabhani , 2004)

5.5.1.7 Seventh Reason: Economic Reasons.

In some cases changing names has several economic and social benefits such as in South Africa in 1994. The scope of the provincial economy in Limpop was the second smallest in the country. But in 2001 it recorded the highest growth in the country. The Ministry of Education and Culture announced in his budget speech that the economy of Limpop recorded growth to be R64 billion and predicted R80 billion in 2004 after changing the name to Limpop. Limpop had been in the news for changing its name from Northern Province, and this gave a good example of the contribution of the standardisation of names (UN, 2007, 1)

Table 5.3 Some Omani Geographical Names Changes

No	Governate/Region	Former name	Current name	Notes
1	Muscat	Hillat Adh-Dhufarieen حلة الظفاريين	Hillat As- Sahil حلة الساحل	
2	Muscat	Sagrooh + Al Munawmah صجروه + المنومه	Al Manumah المنومه	
3	Dhofar	Guzor Koria Moria جزر كوريا موريا	Guzor Al Halaniyat جزر الحلانيات	
4	Dhofar	Munstoon منستون	Hayrun حيرون	
5	Musandam	Jabal Hareem جبل حريم	Jabal Harim جبل حارم	
6	Al Batinah (Sohar)	Al Fasiqah الفاسقـــة	Al Afifah العفيفه	
7	Al Batinah (Liwa)	Ad Dabagh الدباغ	Az Zahiyah الزاهية	
8	Ad Dakhliyah (Nizwa)	Sayh Alqids سيح الكدس	Hayy at Turath حي التراث	
9	Ash Sharqiyah Sur	Mkharmah مخـــرمه	Na'mah نعمـــه	
10	Al Batinah Al Khaburah	Adh Dhallah الظاله	Adh Dhalilah الظليلة	

5.6 New Names

New geographical names mostly apply to natural features and constructions. The UN (2006) set some rules to be met before approving any proposed name. First is that the feature has no current name, whether in published documents or oral use. Second is that the name should be accepted by the local people and government. The New York State Geographical names Committee conforms with the UN, but added some other questions such as:

- What is the historical origin of the existing name?
- What is the historical justification for the proposed name?
- Is the proposed name in local use?
- Do local leaders, residents and businesses support the name? (Hamell, 2007, 2).

Al Zoqurti (1997) prefers that the new name not be too long and to avoid repetition of names as much as possible. Moreover, names should not infringe on political, religious or ethnic sensitivity.

In Oman, His Majesty the Sultan issued some names for desert features. These names carry good meaning and significance such as Sayh as Salhat سيح الصالحات, Sayh an Nafahat سيح النفحات, Sayh at Tayyibat سيح الطيبات , Sayh An Nama'ء سيح النما , Sayh al Ulla سيح العلا, and Sayh al Khaiyrat سيح الخيرات . These places are the meeting places with his people during his journeys to visit them every year since he started ruling the country in 1970 (The Consultants Office for His Majesty Sultan for the affairs of Economic planning (2005). The Sultanate of Oman is divided administratively into four governorates and five regions containing 61 wilayah (districts) as shown below (Ministry of Interior, 2007).

- **Muscat governorate**
  The capital city of the country and consists of six wilayat: Muscat, Mutrah, As Seeb, Al Amrat , Bowsher, and Qurayyat.
- **Dhofar governorate**
  Located in the far south of the Sultanate of Oman and contains ten wilayat. Salalah, Thamrayt, Taqah, Mirbat, Sadah, Rakhyut, Dalkut, Muqshin, Al Mazyounah and Shaleem and Hallaniate Island.
- **The following administrative regions are under the Ministry of Interior**
  Musandam **governorate** in the north of the Sultanate and it contains four wilayah.
  Al Buraymi **governorate** and it contains three wilayah.
  Al Batinah region and it contains twelve wilayah.
  Adh Dhahirah region and it contains three wilayah.
  Ad Dakhliyah region and it contains eight wilayah.
  Ash Sharqiyah region and it contains eleven wilayah.
  Al Wusta region and it contains four wilayah.

Beside these, there are two main Municipalities (Muscat & Dhofar). Both of these consider geographical names in cooperation with the governorate they are located in. By this administrative division, there is semi-independence for the geographical names treatment and management. In addition each of these bodies use their system to transfer the geographical names from one language to another and this results in mistakes in writing and pronouncing them. Because of this the author recommends having a single national committee for geographical names and this will be discussed in the next section.

5.7 Geographical Names Standardisation Committees

Because of the importance of geographical names standardisation, the United Nations recommended in its resolution I/4 A in the first conference on the Standardisation of Geographical Names that national standardisation be accomplished by means of a national geographical names authority (UN, 2006, 21). Many countries have geographical names committees or councils. These bodies deal with geographical names collection, recording and standardisation. Some examples of these bodies are presented in the following sections.

5.7.1 Jordan

The Jordanian Royal Geographic Centre heads the National Committee on Geographical Names which was established according to a resolution issued by the Prime Minister with the participation of other ministries, departments and related authorities. The main duties of Jordan's National Committee on Geographical Names are to concentrate on unifying geographical name writing in Jordan, perpetuate and publish the Jordanian Geographical Names Index, propose and substitute new names of geographical sites for the Prime Minister, approve the system of writing names in Roman letters, provide an information bank for substitute or new names including historical events, martyrs, political, literary and social personalities that have played a prominent role in social life, and to follow up new events in the Arab world and the world at large related to geographical names. Jordan's National Committee on Geographical Names has the right to cancel or stop using any new names until they are licensed by the committee. The committee holds its meetings regularly, each month. However, when there are urgent matters they can be requested more frequently. The Royal Jordanian Geographic Centre is obliged to conform to the committee's resolutions and works on activating them directly through its products and in providing training courses in this field.

There are many projects which have been accomplished by the Jordanian National Committee of Geographical Names. For example, it approved the names of new building centres and quarters. It also produced the Atlas of Jordan and the World in 2002. Moreover, it updated the "Window to the World Book" which contains information about world countries such as the country's formal name in Arabic and Roman letters. The Committee also published several maps of different scales, produced charts and publications. The most important achievement of the committee is the adoption of the Romanisation System certified in Tripoli Conference Libya in 2004 to be the only accredited System (UN, 2002).

5.7.2 Canada

In 1897, the Canadian government's resource scientists and mapmakers recognized the need to standardise geographical names in Canada, to discourage duplication and to simplify orthography. Consequently, the Geographic Board of Canada was founded. In 1948, the board was renamed the Canadian Board on Geographical Names.

Nowadays, the committee consists of 26 members, one from each province and territory and 14 others including representatives from federal mapping agencies, archives, translation services, National Parks, Indian Lands and Statistics Canada. The federal department of Natural Resources Canada provides the committee with a chair and a secretariat. The national body coordinates toponymy for Canada, establishes general principles and standards for naming in the country, and provides authoritative toponymic information. Moreover, the committee has the technical role of recording and approving names for official use and ensuring the records are properly maintained and readily accessible, for example, in various digital or paper copy formats and through the Internet. In addition, the committee plays an active role, through the United Nations, in promoting word standardisation of geographical names.

The permanent Canadian Board on Geographical Names has some achievements. It has about 440,000 place-name records on its database. About 306,000 are official place names. In 1989, about 8500 new official place names were added to the list (UN, 2004).

5.7.3 South Africa

The South African Geographical Names Council (SAGNC) was established by the South African Geographical Names Council Act, 1998 (Act No. 118 of 1998), as the responsible

body for standardising geographical names in South Africa. It is constituted by the minister of Arts and Culture. The SAGNC membership consists of experts in place names, the official languages and cultural history, as well as one representative from each province and representatives of the Chief Directorate of Surveys and Mapping, the SA Post Office, and the Pan South African Language Board. In addition, the secretariat support of the SAGNC is provided by the Department of Arts and Culture.

The council may meet as often as necessary, but at least three times a year. The chairperson has the power to convene, postpone or cancel a meeting in accordance with the necessity for a meeting.

The SAGNC has many responsibilities some of which are, as follows:

- It establishes the policies for geographical features naming in South Africa.
- It standardises the geographical names under its authority. In order to do this, it determines the name to be applied to each geographical feature, and the written form of the name.
- It recommends standardised names to the minister for approval. It receives and records the approved names and publishes them on the Internet.

Through the sub-committees the council has published a booklet that outlines principles and procedures that should be followed when proposing a new name or changing another (UN, 2002; SAGNC, 1998).

5.7.4 Australia

The Geographical Names Committee, originally the Nomenclature Advisory Committee, was appointed as an advisory committee to the Minister for Lands in 1936. Essentially, it performs a similar role today as when started in 1936. The Geographical Names Committee is served by a secretariat provided by the Information Services Division of Landgate.

The committee provides advice to the Minister on geographical name issues. The primary task of the committee is to develop rules and guidelines for approval by the minister. Moreover, another main task of the committee is to ensure that Aboriginal and Torres Strait Islander place names are recognised by all Australians as being a fundamental part of Australia's heritage and need to be preserved (Australia, 2006).

5.7.5 United Kingdom

The Permanent Committee on Geographical Names for British Official Use (PCGN) is an independent inter-departmental body. It was established in 1919. It provides a unique toponymic perspective on current global political affairs. PCGN agree Romanisation systems to be used by official bodies in the United Kingdom. The system is published in the Romanisation Systems and Roman-script Spelling Conventions.

The principal function of the Permanent Committee on Geographical Names for British Official Use (PCGN) is to advise the British government on policies and procedures for the proper writing of geographical names for places and features outside the United Kingdom, excluding those of the Antarctic (PCGN, 2004). Unlike the other geographical names boards reviewed, it is not responsible for names within the UK.

5.7.6 Sudan

The Names of Geographic Places National Council was established in 2005. The council is under the supervision of the minister of Environment and Construction Development. The minister may issue general directions and the council shall abide by such directions.

The council is constituted by a decision of the Council of Ministers, and consist of a full-time chairperson, and an appropriate number of members, from those possessed of the relevant experience and knowledge, and has representation from those bodies having a connection with the relevant issues. The Secretary General of the Ministry of Environment and Construction Development is a member and rapporteur. The term of council membership is four years and the members may be re-appointed thereafter.

The council meets three times annually and calls may be made for an emergency meeting upon the request of the chairperson or two-thirds of the members.

The council aims at originating and controlling the criteria of the geographical names. This is in addition to laying down national criteria for writing geographical names. Moreover, it aims to issue a national lexicon for names of geographic places. The council is also responsible for collecting and originating the names of geographical places and disseminating awareness of geographical names.

The council has had some prominent achievements some of which are as follows:

- Commencement of forming committees in the states to do the jobs of the committee;
- Held several local conferences regarding Geographical Names;
- Released a periodical bulletin in Arabic;
- Corrected some place names;
- Made a study about the area flooded by the dam of Marawe; and;
- Given names to some streets and quarters in collaboration with the Ministry of Architecture Affairs.

5.8 Important Issues about the Geographical Names Standardisation Committees

From reviewing some examples of bodies, committees or councils responsible for geographical names, it is clear that although there are some differences between the committees, there are many common features. The most important of these common features are their responsibilities. Most of the geographical names committees are responsible for collecting, approving, recording and standardising geographical names; preparing documentations and publications on geographical names. Another important issue is related to the formation and members of the committees. Members of geographical names committees are qualified people who deal with geographical names. Geographical names committees also have frequent meetings (UN, 2006).

5.9 Conclusion

This chapter discussed the standardisation of geographical names and its advantages. Then it highlighted the efforts of transliterating geographical names from one language to another. After that, a discussion of the geographical names in the Sultanate of Oman was followed by a discussion of the existing problems that are related to geographical names standardisation and the existence of various bodies dealing with geographical names. Finally, some examples of geographical names committees were discussed. The next chapter will discuss the conclusions and recommendations of the thesis. In addition, a proposed committee for geographical names in the Sultanate of Oman will be discussed.

Chapter Six - The Proposal for a Geographical Names Committee in Oman and Conclusions

6.1 Introduction

This study was carried out in order to highlight the role and standardisation of geographical names on maps in Oman. The study aimed to investigate the best practices for collecting, approving and managing geographical names. It also aimed to identify the existing procedures and use of geographical names in Oman. Finally and most importantly an aim of the study was to establish a proposal for a committee to be responsible for collecting, recording and standardising geographical names. Through achieving these aims a number of issues have been identified that will be considered in this chapter. Then, drawing the conclusions together and considering the importance of geographical names standardisation, a proposal for a geographical names committee in Oman will be discussed. Finally, some recommendations will be established.

6.2 Thesis Results and Conclusions

In chapter two, the history, definitions and functions of maps were presented. Then, the relationships between maps and geographical names were examined. In order to highlight more the roles geographical names play on maps, map classification was considered. This was followed by an overview of the functions of geographical names which consequently highlighted their importance as essential elements of maps. Chapter two concluded with an examination of the roles and use of geographical names in Oman. It was from a discussion of the latter that the prominent roles played by geographical names in Oman emerged; they play crucial roles in the media, military, tourism, navigation and planning.

After highlighting the meaning, roles and importance of geographical names; and the relationship between geographical names and maps in general and in Oman in particular, chapter three dealt with geographical names in more detail. Chapter three discussed the

ways of collecting geographical names and how they are important for the accuracy of geographical names. Moreover, chapter three discussed the recording and storing of geographical names. Issues highlighted as essential in collecting and recording geographical names are the abilities and qualifications of the team members. Poor abilities and qualifications of the team members could be a reason behind many of the problems of geographical names accuracy. A detailed description of the preparation for the field work for collecting geographical names was presented. This is in addition to a discussion of the field work. The most important step after collecting geographical names is approving them. Only after this step can geographical names be used.

A detailed description of the ways of collecting geographical names in Oman followed. Chapter three described the office preparation, the field work, the interviews, revision of the data and office work after field work. The chapter highlighted some problems of the field work in Oman such as the pronunciation of place names, language differences and the inaccessibility of some areas. Another issue which was highlighted in this chapter but discussed in more detail in chapter four is that there are several bodies in Oman that are responsible for collecting geographical names, but unfortunately they use different systems from that discussed in this chapter. This causes a major problem in geographical names standardisation in Oman.

Chapter four discussed the ways of transforming geographical names. It discussed translation and transliteration within the context of geographical names, but it focused more on transliteration as this is the method that is used in Oman. It discussed the geographical names transliteration problems such as sufficiency of knowledge of the language, the qualification of the geographical names team and dialects. After that, a detailed description of the transliteration of geographical names in the Sultanate of Oman was discussed. In addition to the problems that face geographical names collection in Oman some more problems faced by geographical names transliterations in Oman were highlighted. One of the major problems that face geographical names transliteration in Oman is the variety of the languages and dialects such as the Kamzari language, the Al Jabali language and the Bedouin dialect. The qualifications of the geographical names team was considered as another problem facing geographical names transliteration in Oman. The lack of a responsible establishment to deal with geographical names in Oman and consequently the lack of a unified standardisation system was another major problem that affects the accuracy of geographical names in Oman.

Chapter five discussed the standardisation of geographical names and its advantages. This was followed by a review of the efforts to transliterate the geographical names from a language to another. After that, a discussion of the geographical names in the Sultanate of Oman and the problems related to standardisation was presented. Finally, some examples of geographical names committees were discussed.

6.3 The Proposed Geographical Names Committee for Oman

After highlighting the existing issues that face geographical names in Oman, the author found that establishing a geographical names committee in Oman would be a solution for resolving them. In addition, the establishment of a geographical names committee is connected with the establishment of a unified system for recording and managing geographical names. The following sections will discuss the proposed committee.

6.3.1 The Committee Structure

As was shown in chapter five, the geographical names committees' structure varies from one country to another. Considering the issues that arose from this study, the author suggests the committee be in the form of a committee centred in the National Survey Authority as it is the establishment which is concerned most with geographical names in Oman. The National Survey Authority is also the body that is responsible for the production, management and approval of maps in Oman. However, as some other bodies in Oman are concerned with geographical names, as highlighted in this study, representatives from these bodies should be members of the proposed geographical names committee of Oman. For example, representatives from the Ministry of Heritage, the Municipalities, the Ministry of Interior, the Sultan Qaboos University and any establishment that requires nationally standardised geographical names could be members of the proposed geographical names committee of Oman. So, membership of the Oman Geographical Names Committee (OGNC) should consist of two types of members: full members and corresponding members. The full members should be permanent members in the OGNC, attend all meetings and share in all decisions made by the OGNC. On the other hand, the corresponding members will be kept fully informed of the activities of the OGNC, but would only attend meetings that directly concern them. These two groups of members could, for example, consist of:

1. Full members: representatives from the National Survey Authority, representatives from the Ministry of Interior, representative from the Ministry of Heritage and Culture, representatives from the Ministry of Transportation, and the geographical names team leaders.

2. Corresponding members: representatives from the regional municipalities, representatives from Sultan Qaboos Universities especially those who are concerned with geographical names, and representatives from language and dialect experts.

The full members should be senior managers or key personnel in their establishment. This is to ensure they are effective in formulating policies and have the necessary experience and authority in decision making. There should be one member from each establishment.

The corresponding members should attend meetings that concern their specialization. For example, experts in a certain dialect only attend meetings that concern geographical names related to their dialect and representatives from regional municipalities only attend meetings that concern their regions.

The representative members in the proposed committee should be expert in geographical names and the issues concerning them. However, if there are no members who are experts in geographical names, external experts could be consulted to help the committee members to perform their role effectively.

In addition to the OGNC members consideration should be given to the committee chairperson. The chairperson should be an experienced person in geographical names. They should be from the National Survey Authority as it is the organisation most concerned with geographical names and it is responsible for map production.

In addition, a permanent secretariat should be appointed to coordinate and organize the meetings. This secretariat should be responsible for coordination between the different members of the Committee and should coordinate between the OGNC members and the geographical names teams. It may also have responsibility to oversee the work of the geographical names teams, as although the teams will be employed by the National Survey Authority, their work depends on OGNC decisions and priorities.

A national committee with the structure proposed will guarantee the unification of the standardisation system for geographical names and overcome the confusion that is caused by the duplication of geographical names.

6.3.2 The Proposed Geographical Names Committee of Oman Responsibilities

The proposed Oman Geographical Names Committee should be responsible for all of the issues that concern geographical names. The committee should be responsible for forming policies and procedures regarding collecting, managing and approving geographical names. Moreover, they should make sure that all members of the geographical names team are qualified, well-trained and able to carry out their responsibilities effectively. In addition, and most importantly, the committee is responsible for making decisions regarding the approval of geographical names. It is very important that the decision making is made by the committee as a whole, so that different specialities, backgrounds and experiences are involved which will result in appropriate decisions being made.

One issue which is very close to the committee's responsibilities is the agreement upon one unified standardisation system. It is suggested that the United Nations Romanization System, as it is approved, is very useful and accurate and should be adopted.

6.3.3 The Proposed Geographical Names Committee of Oman - Meetings

The committee should meet periodically, about every three months. Urgent meetings can be arranged as needed. At the beginning of the committee's establishment, the committee should meet more regularly, so it can form an overview of the work and develop policies and procedures. Once well established, it can meet on a regular basis, as the workload demands.

6.4 Recommendations

The present study is aimed at investigating the role and standardisation of geographical names in Oman. The findings of this study show that there are some problems related to contradictions in Omani geographical names' spelling and pronunciation. Moreover, these

sometimes mislead the geographical names users especially in the case of the existence of various languages and dialects in Oman. In addition, it revealed that there are problems related to standardisation. This is especially true as different bodies in Oman deal with geographical names. To solve the problems identified by this study and to overcome their consequences the author proposes a geographical names committee is established in Oman. Based on the conclusions reached, the following recommendations are brought to the reader's attention.

6.4.1 Recommendations for Activities of the Proposed Geographical Names Committee

The primary aim of the Oman Geographical Names Committee (OGNC) is to unify and standardise geographical names in Oman. In order to achieve this, the OGNC must:

1. Coordinate with all national and regional bodies in Oman in dealing with geographical names;
2. Establish clear guidelines for the ratification (approval) of official names in Oman;
3. Create and continuously update a Geographical Names Database;
4. Ensure geographical names collection is carried out by appropriately trained teams (this requires both appropriate linguistic skill and participation in geographical names courses);
5. Consult with geographical names experts as appropriate;
6. Participate in regional and international conferences on geographical names;
7. Communicate and coordinate activities with the United Nations Group of Experts on Geographical Names (UNGEN);
8. Communicate and coordinate with other Gulf States, reflecting their shared history, language and religion;
9. Distribute brochures and give lectures about the important of geographical names and their standardisation.

6.4.2 Recommendations for Further Study

The study reports in this thesis inspired the author to investigate more about geographical names in Oman and stimulated new ideas for further study which could be carried out in the geographical names field. Some of these ideas are as follows:

1. To study the possibility of establishing a computer programme to transliterate the geographical names from Arabic into English and vice versa.
2. Design a geographical name gazetteer for Oman.
3. Create an Omani geographical features gazetteer illustrated with photos.
4. Study the geographical names in the Holy Quran.
5. Create a web site for Omani geographical names.

6.5 Conclusion

This concluding chapter summarises the aims of the study and how they are achieved through the study. It highlights the most important issues that arose from the study. Then a proposal for geographical names committee in Oman is described. Finally, it concludes with some recommendations for supporting the proposed geographical names committee's work and some other recommendations for further studies. Hopefully, this proposed work and the accompanying recommendations can be carried out in the near future.

References

1. Al Hafeedh, Ali. (1989) **From Maharah dialects and it's arts** *Al Nahdha Magazine 86,1989* Muscat, (Arabic).
2. Al Ma'shani, (2003) **Al Jabbalia without teacher** Oman. Salalh (Arabic).
3. Al Nabhani,Y.,(2004) **Geographical Names in the Maps.** The general directory of the military survey, The Kingdom of Saudi Arabia (Arabic and unpublished).
4. AL Shezawi,A. (1987) **The phonological characteristics for Sohar dialect .** League of Arab States. Al Khortoom international institute for Arabic language. Sudan.(Arabic).
5. Al Zoqurti, M. (1985) **The science and the knowledge and their roles in writing the geographical names**. *Amman , Royal Jordanian Geographic Centre* (Arabic).
6. Al Zoqurti, M. (1997) **The Basic Of Geographical Names.** *Amman, Royal Jordanian Geographic Centre.* (Arabic).
7. Al-Abri,K. (2002) **The phonological in AL-Hamra Dialect, A Descriptive Analysis.** Sultan Qaboos University (Arabic).
8. Al-Amri,M. Forrest,D (1997) An investigation of Arabic typography for maps. *ITC Journal.* Vol.2, pp.146-147.
9. Albin, V. (2003) **What's in a Name: Juliet's Question Revisted.** Translation Journal Volume 7, No, 4 October 2003.
10. Al-Ghobashy. Hassan (2007) Arabic words and the Roman alphabet
11. Al-Istakhri **Kitab¯al-ma¯salik wa-al-mam¯alik. Arabic).** Brill. (1870).
12. Al-Qasimi,S. (1996) **The Gulf in historic maps.** Thinkprint Limited, Leicester. United Kingdom.
13. Australia (2007) **Geographical Names Committee Western Australia Principles, Guidelines and Procedures.**
14. Bargon, Leo. (1964) **History of Cartography**. Revised and enlarged by R.A. Skelton. London C.A.Watts & Co.
15. Beirut Lebanon, (2007) **3rd Arabic Conference on Geographical Names 30-31 May,2007.** (Arabic) Not published.
16. Brandenberger, A.J, & Gosh, S.K. (1991) State of world topographic and cadastral mapping. *World Cartography.* Vol.20, pp.1-102.
17. Campbell,J. (1993) **Map Use and Analysis.** (Second edition) USA: Wm. Brown Communication, Inc.
18. Canada (2007) http://geonames.nrcan.gc.ca/education/cap_e.php 08.04.2007
19. Canada, K. (11-23 Septemper 2005)**Training Course On Toponomy.**
20. Canadian Permanent Committee on Geography (1992) **Guide to the Field Collection of Native Geographical Names.** *Surveys, Mapping and Remote Sensing Sector.*
21. Cole's, Ann. (2005)Mind your language .*Spectator* .Vol 299.9239 P14
22. Decision of the United States Board on Geographical names. (1902) *Journal of Geography* Vol 1,p 213.
23. Defence Mapping Agency Topographic Centre. (1976) **Oman Official Standard Names Gazetter** *Washington,D.C*
24. Department of Economic and Social Affairs. (2002) **Eighth United Nations Conference on The Standardisation of Geographical Names .***Proceedings , Eight United Nations Conference.*
25. Dhofar Municipality.(2007) www.dm.gov.om Main page 20.03.2007
26. Dorling, D, Fairbairn D. (1997) **Mapping ways of representing The World.** England: Longman.

27. Geographic place name department (2006) **Data sheets documents.** Oman National Survey Authority 2006. Not published.
28. Geographic place name department.(1999) **Seminar about geographical names.** Oman National Survey Authority (13-09-1999) unpublished.
29. Glover, B. (1988) **The Morphophonology of Muscat Arabic** University of California Los Angeles.
30. Groom, N. (1983) **A Dictionary of Arabic Topography and Place names.** Lebanon.
31. Hermayulis et al. (2006) **Training Course on Toponymy.** National Coordination Agency for Survey and Mapping, Indonesia, February 2006.
32. Hourani, M. and Heyda, M. (1983) **Gazetteer of Oman.** United States Board on Geographical Names, Defence Mapping Agency Washington, D.C.
33. Ibn Batuta, (1304-1377) **Tuhfat al-nuzz¯ar. Paris.** Impremeria 1853-1858
34. Ibn Khatheer, Alhafidh Ad deen Abi Alfidaa. (1994) **Illustration of Quran Kareem Domestic**: Dar Alfiha .(Arabic)
35. Jan, M. (1836) **Kitab¯al-ma¯salik wa-al-mam¯alik** (al-Istakhri) **.** Brill. (1870).
36. Johnstone, N.M. (1981) **Jibbali Lexicon.** Oxford University Press, England.
37. Kadmon, N.(1993) **An Introduction to Toponymy Theory and practice of Geographical Names.** University of Pretoria, South Africa.
38. Kadmon, N. (2000) Glossary of terms for the standardisation of geographical names. United Nations group of experts on geographical names. United Nations. New York, 2000.
39. Keates. J.S. (1989) **Cartographic Design and Production** (Second Edition)**.** New York: John Wiley & Sons.
40. Kerfoot, H. (2004) Geographical Names: Some Current Issues In the Context Of The United Nations. *The Cartographic Journal* . Volume 41, No.2, pp.89-94.
41. Khraish, M. (2007) **Organisation and Rules of Procedure of the Arab Division of Experts on Geographical Names.** Third Arab Conference on Geographical Names in Beirut. May 30 & 31st May 2007. Lebanon.
42. Lorimer, J. (1915) **Gazetteer of Persian Gulf, Oman and /central Arabia.. (Completed and edited by R.L. Birdwood)** Irish Universities Press, 1970.
43. Ministry of National Economy(2007)www.moneom.gov.om.2007.The censuses of population and settlements.24.03.2007
44. Ministry of Foreign Affairs. (2007) www.mofa.gov.om 20.03.2007
45. Ministry of Information. (2005) **Oman 2005-2006** Muscat. Oman.
46. Muehrcke. C & Muehrcke. O (1992) **Map use: Reading; Analysis; Interpretation. (**Third Edition). Madison: Wisconsin.
47. Munro, D. (2006) An Interview with David Munro; the chairman of Royal Scottish of Geographical Society. 2nd November 2006. Glasgow.
48. Murray. J (2000) **Politics and Place-names: Changing Names in the late Soviet Period.** The University of Birmingham.UK.
49. Muscat Municipalité. (2007) www.mctmnet.gov.om. Main page 20.03.2007.
50. National Survey Authority (2005) **Sultanate of Oman.** Muscat: National Survey Authority.
51. National Survey Authority (2007) www.nsaom.org.om 20.03.2007. Last modified 20.03.2007.
52. National Survey Authority (2006) **Presentation about National Survey Authority. Muscat:** National Survey Authority. Un publish.
53. Ormeling, F. Stable, K. and Sievers, J. (2003) **Training Course on Toponymy.** National Coordination Agency for survey and Mapping, Indonesia, February 2006.

54. Raper, P. E. (1996) **United Nation Documents on Geographical Names**. Pretoria: HSRC- in full.
55. Reemawi, H (1992) **Study of the main sources distributions in the maps geographic books.** *King Saud University Journal*. Vol. 4 p.244 (Arabic).
56. Ringstam, H. (2005) **Standardisation of geographical names.** Gavel.
57. Ringstam ,H. (2005) **Standardisation of Geographical Names** Rapport .Lantmateriet.
58. Robinson, A.H, Sale, R.D. & Morrison, J. (1978) **Elements of Cartography** (Fourth Edition). New York John Wiley & Sons.
59. Robinson, A.H. Sale, R.D. & Morrison, J. (1984) **Elements of Cartography** (Fifth Edition). New York John Wiley & Sons.
60. Samir, H. & Al Belushi, M (1996) **Introduction to the Caves of Oman.** Muscat. Sultan Qaboos University.
61. **South Africa Geographical Names Council.** Hand Book.(not publish)
62. South African (2007) **GOVERNMENT GAZETEE**.http://www.dac.gov.za/acts/a118-98.pdf
63. South African(2007) **Handbook on Geographical Names** http://www.dac.gov.za/projects/heritage/geographical_names/Handbook%20on%20Geographical%20names.pdf
64. Southworth, M & Southworth. S. (1982) **Maps A Visual Survey and Design Guide.** New York: Little, Brown and Company.
65. Sultanate of Oman. http://www.moi.gov.om/ The Consultants Office for His Majesty Sultan for the affairs of Economic planning (2005**)**
66. **Oman Land Encyclopaedia.** Muscat: Global Press.2005.
67. Thomas, B (1930) The Kumzari dialect of the Shihuh tribe, Arabia and a vocabulary. *Asiatic Society Monographs* Vol. XXI.
68. Thrower, N. J. W. (1972) **Maps & Man.** Prentice-Hall, Inc. USA.
69. United Nation (1990) **World Cartography *Volume XXI.*** United Nations**.**
70. United Nations (2003) The 8th United Nations Conference on the Standardization of Geographical Names (UNGEGN) http://unstats.un.org/unsd/geoinfo/8th-UNCSGN-Docs/E-CONF-98-CRP-85-EN.pd
71. United Nations Group of Experts on Geographical Names
72. United Nations Group of Experts on Geographical Names (2004) United Nations Working Paper No. 14(A) Group of Experts.
73. United Nations Group of Experts on Geographical Names (2006) **Manual for the national standardization of geographical names** New York: United Nations
74. United Nations Group of Experts on Geographical Names (2007). Ninth United Nations Conference on the Standerdization of Geographical Names (UNGEGN) Session Report. Reports of the Arabic Divisions http://unstats.un.org/unsd/geoinfo/9th-UNCSGN-Docs/E-CONF-98-CRP-85-EN.pdf
75. United Nations Group of Experts on Geographical Names (2007). Ninth United Nations Conference on the Standerdization of Geographical Names (UNGEGN) Session Report. Reports of the Arabic Divisions http://unstats.un.org/unsd/geoinfo/9th-UNCSGN-Docs/E-CONF-98-CRP-85-EN.pdf. 25-09-2007.
76. United Nations Group of Experts on Geographical Names http://unstats.un.org/unsd/geoinfo/summarytablesessions.htm
77. United Nations Group of Experts on Geographical Names http://unstats.un.org/unsd/geoinfo/9th-UNCSGN-Docs/E-CONF-98-CRP-37-EN.pdf
78. United Nations Group of Experts on Geographical Names http://unstats.un.org/unsd/geoinfo/9th-UNCSGN-Docs/E-CONF-98-82-E.pdf

79. United Nations Group of Experts on Geographical Names http://unstats.un.org/unsd/geoinfo/En-Report-7thUNCSGN.pdf
80. United Nations Group of Experts on Geographical Names http://unstats.un.org/unsd/geoinfo/summarytableconferences.htm
81. United Nations Group of Experts on Geographical Names http://unstats.un.org/unsd/geoinfo/summarytablesessions.htm
82. United Nations Group of Experts on Geographical Names http://unstats.un.org/unsd/geoinfo/9th-UNCSGN-Docs/Report%20of%209th%20UNCSGN%20N0750902%20En.pdf
83. United Nations Group of Experts on Geographical Names http://unstats.un.org/unsd/geoinfo/9th-UNCSGN-Docs/E-CONF-98-82-E.pdf
84. United Nations Group of Experts on Geographical Names http://unstats.un.org/unsd/geoinfo/GEGN-23-English.pdf
85. United Nations Group of Experts on Geographical Names http://www.un.org/DEPTS/DH1/MAPLIB/UNGEOGN/SESSION
86. United Nations Group of Experts on Geographical Names(2002) **Reports from South African Geograhpical Names Council** http://unstats.un.org/unsd/geoinfo/eighthuncsgn-english.pdf
87. United Nations Group of Experts on Geographical Names(2002). **Jordan's activities in the field of geographical names.**
88. United Nations Group of Experts on Geographical Names**.** http: //unstats.un.org/unsd/geoinfo/english20thungegn-report.pdf.
89. United Nations Group of Experts on Geographical Names. **Renaming of Johannesburg International Airports as O.R. Tambo International Airport** ttp://unstats.un.org/unsd/geoinfo/9th-UNCSGN-Docs/E-CONF-98-85-E.pdf
90. United Nations http Group of Experts on Geographical Names http://unstats.un.org/unsd/geoinfo/summarytableconferences.htm
91. United Nations, (2002). **Glossary of Terms for the standardization of Geographical names. .** New York: United Nations.
92. United Nations. (1994) Geographical Names in the Sultanate of Oman. UNGEGN 16th SESSION1992.WWW.UN.ORG_
93. United States Board on Geographical names (1997) **Principles Policies and Procedures: Domestic Geographical Names**. *Virginia: U.S. Geological Survey.*
94. Webster, R. (1991) **Notes on the dialect and way of life of the Wahiba Bedouin of Oman.** *Bulletin of the School of Oriental and African studies, University of London, Vol.54, No.3.*
95. www. unstats.un.org/unsd/geoinfo/gegn22wp14a.pdf
96. www.al-bab.com/arab/language/roman1.htm
97. www.landgate.wa.gov.au/docvault.nsf/web/INF_GNA_Geonoma_Rules_and_Guidelines_200606/$FILE/INF_GNA_Geonoma_Rules_and_Guidelines_200606.pdf
98. www.omanet.om/ English/regions/muscat1.asp?cat=reg
99. www.rop.gov.om/english/displaymap.asp?regionid=1
100. www.unesco.ma/majaliss/rubrique.php21 September 2007.

Maps

1. Army Map Service (1945) **Salala.** 1:1,000,000.Army Map Service, Corps of Engineering. Washington.
2. Army Map Service (1945) **MUSCAT-MASIRA.** 1:1,000,000. Map Service,. Corps of Engineering, Washington.
3. Directorate of Military Survey (1970) **Muscat & Mutrah** 1:5,000. Ministry of Defence, UK.
4. Directorate of Military Survey (1967) **Salalah** 1:5,000. Ministry of Defence, UK.
5. Ministry of public works (1979**) Qatar** 1:10,000.
6. Directory of Military Survey (1971) **Salalah** 1:10,000. Ministry of Defence, UK.
7. Muscat Municipality (2005) **As Seeb Service Map** 1:20,000. Oman.
8. National Survey Authority (1993) **As Seeb** 1:50,000. Oman.
9. Ministry of public works (1982) **Qatar** 1:50,000. Doha, Qatar.
10. B.K.S. Survey Ltd (1980) **Muscat** 1:50,000 Directorate General of Civil Aviation, Seeb International Airport, Oman.
11. Directorate of Military Survey (1976) **Oman(Dhofar)** 1:50,000. Ministry of Defence, UK.
12. Directorate of Military Survey (1975) **Salalah** 1:50,000. Ministry of Defence, UK.
13. Directorate of Military Survey (1971) **Salalah** 1:50,000. Ministry of Defence, UK.
14. Directorate of Military Survey (1963) **Masirah** 1:50,000.Ministry of Defence, UK.
15. Army Map Service (1957) **Musandam** 1:50,000. Army Map Service, Corps of Engineering, Washington
16. Directorate of Military Survey (1986) **Oman (Dhofar)** 1:100,000. Ministry of Defence, UK.
17. Directorate of Military Survey (1985) **Salalah** 1:100,000. Ministry of Defence, UK.
18. Directorate of Military Survey (1983) **SIB** 1:100,000. Oman.
19. Directorate of Military Survey (1980) **Oman (Dhofar)** 1:100,000. Ministry of Defence, UK.
20. Ministry of public works (1980) **Qatar** 1:100,000. Doha, Qatar.
21. Directorate of Military Survey (1971) **Buraymi** 1:100,000. Ministry of Defence, UK.
22. Directorate of Military Survey (1969) **Dibab** 1:100,000. Ministry of Defence, UK.
23. Directorate of Military Survey (1968) **Sohar** 1:100,000. Ministry of Defence, UK.
24. Directorate of Military Survey (1962) **Barka** 1:100,000. War office and Air Ministry, UK.
25. Directorate of Military Survey (1956) **Sultanate of Oman** 1:100,000. War office and Air Ministry, UK.
26. Ministry of public works (1981) **Qatar** 1:200,000.
27. Directorate of Military Survey (1991) **Marmul, Oman** 1:250,000. Ministry of Defence, UK.
28. Directorate of Military Survey (1963) **Musandam** 1:250,000. War office and Air Ministry, UK.
29. Directorate of Military Survey (1963) **Dhofar** 1:250,000. Ministry of Defence, UK.
30. Army Map Service (1961) **Muscat-Qurayyat** 1:250,000 Army Map Services. Corps of Engineering. Washington
31. Directory of Survey (1959) **Ibri** 1:250,000. War office and Air Ministry, UK.
32. Directory of Survey (1963) **Musandam** 1:1,100,000. War office and Air Ministry, UK.
33. National Survey Authority (2005) **Sultanate of Oman** 1:1,300,000