Domestic water cultures of Iranian migrant households living in the Sydney metropolitan region

Fatemeh (Samira) Nowroozipour
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Domestic water cultures of Iranian migrant households living in the Sydney metropolitan region

Fatemeh (Samira) Nowroozipour

Supervisor:
Professor Gordon Waitt

This thesis is presented as part of the requirements for the conferral of the degree:

That Degree Master of Philosophy

University of Wollongong
Faculty of Social Sciences
School of Geography and Sustainable Communities

March 2017
Declaration

I, Samira Nowrozipour, declare that this thesis submitted in partial fulfilment of the requirements for the conferral of the degree That Degree You’re Studying, from the University of Wollongong, is wholly my own work unless otherwise referenced or acknowledged. This document has not been submitted for qualifications at any other academic institution.

Fatemeh (Samira) Nowroozipour

March 29, 2017
Abstract

The thesis aim is to explore everyday water practices of people who migrated from Iran to Australia through a project design that employed a mixed-qualitative method. The theoretical approach of the thesis brings into conversation the work of Elizabeth Shove and Sarah Pink. In doing so, the everyday water practices are conceived as relational, comprised through the intersection of competencies, ideas, materials and situated knowledge. The question guiding this thesis is: Following migration to Australia, how do the everyday water practices of migrants from the Islamic Republic of Iran persist, change or stop. Insights are offered from 15 Iranian-Australian people, who consented to participate in a project comprised of semi-structure interviews and home insights. The results are present across three chapters that investigate water-related practices of bathrooms, kitchens and laundries. Attention is drawn to the how socio-cultural practices of low cost piped tap-water supply that were integral to nation building in Iran since the 1950s alongside Islamic inflected ideas of cleanliness continue to shape practices in Australia of washing-up dishes, showering, toileting and washing clothes. The thesis underscores the importance of migrant diversity in socio-cultural research on household sustainability in Australia and other multi-cultural societies.
Acknowledgments

First of all, I would like to express my deep sense of gratitude to my supervisor, Professor Gordon Waitt. I greatly appreciate his enthusiasm, patience, encouragement and endless support during the completion of this work. His dedication to research to fullest has been inspiring to me.

I would like to extend my sincere appreciation to Professor Lesley Head who persuaded me to study this topic in the first place, and has since provided me with her remarkable insight.

I would also like to thank Rebecca Campbell for helping pilot the semi-structure interview and home insights and Dr. Sara Houshi for her help editing this thesis. My sincere thanks to all the participants. Without their consent this thesis would not be possible.

Finally, special thanks to my dear parents, who have provided support thought this study. Without them, I wouldn’t have the full courage to carry through.
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Chapter 1

Introduction

1.1 Overview

This chapter aim is threefold. First, the aims and significance of the project are outlined. Second, background is provided to help familiarise the reader with water insecurity in Iran, water in Islam, water-schemes and Islamic Republic building and the flow of Iranian migration to Australia. Third, the chapter offers an outline of the thesis structure to help familiarise the reader with the argument.

1.2 Aims and significance

The research aim is to better understand the domestic water consumption of Iranian migrant households living in Australian cities. The research aim is underpinned by three related research questions about domestic water consumption and migration: (1) what domestic water practices change following migration from Iran to Australia; (2) what practices remain the same; and (3) what practices stop. In doing so, the research contributes to the emerging literature that is beginning to explore how migration shapes household’s energy and water consumption practices (Maller 2011).

The significance of these research questions arises from three key concerns: (1) water futures in Australian cities; (2) the lack of research exploring the environmental knowledge of ethnic minorities in Australia; and (3) the silence surrounding the experience of Iranian migrants in the household sustainability debate. As Lawrence and McManus (2008, p. 316) noted “in Australia, the unsustainability of
domestic water consumption is becoming evident”. As a result, the future security of domestic water supply is an urgent and timely issue arising in many metropolitan Australian cities as well as overseas.

Klocker and Head (2013) point to the significant gap in the literature that seeks to better understand the implications arising from the environmental knowledge of ethnic minorities. In Australia, discussions about ‘the environmental knowledge’ are framed conventionally by debates concerning the differences and similarities between western (Anglo-Celtic), and Aboriginal and Torres Strait Islander people. Indigenous ontologies are integral to discussions that shake core assumptions of western binary thinking to their very core, particularly the human-centred understanding that separates humans from nature.

1.3 Why study domestic water practices of Iranian migrants to Australia?

This research is part of a larger Australian Research Council Discovery Project led Natascha Klocker, Lesley Head, Heather Goodall and Gordon Waitt, entitled ‘Sustainability and climate change adaptation: unlocking the potential of ethnic diversity’. The aim of this larger project was to bring the environmental knowledge of ethnic minorities living in Australia into debates about sustainability and climate change. The voices of Iranian migrants in the household sustainability debates are significant because they arrive from a nation where water shortage is endemic. They may have lived through shortages of the Iran-Iraq war, may have grown-up in an Islamic republic, have familiarity with the construction of national water projects, particularly dams, to secure water futures and most recently a National Water Conservation Plan and possibilities of water rationing in Tehran. Indeed, according to the United Nations sustainable development commission index, and with regards to its water scarcity, “Iran is classified as a country with a severe situation” (Jahani, Reyhani, 2006, p. 2). As illustrated by Figure 1.1, in
part, the water shortage is due to physical geography. Iran is a very rugged country of plateaus and mountains, dominated by the Elburz Mountains in the north, and the Zagros Mountains along its western boards. The central and eastern portion is covered by the Plateau of Iran. The Dasht-e-Kavir is a sandstone and salty desert plateau, that in the heat of summer is one of the hottest places on the planet. The most significant river is the Karun, in the southwestern corner of the country. Lake Urmia (in the far_northwest) is the country’s largest body of water.

**Figure 1.1.** Map of Iran showing water shortage due to physical geography (Source: www.mapoftheworld.com)

### 1.3.1 Annual rainfall patterns in Iran
Iran is located in the southwest of Asia; bordered by Gulf of Oman and Persian Gulf in the south and also Caspian Sea in the north. Generally, as presented in figure 1.2 the average amount of precipitation over Iran is 252 mm/year, which is less than 1/3 of the world average. The spatial distribution of this rainfall is uneven across the nation. While annual precipitation usually exceeds 2,000 mm in some of the mountainous western and northern parts of the country, it may be less than 20 mm in desert areas (Alizadeh, Keshavarzi, 2005, p. 95). Indeed, around 54% of Iran is covered by mountains (Soltaniehha, 2011: 25). The height and length of the Zagros Mountains in the west and the Alborz Mountains in the north operates as barriers to clouds and therefore rainfall from falling on the Central Iranian Plateau. Hence, around two thirds of Iran, the central and eastern parts, consist of desert basins such as the Kavir desert, and the Dasht-e Lut is primarily comprised of salt lakes (Soltaniehha, 2011, p. 25). In these desert locations about 72% of the precipitation is either evaporated or transpired by plants (Molanezhad, 2008, p.3).

**Figure 1.2.** Map of annual rainfall patterns in Iran (Source: www.mapoftheworld.com)
1.3.2 Contemporary domestic water consumption in urban households of Iran

The election of President Hassan Rouhani in 2013, a cleric and former national security advisor to Presidents Rafsanjani and Khatami coincided with a year of heightened national water scarcity. With a national population of 75 million people, 12 million of whom reside in the capital, Tehran, demand for water continued to rise, leading to significant shrinkage of major lakes and groundwater resources. Rapid urbanisation exacerbated the serious water scarcity within the past 20 years, a period in which urban populations increased on average one percent each year. As shown in Table 1.1, according to Iranian standards, the minimum domestic water requirement is estimated to be 135 litres (per day); while many Iranian households’ water consumption is more than this.

Table 1.1. Estimated consumption of water for domestic purposes (Source: Urban growth increasing water consumption in Iran, 2010.)

<table>
<thead>
<tr>
<th>Purposes</th>
<th>Litres Per Head Per Day</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drinking</td>
<td>2.3</td>
</tr>
<tr>
<td>Cooking</td>
<td>4.6</td>
</tr>
<tr>
<td>Ablution</td>
<td>19</td>
</tr>
<tr>
<td>Washing utensils etc.</td>
<td>25.5</td>
</tr>
<tr>
<td>Washing Clothes</td>
<td>15.5</td>
</tr>
<tr>
<td>Flushing the toilet</td>
<td>30.2</td>
</tr>
<tr>
<td>Bathing</td>
<td>38.4</td>
</tr>
</tbody>
</table>

As presented in Table 1.2, the average daily consumption varies very widely in different cities in Iran from 180 to 245 liters (Sheykhi, 2010). These figures provided the justification of an education program delivered to urban residents in Iran through the mass media to consume water more wisely.

Table 1.2. Approximate rate of consumption of water in selected Iranian cities in 2002 (Source: Standard No.117- 3, State or Organization for management and planning, 2002.)
<table>
<thead>
<tr>
<th>City</th>
<th>Consumption, litres per capita per day</th>
<th>City</th>
<th>Consumption, litres per capita per day</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maku</td>
<td>180</td>
<td>Ardabil</td>
<td>243</td>
</tr>
<tr>
<td>Ramsar</td>
<td>204</td>
<td>Babol</td>
<td>218</td>
</tr>
<tr>
<td>Sari</td>
<td>218</td>
<td>Bahar</td>
<td>188</td>
</tr>
<tr>
<td>Shiraz</td>
<td>253</td>
<td>Ilam</td>
<td>235</td>
</tr>
<tr>
<td>Tehran</td>
<td>183</td>
<td>Kerman</td>
<td>234</td>
</tr>
<tr>
<td>Urumieh</td>
<td>245</td>
<td>Lalejin</td>
<td>185</td>
</tr>
</tbody>
</table>

Mohammad Mirzaei, the head of Iran's Society of Demographics (2014), attributed the increased water use to increased wealth and changed social norms: “A rising number of traditional buildings have been converted to modern buildings in urban areas, with some apartment buildings having more than one bathroom, which has raised water consumption.” Furthermore, in Iran, tariffs and water bills remain low in comparison with tariffs practices in other countries such as Jordan, Tunisia, and Yemen with similar and even lower per capita income than Iran (World Bank, 2004). Motevallian and Tabesh (2011, p. 6) argue that the significant gap between water tariffs and real costs of water services work against sustainability. In short, there is little economic incentive to reduce water consumption.

In response, President Rouhani outlined his proposal for a National Water Conservation Plan, that emphasised the need for water reforms in Iran, including reduced domestic water use. Despite imminent shortages, domestic use in 2013 was 70% higher than the global average (Lehane, 2014). In this year, the Iranian Energy Minister Hamid Chitchian notified residents of Tehran that they may face water rationing and shortages without a reduction in domestic water consumption by 20% (Vojdani, 2004). Water rationing and efficiency campaigns became part of the policy mix, including reviewing dam construction plans, a working group for saving Lake Urmia and desalinations plants to provide drinking water to cities bordering the Caspian as well as to southern population centers. In tandem with these
initiatives, major pressure for higher efficiency water consumption and major investments in wastewater management and treatment happened. The main objective is to use wastewater for agricultural purposes so freshwater can be allocated for residential and industrial use.

1.3.3 Islam and water

After the Iranian Revolution, under the theocratic Constitution, the government of Iran became an Islamic republic. As previously discussed, the Islamic Sharia (Canonic Law) is one of the fundamental sources of water legislation in Iran that informed dam building projects following two basic principles: i) water is the common property of all, ii) there should be no obstruction to its use and exploitation though its ownership is allowed, especially when it comes to groundwater. According to Sharia Law, the use of water by all living things for drinking has priority over other uses even if it is meant to perform acts of worship (Faruqui, 2001). Therefore, the priority found following the formation of the Iranian Islamic Republic in dam and pipe buildings schemes in supplying people with drinking water.

Alongside informing national water infrastructure projects, Quranic verses and the hadiths have an impact on taken-for-granted everyday water practices in Iran: the materials (technologies), ideas and competencies. The importance of water in the Quran is signalled in part by the word ṭā’ (water) appearing over sixty times. Several other words related to the semantics of water, such as rivers, sea, fountains, springs, rain, hail, clouds and winds, are also frequent in the Quran (Abdel Haleem, 1989). In the Quran, water is described as a gift by God to the humanity to use and benefit from (Haddad, 2001). Water is understood as the source of all life. Furthermore, water is integral to ablutions: that is a duty to be performed before ritual prayers in order to reach a state
of purity. As at symbolic level, water is embedded in sets of ideas about both purification and resurrection (new life).

Other teachings linked to water can be found in the Sunnah (i.e. statements or practices undertaken or approved by the Prophet considered as legally binding precedents). In general, many Hadiths (i.e. statements by the Prophet Muhammad) specifically relate to the quantity of water one is allowed to take for drinking or irrigation. There are many examples in the Sunnah of the way Muslims should deal with water security. One example is when the Prophet observed a man called Saad doing ablution for prayer; while the Prophet watched, him he said, “Do not waste water even if you are on a running river.” Atallah (1999) documents how Quranic verses or accounts by the life of the Prophet informed practices of sanitation, water management and distribution in the Eastern Mediterranean. In this study, regardless if participants claimed an Islamic faith, living and growing up in a Muslim country important implications arise from how Islam, in part, shapes the materialities, ideas and competencies of everyday water practices.

1.4 Iranian Population in Australia

According to the 2011 Australian Census, 33,696 people are Iranian born (Department of Immigration and Citizenship, 2012). Iranian migrants are an ethnic minority group in Australia. A focus on Iranian-Australians enables the research to respond to Klocke and Head’s (2013) argument that sustainability research should consider ethnic minorities. Figure 1.3 shows the year of arrival of Iran-born and overseas-born migrant to Australia 1971-2011. The flow of Iranian migrants to Australia reflect changing political and economic circumstances in Iran and Australia following the dismantling of the White Australia policy in the 1960s. The first wave of Iranian migrants date from the late 1970s in the wake of the Islamic Revolution, and eight-year war with Iraq (Rajaee, 2000). During 1979 (pre-Islamic Revolution),
only 288 Iranians put in an application for settlement in Australia. By overthrowing the monarchy, the Islamic government’s aim was to stop the westernization of Iran in 1979. In 1988, a special Humanitarian assistance program for Baha’i seeking to escape religious persecution in Iran, also led to Iranian migration to Australia. After the Islamic Revolution and outbreak of war with Iraq in 1981, the number of Iranian emigrants to Australia increased to 3,700 (DIMA, 2002 & Iman, 2008).

**Figure 1.3.** Year of arrival of Iran-born and overseas-born migrant to Australia (Source: Community information summary, Department of Immigration and Boarder Protection, 2014)

Since the 1990s, ongoing economic and political hardship caused many professional, Western-educated people to leave Iran under the ‘skilled’ migration program. According to the 2011 census, 17.2% of Iran-born migrants arrived Australia between 2001 and 2006 and 30.1% arrived between 2007 and 2011. Around 50% of Iran-born migrants arrived Australia prior to 2001.

Figure 1.4 shows the geographic distribution of Iran-born people in Australia. New South Wales had the largest number of, 15,463, followed by Victoria with 7,447 populations, Western Australia with 3,722
populations and Queensland with 3,562 populations. Almost half of the Iran born migrants in NSW (44.2%) lived in Sydney, while another 20.3% lived in Melbourne. Sydney and Melbourne are major concentrations for Iranian-born people in Australia. Only a very small proportion of Iranian-born migrants live in regional Australia (The Australian census 2011).

**Figure 1.4.** Geographic distribution of Iran-born people in Australia

![Geographic distribution of Iran-born people in Australia](source)

(Source: Community information summary, Department of Immigration and Boarder Protection, 2014)

### 1.5 Thesis Structure

The thesis is structured into seven chapters to address the research aims. Chapter 2 provides a literature review to identify how this project contributes to cultural approaches to household sustainability. The chapter begins by outlining the importance of cultural environmental
research in household sustainability policy debates. The next sections turn specifically to cultures of water. Here, attention is given to the specific contributions made by anthropologists, historians, sociologists as well as geographers in the field dubbed ‘cultures of water’, and specifically domestic cultures of water. The final section outlines a conceptual framework for this thesis bringing into conversation Elizabeth Shove’s social practice theory with Sara Pink’s concept of emplacement.

Chapter 3 offers an argument for how rigour was achieved through the project design. The chapter is structured around the notion of rigour in a qualitative research design. An explanation is provided for how rigour was achieved through offering a justification of the participant selection criteria, application of a positionality statement, semi-structured interviews, home visits and data analysis techniques.

The next three chapters offer an interpretation of the empirical data. Each chapter contributes to the existing literature by bringing to the fore how particular routines practices are lost, transformed or stayed the same, as participants migrated from Iran to Australia. The discussion of Chapters 4 is located in the kitchen. This chapter pays attention to what we learn about domestic water from Iranian migrants through the practice of washing the dishes. Here, attention turns specifically to the preference that most Iranian migrant women expressed for washing dishes by hand, rather than using the dish-washer. Chapter 5 enters the laundry. More specifically it explores the materials, skills and ideas of Iranian migrants’ laundry practices. The chapter illustrates how embodied laundry practices are transferred from Iran to Australia. Consequently, the encounter with the shared laundry in Australia becomes a site of anxiety, disrupting the expectations of washing clothes as a seamless and private activity that could occur at any time in apartment living in Iran. The final interpretation chapter moves to the bathroom. Chapter 6 discussing the bathroom and toilet practices of
Iranian migrants and investigating if the particular routines of the case study participants has changed since migrating to Australia. Lastly, Chapter 7 concludes the thesis by discussing how the aim has been addressed and pointing towards future research.
Chapter 2

Literature Review

2.1. Introduction

This chapter explores the contribution of cultural environmental research to household sustainability literature and more particularly investigates domestic water cultures. The purpose of this chapter is two-fold. First, the chapter is intended to draw attention to how this thesis helps fill a gap in cultural environmental research by addressing the Eurocentrism of household sustainability research. In doing so, the different approaches and gaps in this field of study are highlighted. Second, the chapter is intended to outline the theoretical framework to consider domestic water consumption. To do so, this chapter is divided into four sections. The first two sections explore cultural environmental research. The first section introduces the importance of cultural environmental research to rethinking what we know about nature and environmental crises. The second section reviews how cultural environmental research is employed to rethink household sustainability. The next sections turn to water. Attention is given to the important contributions made by anthropologists, historians, sociologists as well as geographers in the field dubbed ‘cultures of water, and specifically domestic cultures of water. The final section outlines a conceptual framework for this thesis bringing into conversation Elizabeth Shove’s social practice theory with Sara Pink’s concept of emplacement.

2.2. Cultural environmental research
Unlike understandings of culture in geography in the 1920s proposed by Carl Sauer as a ‘way of life’ or as homogenous, bound entities (Russell & Kniffen, 1951), many contemporary cultural environmental geographers understand culture as a process in which people are actively engaged (Horton and Krafti, 2013). Culture is conceived as ‘a dynamic mix of symbols, beliefs, languages and practices that people create not a fixed thing or entity governing humans’ (Anderson and Gale 1992:3). Head et.al. (2005) discuss the importance of the concept of ‘culture’ for informing socially useful research in the ‘environmental humanities’ and related areas of the natural sciences. Drawing on the work of Head (2005) the routines and practices that comprise daily life may be considered as the product of culture and subject to human and non-human capacities to effect change over time. Thinking about culture as a process in which people and things are actively engaged is important for rethinking household sustainability as is educating people to do the ‘right’ thing more often through campaigns.

2.3. Cultural Environmental Research and Household Sustainability

Cultural environmental research to better understand household sustainability is relatively new. In recent years, there has been growing consensus that the household as the “primary unit of consumption’ constitutes a key target for promoters of sustainability (Collins 2015, p. 22; Bulkeley and Gregson, 2009, p. 930). In the context of neo-liberal policies, the household emerged in the 2000s as a crucial scale of social organisation for pro-environmental behaviour (Reid et al. 2010; Gibson et al. 2011a, 2013; Lane & Gorman-Murray 2011; Tudor et al. 2011). Through neo-liberal political strategies, the burden of environmental responsibility is shifted onto households rather than governments or corporations (Lane and Gorman-Murray, 2011; Gibson et al. 2013). Lane and Gorman-Murray (2011) suggest that the geographic scale of the
household is more perceptible for individuals than most of the other geographic scales involved in discussions of environmental sustainability, and consequently lends itself to a more inclusive and broad ranging public debate. In this neo-liberal political context, Lane and Gorman-Murray (2011), Reid et al. (2010) and Fowler and Christakis (2008) refer to the necessity of research, and policy that focuses on households.

Many neo-liberal environmental policy approaches tend to oversimplify the conceptualisation of the household. Gibson et al. (2013, p.5) argue that these approaches “treat households as black boxes – freestanding, bounded social units operating only at the local, domestic scale.” Challenging this thinking, Head et al. (2013) present an alternative framing, bringing to the fore relational thinking by paying attention to governance, materiality and practice. Here, governance refers to the socio-technological systems that provide and regulate water to the household and various implications that these political processes have for knowing water (Head et al., 2013b).

Materiality draws attention to the agency of ‘things’ in everyday life, be this technology, infrastructure or non-humans (Head et al., 2013b). One way the agency of things plays out in shaping everyday life is through embodied experiences of everyday practices. Attention turns to the sensuous body and highly debated concepts such as affect and emotion. Gibson et al. (2013) think of ‘connected households’ (Head et al. 2013a), in that households are part of, and a product of, a network of connections. As Gibson et al. (2013) discuss the ‘black box’ is revealed to embrace its own complex politics and practices: household assemblages or ongoing working arrangements shaped and reshaped by unfolding relationships between particular materials, set of ideas, and bodies. In such a way, domestic water consumption can be considered one expression of how everyday households and homes are made and remade through networks.
What do we know of Iranian household sustainability? Despite the urgency of water security in Iran, very little is published to help better understand domestic water consumption in Iran. Extensive literature research revealed only one paper by Keshavarzi et al. (2006) designed to identify variables that account for differentiated water consumption in rural districts of southern Iran. Using a simple random sampling technique, (survey of 653 rural households in 33 villages of Ramjerd area, Fars Province), drawing on a behavioural psychology approach, Keshavarzi et al. (2006) set out to identify metrics (i.e., age, education level, household size, garden size) that accounted for the difference between households categorised as low, medium and high water consumers. Keshavarzi et al. (2006, p.1178) reported rural households with higher educational levels used more water to address concerns of cleanliness.

In contrast, Balali et al. (2009) take a socio-technical approach to explore why the urban water infrastructure provides an “illusion of abundance” – enabling twenty-four-hour access to clean and potable water, seven days a week’ (Stuart, 2007, p. 419). This framework enables Balali et al. 2009 to illustrate the interconnections between technological developments, governance regimes and personal belief systems and lifestyles. Balali et al. (2009) account for the disconnect of many urban Iranian’s concerns about water security because of the provision of water through social institutions and the ethico-religious framework of national plans that seemingly secure water through dams and pipes. They offer hope through the rehabilitation of the traditional qanat underground irrigation system. They argue that the qanat offers possibilities for Iranians to reconnect with nature and to encourage greater ecological awareness and activism.

The next section turns to the question: What do we know of Iranian
migrant household sustainability?

An extensive gap exists in the literature around Iranian migrant households and sustainability. Sadat (2012) brought “social habitus theory” (by Pierre Bourdieu, 1990) into conversation with “acculturation theory” (by Everett Lee, 1966, John Berry, 1997 and Young Yang Kim, 1988) and “Ecofeminism theory” (by Shiva, 1989 and Rose et al. 1997) to investigate the changes in water consumption among Iranian immigrants who migrated to Sweden 20 years ago. She underscored the gendered dynamics of household sustainability. Further, she pointed that studied groups in some aspects, adapt themselves with host society and change but still they are insisting on some other prime behaviors. For example, as women pay more attention to environment, they become more aware of the environment. Therefore, it makes them a more acculturated group compared to the men. This fact could be legitimized when the theory of Ecofeminism offers its definition about the origin of women in caring about the environment.

2.4. Cultures of Water

Cultures of water is an inter-disciplinary field of cultural environmental research. Key contributions include those made by anthropologists (Strang 2004, 2005; Pink 2012; Kaïka 2005), historians (Goodall 2008; Davison 2008; Troy 2008), sociologists (Shove 2003; Strengers 2011) as well as geographers (Head 2007; Askew and McGuirk 2004; Gibbs 2006; Jackson 2006). There is also a growing body of research examining the commonalities and differences in water cultures (Allon & Sofoulis, 2006; Strang, 2004; Head & Muir, 2007). In the following sections, consideration is given to the key contributions of each with particular attention to cultures of domestic water.

2.4.1. Anthropologists

A search of the Cultural Anthropology archives divulges that, until
recently, anthropologists seem to have largely taken water for granted. Water has emerged as a principal matter of concern for – and often point of tension between – policy-makers, corporations, resource managers, and numerous user communities. At the same time “water metaphors” (flows, fluidity, circulation, etc.) are increasingly deployed by anthropologists and other social theorists to theorize the era of globalisation. Collectively, these articles and interviews provide a window into a rich and varied manner in which cultural anthropologists have engaged with water in recent years and suggest exciting future directions. For instance, Strang’s (2005, p.115) anthropological review reveals several major themes surrounding the meaning of water “as a matter of life or death, as a potent generative and regenerative force, as the substance of social and spiritual identity and as a symbol of power and agency.” Strang (2005) discusses that these meanings flow into every interaction with water, whether personal, familial or collective, literal or metaphorical. These meanings of water share commonalities that are based upon the characteristics of water (its fluidity, transmutability, and aesthetics) and shared human physiological and cognitive processes that shape experiences of the qualities of water (Strang, 2005).

As suggested by Strang (2005), anthropology needs to maintain a balance between providing analyses of the issues that do permit comparison, while also giving full acknowledgement to cultural specificities. Strang (2005, p.93) argues that:

“The challenge is not merely to upon a balancing act, or to observe that these concepts are not mutually exclusive”. Strang (2005) however mentioned “to affect a reconciliation - an understanding of the relationship between the physical, sensory and cognitive potentialities that all people share, and the specific socio-cultural and material contexts that different groups inhabit and construct is required.”
Strang (2004) emphasises the role of the senses in making ‘the meaning of water’. Strang (2005) in Common Senses Water, Sensory Experience and the Generation of Meaning, discusses the relationship between sensory experience, material realities and the creation of cross-cultural meanings. By focusing on water, she compares the two, highly diverse, ethnographic examples: one an Aboriginal community living alongside the Mitchell River in Far North Queensland, and the other describing the groups inhabiting a river valley in the south of England. She concludes that cross-cultural themes of meaning that persist over time and space are generated by two important ‘universalities’—the particular qualities of water, and the physiological and cognitive processes that are common to all human beings.

Kaïka (2005, p.54) in ‘City of Flows’ promulgates the material and discursive production of two kinds of water: “good water” (clean, processed, controlled, commodified) and “bad water” (dirty, grey, metabolized, non-processed, non-commodified). The first category includes water for drinking, bathing, swimming, baptizing, etc. while the second comprises untreated metabolized water, to be found in city-rivers, lakes, rain water, sewerage, etc. While contact with bad water was considered to be deleterious to the human body, good water became the cleansing, purifying, healthy element. As discussed by her, the dualism between ‘good’ and ‘bad’ water is underpinned by the notion that the modern home is constructed discursively and materially as a pure humanised place, separate from nature. The denial of nature within the home is reinforced by the invisibility of water supply networks. Western societies’ engagement with water in the home is therefore structured, invisible, and determined largely by supply systems outside of our control.

2.4.2. Historians

Through an environmental historical lens, Goodall (2008) draws
attention to how river water plays a critical role in both conserving and continuing Indigenous environmental knowledge. She positions this knowledge as offering potential sustainable resource management solutions in Australia. Indigenous people's knowledge of their environments, often called traditional Environmental Knowledge (TEK), is widely invoked today in many arenas of environmental analysis and natural resource management as beneficial to sustainability (Goodall, 2008). Drawing on the work of historians and anthropologists, Goodall (2008) discusses the contested and relational qualities of Indigeneity and challenges the ahistorical conceptualisation of Indigenous knowledge. The approach used by Goodall (2008) offers a way to understand how Indigenous knowledge of environments might continue to be meaningful and relevant in conditions of rapid environmental change. Using the case study of one such situation is the upper Darling River region in Australia, colonised by the British from the 1840s. Goodall (2008) draws attention to how river water plays a critical role in both conserving and continuing Indigenous environmental knowledge and how this knowledge offers potential sustainable resource management solutions in Australia.

Turning to the urban realm, Davison’s (2008) historical analysis of water use in Australia argues that water consumption in cities is not underpinned by need, rather historical circumstances surrounding affluence and new social norms accompanying suburban life. As Davison argued, over the last decades, cultural and behavioral norms in domestic water use in Australia changed considerably, adding to increase per capita water use, especially in the cities. The growth of Australian urban areas into substantial cities occurred with a rapid increase in per capita consumption of water from the reticulated system as the population adopted new bathing habits, used water recreationally, and enjoyed gardening (Davison, 2008). Regarding the history of the Australian garden, Davison’s (2008) analysis showed that the deeply ingrained
aesthetics and the status of the household garden became almost ubiquitous throughout Australia, regardless of water availability. Davison (2008, p.58) concludes that “only when we recognise the historical and cultural forces that have shaped our present patterns of dependence on water for drinking, washing, watering, flushing and swimming, and institute cultural practices, technologies and feedback mechanisms that inculcate habits of sustainable water-use are we likely to ameliorate the present crisis”.

2.4.3. Geographers

In geography, the recent cultures of water literature apply different more-than-human approaches. As Gibbs (2009) explains, more-than-human geographies move away from anthropocentric understandings of nature and towards placing non-humans at the centre of attention, and attempt to understand the world through the relationships between humans and non-humans. In the Dictionary of Human Geography (2013) ‘more-than-human’ is defined as: “A term used critically to remind human geographers that the non-human word not only exists but has casual powers and capacities of its own”. A number of different approaches are alert to the importance of the material. For example, drawing on recent rethinking of political ecology, Swyngedouw (1999) argues that nature and society are deeply intertwined. Swyngedouw (1999, p.445) noted ‘natural or ecological conditions and processes do not operate separately from social processes, and the actually existing socio-natural conditions are always the result of intricate transformations of pre-existing configurations that are themselves inherently natural and social.’ Drawing on Bruno Latour and the notion of hybridity, geographer Sarah Whatmore (2006) argued a more-than-human approach aims to rethink the complex entanglements of humans, nature and technology, giving agency to the non-human world. For Panelli, ‘social geographers can make major future contributions to more-than-human geographies by sustaining the questions around which groups, and whose policies,
support dominant society/ nature relations’ (Panelli, 2010: 85). In this
vein, relevant works include studies in animal geographies (Power 2008
and Panelli 2010), surfing (Waitt 2008 and Ford & Brown 2006), yoga
(Lea, 2008) and water (Gibbs 2006, 2010).

Gibbs (2006) advocated for a more-than-human approach, exploring the
diverse ways in which water is valued. More-than-human approaches
are also applied to explore the knowledge of water through how it’s
enrolled to sustain domestic places and subjectivities. Within the
domestic realm, by giving agency to water and the backyard through
daily practices, Head and Muir (2007) used the backyard as a lens
through which to analyse a variety of engagements between humans and
nonhumans. “Water and the garden each have a degree of their own
agency in these processes”, Head and Muir (2007, p.25). They consider
water as “a particular kind of nonhuman” which is understood as a
cleansing and tranquil part of a living nature and domestic gardens as a
site where changes to more conservationist water practices are
occurring. They argue that remarkable potential towards more
sustainable cities is provided through the passion engendered in the
backyard, and the everyday, habitual qualities of human engagements
with the nonhuman world. Likewise, Farbotko et al. (2014), argue that
household water technologies such as domestic rainwater tanks can be
usefully understood in terms of how they are embedded in changing
relations between the state and citizen. Considering three potentially
conflicting roles for domestic rainwater tank users Farbotko et al. (2014,
p.2) argue that “if householders are chiefly concerned with tanks as a
means of obtaining an independent and free-of-charge water supply,
tensions between the privatization of rainwater, conservation of public
water supplies, and commoditization of mains water may not be easily
resolved.” Likewise, Moy (2012) suggest that the installation of domestic
water tanks to households connected to mains water do little to reduced
total household water consumption. Instead, the main justification for
installing water tanks in suburban backyards in Wollongong was to give households greater control over watering activities in their gardens.

### 2.4.4. Sociologists

The sociologist Elizabeth Shove (2003) through her application of social practices explores how everyday water practices, such as showering and doing the laundry are embedded in the social cultural realm. Drawing upon concepts from actor-network theory as another strand of thinking that decentred human agency (Law, 1987) and studies of technology and society (Bijker, 1997), Shove (2003) attempts to illustrate the three dimensions of co-evolution. The relations between technology and social practice, the relations between technology and complex sociotechnical systems; and the relations between these systems and the practices and expectations of users are addressed through this process. If sustainable practices are to be accomplished within Australia, the social and cultural aspects of water use need to be aligned with technical aspects such as design and purpose (Shove, 2003). For instance, taps that automatically turn off; smaller bath tubs; water tanks plumbed into toilets, different toilet flush designs. In order to understand water consumption, the co-evolutionary process can be applied based on how users are continually being shaped and reshaped by interactions with water, technologies and the effects of sociotechnical systems of supply.

This process has been implemented in Shove’s (2003) sociotechnical perspective which is highly influential in helping to understand everyday water practices. This socio-technical perspective is concerned with the materialities of social life, based upon the premise that humans co-exist with non-humans, acknowledging the relations between users, technologies, and larger systems. For example, conceptualised through the Shove (2003) social practice theory, Sofoulis & Williams (2008) understands water consumers as members of cultures and sociotechnical networks, whose habits and expectations of water use are embedded in
'co-evolving' relations with water technologies and large-scale water systems. Applying the sociotechnical model as a tool, researchers try to understand how water practices may be changed in more sustainable directions (Supski and Lindsay, 2013).

In Australia, Zoe Sofoulis (Allon and Sofoulis 2006; Sofoulis 2005, 2006, 2008; Sofoulis and Williams 2008) can be considered as the main proponent of this approach. Sofoulis (2005) turned to shove's conceptualisation of sociotechnical co-evolution to explore everyday water values and practices in Sydney households. Adapting Shove's cultural line of enquiry to a sociotechnical perspective on relations between users, technologies and large systems helps to better understand discourses of water consumption. To do so, Sofoulis (2005) characterises the Australia's dominant sociotechnical system for urban water supply (including large-scale engineering projects, dams, pipelines, and sewage treatment plants) as 'big water'. Sofoulis (2005) argues that the responsibility of these 'big water' systems is to manage water supply and to protect us from encountering (or worse, re-encountering (Hawkins, 2004)) our waste. Thus, domestic water users are left with the key responsibilities of simply using this water to maintain desirable standards of comfort, cleanliness and appearance and to “keep alive the nation-building Big Water dream in their backyard oasis” (Sofoulis, 2005, p.455). The household water meter exemplifies how water supply and monitoring is the responsibility of Big Water, as the device gives no meaningful information to users about their consumption. Further research shows that Allon and Sofoulis (2006) noted the limited capacity of households to reduce water consumption due to expectations and conventions of water supply shaped by existing water infrastructure in addition to 'saver-unfriendly' household water fittings (Sofoulis, 2005). However as discussed by Sofoulis, (2005), domestic water users are blamed in times of 'water crisis' and are considered as to be 'water-wasters'. This is while domestic
water users are seemingly unable to make decisions on what water uses are most essential.

In summary, the cultures of water have received greater attention as urbanisation, climate change, population and increased affluence put immense strain on urban water supply in Australian cities (Cook, 2013), and greater water scarcity and more uncertain water supplies become a reality. The value of cultural approaches is recognized increasingly by water authorities as integral to water demand management by enriching understanding of how and why people use water (Sofoulis, 2005). With this, a large body of academic literature in sociology, anthropology, and human geography have helped to shift understanding of consumption as embedded in social and cultural norms, everyday practices, and wider sociotechnical systems or networks rather than as solely cognitive. The next section outlines the theoretical framework for this thesis by bringing into conversation Shove’s (2003) social practice theory with Pink’s notion of emplacement.

2.5. Conceptual framework

How to conceptualise domestic water consumption? Environmental scientist engineers, resource economists, and ecologist know water consumption as a measurable entity. Prior to emergence of cultural environmental research on water, the concentration of the prevailing approaches to investigate domestic water usage in both governments and academia was on calculations, facts and figures. For example, Creedy et al. (1998) examined water consumption through the metric units of water meters. This study was underpinned by public discourses about conservation being dominated by experts in engineering, resource economics, and ecology – what sociologist Shove labels as an ‘environment-centred’ enquiry (Shove, 2003). By focusing on predicting supply and demand of resources, this approach understands water as a separate and measurable entity. Domestic water usage was once
predominantly known in governments and academia based on numerical calculations.

An environment-centered approach might be adequate when predicting future water supply and demand is the main concern. However, this positivist approach ignores the highly diverse and complex material, social and cultural characteristics of human relationships to water consumption and vice versa (Macnaghten & Urry, 1998). In response, as outlined above social scientists are advocating for understanding domestic water consumption as embedded in everyday practices. Allon and Sofoulis (2006, p.46) declare that “effective management of water demand cannot ignore the social and cultural differences associated with different habits, expectations, meanings, and practices of water use.” A practice-centered approach thinks about what water enables people to do underpinned by social and cultural norms, competencies, and wider socio-technical systems (water, pipes and taps). Within the research field of domestic water cultures, practice theories explore the relationships between humans and water beyond that of litres consumed. People do not experience their everyday use of water as the use of a certain number of litres of a resource (Gibson et.al 2013). Rather, as Allon & Sofoulis, (2006) argue their experience is tied up in their “habitual enjoyment of the services, technologies and experiences that water makes possible” (p.47).

**2.5.1. Practice theories**

The conceptual framework that underpins this thesis combines Shove’s notion of practice with Pink’s notion of situatedness allows an understanding of how kitchen, laundry and bathroom water practices migrants from Iran bring to Australia either persist, stop or transform (see Figure 2. 1). Practice theories provide ways of thinking about routinized doing, behaviors or habits and the ways in which they persist, transform or stop. Practice theories may be understood as a response to
behavior change programs underpinned by approaches within environmental psychology that emphasized the individual, over the society.

For example, Moloney and Strengers (2014) highlight the constraints and limitations of behavioral change drawing on insights from an empirical research with Australian householders. What Moloney and Strengers (2014) term ‘Going Green’ programs in Australia frame social and environmental change as an individual phenomenon and hence aim to meet pro-environmental behaviour by encouraging voluntarism and providing education (Moloney & Strengers, 2014). Practice theorists challenge the Going Green discourse (see Barr et al., 2011; Hargreaves, 2011; Røpke, 2009, Warde, 2005, amongst others cited in Moloney & Strengers, 2014). Practice theorists argue that routinized types of behavior must be understood at a societal level, rather than an individual one.

Going beyond the behaviours of the individual, practice theorists develop understandings of the wider social practices, structures, and norms that may inform resource consumption in everyday life. The theory of social practices 'diverts attention away from moments of individual decision making, and towards the "doing" of various social practices and the inconspicuous ['normal'] consumption they entail' (Hargreaves, 2011: 83). Practice theories rather than following the behavioural approaches found in environmental psychology that focus on measuring attitudes and knowledge that abstracted people from lived contexts, shift the emphasis to the ‘intermediaries’ of demand (taps, showers, appliances, etc.), the material infrastructure of housing, embodied skills and shared sets of ideas. Practice theorists challenge us to think about the ways in which everyday practices are facilitated and to debate and contest ‘normal’ everyday life (Shove 2003) rather than taking it for granted as we do now.
Shove (2003) argues that over the past years, expectations of comfort and cleanliness have changed dramatically, but these changes have largely gone unnoticed. Bringing together the sociology of consumption and technology to investigate the evolution of these changes, as well the social meaning of the practices themselves, many social theorists (Shove, 2003; Davison, 2008; Sofoulis and Williams, 2008) argue the need for consumers to be examined in the context of the sociotechnical environment in which they operate, rather than as autonomous agents with free-choice of the level of water usage. Elizabeth Shove (2003) has been highly influential in bringing a socio-technical perspective to understanding everyday water practices through a co-evolutionary process. Shove et al. (2012) truncates her conceptualisation of practices to the intermingling of ‘materials’, ‘competences’ and ‘meanings’. Alongside the discursive, and embodied, Shove’s socio-technical perspective is concerned with the materialities of social life, based upon the premise that humans co-exist with non-humans, acknowledging the relations between users, technologies, and larger systems (Sofoulis, 2005).

As discussed by Reckwitz (2002), practices have been theorised as being made up of bodily activities, mental activities, ‘things’ and their use as well as background knowledge in the form of understanding, know-how, states of emotion and motivational knowledge. On the other hand, Shove et al. (2012) distills practices down to three ‘elements’: materials, competences and meanings. ‘Materials’ as the first of the three elements on which Shove et al. (2007) focus, include objects, tools and infrastructures, hardware and the body itself. Unlike Giddens (1984) or Bourdieu (1984) whose theories are indeed almost entirely ‘social’ and ‘things’ barely feature at all in their writings, Reckwitz explores the various ways in which ‘practices are intrinsically connected to and interwoven with objects’ (2002: 106). Through reviewing recent contributions to practice theory, Røpke (2009) suggests that “there is
now broad agreement that things should be treated as elements of practice.” (Shove et al., 2012). Thus, things like pipes, taps, bottles, toilets and water tanks are given agency in terms of how they shape everyday practices.

Background knowledge and understanding are considered to be significant whether in the form of what is described by Giddens (1984) as practical consciousness, deliberately cultivated skills, or more abstractly, as shared understanding of good or appropriate performance in terms of which specific enactments are judged. As argued by Warde (2005) differentiating between knowing the sense of being able to evaluate a performance and knowing in the sense of having the skills required to perform is of great importance. To comprehend how links are made between the elements of which practices are composed, Shove et al. (2012) lumps multiple forms of understanding and practical knowledgeability together and simply refers to them as ‘competences’, as the second of three elements on which they focus. Shove et al. (2013) claim that ‘competences’ refer to knowledge and embodied skills. The competence rests upon cultural conventions and expectations. They consist of ‘shared understandings of good or appropriate performance in terms of which specific enactments are judged’.

Shove et al. (2013) refer to ‘meaning’ as the third element on which they focus to represent the social and symbolic significance of participation at any one moment. In this sense, those who write about social practices are in much less agreement about how to characterize meaning, emotion and motivation. For Shove et al. (2012, p.23) meaning is as “an element of practice, not something that stands outside or that figures as a motivating or driving force”. In this study, ‘Meanings’ include cultural norms about hygiene, health and public self-representation: the stigma attached to being unclean or even sweaty contributes to the increase in the frequency of people’ cleansing habits.
The ‘distinctive accumulation’ (Shove et al. 2012, p.146) of these elements are always combined in the performance of a practice—socially acceptable individual behaviour—or the successful performance of a social practice—thus rests upon the use of objects, tools and infrastructures, of knowledge and skills and of cultural conventions, expectations, and socially shared tastes and meanings. These are the elements that compose social practices (Røpke, 2009, p.5).

This is while Shove et al. (2012) claim that although working with the idea that practices are defined by interdependent relations between materials, competences and meanings has many advantages, but that elements are somehow ‘out there’ in the world, waiting to be linked together. Shove et al. (2012) believe that to go along with the idea that practices exist when elements are integrated, two related possibilities are required: one is that relevant elements exist but without being linked (proto-practice); the second is that practices disintegrate when links are no longer sustained.

2.5.2. The notion of situatedness

Shove is relatively silent on bodies in practice theory. This is while Pink (2012) addresses this silent through her interest in exploring home as constituted through material and sensory relationships. Drawing on Massey’s (2005, p.141) understanding of place as “a constellation of processes” which help constitute particular subjectivities and also Ingold’s (2007, 2008) argument of place as an “entanglement” of the lines of things in movement, constantly shifting and changing in form, Pink (2012) proposes her concept of home as a ‘place-event’. Advocating for the concept of the place-event of home, Pink (2012) argues for the sensuous or embodied dimensions of practice. Moreover, as discussed by Pink et al. (2013), these theories of place suggest a notion of situatedness whereby people (including researchers and users), things (including homes, technologies, prototypes) and resources (such as energy and water) are part of such ecologies. So, the notion of situatedness brings to the fore the material environments of where water is used and
how they are sensed and felt, which is everything from the weather, ambient temperature, decoration, layout of kitchens, décor, colours. Practices need to be thought of in terms of social, cultural, material and technological and how they are charged with intensities (emotions) that are always contingent on what is present, and thus may shift.

As argued by Sarah Pink (2013, p.3), “practices cannot be understood as being performed in isolation from the wider environments of which they are a part.” Thus, she proposed that a theory of place is required which can offer “a way of understanding how the diverse components that constitute the contingency of any environment in which every day and activist practices are actually lived and experienced.” It would be noted that, when seeking to understand how we might work towards achieving environmental sustainability, the questions of how practices and places are constituted, how they change and shift over time, or how they are maintained are pertinent for scholars and applied researchers across different sectors and academic disciplines.

To better understand of the activities of everyday life through an exploration of domestic water consumption and sustainability, this study explores how concepts of place and practice can be engaged. In doing so, this research involved touring participant’s homes. It discovered the activities they engage in to make their homes feel ‘right’, considering the sounds, smells, textures and other embodied feelings of home. Pink et al. (2013) take an approach which explores how people ‘feel’ and make the material and sensory elements of their homes a focus on movement concentrates on the details of the actions they perform to achieve this and acknowledges the uniqueness of human perception. In doing so, the embodied and sensory ways of knowing that inform performance and understandings of the surrounding environment and can begin to be uncovered. This approach conceives of how practices are always situated somewhere as part of a larger network of things, ideas and competences, that in turn help stabilize subjectivities and places. Following Pink’s (2012) notion of situatedness, this study investigates how Iranian migrants embodied home-making practices are always situated in the context of their homes, the Iranian community, Australia and Iran.
2.6. Chapter Summary

The chapter aim was to provide a literature review to illustrate how this project contributed to the field of cultural environmental research, with a focus on the household water sustainability, and establish a conceptual framework. The first section reviewed the literature to argue for cultural environmental research as an approach that helps revisit questions that frame sustainability, climate change and environmental crises. The second section illustrated, from a literature review, how cultural environmental research has opened up new discussions around household sustainability by advocating for relational thinking and challenging conceptualisations of households as self-contained black boxes. The third section conducted a literature review to chart the contribution of different disciplines to the culture of water and identify the key authors and contributions. What emerged from this discussion is a clear gap in the literature of the importance of ethnic minorities in debates of household sustainability. The final section of the chapter outlined a conceptual framework for thinking about how Iranian migrant domestic water practices may change, stop or persist. The next chapter turns to the methods alive to a framework that conceptualises practice at the intersection of ideas, competencies, materials and situatedness.
Chapter 3

Methodology

3.1. Introduction

The aim of this chapter is to justify the methods. This project employs a mixed-method qualitative approach (semi-structured interviews and home insights), which allow for rich insights into the meanings, competencies, materials and situated knowledge that shape everyday water practices of Iranian migrants. The chapter is structured around rigour in qualitative research. The chapter begins by addressing the question: What rigour in a qualitative research? The remainder of the chapter answers this question by outlining how rigour was achieved in a qualitative research project to better understand domestic water practices of Iranian migrants. A defence is offered of the research design. In Section 3.3, consideration is given to the ethical considerations of working in participants’ homes and the positionality of the researcher. Section 3.4 provides a comprehensive discussion of the participant selection criteria, recruitment strategies and participants’ attributes. Then, Section 3.5, provides a justification for employing a mixed-qualitative method approach (semi-structured interviews and home insights) to investigate the everyday household water practices of Iranian migrants when conceived through the intersection of meanings, competencies, materials and situatedness. Attention then turns to the challenges of conducting research on domestic water practices, particularly those of bathroom cultures. The final section discusses how a form of narrative analysis was employed to interpret the empirical data.

3.2. Establishing rigour in qualitative research

Research rigour was achieved in this project following the advice of Bradshaw & Stratford, (2005) by paying particular attention to the early stages of research
design. The four criteria offered by Baxter and Eyles, (1997) used to were employed in the early stages of the research design of this project to guide decision around achieving rigour, specifically credibility, transferability, dependability and conformability. The notion of credibility in qualitative research addresses the question of accuracy of empirical data. Credibility is about capturing insights into the lived experiences. Credibility asks researchers to consider the question: would participants recongise their stories in the empirical data?

Transferability involves the process of making connections between elements of a study and how findings fit within contexts outside of the scope of the current study. Transferability comes with the warning that the interpretation is not about making generalization in our case about all Iranian migrant households in Australia.

According to Baxter and Eyles (1997) dependability is the possible impacts of the researchers on the collection of empirical data. Hence, dependability points to the ongoing importance of reflexivity, keeping a research diary and a positionality statement. Finally, the notion of confirmability asks the research to continually question our interpretation through interpretation and thinking about the extent to which we arrived at the project and how these might influence the interpretations. So, confirmability asks us to critically address how personal bias, motivation or interests can have an impact on the interpretation. Table 3. 1 outlines how rigour criteria were address in this study.
Table 3.1. Achieving rigour in a qualitative research project on Iranian household domestic water practices

<table>
<thead>
<tr>
<th>Research strategy</th>
<th>Credibility (accuracy of data)</th>
<th>Transferability (results are transferable)</th>
<th>Dependability (impact of the researcher on data collection and interpretation)</th>
<th>Confirmability (role of researcher in relationship to research)</th>
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<tr>
<td>Literature review (situate project in context and identify significance of research)</td>
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<td>Recruitment</td>
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<td>Semi-structured interviews with schedule</td>
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<td>Home insights</td>
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<tr>
<td>Ethics (participant information sheets, consent forms, formal ethics application approved)</td>
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<td>Recording interview</td>
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<td>Discourse analysis</td>
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<td>Narrative analysis</td>
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<td>Triangulation (multiple data sources)</td>
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<td>Research diary</td>
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<td>Positionality statement</td>
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<td>Peer debriefing (regular meeting with supervisor providing feedback)</td>
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3.3. Ethical considerations

Ethics is central to all research. As Miles and Huberman (1994) note,

“We must consider the rightness or wrongness of our actions as qualitative researchers in relation to the people whose lives we are studying, to our colleagues, and to those who sponsor our work. Naiveté [about ethics]
itself is unethical”.

This section explores the ethical implications for conducting this thesis. Formal ethics approval required submitting an application to the Human Research Ethics Committee (HREC), University of Wollongong (UOW). The Human Research Ethics Committee approved the ethics application submitted prior to commencing fieldwork on 16th April 2015, Ethics Number: HE15/109 (Appendix 8). As argued by Dowling (2010), ethics committees are concerned primarily with the researcher’s responsibilities to research participants with regards to matters of privacy, informed consent and harm. Within the formal HREC guidelines the key ethical considerations were informed consent privacy and confidentiality.

### 3.3.1. Informed consent

To ensure informed consent, potential participants were given a Participant Information Sheet (PIS) (Appendix 1) prior to consenting to project participation. The PIS outlined the project aims and methods, what participation involved and how to contact the investigators should they have any questions. Participant Information Sheets and consent forms (Appendix 2, 3 and 4) were translated into Persian, given that research participants were Iranian migrants and English might not be the language spoken at home. After understanding and reflecting on their potential involvement in the project, only then was a consent form signed. Separate consent forms were used for each stage so as not to confuse what each stage involved. The PIS and the consent form clearly stated the potential for data use in academic journal articles, books, conferences and media publications, as well as the MPhil thesis. Participants were informed that they could withdraw their consent until the end of December 2015.

### 3.3.2. Maintaining privacy and confidentiality

Confidentiality and privacy were key ethical concerns. Confidentiality and privacy was addressed by giving participants the option of choosing a pseudonym, and all contact details and data were only accessible to the researchers named on the ethics application. All recorded materials were digitised and securely stored for five years in a dedicated project folder on the password protected ‘S-drive’ of the School of
Geography and Sustainable Communities.

Attention was given to Iranian cultural protocols of visiting an unacquainted Iranian household in their domestic context. Cultural protocols of crossing the threshold into an Iranian house include removing shoes, shaking hands and allow the host to lead the guest through their home. The researcher was usually initially taken to the guest room rather than the kitchen, bathroom or laundry. In addition, at the first interview stage each participant was brought a small gift (flowers, pastries or savouries) to acknowledge the Iranian concept of hospitality, known as ‘taarof’. Taarof is a system of politeness, communicated both verbally and non-verbally, that is attributed to the Iranian tradition of treating your guests better than your own family and in being great hosts (Miller et al. 2014; Behnam and Amizadeh, 2011; Khatib et al. 2016). Only one participant (Nazgol) was brought a gift in the second stage: a basket in her kitchen sink to prevent food scraps from going down the drain.

In conducting research on household practices ideas that shape Iranian hospitality may act as a double-edged sword. On the one hand, the host may make a lot of effort to make a researcher feel welcomed. On the other, the tone for general etiquette in Iranian households may work against conversations around water practices in kitchens, laundries, bathrooms and toilets.

At the first stage of the interview, she brought a small gift for the participants. The researcher tried to follow the necessary norms to facilitate the conversations to be as comfortable as possible.

Talking about the different ways water is used around the home is not only morally loaded topic, but one that is associated with practices that are often out of the public eye, including toiletry and bathing. Hence, through each interview, the researcher remained sensitive to how particular lines of questioning may make participants uncomfortable to answer them. Moreover, rather than talking and showing practices as they unfold in their own private life; the presences of the researcher may work to change practices to understandings of what they should be doing. This is of course the case for all researchers conducting household sustainability research. Yet, it might be more of an issue for research conducted with Iranian households. This is because, as Zarghami (2015) argues, most Iranians are very sensitive to what others
will think of them. This is attributed to the importance some Iranians put on their "zaher" (public) identity. Most Iranians see themselves as having two distinct identities: "zaher" (public) and "batin" (private). Hence, how the interview rendered the private space of the home public must be given particular attention. In each interview the researcher reiterated the aim was to learn from how Irian households used water around the home. The emphasis was on learning from participants through sharing stories about their pasts, their understanding of water, and what they liked and disliked about their kitchens, bathrooms and laundries. That said, there were still challenges to conducting research on everyday water use practices, even for an Iranian migrant. The section turns to address the positionality of the research in co-producing the knowledge of this.

3.4. Positionality

This section offers a discussion of positionality and reflexivity to acknowledge that knowledge is always situated and embedded within uneven social power relationships. Positionality is alive to how social categories (such as class, age, gender, sexuality, upbringing and nationality) contribute to our experiences and ideas of the world (Ekinsmyth, 2003). Positionality and critical reflexivity is described by Dowling (2010, p. 27), as ‘a process of constant self-conscious scrutiny of the self as a researcher and of the research process’. Reflexivity is an attitude of attending systematically at every step of the research process to the context of knowledge construction, especially to the ongoing reciprocal relationship between the project and the researcher (Robert Wood Johnson Foundation, 2008). Miller Cleary (2013) argues that as a researcher, using reflexivity to investigate both the researcher’s changing identities and standpoints while doing research opens them up to clearer understandings and better ways to represent those understandings to others.

Reflexivity is critical in investigation of the self, understanding of the way the self has been constructed or positioned, movement toward self-construction, and the ownership of the standpoint from which one proceeds in research. Lather (1991, p. xx) says: “we are somewhere in the midst of a shift away from a view of knowledges as disinterested and toward a conceptualization of knowledge as constructed,
contested, incessantly perspectival and polyphonic.” To be reflexive through working with participants means to acknowledge complexity, deny essentialist constructions of people in different cultural categories, recognize their diversity, and gain from those multiplicities of perspectives along the way (Kincheloe and Steinberg, 2008). In working with participants, this reflexivity involves acknowledging complexity, denying essentialist constructions of people in different cultural categories, recognizing their diversity, and gaining from those multiplicities of perspectives along the way (Kincheloe and Steinberg, 2008).

Regarding research reflexivity, Malterud (2001, 484-484) claims: “A researcher's background and position will affect what they choose to investigate, the angle of investigation, the methods judged most adequate for this purpose, the findings considered most appropriate, and the framing and communication of conclusions". Research reflexivity began in this project with a critical investigation into the ways water is employed in my own home-making practices and established a sense of myself through everyday encounters with water after migration to Australia from Iran. A reflexive statement discussing the reciprocal relationships between the project and the researcher is provided in Box 3.1.

**Box 3.1. Becoming a researcher of Irian household water practices**

<table>
<thead>
<tr>
<th>Positionality Statement: How do I shape the project and how has the project shape me?</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>My personal experiences, alongside with my ethnicity, age, and gender influence the project and explain how I am positioned within the project. I am originally from Iran. Before arriving in Australia (four years ago,) I was a lawyer in my hometown, Shiraz.</strong></td>
</tr>
<tr>
<td>Prior to commencing this project, I had given little attention to the role of water in home-making practices. However, that’s not to say that I disregarded my domestic water consumption. I thought about water in two ways: environmentally and economically. This is due to firstly, my understanding of the consequences of water ‘wasting’, and secondly, my financial situation as a housewife living in several rental houses in Australia where I had to pay for my water usage.</td>
</tr>
<tr>
<td>In Iran, the cost of water usage is not very high and households with access to piped water rarely reflect on consumption practices. For example, water is being used by many Iranian households for washing the backyards, vehicles, watering gardens and many other non-necessary purposes without much of concerns. In contrast, I have learnt through personal experience whilst living in Australia that Australians take water restrictions very seriously, for example with neighbours policing each other’s water usage.</td>
</tr>
<tr>
<td>Growing up in Iran (Shiraz), I have never lived without mains water supply. The Ministry of</td>
</tr>
</tbody>
</table>
Energy, through its Deputy Ministry for Urban and Rural Water and Wastewater Management, is in charge of setting sector policies. The Deputy Ministry of Water Affairs in the same Ministry that is in charge of water resources management, together with eleven Regional Water Boards. Evenly spread over Iran’s thirty provinces, each province has one urban and one rural water and wastewater company (WWC). Only Tehran has two separate companies for water and sewerage. In all other provinces, water and sanitation services are provided together. The regional water boards supply untreated or ‘raw’ water through transmission pipelines to the water and wastewater companies, which treat and distribute it. Although everyone who has access to a tap can equally access the water through the water distribution system, in the domestic realm (drinking, washing, cooking) individual-specific amount and the type of water usages are affected by class, religion and gender-influenced decisions about water.

My initial research into water cultures literature allowed me to reflect upon my own experiences and ideas about household water. I arrived in Australia in 2012 and observed the way people in Australia use water in their daily lives. To me, the ways water was being entangled into Australians domestic routines and practices seemed slightly different to Iranians. For instance, it was new for me to see some people in Australia wash the dishes in a soapy water and they do not necessarily have the habit of rinsing after soaping. However, I believe they should rinse all the dishes quickly after soaping to get rid of chemicals which are harmful to health. Additionally, they use tea towels to dry after soaping. Those tea towels are never bacteria-free because they are wet. This does not seem right to me at all. Therefore, where possible, for health reasons I decided not to use dishes and glasses in public places. However, time to time, like in restaurants, I just put up with this issue.

The idea of a ‘laundry room’ also seems strange to me as in Iran, most washing machines are located in the kitchen, not in a separate room as it is the case in Australia.

Another daily water practice which I found different in Australia was the toilet practice. In Iran both squat and flush toilets are being used while in Australia people only use flush ones. In Iran, the flush toilet is deeply embedded in ideas of modernisation. Cleaning practices after using the toilet in Iran is also quite different within most Iranian toilets there is a supply of heated water to wash your butt and toilet paper to dry yourself with. Because of this, there is a bin beside the toilet for you to discard your “used” toilet paper. You can’t flush toilet paper down the toilet! The toilet is not a conduit of disposal for toilet paper. Arriving in Australia, the dual flushing toilets and flushing toilet paper down the toilet was strange to me. I felt guilty every time I flushed toilet paper down the toilet. I felt like I’m clogging up the pipes! But now, after four years of living in Australia in the absence of bins, I have adopted this habit of flushing toilet paper down the toilet.

Another difference in the daily practices of many Iranian households living in capital cities with piped water might surround the bath. For most Iranians, the bath is not technology designed to wash their skin but to relax. Instead, the shower is the favoured technology for those with piped water. Since arriving in Australia, how I wash my body in the shower has not changed. Showering practice in the Iranian way, as discussed, after entering the shower, I wet my entire body (once the temperature is perfect). Then, I put a small amount of shampoo into my hair, wash my hair carefully, thoroughly rinse all of the shampoo out of my hair, apply conditioner to my hair if needed, wash my face and body, rinse off the soap, give myself a final rinse. I shower at least once a day. Regular showing is important to me as an everyday routine that maintained values of cleanliness, respectability and self-presentation.

Only after speaking to friends who grew up in rural NSW, did I begin to understand how
an ethic of saving water is ingrained into those who did not always have access to a mains water supply and had to rely on rainwater tanks. I have never lived without mains water supply. Hence, I find this concept of relying on tank-water very unfamiliar. Could I live without my regular shower? Could I drink tank-water? Could I wash the dishes in tank-water?

The only experience I have of living without potable mains water was when I was in India (Pune). Here I avoided drinking the local tap water for fear of water borne diseases and instead bought bottled water. Likewise, I remember the physical effort involved in collecting water from a tap when camping. On reflection, water from that tap tasted nasty.

As a relatively recent Iranian migrant, with a relatively privileged water history of piped water, a project to better understand the tensions and contributions when ethnic minority voices are brought into the household sustainability field spoke to my lived experience. As an Irian migrant, I was familiar with Iranian culture and language, hence at the start I felt much less worried about participant recruitment and interviewing. However, I was soon faced with the challenges of conducting qualitative research on not only everyday practices, which are often hard to talk about, but also very intimate and morally loaded practices like showering, laundry and toilets.

### 3.5. Participant Selection Criteria

#### 3.5.1. Participant Recruitment

To better understand how water is enrolled in everyday practices to sustain home and self, fifteen Iranian migrant household contributed to this research. Following Bradshaw & Stratford (2010) the recruitment strategy prioritised depth of meaning rather than of claims of being representative of all Iranian migrant households. This section outlines recruitment strategies and participant attributes.

#### 3.5.2. Recruitment Strategies

The recruitment strategies were reflective of the project aim and research questions. Participants were required to meet three selection criteria: (1) participants must claim an Iranian identity; (2) be adults (over 18 years old), for ethical reasons; and, (3) speak either Persian or English.

Recruitment occurred through three strategies. Phone calls were made to Iranian organisations listed in an Iranian directory including the Australian Iranian community organization in Sydney and Wollongong and Bahha’I Community (see Appendix 7 for information given over the phone). These
organisations were invited to distribute Participant Information Sheets through their networks and if the researcher could attend any events, to circulate Participant Information Sheets. Only one participant was recruited via phone calls made to Iranian organisations listed in the local Iranian directory.

The organiser of the Wollongong Bahá’í Community strongly supported the project and invited the researcher to attend monthly events (see Appendix 6 for example of project briefing to potential participants). Eighteen invitations were made at these events. Eligible participants were asked to contact the researcher by mobile phone. Four participants were recruited through this strategy. Almost all people were interested in the project, but due to time barriers, they could not participate. Some expressed discomfort of inviting a stranger in their home regardless of the research topic. Concerns around privacy and home-life worked against recruitment. Thus, a snowballing recruitment strategy within the personal networks of the researcher proved the most successful, with 10 interviews arranged via this method. This group of people felt more comfortable in accepting the invitation from the researcher to explore their domestic lives and welcome the researcher into their houses.

3.5.3. Gendered dynamics of unpaid domestic labour

When it comes to domestic labour and responsibilities, women shoulder much more responsibility than men regardless of which countries people live (see Organo et al. 2013, Stalsburg 2016, Sullivan, C., and Lewis, 2001; Pink, 2004). Iran is not an exception. In Iran, women are primarily home-makers and childcare providers, even those working outside home (Noorbala et al. 2003). In part, this is because of the Islamic culture (Poya, 1999). Further, the home is constituted as ‘safe place’. Hence, at times many Iranian men encouraged women to work within the unpaid domestic realm. During the last two decades, the gendered dynamics of home labour is being questioned by some educated men and women.
(Oláh et al. 2014). In this study, women mostly were responsible for
domestic labour, with one exception: Mohammad. He migrated to
Australia as a skilled migrant and lived alone for 5 years before he was
married. After he was married, alive to gender inequalities and skilled
in domestic work, housework is shared in this household. However, this
does not apply to all Iranian households.

3.5.4. Participant Attributes

Table 3.2 shows the participant attributes. Efforts were made to
represent diversity in the sample along the lines of migration history,
gender, religion, household composition and household tenure. That
said, although the researcher’s invitation was for Iranian households, all
participants (except one) are women. The gender imbalance may be
attributed to how domestic work in Iran continues to be naturalised as
women’s work – including housekeeping and child-rearing. Given that
Iranian women continue to have primary responsibility for domestic
work, a project on everyday domestic water may resonate more with
women than men. Furthermore, following the language of Mason (2004)
Iranian women may be the ‘right’ group of people to talk to about laundry
and washing-up practices. And, as Mason (2004) argues, critically
reflecting on in-depth interviews conducted with a small number of the
‘right’ people will provide sympathetic insights into a research issue.
Likewise, all but one interview was conducted in English. Only one
interview required translation from Persian. By age, only two
participants were aged 50 years.

Diversity is represented in the sample by religion, with six participants
identifying as Muslim, three as Bahá’í and six participants with no
religious affiliation. By migration history, six migrated to Australia in
late 1980s-1990s and nine participants in early 2000s. Eight
participants were employed in paid work while seven were employed in
unpaid domestic work including child-care. By house ownership 11
rented and four owned their homes. In terms of household structure, eight participants were couple only, three were couple with child (children), two were single, one was living in a student share-house and one was living with her son. All participants understood water in terms of life and life giving.

Table 3.2. Participant attribute table

<table>
<thead>
<tr>
<th>Participant name</th>
<th>Year of arrival in Australia</th>
<th>Gender</th>
<th>Ethnicity</th>
<th>Household occupancy</th>
<th>Household structure</th>
<th>Occupation</th>
<th>Required translator?</th>
<th>Religion</th>
<th>Age</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nazgol</td>
<td>1980s</td>
<td>Female</td>
<td>Iranian</td>
<td>Own</td>
<td>Couple</td>
<td>Student</td>
<td>No</td>
<td>Muslim</td>
<td>40s</td>
</tr>
<tr>
<td>Koohbor</td>
<td>1986</td>
<td>Female</td>
<td>Iranian</td>
<td>Own</td>
<td>Family (mother &amp; son)</td>
<td>Child care educator</td>
<td>No</td>
<td>Bahá'í</td>
<td>60s</td>
</tr>
<tr>
<td>Maria</td>
<td>1990s</td>
<td>Female</td>
<td>Iranian</td>
<td>Rent</td>
<td>Couple with a child</td>
<td>Research fellow</td>
<td>No</td>
<td>Bahá'í</td>
<td>40s</td>
</tr>
<tr>
<td>Firoozeh.S</td>
<td>1990s</td>
<td>Female</td>
<td>Iranian</td>
<td>Rent</td>
<td>Couple</td>
<td>Home-maker</td>
<td>No</td>
<td>Muslim</td>
<td>30s</td>
</tr>
<tr>
<td>Azadeh</td>
<td>1990s</td>
<td>Female</td>
<td>Iranian</td>
<td>Rent</td>
<td>Couple with a child</td>
<td>Student</td>
<td>No</td>
<td>Muslim</td>
<td>40s</td>
</tr>
<tr>
<td>Aida</td>
<td>1999</td>
<td>Female</td>
<td>Iranian</td>
<td>Rent</td>
<td>Single</td>
<td>Nurse</td>
<td>No</td>
<td>Bahá'í</td>
<td>30s</td>
</tr>
<tr>
<td>Farnaz</td>
<td>2000s</td>
<td>Female</td>
<td>Iranian</td>
<td>Rent</td>
<td>Couple</td>
<td>Hospitality</td>
<td>No</td>
<td>Not specified</td>
<td>30s</td>
</tr>
<tr>
<td>Shahrzad</td>
<td>2000s</td>
<td>Female</td>
<td>Iranian</td>
<td>Own</td>
<td>Single</td>
<td>Nurse</td>
<td>No</td>
<td>Not specified</td>
<td>50s</td>
</tr>
<tr>
<td>Fariba</td>
<td>2000s</td>
<td>Female</td>
<td>Iranian</td>
<td>Rent</td>
<td>Couple</td>
<td>Student</td>
<td>No</td>
<td>Muslim</td>
<td>30s</td>
</tr>
<tr>
<td>Mohamma d</td>
<td>2000s</td>
<td>Male</td>
<td>Iranian</td>
<td>Rent</td>
<td>Couple</td>
<td>Research fellow</td>
<td>No</td>
<td>Not specified</td>
<td>34</td>
</tr>
<tr>
<td>Sheida</td>
<td>2006</td>
<td>Female</td>
<td>Iranian</td>
<td>Rent</td>
<td>Couple</td>
<td>Electronic engineer</td>
<td>No</td>
<td>Muslim</td>
<td>30s</td>
</tr>
<tr>
<td>Mahsa</td>
<td>2008</td>
<td>Female</td>
<td>Iranian</td>
<td>Own</td>
<td>Couple</td>
<td>Home-maker</td>
<td>No</td>
<td>Not specified</td>
<td>30s</td>
</tr>
<tr>
<td>Sara</td>
<td>2010</td>
<td>Female</td>
<td>Iranian</td>
<td>Rent</td>
<td>Couple with children</td>
<td>Masseur</td>
<td>No</td>
<td>Not specified</td>
<td>Late 30s</td>
</tr>
<tr>
<td>Maryam</td>
<td>2012</td>
<td>Female</td>
<td>Iranian</td>
<td>Rent</td>
<td>Student</td>
<td>Student</td>
<td>No</td>
<td>Muslim</td>
<td>Late 30s</td>
</tr>
</tbody>
</table>
3.6. Semi-structured interview

‘Getting to know you’- the Semi-Structured Interview

As discussed by Shurmer-Smith (2001) interviewing is used to provide insight into individuals’ experiences and meanings that are attributed to their understandings of the world. Interviewing has allowed a change in research from extensive to intensive. The interview process allows individuals to express opinions and provides a platform for their voice to be heard. In this study, the objective of the semi-structured interview, titled ‘Getting to know you’, was to better understand the participants’ family background, and specifically participants’ understanding of water and how this had changed over their life-course, particularly migrating to Australia.

In this project, as argued by Cassell and Symon (2004), semi-structured interviews offered a method to provide participants’ perspectives and understanding of how and why they come to have this particular perspective. As discussed by Burt et al. (2009) and Longhurst (2003) the open-ended semi-structured interview provides the opportunity to explore particular themes or responses further. In order to assist participants in telling their water narratives, the interview was divided into two parts. The first part focused on three themes: living in Iran, migrating to Australia and making Australia home.

The aim of these questions was to better understand how water is known through their childhood and migration histories. In the second part, participants were asked some questions about activities that use water
such as showering, bathing, the toilet, doing the laundry or washing-up the dishes. (See appendix 5) for interview schedule). The aim of this set of questions was to explore the activities, routines and movements that enable people to explore the ways water is put to use to make and remake the space of home. Asking these sets of questions reveals different ideas about Iranian household’s bathing, showering, toilet, kitchen and laundry water practices. The researcher is provided with opportunities to better understand if participants' water practices since arriving in Australia have changed, remained the same, or stopped.

A pilot interview was conducted prior to starting the interview process. The pilot was conducted with a woman migrant who had Thai and New Zealand ancestry. The pilot was helpful to clarify whether the wording around the lines of questioning made sense. The pilot provided an opportunity to redesign questions. The questions for which proper/expected answers were not found, were re-worded. All unnecessary, difficult or ambiguous questions were discarded.

All the interviews were audio-recorded. As James et al. (2008) argue employing digital recording techniques helps to record more accurate information of what participants said in a constant and passive way. Another use of digital recorder is that as a data collection strategy; recording data can be repeatedly viewed (James et al., 2008). Indeed, digital recorder allows the researcher to be more attentive to the participant’s responses (Dunn, 2000) and conduct critical listening rather than being preoccupied with note-taking. During the interview stage of this study, the audio recorder was positioned partially out of view to help participants relax, and overcome the formality that can exist around digital audio recording. As part of the formal ethics procedure, participants were provided the option for the interview not to be recorded by these methods. However, all participants were happy for the recording procedure to be carried out.
3.7. Home tours and video-methods

As argued by Evans (1988), the process of actually talking about mundane aspects of everyday life can be challenging for participants. Evans (1988) argues that no matter how much we are able to put people at ease before and during an interview, its structured format often removes the researcher from the ‘flow’ of everyday life in both time and space. To address this issue, following Pink’s (2012) notion of situatedness that brings to the fore the material environments of where water is used and how they are sensed and felt, which is everything from the weather, ambient temperature, decoration, layout, décor or colours the second stage of this research, ‘audio/video home tour, allowed the researcher to visit participants at their home to learn more about how water is enrolled and how they make, or seek to make, rooms in their home feel ‘right’. Practices need to be thought of in terms of social, cultural, material and technological and how they are charged with intensities (emotions) that are always contingent on what is present, and thus may shift. The video-recorded home tour was designed to try and find out more about what people actually do with water in their homes.

Highlighting the potential of visual research methods, Pink (2001, p.1) describes how photography, video and electronic media are becoming increasingly incorporated into ethnographic work “as cultural texts; as representations of ethnographic knowledge; and as sites of cultural production, social interaction and individual experience that themselves form ethnographic fieldwork locales”. In relation to the established and recent work in visual anthropology, Pink (2007) discusses how the integration of video into the visual research methods can serve as a catalyst for creating ethnographic understandings of other people's experiences, and representing these experiences to a wider audience. In fact, by video recording, the researcher is able to review her/his experience as well as participant’s performance to undertake the
analysis.

Video-recording home tours offer insights to how the materialities of home place shape water practices through the presence or absence of taps, washing-machines, dish waters, buckets, toilets, baths and showers. At the same time, video-recordings offer insights by inviting people to show how they used different water related technologies, and explain why certain mundane practices made sense to them like washing-up and doing the laundry. In doing so, video-recording provides opportunities for the co-production of knowledge through these interactions between the researcher and research.

Over the last few years, various kinds of mobile conversation including “go-along,” and “walking interview” have been used by a small but growing number of social scientists as a research method (Jones et al., 2008). They are advocated in the literature as offering an in-depth qualitative interview situated in the context within which the behaviour of interest occurs (Brown and Durrheim, 2009; Carpiano, 2009). Home tours are a modified version of the ‘go along’ where the researcher follows the participant to particular rooms in their home, specifically the kitchen, laundry and bathroom/toilet. In these rooms, the interviewer asked questions about why the room was the way it was, what things had been changed in the room and why, and what changes they wish to make in the room (Appendix 5). Participants were also asked to re-enact several water related everyday routines including doing the laundry and washing-up the dishes while they were being recorded.

The literature suggests that objects encountered in the home will themselves act as prompts and props to explore water related practice as well as source of ‘gut reactions’. Hence, Pink (2012) argues that the video home tours can provide access to the embodied knowledge and sensuous dimensions of water in home-making practices through these encounters. Likewise, as argued by Heath et al. (2010), Laurier and Philo
(2006) and Garrett (2011), video is a useful geographic research tool that captures movement, tracks the multisensual fluidity and rhythms of everyday life, events that researchers have been involved in trying to understand recently. Even small gestures, expressions and moments which remind us of something intangible, that sometimes have slipped from memory otherwise can be captured by video (Garrett, 2011).

3.8. Challenges of semi-structured interviews and home tours: The taken-for-granted, taboo, and making intimate, private spaces public

Multiple challenges arose through the use of semi-structured interviews and video-based home tours in a project on domestic water use. First, there is the challenge of telling narratives about mundane practices (like washing-up the dishes or doing the laundry). Participants were hesitant to explain what they were doing. Despite assurances there was no ‘right’ or ‘wrong’ way, participants understood water practices as embedded in moral judgements about being clean or dirty. The video home tour only heightened this concern. Despite asking participants not to clean-up before they arrived, all participants had clearly washed, polished and tied-up their kitchens and bathrooms. Indeed, the presence of the video-camera only heightened concerns that they were being judged through the research process. For example, Nazgol said:

“First of all, it’s embarrassing to show you how I normally wash my dishes because I just turn the tap on and this tap is on from the beginning to the end, and I wash my dishes under running water, but I don’t want to embarrass myself in front of you and your teacher, because that’s part of your master, and I suppose I have to do it.”

Alongside concerns about moral judgements if cleaning practices were
‘good’ or ‘bad’, rendering private spaces and practices public through the semi-structured interview and video home tour also worked against the generation of rich empirical material. Hence, there is a notable silence around the taboo topic of water-based toilet practices. Encounters and uses of domestic water in Iranian households are tied to how they produced and reproduce the most intimate private spaces – that are tied to morals about cleanliness – they are often deemed to be taboo topics. Indeed, as Young (1990) and Longhurst (2001) inform us, bodily fluids are often understood as a ‘dirty topic’. Considered a personal and private affair, toilet practices would not be normal line of conversation even amongst the best of friends. The topic of toilets generated embarrassment among most participants, only heightened in front of the camera. Hence, this line of questioning was not pursued, and the video camera switched off in bathrooms and toilets. Thus, the insights from participants surrounding bathroom cultures was limited.

3.9. Narrative Analysis

A form of narrative analysis was employed to interpret the data. Narrative analysis is considered as a valuable tool for geographers because it focuses on how people talk about and evaluate places, experiences and situations. Narrative analysis takes up the challenges of interpreting and understanding multiple layers of meaning in interview talk that can be lost using coding techniques and technologies. In this study, a form of narrative analysis discussed by Fraser (2004) was employed to guide the analysis. Table 3.3 provides a summary of this framework and outlines how the technique of narrative analysis was employed in this project, alive to the embodied and emotional dimensions around domestic water practices.

As Check et al. (2011) discuss, narrative analysis is a form of qualitative analysis in which the analyst focuses on how participants impose order on the flow of experience in their lives and thus make sense of events
and actions in which they have participated. It focuses on “the story itself” and seeks to preserve the integrity of personal biographies or a series of events that cannot adequately be understood in terms of their discrete elements (Riessman 2002:218). Narrative “displays the goals and intentions of human actors; it makes individuals, cultures, societies, and historical epochs comprehensible as wholes” (Richardson 1990, p. 200). The form of narrative analysis deployed in this project was therefore, an iterative process that moved back and forth between the stories that participant told and the conceptual framework.

As discussed by Tonkiss (1998, p255), rich or in-depth texts should be selected: ‘what matters is the richness of textual detail.’ Waitt (2010), elaborates, suggesting that qualitatively rich texts are those that provide detailed, descriptive insights into how understandings of a place are forged. In this project, the process of ‘looking for commonalities and differences between participants was guided by the theoretical framework outlined in Chapter 2. In this study, participant’s interview and video tour transcripts were used. These provide a rich source of material and discourse that help enabled the researcher becomes closer and more immersed in the stories. The interpretation process then involved coding participants’ narratives guides by the concepts of material, competencies, situatdnesss and ideas. As noted by Hay (2005), the word “being in the world requires us to categorise, sort, prioritise, and interpret social data in all of our interactions”. Coding is an integral process to the researcher as it aids in reducing, organising, analysing and theory-building of the data. It facilitates an organisational structure of familiarity by constructing and maintaining the data along lines of commonality and relation (Cope cited in Hay, 2005).
Table: 3.3. Strategies for Narrative analysis

<table>
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<tr>
<th>Phases of Narrative Analysis</th>
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<tr>
<td>Hearing the stories, experiencing each other’s emotions</td>
<td>Conducted semi-structured interviews and listening to audio recordings.</td>
</tr>
<tr>
<td>Transcribing the material</td>
<td>All semi-structured interviews and home transcribed to enable the researcher to fully understand stories.</td>
</tr>
<tr>
<td>Interpreting individual transcripts</td>
<td>Identified stories and contradictions.</td>
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<tr>
<td>Scanning across different domains of experience</td>
<td>Explored intrapersonal (self-talk, confessions) and inter personal experiences (talking about practices of others), cultural aspects (common sense understandings) and structural aspects (references to class, gender, ethnicity).</td>
</tr>
<tr>
<td>Linking ‘the personal with the political’</td>
<td>Recognised references made to popular discourses (e.g. health and hygiene)</td>
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<tr>
<td>Looking for commonalities and differences among participants</td>
<td>Examined transcripts for similarities and differences between participants and explored patterns in terms of materials, ideas, skills and situatedness.</td>
</tr>
<tr>
<td>Writing academic narratives about personal stories</td>
<td>Understanding there is no ‘right’ knowledge but multiple possibilities for representing Iranian migrants’ stories.</td>
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3.10. Chapter Summary

The aim of this chapter was to outline how rigour was achieved in a qualitative research project to better understand domestic water practices for Iranian migrant households. To demonstrate how rigour was achieved, the chapter was divided into five parts: ethical considerations, positionality, sampling and recruitment, data collection and analytical techniques. Each section provides a justification for why a particular methodological tool was incorporated into the research design. That said, opening up conversations on domestic water use is not a straightforward task. Attention is driven to how domestic water practices is both a morally loaded one, given its connectedness to cleanliness, and not only a private but taboo one, given the ways water is used to wash bodies and dispose of human excrement. A form of
narrative analysis is advocated that is mindful of how materials, meanings, competencies and emotions are always spatially situated. The significance of the argument in each chapter is guided by a Shovian analytical framework that demands thinking mundane water practices not as individual achievement but as a socio-technological working arrangement configured by the intersections between materials, competencies and meanings. The next three chapters present results on insights from how water is enrolled in domestic practices found in Iranian migrants kitchens, laundries and bathrooms in greater metropolitan Sydney.
Chapter 4

Washing Dishes

4.1. Introduction

The kitchen is a site where many everyday decisions shape the water consumption. Among the kitchen practices that shape water consumption include drinking-water, washing fruits and vegetables and wiping up, this chapter is going to focus on the practices of washing the dishes. This focus enables insights to not only the many complex social and moral assumptions underlying cleaning the dishes (Gibson et al. 2013, p.73), but also how these practices may remain fixed or changed through the process of relocation. Similar to Pink (2012), this study draws on social practice theory to think about how people may change their water-related household practices is understood to be always more than a human achievement. Migrants' changing water practices is understood to always more than individual attitudes, motivation or knowledge. Alongside the social and cultural meanings that include aspirations and ideas around water use, are the bodily skills learnt over a life course and the material fabric of houses and specific rooms (including pipes, taps, laundries, bathrooms and kitchens).

The aim of this chapter is to explore the washing-up routines of relatively affluent, middle-class Iranian migrants. In doing so, the chapter contributes to the existing literature by bringing to the fore how particular routine practices as participants migrated from Iran to Australia are lost, transformed or stayed the same. To do so, the chapter
is structured into three sections that examine washing-up practices through the intersections between the materials, competencies and skills. Specific, attention is given to the decision to wash by hand under flowing water, rather than to wash-up in a dishwasher. The practice of washing dishes raises comparative questions between manual and mechanical practices within the context of household sustainability debates (Stamminger & Streichardt, 2009).

4.2. The dishwasher vs washing dishes by hand

As discussed by Abeliotis et al. (2012), 73% of water savings and more than 23.5% of savings in energy consumption can be achieved when using a dishwasher compared to manual dishwashing. Comparing hand washing to machine dish washing, a European study found that hand washers used as much as 27 gallons of water and 2.5 kilowatt-hours (kWh) of energy to wash 12 place settings, compared with the 4 gallons and 1.5 kWh used by a hyperefficient dishwasher to wash the same number of dishes. Additionally, Bonn University study found that homeowners who hand-washed dishes took 60 minutes, while those using a dishwasher took 9 minutes to load and unload their machine. Normal cycle times for dishwashers take two to three hours, according to American product testing and rating organisation Consumer Reports. In this context, this chapter better understands most participants’ preference for hand washing over machine washing, despite many living with a dishwasher in Australia.

Nine out of 15 participants in this study lived with a dishwasher in Australia. Yet, only three participants used their dishwashers regularly. The participants who lived with a dishwasher were tenants or owners that moved into their houses or apartments with a dishwasher in Australia. Although participants arrived in houses and apartments in Australia with dishwashers, most still preferred to wash up their dishes
by hand. Sheida (30s, female, electronic engineer, year of arrival in Australia: 2006, couple, married, rental) was the only participant who owned and used a dishwasher in Iran but not in her rented Australian apartment.

4.2.1. Living with a dishwasher

In this section better details the reasons for why some households living with a dishwasher took-up this practice in Australia, by documenting the materials, ideas and competences. Each participant has her/his own skills of dishwashing. As an example, Neda (30s, female, home-maker, year of arrival in Australia: 2013, couple only, married, rental) spoke about her routine practice. In her own words:

So, to use the dishwasher, as you can see, I place the mugs, glasses, bowls and other dishes here, in the bottom shelf. I usually place pots and pans and the plates on the sides. if there are no plates, I put other stuff.

She also noted:

I put the cutleries in their own rack. And then when it’s full, I put the tablet and pour the shine liquid, when it’s empty and close it. I usually use the “normal” program which takes an hour and fifteen minutes. And at the end, I leave its door open, it’s much better. Otherwise, it doesn’t full dry.

Figure 4.1. Organising the dishes before running the dishwasher
(Photograph by Samira Nowroozipour.)
Unlike Neda, Shahrzad (50s, nurse, year of arrival in Australia: 2000s, single mother, divorced, owner) doesn’t load and organise her dishwasher. She just stacks all the dishes in dishwasher. But similar to Neda, after selecting a particular program through a process of trial and error she has found one that resonates best with her ideas of cleanliness, Shahrzad selects the ‘Normal’ program and runs her dishwasher. In her own word:

Well, I just fill it up as much as I can and then put the tablet in it, and just choose the program. I usually put it on the normal program (40 degrees), which is just glasses and dishes, because I wash my glasses with it as well, and just press this button... that’s it.

Sara (late 30s, female, masseur, year of arrival in Australia: 2010, couple with children, married, rental) cleans her dishes with brush before putting them in the dishwasher. She said:

First, I open it. I just clean all the dishes with a brush because I don’t want to put them in dishwasher with some leftover foods, so I clean all the dishes. I place them inside it, put a tablet and close the door. Then I choose the program which takes an hour and a half.

After loading the dishwasher, Nazgol (40s, female, student, year of
arrival in Australia: 1980s, couple, married, owner) put the tablet and
stain remover liquid in their own spots and choose either shorter or
longer program. She normally chooses a shorter program (55 minutes)
for washing her dishes. But if she had many dishes of oily dishes she
chooses the full complete program which takes longer (about 2 hours).
She described:

As you see, there are two little spots here. One of them belongs
to the tablet—you have to put the tablet here—and another one,
is for like some kind of liquid which helps to get rid of stain on
the plate or dishes or whatever.

Nazgol went onto explain which program she normally chooses for
washing her dishes with dishwasher:

After filling it up I just close it. There is on and off button, and
couple of option here. So, it's up to me to choose one. I normally
use quick wash, for 55 minutes. But sometimes when I've got so
much plate or oily stuff, I normally use the full complete
program, which takes about two hours.

Another reason that some participants choose to use the dishwasher is
understood in terms of convenience and time saving. For example,
Maria (40s, female, research fellow, year of arrival in Australia: 1990s,
couple with a child, married: rental) said:

It's very easy, I just will open its door, load it with dishes and
then put the tablet in. I usually just choose the economy option,
which takes about 20 minutes, and yeah, that's it.

Likewise, Azadeh (40s, female, student, year of arrival in Australia: 1990s,
couple with a child, couple, rental) evoked the dishwasher as not
only making time, but also a well-being device to reduce back pain from
standing for long periods of time:

Because I don’t have time to wash my dishes by hand actually,
and I've got backache, and I can’t stand for long to wash my
dishes.

Additionally, Neda mentioned the convenience of water saving:
“Because it’s faster. And also in terms of water saving. Yes, definitely, I think it saves water.” Neda was not alone in evoking the dishwasher as a sustainability device. Maryam (late 20s, female, student, year of arrival in Australia: 2012, shared house, single, rental) said during the home insights:

I would like to have a dishwasher. Maybe, first of all, it’s more convenient, and also I guess it uses less water than washing by hand.

Despite having a space for installing the dishwasher in her rental unit, costs prevent Maryam from buying it.

Samira: Will you buy a dishwasher and put it in your kitchen?
Maryam: At this stage, no, because I don’t want to spend like 1000 dollars for dishwasher. But maybe in the future.

Ironically, while Maryam expresses a desire for owning a dishwasher, out of those who already live with a dishwasher, only a small portion use them in their daily washing practices.

4.2.2. Resistances to the use of a dishwasher

Participants spoke of several resistances to incorporating dishwashers into everyday routines. Household size and composition plays a significant role in choosing to either wash the dishes by hand or dishwasher. As an example, Koohbor (60s, female, child care educator, year of arrival in Australia: 1986, couple with children, married, own) said:

At the moment, it's just me and my son, so I wash the dishes by hand. But if we’ve got guests and we are more than a few people, I'll use the dishwasher.

Likewise, Firoozeh (age: 30s, gender: female, occupation: home-maker, year of arrival in Australia: 1990s, household composition: couple only, marital status: married, home ownership: rental) spoke of her small family: I'm living in a unit with my husband, so we are just two. We didn't find it necessary to have a dishwasher, so yeah, we are washing
our dishes by hand. Similarly, Mohammad (34, male, research fellow, year of arrival in Australia: 2000s, couple only, married, rental) talked about his family size: “I rarely use dishwashing machine, because you should have lots of dishes to put in dishwasher and we're just two, so we don't have enough dirty plates or cups to put into dishwasher.”

Another reason why these participants prefer hand washing over machine washing is attributed to their expectation and understanding of cleanliness. According to Mohammad, the only male participant in this study who regularly does the washing up in his household:

...I rarely use dishwashing machine. I prefer to wash the dishes by hand.

Samira: Can you tell me why?
Mohammad: ...sometimes I, myself don't really feel good about dishwasher machines, I guess. It can't make them as clean as they should be.

Time saving can be considered as another reason for some participants who prefer hand washing over machine washing. When asked Shahrzad why do you prefer to wash the dishes by hand? She replied: “I don't know, it's just because I think it's quicker. I can just quickly do it, clean them, dry them, put them back in the cabinet.”

Another reason that limited those participants living with a dishwasher form regular use is attributed to habit. According to Nazgol:

Now, I changed my habit a little bit to use dishwasher rather than washing dishes by hand, because in this, I presume we can save a little bit water rather than washing the dishes by hand.

She added:

To be honest with you, I've got a really bad habit, and I just turn the tap on from beginning to end, and I use water a lot when I wash dishes by hand.

Through Nazgol's narrative, it has emerged that although she understood dishwashers as more energy and water efficient than manual dishwashing, she continued to wash by hand.
4.2.3. Washing-up by hand

The majority of the participants in this study, continued to wash their dishes by hand, even those who lived with a dishwasher. Instead of filling up the sink and leaving dishes to soak in hot water and then washing them (western method), these participants wash each item individually normally under a flowing tap. Materials that participants used to wash up by hand included alongside running water, sponges, dish-washing liquid, sink, small basket or drainer and gloves. In regards to the materials used for washing-up by hand only one notable changes were discussed: form of the dish sponge. In Iran, the dish sponge did not have a handle. Migrating to Australia some of the participants (Maria, Neda, Sara) find the handled sponge more convenient for washing-up the dishes. For example, Maria explained, “we usually use the handle one because it’s much easier in general, and actually we put these normal sponges for cleaning the sink. That one is not for washing the dishes.” Similarly, Neda said; “In Iran it washed the dishes with normal sponge but here when I want to wash the dishes by hand it’s easier to wash them with this handle sponge.”

Gloves were important to some participants to protect hands in hot water (figure 4.2). For example, according to Nazgol: “First of all, because my skin is very sensitive to detergent, so I have to wear my gloves. So, I wear my gloves and then I turn the tap on...”
Only the brand of the dishwashing liquid they use has changed. According to Mahsa (30s, female, home-maker, year of arrival in Australia: 2008, couple only, married, own):

I normally use Palmolive washing liquid, Palmolive brand. It’s got different smells like lemon or strawberry and I normally wash my dishes with the lemon scent. It smells so good.

Interestingly, almost all participants added a drainer or small kind of basket in their sink to prevent drain clogs (figure 4.3). For example, Azadeh said, “I add this small basket as a drainer to prevent like the excess food get into the pipes. Likwise, Fariba (30s, female, student, year of arrival in Australia: 2000s, couple only, married, rental) said, “I also have a little drainer here. I put it here to avoid the leftover of food, just go to the drain”. Participants were all mindful to prevent pipe blockage from food materials entering the pipes.
After gloving-up, Maryam soaks the dishes with hot water. When asked for the reason she uses hot water she said:

I feel better when I work with hot water. Also, I'm not sure whether this is like scientific, but we feel like dishes get like cleaner when we use hot water, so we usually use hot water. For pans or things like that, we leave them with hot water, very hot water, sometimes boiling water and let them soak maybe for 24 hours and then we wash them.

After soaking, she takes the sponge out of the sponge holder, pour some dish washing liquid on it and tries to make some foam. Afterward, she
starts to wash all her dishes by rubbing the sponge around thoroughly. Finally, she puts the sponge away, turns the tap on and starts to rinse the soapy dishes under running water.

Similarly, after wearing her gloves, Shahrzad starts washing her dishes one by one and then rinse them under running water. She said: “I wash my dishes with a very small stream of water, preferably hot water because I can get rid of the oil and grease faster and better.” A double sink enables her to put all dirty dishes into the bigger sink and the smaller sink to rinse the soapy dishes under running water.

Except gloving-up, which may be understood as feminine practice Mohammad uses the same skills that is used by Maryam and Shahrzad for washing the dishes. In addition to those skills, he explained how he normally cleans the dishes before washing them:

The first thing I do, if there is any leftover food in dishes, I just put them into the basket that I have here, so that leftovers or anything else would not go inside the drain. I also have these things (drainers), so in case it will pass the basket it wouldn't go from this one.

Sticking to a habit, Nazgol and Farnaz (30s, female, hospitality, year of arrival in Australia: 2000s, couple only, married, rental) left the tap running through the whole washing process (figure 4.4). What become clear throughout their narratives was that although many participants considered this habit as ‘bad’ in relationship to water use, this does not stop this practice. As Nazgol explained:

...in this way (machine washing) I presume we can save a little bit water rather than washing the dishes by hand because to be honest with you, I've got a really, really bad habit and I just turn
the tap on and this tap is on from the beginning to the end and I wash my dishes under running.

**Figure 4.4.** Leaving the tap running through the whole dishwashing process (Photograph by Samira Nowroozipour.)

There was one notable exception to this practice, Aida (30s, female, nurse, year of arrival in Australia: 1998, one person only, single, rental). She spoke about her habit of turning the tap off while washing her dishes and turning on the tap just for rinsing them. When Aida was asked when she became aware of this idea of saving water? She answered:

I remember a few years ago when I was in Melbourne (when I was a teenager we moved to Melbourne, Australia) there was a movement. What they did was that they distributed some hourglass to households.

Aida went onto explain about the idea behind mentioned movement:
The idea was to keep the hourglass in your bathroom as an indication of how fast you're going, and you are meant to finish taking shower or bath at the end of eight minutes.

She added:

Even though I didn't really stick to it, but it was just something there to remind me of how much water I’m using and how much time I'm actually spending.

For Aida, the hourglass operated as a disruptive technology, reminding her of the volume of water used while washing-up the dishes by hand. Yet, for most participants dishwashing practice had not changed since migrating to Australia with an overall preference for the water intensive practice of washing-up by hand, rather than machine.

4.3. Conclusion

Do Iranian migrants dish washing practices change migrating to Australia? Overall, amongst this sample of migrants, dish washing practices remained largely unchanged due the ongoing presence of piped-water, drains, dish washing detergents, sponge, gloves and dishwasher. Although the houses and apartments they arrived to in Australia had dishwashers, they still preferred to wash up their dishes by hand. Several reasons were expressed for this preference including: convenience and time saving, household size and composition, expectation and understanding of cleanliness and time saving. What became clear throughout the narratives in regards to the skills associated with dish washing was that instead of filling up the sink and leaving dishes to soak in hot water and then washing them (western method), participant in this case study wash each item individually, often leaving the tap running. Such results point to the importance of water managers and how water saving technologies like dishwashers
alone are not a solution to saving less water. Attention must be paid to how household make sense of practices like washing-up, in which alongside ethnicity, household compositions, division of labour and understanding of cleanliness play a key role.
Chapter 5

Laundry Practices

5.1. Introduction

Echoing Shove’s (2003) words, domestic laundering is a composite and complex practice and one that, in the Global North, has been transformed significantly by the introduction of new technologies, materials, and appliances. The aim of this chapter is to investigate whether Iranian migrants laundering practice has changed, transformed or stayed the same since migrating to Australia. In doing so, attention is paid to how laundering practice of Iranian migrants’ rests upon the use of objects, tools and infrastructures, of knowledge and skills and of cultural conventions, expectations, and socially shared tastes and meanings (Spurling et al. 2013). Of the laundry practices that includes clothes drying among others, this chapter focuses on clothes washing. I argue that the norms of laundry practices of Iranian migrants remain unchanged since migrating to Australia. The chapter illustrates how embodied laundry practices are transferred from Iran to Australia shaped by piped mains water from dams, front-loading washing machines, detergents, and social norms surrounding self-presentation and cleanliness. Attention is drawn to how the encounter with the shared laundry in Australia becomes a site of anxiety, disrupting the expectations of washing clothes as a seamless and private activity that could occur at any time in apartment living in Iran.
5.2. Transformation of embodied laundry practices

In this section, I investigate the materials that some Iranian migrants utilize to wash their clothes and if it has changed, transformed or stayed the same since migrating to Australia. The key materials that Iranian migrants in this study utilize to wash their clothes comprised powder detergent, liquid detergent, tap-water, softener, bucket, laundry sink and a washing machine. Except for the laundry cleaning product, the materials utilized by participants in this study for washing their clothes has not changed since migrating to Australia. As made evident from the narratives, living in Iran, they only had powder for washing their clothes. In the recent years, in Iran, a liquid detergent also came onto the market which for washing dark clothes only. Other than this, there was not any specific liquid detergent for washing the clothes. According to Shahrzad (50s, female, nurse, year of arrival in Australia: 2000s, single mother, divorced, owner):

Years ago, when I started my own life, it was just powder, but later we got that liquid thing just for dark clothes because I remember I had problem with the powder things on my black clothes.

Powder was preferred over liquid detergents by most participates to wash their clothes, perhaps because of its familiarity. Some participants articulated an expression of connections through the smells and materiality of powder with their childhood and washing clothes in Iran. For example, when asked Mohammad (34, male, research fellow, year of arrival in Australia: 2000s, couple only, married, rental), why do you prefer to wash your clothes with powder he replied: “Well, I feel better with powder detergent. I don't know why, but maybe it comes back to the way I grew up. Because, back in my country, we just had powder, so I just prefer to use powder.” Whereas, Aida (30s, female, nurse, year of
arrival in Australia: 1998, one person only, single, rental) explained her ongoing use as an embodied practice: “I prefer to wash my clothes with powder detergent. It’s just habit I suppose”. In contrast, Neda (30s, female, home-maker, year of arrival in Australia: 2013, couple only, married, rental) explained that powder was more cost efficient; “I use powder for washing my clothes because I think the powder is more economically efficient”. None spoke of the ingredients of the detergent nor raised questions about their choice being informed by environmental concerns or sustainability.

Yet, despite the ways in which washing powder connected some participants to their home country, practices changed in some households due to liquid detergents and to preference for particular smells or stains left behind on clothes when they used washing powder. As Azadeh (40s, female, student, year of arrival in Australia: 1990s, couple with a child, couple, rental) explained, “I prefer to wash my clothes with liquid detergent, because sometimes when I use powder, it puts some white stains on my clothes which I don’t like”. Agreeing with Azadeh, Firoozeh (30s, female, home-maker, year of arrival in Australia: 1990s, couple only, married, rental) said: “I wash my clothes with liquid detergent because it doesn’t leave white stains on my clothes after washing them”. These participants remind us of the sensuous dimensions and range of competencies of washing clothes with a machine to remove stains. Equally, the smell of laundered clothes was important. For example, when Maryam (late 20s, female, student, year of arrival in Australia: 2012, shared house, single, rental) explained the reason she chose liquid detergent to wash her clothes she said, “In Iran, I remember my mother used to use the powder which I am not fond of. In here [pointing to the washing machine] I use the liquid for washing clothes. I guess the liquid smells better.” Maryam indicates how in Iran the work of washing clothes is primarily women’s work. For Aida, she preferred the smell of the liquid detergent when washing her clothes.
Smells evoke strong emotional responses that connect people to different times, places and subjectivities. Important to all participants in stabilising their sense of self as good home-makers or professional people was the ‘fresh’ smell of clothes, sheets and towels. Hence, softener is another material most participant used in this study not only to transform the touch of the fabric, but also create a favoured fragrance that sustained their sense of home and self. Asking Aida why do you like to use softener? She answered: I use softener to get my clothes smell better.” Likewise, Nazgol (40s, female, student, year of arrival in Australia: 1980s, couple, married, owner) explained:

There are two spots here. One belongs to the powder and the other one belongs to softener. I normally fill it up with one cup of powder and one cup of softener. Then I just close it. I love to use softener because it gives a very nice smell to my clothes.

Mains water is central for doing the laundry. Like Iran, participants spoke of how the mains water is connected to their washing machine. The mains water is supplied from two pipes brought clean hot and cold water into the machine. A third pipe lets the ‘dirty’ water out into the drain. No participants re-used laundry water in Iran or Australia. Nobody contested that the appropriate place for the disposal of this ‘grey’ water was the ‘waste’ water-pipe and drain.

Participants took for granted not only waste drains, alongside piped hot and cold water, but also the washing machine. All household owned a washing machine. For example, when Nazgol was asked: “Do you wash your clothes by hand or washing machine? She answered: No, we don’t live in Stone Age, [laughs] so that's why we just use the washing machine.” Asking the same question, Koohbor (60s, female, child care educator, year of arrival in Australia: 1986, couple with children, married, owner) said, “definitely, washing machine.” As argued by Gram-Hanssen (2008, p.1186), these quotations illustrate how the
washing machine has been “reinterpreted” by users for other purposes than cleaning clothes, including maintaining ‘easy’ domestic routines and being ‘modern’. Participants underscored the importance of the washing machine in the kitchen to facilitate washing at any time. None of the participants spoke about setting aside a particular washing day. Instead, laundry was washed according to the rhythms of everyday household life.

However, unlike Iran, the washing machine was often located in the laundry of their Australian houses, rather than in the kitchen. For example, Mohammad explained:

Well, in Iran the washing machine is usually in the kitchen. We didn’t have a separate space to put washing machine in. Washing machines are usually installed somewhere in the kitchen under a bench-top in Iranian houses.

Likewise, Sheida (30s, female, electronic engineer, year of arrival in Australia: 2006, couple, married, rental) said, “We normally had washing machine in the kitchen and that was very common in our houses in Iran.” The presence of the laundry reminds us of the particular Australian domestic history of how clothes-washing became incorporated into house designs. For relatively affluent participants who had grown-up in Iran, the washing-machine belonged in the kitchen, alongside other domestic appliances. Hence, most participants were more familiar with water-friendly but energy consuming front-loading washing machines designed to sit under kitchen benchtops, rather than top loading washing machines designed for laundry. Hence, there was an unfamiliarity with the top-loader washing machines. Four participants spoke about washing their clothes in top-loading washing machines since migrating to Australia. For example, Mohammad, a participant who was not familiar with top loading washing machine when he came to Australia, has found the top loading washing machines
better at cleaning. He explained:

In Iran, there is no top loading washing machine. So, when I came to Australia, I became familiar with this type of machine. When I was living in the university campus there were just top loading washing machines.

He also added:

Therefore, when I wanted to purchase one for myself, I decided to buy the top loading washing machine.

The shared laundry (Figure 5.1) found in apartments was a site of particular concern given embodied histories of laundry as a practice that helped sustain notions of privacy by being conducted in the kitchen. Fariba (30s, female, student, year of arrival in Australia: 2000s, couple only, married, rental) and Maryam’s narratives revealed concerns about the shared laundry space of their apartments as inconvenient, unkempt, dirty and how it rendered private property to potential public use and abuse. As Fabia explained:

Another interesting thing for me is that here we have a shared laundry downstairs which is like a shared place for all units. There are 11 units in this building, but in Iran we usually put our washing machine in our kitchen.

Samira: Yes, exactly.

Fariba: We didn’t have a separate room for just laundry.

Samira: Do you like your shared laundry?

Fariba: honestly no, because your washing machine is over there and some people think that it’s ok if they use it but for me no, it’s not because it’s like my property. It’s something personal, they’re
not allowed to use it.

Fariba went onto explain how she found her shared laundry inconvenient and dirty.

It's not convenient. And, it is not as clean as it should be because you know when it’s a shared area, no one cares.

Figure 5.1. Shared laundry. (Photograph by Samira Nowroozipour)

Fariba reveals the anxieties of using the washing machine in the laundry by how the shared space works against her understanding of washing clothes by machine as both convenient and as a private affair. Furthermore, the unloved space renders the laundry as a potential site of contact of her washed clothes with the unknown. Likewise, when Maryam was asked do you like your laundry? replied:

No, not at all, because this is our second washing machine. We had another one which was LG.

Samira: what has happened to that?
Maryam: As this is a shared area, the door is usually open, so someone, we don't know who, vandalized it, cut the hose, took the bottoms out, so we had to chuck it out. So, we got the new one, we paid $500, $600 again.

She also explained:

This is not convenient at all that we have to come downstairs. Sometimes it's night and you don't feel safe. Sometimes it's very cold and we have to come down, put the clothes in, and wait for the them to be washed and then hang them.

For Maryam, concerns arise from how the shared laundry space works against the convenience of owning a washing machine located in a kitchen. Doing the washing in shared laundry is experienced as generating discomfort through being exposed to the dark, cold air and potential strangers. For Maryam and Farbia the shared laundry rendered the convenience of the washing machine inconvenient.

While the washing machine was ubiquitous across participants, hand-washing was still practiced by some women. Five women participants preferred occasionally to wash some delicate clothes (undies) by hand. The bucket or laundry sink were important material items to soak clothes before conducting a hand-wash (figure 5.2). For example, as Nazgol explained:

Sometimes when I've got like delicate stuff or something that runs the color inside the other stuff if I mix it with other clothes, I use a little bucket, put some hot water in it and then add laundry powder and softener. I leave it for about two hours, and then I just wash it by hand.
Similarly, Maryam said that when washing her underwear by hand: “I fill a bucket with water and soap. I put my clothes inside that and I let them soak, and then I wash them and I rinse them thoroughly.”

Nazgol and Maryam bring to the fore the competences, specifically the knowledge and embodied skills of hand-washing. Nazgol and Maryam remind us that hand-washing properly is a process that uses as little agitation as possible. The cleaning that is done is primarily from detergent action or water. Machine washing primarily uses agitation. Agitation is when clothes rub against themselves or other clothes creating a friction or scrubbing effect that gets dirt and grime out.

Amongst participants, there was no shared understanding of the ‘right’ way to wash clothes. For instance, some participants sort their clothes
by color before washing them, while others wash all their clothes together. Instead, our participants’ interviews are a reminder of Pink’s (2005) and Jack’s (2013) argument that people have an embodied sense of the ‘right’ way of doing the laundry, often informed by understandings of fabrics alongside the presentation of self to others. Furthermore, learning the ‘right’ way is from an ongoing practice of trial and error that involved decisions around fabrics, detergents, machines, programs and water temperature. Hence, several participants spoke of the risks of learning how to machine and hand-wash their clothes with stories of both success and failure. As Mahsa (30s, female, home-maker, year of arrival in Australia: 2008, couple only, married, own) explained:

I separate dark clothes from other clothes, and I also separate the white clothes from the colored ones … Because when you mix clothes together, sometimes the white clothes would get the color, and you will ruin the clothes.

Mahsa went onto explain how certain clothes never enter her washing machine.

Sometimes, I wash my tops by hands, because I put them in the washing machine, I will ruin them. I normally soak them in warm water, add some washing liquid and leave them for few day. Then I start washing them.

For Mahsa, the process of separating clothes by color minimizes the risk she envisages from the dyes bleeding between fabrics. Furthermore, Mahsa has learnt that the physical action of the washing machine can ruin rather than care for clothes. Hence, she has learnt to wash these by hand. Whereas Maryam separates out underwear from other clothes and washes these by hand, explaining; “that’s you know because of hygiene, we are told not to mix underwear with other clothes.” Maryam illustrates that for her the ‘right’ way for washing clothes does not only revolve
around fabrics, removing stains and dirt, but also ideas of hygiene and contamination that she learnt from her mother. Maryam said:

Except my undies which I wash manually, I wash all my clothes together and they should be fine because I wash them by warm water not hot water... I wash my undies manually.

Maryam went onto explain how she wash her clothes manually.

For manual wash, I fill a bucket with water and soap, I put my clothes inside that, and I let them soak. Then I wash them, and I rinse them thoroughly.

This quotation suggests that Maryam understood hand washing underwear as a sanitation practice necessary specifically for disinfection (defense against potentially harmful microbes). Hence, Shove's (2003, p.126) argument must be qualified that the dominant rationale for washing clothes has shifted away from ideas of health and hygiene towards values of image and presentation.

That said, when participants spoke about the decisions behind machine washing outer clothes, they were far more closely aligned to discourses of sensation (the idea of restoring smelly clothes to acceptable standards of comfort), and deodorization (the idea of freshening-up clothes). As argued by Shove (2003) our participants confirm arguments that the key purpose of washing machines and detergents is to ‘freshen-up’ clothes and care for them, rather than to wash clothes because of the cleanliness they provide the body. Hence, almost all participants in this study similarly talked about the smell and appearance of their clothes when asked how they judged if their clothes are clean or dirty. For example, Fariba explained: “It’s mostly like, if they get stain on them or if they got smelly then I think it’s time to wash them”. Agreeing with Fariba, Mohammad said: “Well, if there is nothing on them and they’re not
smelly I judge them as clean, so it’s all about the appearance and the smell”. Such results conform Shove’s (2003) argument that notions of ‘clean’ and ‘dirty’ are mobilised around (un)washed clothes by our sense of particularly smell, but also sight and touch, which underlies bigger classed and medicalized social norms around the notion of cleanliness.

Furthermore, as argued by Shove (2003) our participants also demonstrate that working against the uptake of any sustainability gains through washing machines is the increased frequency of clothes washing. The shared understanding of the use of washing machines was to freshen up clothes, meant that clothes were often worn once before being relegated to the laundry basket. Smell, rather than stains, was crucial in discriminating clean from dirty clothes. For example, Maryam explained how she judged clothes as dirty: “From their smell, and it’s also my habit to wear clean clothes and wash previous ones each time I take a shower”. Likewise, Koohbor judged her clothes are clean or dirty by: “Smell. When I wear something once, I have to wash it.”

Similarly, Nazgol said, “I prefer to wash them twice a week because, as I said earlier, we go to gym and probably when you do some classes or exercise you sweat a lot, and I don’t want the smell of sweating on my clothes.” Thus, the washing machine facilitated the freshening of clothes as they accumulated within the rhythms of household routines. Hence, according to Farnaz (30s, female, hospitality, year of arrival in Australia: 2000s, couple only, married, rental), “it’s [washing clothes] just routine, when like...whenever we take a shower or maybe even we use clothes for two days, we wash them”.

5.3. Conclusion

Iranian migrants’ practices of washing clothes change, stop or remain the same living in Australia? How participant drew on different sensory metaphors to narrate their everyday experiences of laundry practices
echoes the discussion presented by Pink (2005). Overall, amongst this sample of migrants, laundry practices remained largely unchanged due the ongoing presence of piped-water, drains, washing machines and laundry detergents. Indeed, the smells of laundry power enabled some people to reconnect with Iran. Overall, like previous research on household laundry, the presence of the washing machine was understood as integral to clothes care. Why people washed clothes was to reduce concerns around bodily smells and being configured as smelly, or unclean. Hence, the increased frequency of washing mirrored what was reported by Shove (2003). That said, some women illustrated that notions of hygiene rather than freshening underpinned their hand-washing of underwear.

The tensions created through encounters with the Australian shared laundry by those migrants living in apartments revealed their understanding of washing as tied to notions of convenience, cleanliness and comfort facilitated by Iranian kitchen spaces. The washing machine located in the kitchen enabled washing to be conducted anytime, not only in privacy, but without concerns of contact with the residues of other peoples’ clothes left behind in washing machines. These results point to how legacies of nation building water projects that make water invisible to households in both Iran and Australia work against laundry practices alive to the limits of water in Australian and Iranian cities.
Chapter 6

Bathroom Cultures

6.1. Introduction

The aim of this chapter is to explore the bodily cleansing routines of relatively affluent, middle-class Iranian migrants. At present, the household sustainability literature primarily discusses the bathing and toileting practices in Western societies. Structured in two parts around washing oneself and toilet etiquette, this chapter discusses insights from Iranian migrants to help address this gap in the literature. This focus provides insights to practices that may be considered in terms of restoring a social and moral order about what is accepted as ‘good’ and ‘bad’ attributed to (un)washed bodies by our senses of smell, sight, touch and texture (Gibson et al. 2013 p.73). The chapter argues that like most British households (Hand et al. 2005), at least daily showering routines are an ingrained practice for most migrant Iranian households. Showering is discussed as illustrating a relaxation and transitioning practice among participants rather than a sanitation practice. The similarities of the Iranian and Australian socio-technical system of water delivery work towards expectations of constant flowing warm tap water in the shower. Toilet practices illustrate the dilemmas surrounding toilet paper and water use, when flowing water, rather than toilet paper is embedded in ideas personal hygiene and purity.
6.2. Washing oneself

How participants washed themselves was shaped by in part by the things found in their bathrooms. Like the material items found in their Iranian bathrooms, participants spoke of the importance of water-heaters, piped-water, taps, showers, warm water, shampoo, conditioner, face-wash, body-wash or soap, body scrubs, loofahs and shavers. Participants consistently expressed surprise at encountering a bath alongside a shower in their Australian bathrooms. Bathtubs are not common in Iranian bathrooms. Yet, migrating to Australia almost all participants (12 out of 15) found a bathtub in their bathrooms.

The practice of cleaning bodies was not tied to bathtubs. Indeed, three participants never used their bathtub at all. Furthermore, Koohbor (60s, female, child care educator, year of arrival in Australia: 1986, couple with children, married, own) explained how she had the bathtub removed in her house because she never used it. Those that did use their baths explained that bathing practices were less to do with hygiene, and understood more as a restorative practice.

For example, Fariba (30s, female, student, year of arrival in Australia: 2000s, couple only, married, rental) said, “I take a bath when I want to relax. I mean, for me it’s more about psychological mood rather than cleanliness.” Likewise, Shahrzad (50s, female, nurse, year of arrival in Australia: 2000s, single mother, divorced, owner) explained, “I take a bath whenever I need to relax or I feel I’m very tired or I have back pain.” According to Fariba the bathtub worked against the enduring importance amongst participants of personal hygiene and the taken-for-granted valuing of cleanliness. In her words “when you’re taking a bath, the water gets dirty. It’s not as clean as it should be. So, I usually prefer to take a shower after taking a bath, yes. Agreeing with Fariba, Shahrzad said:
I don't know; I just wash myself because when you take a bath, well, the water is not clean anymore. [Laughs] so, I like to take a shower afterwards instead of washing my body in the bathtub.

The decision to bathe rather than shower is tied to possibilities to the restorative practice of relaxing the body and changing moods from the contact with warm water on the ski, rather than clean oneself. Indeed, for Shahrzad, bathing itself required showering to become clean.

The shower offered possibilities not only to become clean, but also relax. Several participants spoke of the possibilities the shower offered for relaxation stand under the flowing warm water. For example, Azadeh (40s, female, student, year of arrival in Australia: 1990s, couple with a child, rental) said, “sometimes when I feel tired and, yeah, I need to relax, I take a shower.” Like Azadeh, Farnaz (30s, female, hospitality, year of arrival in Australia: 2000s, couple: married, rental) said, “sometimes I just want to relax and put hot water on my hair and body.” This finding reflects Shove’s (2003) argument that suggests how showers in western societies have become increasingly understood in terms of stress relief and relaxation.

That said, the shower was crucial to all participants’ everyday routines that maintained values of cleanliness, respectability and self-presentation. For example, Maria (40s, female, research fellow, year of arrival in Australia: 1990s, couple with a child, married: rental) explained:

Sometimes I take a shower for relaxing, but it’s basically more routine. You know, being a working person you'll be more apart from your individual habits to be like clean and tidy.

She also noted:

Sometimes I'm quite clean, my hair is shiny, but I still feel that
it's...just better go and take a shower.

When asking for the reason she answered:

When you're going to see a lot of people during the day it's necessary to be clean and tidy. You will have a better interaction if you feel more comfortable or confident because of being clean, so it affects your routine.

Maria highlights how the washing of bodies in the shower is less to do with the removal of dirt, informed by notions of sanitation and hygiene, but is more closely tied to transitioning through different parts of the day, deodorisation and feelings of not only comfort but also confidence. Like Maria, a number of participants referred to the practices of showering as routine. For example, according to Mohammad (34, male, research fellow, year of arrival in Australia: 2000s, couple, married, rental), “It's just a routine, yes. In the morning, when I want to go out for work, for sure I take a shower.” Like Mohammad and Maria, Aida (30s, female, nurse, year of arrival in Australia: 1998, one person only, single, rental) said, “It's a routine. I mean, it's like brushing your hair kind of thing.” The language of 'routine' that the participants use illustrates how the shower brings not only social order to these participant day, but also the quality is taken for granted.

Consequently, participants spoke about the removal of sweat and body odours as crucial to how they transitioned between different parts of their day. For example, Maryam (late 20s, female, student, year of arrival in Australia: 2012, shared house, single, rental), spoke about the importance of removing sweat as she transitioned out of the gym, or before going to sleep at night:

...because I go to gym every day, so I have to wash myself at least once, sometimes I do it twice, I mean once in the morning, once
in the afternoon, because I don’t want to go to bed sweaty and smelly.

Similarly, Mahsa (30s, female, home-maker, year of arrival in Australia: 2008, couple only, married, own) explained, “Sometimes I feel like I’m smelly and dirty so that’s the time to take a shower.” The experience of potentially omitting or bodily odour or being dirty, rather than the smell of bodily odour or dirt, was crucial to Mahsa for differentiating between dirty and clean bodies.

Koohbor provides insights to how when she lived in Iran in the 1970s that shower was primarily about cleaning the skin, through the removal dead cells, rather than a transition practice:

It took longer in Iran because of the way that we washed. We had a rougher material to wash our skin and remove those dead skins first and then wash with a softer cloth and soap. But in here, because every day I take a shower, so I don’t need to probably...

Given how showering in Australia was less do with removing dirt and more to transition between different parts of the day, for some participants, the frequency of showers had increased since migrating to Australia. For example, Mahsa explained:

In terms of frequency, I wash myself more often in Australia. In Iran, it was, I would say twice a week, but now it’s three to four times a week.

Samira: Can you please tell me what accounts for this change?

Mahsa: Because, I think, maybe I was busier in Iran, and I didn’t have enough time, you know, to take shower more often. Also in summer, because of the humidity, sometimes I feel so sticky; that’s why I need to take shower.
Overall, the practice of showering was crucial to restore the self as participants transitioned through different parts of the day through the use of shampoo, soap, loofahs and face-cloths. Alongside how participants employed the shower as transitioning technology to restore feelings of comfort through the day, the frequency of washing can be explained by the comfort and convenience of access to a hot supply of water and an inside bathroom. This reflects Shove’s (2003) arguments, which suggest that the normalisation of daily showering and bathing is partly explained by advances in bathroom technology and the supply of instant heated water.

Turning to the duration of showering, several participants while telling of more frequent showers that when living in Iran, also spoke of shorter durations. For example, Firoozeh (30s, female, home-maker, year of arrival in Australia: 1990s, couple, married, rental) said:

Taking a shower used to take maybe 20 minutes or more in Iran, but coming to Australia it takes less.

Samira: Can you please tell me what accounts for this change?

Firoozeh: I think it’s about the Australian culture. I’ve also heard from different media, and I see the sign in public places, to take a quick shower, so I make my showers shorter...

Like Firoozeh, alive to waster insecurity in Australian cities, Fariba turned off the tap between sponging and rinsing (30s, female, student, year of arrival in Australia: 2000s, couple, married, rental). She described the skills in the following way:

First, I turn on the tap and make my body and my head wet. Then I turned it off and wash my head with my shampoo and then again I turn on the tap and rinse my head. Then again I turn it off and use my sponge and my soap to wash my body. Then
again I turn the tap on and rinse my body yes, and that’s it.

Fariba, was the only participant that did not stand under running water in the shower. Aida provides insights to why participants refused to turn the tap of in the shower. In her words “you can't turn the tap off. It gets cold. [Laughs]”. Aida’ words confirm the anticipation not only of the convenience but also the thermal comfort of showering. Working against sustainable showering practices is not only how the shower operates as a transitioning practice to help reconstitute a sense of self as presentable, but the disconnect from water of the socio-technical infrastructures of piped water.

6.3. Toilet etiquette

Toilet etiquette is a site of much academic attention in the social science literature. Three themes dominate the literature: public health, sustainability, gendered and sexed bodies (Othman & Buys, 2016). There is a growing literature on the question of household sustainability and toilet practices in western society (see Gibson et al 2013). In Australia, this is in part because around 25% of fresh water is flushed down the toilet (Schlunke et al. 2008). Furthermore, the toilet is increasingly used by some households as conduit of disposal (Al-Jayyousi, 2003). Yet, apart from Othman & Buys (2016), none better understands the tensions generated between different ethnic groups and toilet practices. Othman & Buys (2016, p.383) discuss Australian domestic toilet hygienical requirements from the perspective of the society’s cultural traditions and religious teachings. This section helps address this gap, mindful that given human excrement is taboo topic in both Islamic and western societies (see Young (1990) and Longhurst (2001), and not spoken about even with the most intimate of friends. As discussed in Chapter 3, participants were very hesitant to talk about, or show, their toilets to the researcher.
6.4. Toilet practices

The constellations of relationships that constitute the domestic toilet space had perhaps changed the most for all migrants because of the absence of the squat toilet in Australian houses. Squat toilets are fixed in-ground commodes which require the individual to squat on bent knees rather than sit. Water rather than toilet paper is used to clean oneself after defecating with the left hand rather than paper. The bodily competencies of urinating and defecating for those participants of growing up with squat toilets, that assured bodies never met squat toilets, posed a whole series of tensions and everyday challenges.

Those participants who spoke about toilets in Iran, explained that while sitting toilets could be found in Iran, squat toilets were still predominant in most houses and public places because they were the historical social norm. For example, Maria said, “The toilets in Iran are usually squat toilets. I remember we had like sitting toilet as well, so people had a choice to use any of them.” Likewise, Maryam explained that, “Well, in Iran, there are two types of toilets. One of them are the squat toilets, and you can find those types of toilets everywhere, in houses and in public. And, there are also sitting toilets which are like what we have in Australia.” Indeed, around half of the participants lived with squat toilets in Iran. Those who shared toilet narratives that involved living with squat toilets in Iran underscored how some had modified their practices while other had modified their bathrooms in Australia. For example, Maria explained how she incorporated a visit to the shower as part of her routine toilet etiquette,

...the only difference for me, is in terms of the washing afterwards. So here you have to just jump onto the bathroom, the bathroom is quite close to the toilet, and have a quick shower or quick wash.
Maria went on to explain how the toilet practice is different in Iran.

In Iran, everything was facilitated in the same space. It was pretty much easier, [chuckles]. The system of washing was more straightforward than here. We could wash ourselves and then dry with toilet paper.

Maria underscore the importance of water, not toilet paper to become clean. Koohbor provides an example of bathrooms were modified to provide flowing water for cleaning oneself after defecating; renovating her bathroom by installing a bidet (figure 6.1). In her words:

I've got a bidet from America, so when I go to the toilet I use that one, which is already installed to toilet, toilet seat, so I use that one. It's like flushing water. I don’t need to use my hand to hold the tap or anything.

**Figure 6.1.** Installing a bidet for cleaning oneself after defecating (Photograph by Samira Nowroozipour.)

Other participants had modified their flush toilets by installing a spigot next to their toilets or put a water container or pitcher for washing (figure 6.2).
The importance of using water for perianal cleaning was expressed by all participants, except Mohammad who used toilet paper. As Mohammad explained:

Back there, we had hose in our toilet, so we used water, yeah. But in toilets here we don’t have any water, so we just have to use toilet paper for cleaning.

Samira: Do you like the way you are going to toilet in Australia in comparison to Iran?

Mohammad: I just, I got used to it, but when I arrived in Australia it was so awkward to me.

The difficulties Mohammad infers from using toilet paper is how water, rather than toilet paper is understood as embedded in medical and
Islamic sets of ideas of hygiene, and cleanliness. The everyday challenges of cleaning oneself with toilet paper is underscored by several participants. For example, Nazgol (40s, female, student, year of arrival in Australia: 1980s, couple, married, owner) has installed a water hose (figure 6.3.) on her toilet for hygiene purposes. This modification of the bathroom is to replicate her toilet practices in Iran, where a hose would be used to wash with rather than using toilet paper. But regarding her toilet practice in public places she explained, “…in public places, yeah, it's a bit difficult for me because there is no hose, there is no water in the toilet, so I have to use toilet paper for cleaning myself. Like Nazgol, Sheida (30s, female, electronic engineer, year of arrival in Australia: 2006, couple, married, rental) said, “Actually, in Iran we had a hose in our house, in all houses, and also in public places, but here we don't have it. So, I have to use the toilet paper when I'm outside. This is something different, completely different.”

Agreeing with them, Maryam said, “At home, it's similar to what we did in Iran, yes. But, in public toilets, it’s completely different as there is no water to wash yourself. I mean we only use the toilet paper...” None of the participants referred specifically to Islamic principles that outline how water can purify the inner person and hygienically cleanse the body (Chamberlain, 2007) Nor did participants refer to an Islamic toilette etiquette (Preston & Ritter, 2012). Instead, participants spoke of the challenges of using toilet paper and public seated toilets and the preferred practice of using water for cleansing the body, not just hands, after using the toilet. The dilemma of using toilet paper or water is not framed in terms of environmental sustainability, but notions of clean and dirty.
6.5. Conclusion

The constellation of relationships that comprise showering and toilet practices of Iranian migrants raise important questions about household sustainability and future water management. The shower is taken-for-granted as preferred mode of washing the body rather than the bath tub. The shower had multiple roles in households, but was primarily understood as relaxation and transitioning practice. Hence, the frequency of showering often aligned to the different roles and activities that people undertook within a day. The unending flow of water from the shower was questioned by only one participant. Like Iran, the socio-technical system of delivering water in Iran through dams, pipes and Iranian migrant households, meant a disconnect from water sources or rainfall patterns. Questions arise for water managers of the ongoing sustainability of the increased frequency of showering as transitioning
device. Participants’ toilet practices demonstrate a preference for water rather than toilet-paper for perianal cleansing after defecation. Hence, alongside wash hand basins, also found in toilets are bidets, spigots and pitchers. Again, alive to ethnic diversity within the Australian population, questions arise for water managers of the importance of water in toilets to clean not only hands, but also bodies.
Chapter 7

Conclusion

To conclude, this chapter is structured in three parts: (1) to begin the chapter revisits the aim and research question; (2) then it demonstrates which chapters address these questions; and (3) finally points towards future research.

7.1. Revisiting the aim and research question

The overarching aim of this research was to respond to the gap in the literature around the cultural environmental knowledge of ethnic minority groups in relation to household sustainability. In particular, this research seeks to better understand the knowledge that shapes the everyday domestic water practices of Iranian-Australians. The project focused on three questions around every day domestic water practices of Iranian-Australian households – following migration from Iran to Australia how do they persist, transform or stop. To address these questions, the thesis adapted a socio-cultural approach that combined Shove’s (2003) notion of practice with Pink’s (2012) notion of situatedness. Turning to the project design, alive to a framework that conceptualises practice at the intersection of ideas, competencies, materials and situatedness, a qualitative mixed-methods approach combined semi-structured interviews and home-insights with the critical reflexivity of positionality. The semi-structured interviews and home insights allowed the researcher to co-produce knowledge with participants about everyday water practices. In total, 15 Iranian migrants living in Sydney metropolitan region consented to participate. With the exception of one participant, these are all women who
previously lived in Iranian cities. The participants were diversified along the lines of age, religion, visas and migrant histories. That said, all in Iran with taps, piped water supplied by government water schemes, at very low cost. All shared an understanding of water as 'life'. Despite Iran being a very arid Islamic republic, these participants grew-up with the anticipation that water would constantly flow from taps in their Iranian homes. While the project investigated kitchens, bathrooms and laundries, the interpretation and discussion focused on bathing and toilet practices in bathrooms, washing-up the dishes in kitchens and washing clothes in laundries. For each of these practices the three research questions are revisited in the next section.

7.2. What domestic water practices change following migration from Iran to Australia?

The interpretation provided in Chapters 4 to 6 suggest that for most participants little changed when migrating from Iran of the water-related practices of washing-up, laundry, bathing and toilets. The anticipation of flowing water from taps was central to the all domestic water related domestic practices. Alongside expectations of flowing norms was the imperative of cleanliness, hygiene and purity brought by running water. Hand-dish washing practices remained largely unchanged due the ongoing presence of taps, hot water systems, piped-water, drains, dish washing detergents, sponges and gloves. Likewise, cloths washing practices remained unchanged with the exception of liquid replacing powder detergents due to preference for particular smells or stain removal capacity. The presence of the shower enabled the transferal of body washing practices, alongside the possibility to purchase soaps, gels, shavers, conditioner and shampoo. The bath was aligned more with practices of relaxation and required washing the skin in the shower after soaking in this water.

Hence, rather than Iran migrants changing their practices, they usually
modified the technologies and materials found in Australian laundries, kitchens and bathrooms. For example, Chapter 4 focused on practices of washing the dishes and revealed a preference for continuing to wash dishes by hand rather than change routines to accommodate a dishwasher that was found in most rented apartments. Working against the incorporation of dishwashers into everyday routines was household size and ideas of cleanliness. Likewise, Chapter 4 documented the horror of shared laundries and preferences for accommodating front-loading washing machines in kitchens. When cleaning clothes, some spoke of the importance of handwashing for underwear and particular delicate items. Chapter 6 discussed the importance of the technology of the shower rather than bath, and the importance of spigots and pitchers rather than toilet paper to clean oneself after using the toilet. Some participants discussed how they had modified their domestic toilets to include hoses. Others discussed how like most Australians living in cities, regardless of ethnicity, that the shower had become a transitioning practice, that required washing the body often more than once a day. Overall, the results point to how particular water managers have to be alert to the socio-cultural technical systems that shape the everyday water practices of some migrant groups may work towards increased and increasing everyday water consumption. That said, amongst some participants, there was some recognition that living with flowing water supplied by pipes for showering and washing-up dishes was not sustainable in Australian cities. For one participant, a timer distributed to reduce shower times, acted as a disruption technology, making her aware that water is a limited resource in Australian cities.

7.3. Future Research

Through investigating Iranian-Australian domestic water cultures, this study takes a small step to address the western centric qualities of household sustainability research. Future research is required to gain a
further appreciation of what migrant diversity can offer in terms of household sustainability objectives required. Future research may consider continuing to work with Iranian households in Australia overseas. Nothing is known of the many other features of household sustainability yet to be investigated comprising of domestic energy, food, and mobility. Alternatively, future research may consider working with other ethnic minority groups to both enrich and trouble western centric household sustainability research.
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Appendix 1

PARTICIPANT INFORMATION SHEET

Domestic water cultures of Iranian migrant households

PURPOSE OF THE RESEARCH: Water is an integral, but often overlooked part of everyday life. Equally the voice of minority migrant groups is often ignored in research exploring how Australians use water in the home. Hence, the project aims to address these gaps by better understanding Iranian-Australians’ relationships with water.

INVESTIGATORS:

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WHAT YOU WILL BE ASKED TO DO: If you choose to participate, you will be invited to talk about the ways you use water in your home.

There are three potential stages to this study.
First stage: (getting to know you) consists of a semi-structured conversation which is divided into two parts. In the first part, you will be asked questions about your background, home and water practices. In the second part you will be asked to discuss your ideas about bathing, showering, toilet, kitchen and laundry water practices and if your water practices have changed since migrating to Australia.

Second stage: (audio/ video home insights) the researcher will visit you at your home to learn more from how your laundries and kitchens are organised, and by asking you to re-enact several water related everyday routines including doing the laundry and washing-up the dishes.

Third stage: (follow-up conversation) the final stage involves sitting down with the participants and clarifying different themes and practices that emerge from Stages 1 and 2.

- Consent will be reconfirmed throughout the different stages of the study.
- We will ask for permission to audio-record the interviews and video-record home insights.
- The level and frequency of your involvement will be tailored to meet your time constraints

POSSIBLE RISKS, INCONVENIENCES AND DISCOMFORTS:

Apart from the time taken to participate in this research, we can foresee no inconvenience for you. We will tailor your involvement to suit your availability and needs and you will not be pressured to participate in more activities than you feel comfortable with. The interviews will be conducted professionally and ethically. You will not be pressured to answer any questions that make you uncomfortable, and your involvement is entirely voluntary. You may halt your participation at any time and withdraw any data you have provided until that point. You can also withdraw any data you have provided up until the end of December 2015. If you decide not to participate, this will not affect your relationship with the University of Wollongong.

FUNDING AND BENEFITS:

The research will be used to better understand the water use practices of Iranian-Australians. It will become the basis of an MPhil thesis and may be published in academic journal articles, books, and conference papers. The findings may also be discussed in media interviews. You will be able to choose whether you would
prefer to be referred to by your real name in published materials, or whether you would prefer to use a pseudonym (false name). In accordance with ethical guidelines, all data that we obtain from you will be stored for a minimum of 5 years in locked filing cabinets in Department of Geography and Sustainable Communities and on password protected computers. With approval from the Human Research Ethics Committee, the data may continue to be used by the researchers after the 5 year period in related research and publications.

**ETHICS REVIEW AND COMPLAINTS:**

This study was reviewed by the Social Sciences Human Research Ethics Committee, University of Wollongong. If you have any concerns or complaints regarding the way this research has been conducted please contact the UOW Ethics Officer on (02) 4221 3386 or email rso-ethics@uow.edu.au. If you have any questions about this study, please contact fn404@uowmail.edu.au. Thank you for your interest in this study.
Appendix 2

CONSENT FORM FOR STAGE 1: GETTING TO KNOW YOU

RESEARCH TITLE: Domestic water cultures of Iranian migrant households

RESEARCHERS: Lesley Head, Gordon Waitt and Fatemeh Nowroozipour, Faculty of Social Sciences, University of Wollongong

I have been given information about the project ‘Domestic water cultures of Iranian migrant households’. I have discussed the research project with Fatemeh Nowroozipour, who is conducting this research as part of a University of Wollongong MPhil thesis in the Faculty of Social Sciences at the University of Wollongong.

I have been advised of the potential risks and burdens associated with this research, which include the time taken to participate. I understand that my participation in the research activities is optional. Consent will be reconfirmed before each stage of the research.

I understand that my participation in this research is voluntary, I am free to refuse to participate and I am free to withdraw from the research at any time. If I decide not to participate or withdraw my consent, this will not affect my relationship with the University of Wollongong. I also understand that I can withdraw any data that I have contributed to the project up until the end of December 2015.

If I have any enquires about the research, I can contact Lesley Head (4221 3124) or Gordon Waitt (42213684). If I have any concerns or complaints regarding the way the research is or has been conducted, I can contact the Ethics Officer, Human Research Ethics Committee, Office of Research, University of Wollongong on (02) 4298 1331 or email rso-ethics@uow.edu.au By signing below I am indicating my consent to (please tick):

☐ Participate in an interview with the researcher to show how I use water

In published materials relating to this research, I would like to be referred to by (please tick one):

☐ My real/given name ☐ A pseudonym (false name)
I understand that the data collected from my participation will be used for academic journal articles, books and conferences, as well as an MPhil thesis. I also understand that the data collected may be used when communicating research outcomes to the media. I consent for the data I provide to be used in these ways.

Signed

Date

……………………………………….../……./……..

Name (please print)

……………………………………………………………………………………
Appendix 3

CONSENT FORM FOR STAGE 2: AUDIO/VIDEO HOME TOUR

RESEARCH TITLE: Domestic water cultures of Iranian migrant households

RESEARCHERS: Lesley Head, Gordon Waitt and Fatemeh Nowroozipour

Faculty of Social Sciences, University of Wollongong

I have been given information about the project ‘Domestic water cultures of Iranian migrant households’ I have discussed the research project with Fatemeh Nowroozipour, who is conducting this research as part of a University of Wollongong MPhil thesis in the Faculty of Social Sciences at the University of Wollongong.

I have been advised of the potential risks and burdens associated with this research, which include the time taken to participate. I understand that my participation in the research activities is optional. Consent will be reconfirmed before each stage of the research.

I understand that my participation in this research is voluntary, I am free to refuse to participate and I am free to withdraw from the research at any time. If I decide not to participate or withdraw my consent, this will not affect my relationship with the University of Wollongong. I also understand that I can withdraw any data that I have contributed to the project up until the end of December 2015.

If I have any enquiries about the research, I can contact Lesley Head (4221 3124) or Gordon Waitt (42213684). If I have any concerns or complaints regarding the way the research is or has been conducted, I can contact the Ethics Officer, Human Research Ethics Committee, Office of Research, University of Wollongong on (02) 4298 1331 or email rso-ethics@uow.edu.au By signing below I am indicating my consent to (please tick):

☐ Participate in giving the researcher a home tour to show how I use water

In published materials relating to this research, I would like to be referred to by (please tick one):

☐ My real/given name ☐ A pseudonym (false name)
I understand that the data collected from my participation will be used for academic journal articles, books and conferences, as well as an MPhil thesis. I also understand that the data collected may be used when communicating research outcomes to the media. I consent for the data I provide to be used in these ways.

Signed

…………………………………….

Date

……………………………………

…../……./……..

Name (please print)

………………………………………………………………………………………………..
Appendix 4

CONSENT FORM FOR STAGE 3: FOLLOW-UP INTERVIEW

RESEARCH TITLE: Domestic water cultures of Iranian migrant households

RESEARCHERS: Lesley Head, Gordon Waitt and Fatemeh Nowroozipour, Faculty of Social Sciences, University of Wollongong

I have been given information about the project ‘Domestic water cultures of Iranian migrant households’. I have discussed the research project with Fatemeh Nowroozipour, who is conducting this research as part of a University of Wollongong MPhil thesis in the Faculty of Social Sciences at the University of Wollongong.

I have been advised of the potential risks and burdens associated with this research, which include the time taken to participate. I understand that my participation in the research activities is optional. Consent will be reconfirmed before each stage of the research.

I understand that my participation in this research is voluntary, I am free to refuse to participate and I am free to withdraw from the research at any time. If I decide not to participate or withdraw my consent, this will not affect my relationship with the University of Wollongong. I also understand that I can withdraw any data that I have contributed to the project up until the end of December 2015.

If I have any enquires about the research, I can contact Lesley Head (4221 3124) or Gordon Waitt (42213684). If I have any concerns or complaints regarding the way the research is or has been conducted, I can contact the Ethics Officer, Human Research Ethics Committee, Office of Research, University of Wollongong on (02) 4298 1331 or email rso-ethics@uow.edu.au By signing below I am indicating my consent to (please tick):

☐ Participate in an interview with the researcher to show how I use water

In published materials relating to this research, I would like to be referred to by (please tick one):

☐ My real/given name ☐ A pseudonym (false name)
I understand that the data collected from my participation will be used for academic journal articles, books and conferences, as well as an MPhil thesis. I also understand that the data collected may be used when communicating research outcomes to the media. I consent for the data I provide to be used in these ways.

Signed

………………………………………

Date

…………/……./……..

Name (please print)

……………………………………….
Appendix 5

INTERVIEW CONTENTS

Stage 1: Getting to know you

Stage 2: home video-tour

Stage 3: Follow-up interview

With the exception of one section of questions in the ‘getting to know you’ the line of questioning is not water efficiency, instead is about trying to better understand how water is valued in and through the activities/routines/movements that enable people to make the place feel right – i.e. homely/comfortable.

Hence the focus on foregrounding experience to explore the practical activity/practice as it is continuously woven into the template of making home.

People arrive at a sense of what is comfortable or ‘right’ over a period of time (including how much water they use for different activities) and how living at home feels right occurs in relation to a whole range of spatially dispersed activities.

Stage 1: Semi-structured interview – life water narrative

1. Getting to Know You

A semi-structured conversation about the participant’s personal history, home and water sustainability.

Biography

- Tell me about yourself, where you grew-up?
- Tell me about different places you have lived?
- Tell me about different qualifications or job you have done?
- Tell me about your family life?

Home Narrative
Tell me about when you moved into this home?

Why did you move to this house?

Since moving in, what sorts of things did you do to make it homely, make it feel right for you?

Are there things you would still like to do to make it feel right?

As a home, how did this house compare with other houses you have lived in over your life?

Does it lack particular things that make it feel right as a home?

As you say you have lived here for x years. Is it homely home? Why?

How did you think family members see themselves in their home?

What about your friends?

**Water**

Tell me about your routine daily water practices?

Tell me about your water practices in your kitchen?

Tell me about your water practices in your bathroom?

Tell me about your water practices in your laundry?

Where else do you use water at home?

What are the most important water practices of yours?

In which part of your home do you use water the most?

What is it about your water usage in Australia which is different to Iran?

What do you think are the most pressing issues for future generations living in Australia?

Okay, the focus of this project is on water. Can you tell what water means to you?

Have you ever lived without mains water supply? Tell me about this?

**Activities that use water**
Drinking Water

-Tell me about you your drinking water was supplied growing-up in Iran?

-What about before you left?

-Tell me about how your drinking is supplied since moving to Australia?

-What do you like about drinking water living in Australia (taste, smell, texture)

-What do you dislike about drinking water living in Australia?

-Tell me about the ways drinking water different and similar in Australia from you home country?

Doing the laundry

-Tell me about the different activities you do when doing the laundry?

-When are things considered of need of washing (clothes, curtains, and sheets)?

-Where are things requiring washing stored?

-How they are washed?

-How they are dried?

-When they are put away?

-Tell me about the way that the laundry was done when you lived in Iran?

-Have your laundry practices changed since arriving in Australia? If so, how?

-What accounts for this change?

-How do your clothes smell, touch, and feel when laundered in Australia in comparison to Iran?

-Tell me about how often you wash your clothes?

-When do you decide it is time to do a laundry?

-Tell me about the different activities you do to do the laundry?

-What sorts of things do you require to do the laundry? Hot/cold water?
-When is appropriate to do the laundry?

**Bathing or showering**

-Tell me about the different activities you do when having a wash?
-When do you consider that you need to have a wash?
-How do you wash yourself?
-How do you dry yourself?
-Tell me about the way that washing was done when you lived in Iran?
-Has your washing changed since arriving in Australia?
-What accounts for this change?
-Do you like the way you have a wash in Australia in comparison to Iran?
-Tell me about how many times a day you will have a wash?
-Tell me about how long does it take to have a wash?
-When do you decide it is time to have a wash?
-Tell me about the different activities you do to have a wash?
-What sorts of things do you require to have a wash? Hot/cold water?

**Washing-up the dishes**

-Tell me about the different activities you do when washing-up the dishes?
-When do you consider dishes need washing?
-Where are dishes requiring washing stored?
-How they are washed?
-How they are dried?
-Tell me about the way that washing-up the dishes were done when you lived in Iran?
-Have your washing-up the dishes practices changed since arriving in Australia?
What accounts for this change?

Do you like the way your dishes smell, touch, and feel when washed in Australia in comparison to Iran?

Tell me about how many times a day you will wash your dishes?

When do you decide it is time to wash-up the dishes?

Tell me about the different activities you do to wash-up the dishes?

What sorts of things do you require to wash-up the dishes? Hot/cold water?

When is it appropriate to wash-up the dishes?

Watering the garden

Tell me about the different activities you do when watering the garden?

When is the garden considered to need watering?

How is it watered?

Tell me about the way that the watering the garden was done when you lived in Iran?

Have your watering the garden practices changed since arriving in Australia?

What accounts for this change?

Do you like the way your garden is watered in Australia in comparison to Iran?

Tell me about how often the garden needs to be watered?

When do you decide it is time to water the garden?

Tell me about the different activities you do to water the garden?

What sorts of things do you require to water the garden? Water…

When is appropriate to water the garden?

Going to the toilet

Tell me about the different activities you do when going to the toilet?
Tell me about the way that going to toilet was done when you lived in Iran?

Have the toilet practices changed since arriving in Australia?

What accounts for this change?

Do you like the way you are going to the toilet in Australia in comparison to Iran?

Tell me about how many times a day you will flush the toilet?

Tell me about the different activities you do to go to the toilet?

What sorts of things do you require to go to toilet? Hot/cold water?

What do you understand by saving water?

When did you become aware of this idea of saving water in Iran?

When did you become aware of this idea of saving water in Australia?

Can you tell me about if saving water is important to you in the context of your home?

When did it become important?

Why is it important to you?

What elements make it important? (Cost, sustainability, cleanliness …)

What sort of things do you do to save water?

Do you talk to other people about water saving? What about daily water practices?

Why do you think water saving has become important to different governments?

What sorts of things are people being asked to do by different government agencies?

Stage2: Home video tour - the sensory aesthetic of home (‘feel’ right)
Two parts to home insights: A tour of kitchen and laundry and re-enacting everyday routines

1. Room insights – making kitchens, laundries, bathrooms and gardens ‘feel’ right

To provide not a factual description, but a series of reflections on the present that are situated in relation to the past, present and future.

I am interested in how you have gone about making this room ‘feel’ right for you.

- Tell me about why this room is the way it is?
- Show me what sorts of things you have changed?
- Why did you change this (cleanliness, use less…)?
- Show me what sort of things you would change about this room to make it ‘feel’ right?
- Will you make these changes? If not, why not.

In each room, the interviewer should pay particular attention to particular items of interest to the project in terms of how water is used to maintain household roles and relationships.

2. Asking participant to enact everyday routines

- washing the dishes
- doing the laundry

Stage 3: Follow-up interview

As Sarah Pink (2012) discusses in her work on video ethnographies the third stage is an essential part of the research design. The video material is the basis for the co-production of knowledge between the researcher and the participants. This stage will pay attention to the gut reactions of both parties as they view and discuss the videos together - and using this as tool to further explore the role of water in home-making practices. For example, watching the videos may arouse a sense of anxiety
about the way that water is used, or senses of anger, surprise or comfort. The researcher then uses her own reactions to further explore issues with participants, providing moments to discuss differences and similarities and consider why they exist.

As Pink (2012) argues, this third stage enhances the ethical relationship between researcher and participant by providing the opportunity for joint reflection on the video material. As such, it is inappropriate to specify questions in advance. Rather these will emerge out of the video material.
Appendix 6

Project summary for recruitment via phone calls / attendance to community projects

“Hi, my name is Samira and I am doing a master of philosophy at the University of Wollongong. I am involved in a project which is looking into ethnic diversity and sustainability. My project will be focused on investigating how households of Iranian ancestries use water in the home. In my research, I should interview volunteer Iranian households and learn about their daily water practices. The findings of my research may be able to provide learning opportunities for the wider community into how to use water in a more sustainable manner.

The interview is designed in three stages. The first stage is labelled ‘getting to know you’. This stage consists of a semi-structured conversation which divided into two parts. The first part, the participant will be asked questions about his/her background, home and knowledge of water sustainability. In the second part, participants will be asked to explore their ideas about bathing, showering, toilet, kitchen and laundry water practices and if Iranian household’s water practices have changed since arriving in Australia. The second stage is labelled ‘audio/ video home insights’. At this stage, the researcher will visit participants at their home to learn more about their laundries and kitchens by asking them to re-enact several water related everyday routines including doing the laundry and washing-up the dishes. The third stage is labelled ‘follow-up conversation’. This stage involves sitting down with the participants and clarifying different themes and practices that emerge from Stages 1 and 2.

The first two stages will take about 60 minutes and the third stage will take about 30 minutes. Participants can participate in one or more of three stages.

If you would be interested participating in this research please do contact me on my work mobile telephone number dedicated to this project- 0487 045 747 or alternatively my work email. My email address is fn404@uowmail.edu.au.
Thank you very much for listening.
Appendix 7

Project summary for recruitment via phone calls to Iranian organisation/community

Project summary for recruitment via phone calls to Iranian organisation/community:

“Hi, my name is Samira and I am doing a master of philosophy at the University of Wollongong. I am involved in a project which is looking into ethnic diversity and sustainability. My project will be focused on investigating how households of Iranian ancestries use water in the home. In my research, I should interview volunteer Iranian households and learn about their daily water practices. The findings of my research may be able to provide learning opportunities for the wider community into how to use water in a more sustainable manner.

The interview is designed in three stages. The first stage is labelled ‘getting to know you’. This stage consists of a semi-structured conversation which divided into two parts. The first part, the participant will be asked questions about his/her background, home and knowledge of water sustainability. In the second part, participants will be asked to explore their ideas about bathing, showering, toilet, kitchen and laundry water practices and if Iranian household’s water practices have changed since arriving in Australia. The second stage is labelled ‘audio/ video home insights’. At this stage, the researcher will visit participants at their home to learn more about their laundries and kitchens by asking them to re-enact several water related everyday routines including doing the laundry and washing-up the dishes. The third stage is labelled ‘follow-up conversation’. This stage involves sitting down with the participants and clarifying different themes and practices that emerge from Stages 1 and 2.

The first two stages will take about 60 minutes and the third stage will take about 30 minutes. Participants can participate in one or more of three stages.

I would like to approach Iranians who may be interested in my research. Therefore I would appreciate it if you could let me know if you are organizing any event for Iranians that I can attend and talk to people.
Appendix 8

Ethics Approval Letters

APPROVAL LETTER
In reply please quote: HE15/109

16 April 2015

Mrs Fatemeh Nowroozipour
Department of Geography and Sustainable Communities
UOW

Dear Mrs Nowroozipour,

Thank you for your response dated 09/04/15 to the HREC review of the application detailed below. I am pleased to advise that the application has been approved.

Ethics Number: HE15/109
Project Title: Domestic water cultures of Iranian migrant households
Researchers: Mrs Fatemeh Nowroozipour, Professor Gordon Waitt, Professor Lesley Head
Approval Date: 16 April 2015
Expiry Date: 15 April 2016

The University of Wollongong/Illawarra Shoalhaven Local Health District Social Sciences HREC is constituted and functions in accordance with the NHMRC National Statement on Ethical Conduct in Human Research. The HREC has reviewed the research proposal for compliance with the National Statement and approval of this project is conditional upon your continuing compliance with this document.

Approval by the HREC is for a twelve month period. Further extension will be considered on receipt of a progress report prior to expiry date. Continuing approval requires:

- The submission of a progress report annually and on completion of your project. The progress report template is available at http://www.uow.edu.au/research/ethics/human/index.html. This report must be completed, signed by the researchers and the appropriate Head of Unit, and returned to the Research Services Office prior to the expiry date.
- Approval by the HREC of any proposed changes to the protocol including changes to investigators involved
- Immediate report of serious or unexpected adverse effects on participants
- Immediate report of unforeseen events that might affect continued ethical acceptability of the project.

If you have any queries regarding the HREC review process, please contact the Ethics Unit on phone 4221 3386 or email rso-ethics@uow.edu.au.

Yours sincerely

Associate Professor Melanie Randle
Chair, UOW Social Sciences
Human Research Ethics Committee
25 May 2016

Dear Mrs Nowroozipour,

Thank you for submitting the progress report. I am pleased to advise that renewal of the following Human Research Ethics application has been approved.

Ethics Number: HE15/109
Project Title: Domestic water cultures of Iranian migrant households
Researchers: Mrs Fatemeh Nowroozipour, Professor Gordon Waitt, Professor Lesley Head
Renewed From: 16 April 2016
New Expiry Date: 15 April 2017

Please note that approvals are granted for a twelve month period. Further extension will be considered on receipt of a progress report prior to expiry date.

This certificate relates to the research protocol submitted in your original application and all approved amendments to date. Please remember that in addition to completing an annual report, the Human Research Ethics Committee also requires that researchers immediately report:

- proposed changes to the protocol including changes to investigators involved
- serious or unexpected adverse effects on participants
- unforeseen events that might affect continued ethical acceptability of the project.

A condition of approval by the HREC is the submission of a progress report annually and a final report on completion of your project. The progress report template is available at http://www.uow.edu.au/research/ethics/UOW009385.html

This report must be completed, signed by the appropriate Head of School and returned to the Research Services Office prior to the expiry date.

Yours sincerely,

Associate Professor Melanie Randle
Chair, UOW & ISLHD Social Sciences
Human Research Ethics Committee
Appendix 9

Iranian socio-technological responses to drought

Provision of households with fresh water is not a new problem in Iran. Iran has a rich history of technological responses to supplying urban and rural households with water, including an extensive network of wells, qanats and canals. (Jahani & Reyhani, 2006, p. 8, Sadat, 2012). For example, in 1927 the construction of a canal, 53 Km in length, was started to convey water to Tehran (Jahani & Reyhani, 2006, p. 8, Sadat, 2012). Until the 1950s, a qanat system provided a large proportion of the water supply over much of the central plateau of Iran (Beaumont 1971; Beaumont et al. 1989). From the 1950s, onwards diesel-fuelled pumped wells and piped drinking water wells were introduced to Iran (Jahani & Reyhani, 2006, p. 8). Although pumps were cheap to sink and to operate, they often caused the watertable to decline. Consequently, the discharge of many qanats declined or ceased completely (Bonine 1989).

In 1968 the nationalization of water resources in Iran underscored the issue of water security. The nationalisation of water occurred as part of the Shah’s “White Revolution” or land reform programme. Following the water Nationalization Act the responsibility for managing water resources in Iran was given to the Ministry of Water and Power. Meanwhile, at the regional level a series of boards were established to collect data, restrict water usage and charge nominal water rates. Legislation introduced a permit system to restrict the number of new wells sunk. The objectives of the water Nationalization Act are clearly stated in article 1 (Echo of Iran 1971:375).

Article 1: All water flowing in rivers, natural streams, valleys and other natural
water courses, whether surface or subterranean, and also all flood waters, sewage waters, and drainage waters, as well as waters of natural lakes, swamps, lagoons and ponds, spring, mineral waters and subterranean water deposits, are considered natural wealth and belong to the public. The Ministry of Water and Power is assigned the task of protecting and utilizing this national wealth, and of setting up and administering installations for the development of water resources.

Water charges were introduced in Iran in the late 1970. Charges were an integral part of the solutions to water security as outlined in the National Water Plan. This document provided a comprehensive assessment of the water problems facing Iran at this time. Administered by the Bureau of Water Planning located in the Ministry of Energy, and operating in accordance with the Iranian Trade Law, all future infrastructure plans should be largely self-financing with charges for water reflecting operational and depreciation costs. The water charging policy was based on a ‘block system’. Households with a consumption of less than 5 m3 per month levied no charge so poor families could have access to sufficient water to meet their basic needs. Charges increased for each successive block of around 10 m3. From 1998, charges for commercial and industrial water use were set at a higher value than for residential use (Sadr 2001: 110).

On January 16, 1979, the Shah left Iran. Then, after a landslide victory in a national referendum on 1 April, Ayatollah Khomeini declared an Islamic republic with a new Constitution reflecting his ideals of Islamic government. Subsequently, many demonstrations were held in protest to the new rules, like extreme regulations on women's code of dress. In 1980, Abolhassan Beni Sadr was elected for president who was then removed from power by Ayatollah Khomeini in June 1981. The major event during the presidency of Abolhassan Beni Sadr was the start of war with Iraq. On September 22, Iraq massively invaded Iran, in the belief that Iran has too weak of a military to fight back. Although Iraq could not win the war, they supposedly weakened the Iranian army achieved and surprising defensive success. The war continued until August 1988, making it the 20th century's longest conventional war. In a nutshell, the priority for the Iranian authorities after the revolution and until the end of war was to stabilize the country and stop an Iraq invasion. That said, all resources were allocated to achieve these purposes, hence environmental and energy
use policies were not taken seriously.

After the Iran-Iraq war, while political leadership frequently changed, the provision of household water for the major metropolitan centres remained a constant through the construction of dams. Regarding the infrastructure provision for water management a feasible solution appears to have been reached with large projects for the provision and preservation of water done by the public sector, while transfer and distribution of water is undertaken by the private sector. McLachlan claims that although Islamic law has theatrically governed all water law under both the monarchy and at least the early part of the Islamic Republic of Iran the reality was somewhat different (McLachlan 1988:71). Lambton (1981: 283-288) argues that traditional customary practices -which dated back to pre-Islamic times-were accepted following Islamic control of a region, partly because Islamic civilization were mainly urban-based and less concerned with the details of agricultural activities. The interpretation of Islamic Law has been broad enough to permit the continued private ownership of water (ancient customary law) to coexist alongside the general concept of water as a public good. The idea of selling shares in water has been long established in Iran (Gopalakrishnan et al., 2005: 141). The significance of customary law was recognised by the state in the Civil Code adopted by Reza Shah (McLachlan 1988, p. 72). In effect, customary laws were accepted as applying in all cases where no new legislative provision had been made.

The election of Ali-Akbar Hashemi Rafsanjani to presidency in 1989, initiated what his political allies would label as the ‘Constructivity Period’ (1989-97). At this time funding was dedicated to economic and industrial projects, including those in water resource management and dam construction, to the extent that Rafsanjani assumed the unofficial title of the ‘commander of dam building’ (sardar-e sad sazi). The diversion tunnel of Sivand Dam (constructed by Sabir Consultants) and the construction of the dam’s embankment (by Pars-Garma Civil and Industrial Company) began in 1992, during his administration. The diversion tunnel was finished in 1995.

During the next eight years between 1997 and 2005, under the reformist era of President Seyyed Mohammad Khatami’s administration, the broad policies of the
previous administration were kept in place. In this period, the most important dams of the country, including Masjed Solaiman, Karkhe and Karoun3 dams became operational with much advertisement and propaganda. The construction of Sivand Dam, which had begun in 1922, continued with a slow but consistent pace. It was the center of worldwide concern because of the flooding it would cause in historical and archaeologically rich areas of Ancient Persia and possible harm it may cause to the nearby UNESCO World Heritage Sites of Persepolis and Pasargadae (Mousavi, 2005).

In 2005 Mahmoud Ahmadinejad won the presidential election. His election to office coincided with the start of a wave of protests opposing the construction of Sivand Dam. A raft of criticisms was formed in the official media, citizen media and various NGOs of the performance of his Energy Ministry and of Esfandiar Rahim Mashaei, his political ally, vice president and head of Iranian Cultural Heritage Handicrafts and Tourism Organization (ICHHTO) at the time (Mozaffari, 2016, p.232). Yet, 18 months after his election, in April 2007 when the cabinet travelled to the Fars Province, the decree was issued for inundation of the dam. In 2009, almost three years after the inundation, the construction work of Sivand Dam finished.