Negotiating Gender Roles

Qanats and Women's Resistance in Rural Iranian Desert Communities

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List of Abbreviations

Abbreviation	Meaning
ACSWC	Annual Congress of Soil and Water Conservation
BCE	Before the Common Era
CE	Common Era
Ed	editor
Eds	editors
e.g.	exempli gratia (for example)
et al.	et alii (and others)
ICSDA	International Congress of Developing Agriculture, Natural Resources, Environment and Tourism
Ibid.	ibidem (in the same place)
ICQHS	International UNESCO Centre for Qanats and Historic Hydraulic Structures
ISNA	Iranian Students' News Agency
IMF	International Monetary Fund
JMEWS	Middle Eastern Women's Studies Journal
lit	literal/literally
P	page
Pp	pages
Mr	Mister
NGO	Non-governmental Organization
UNESCO	United Nations Educational, Scientific and Cultural Organization
WTTC	Women's Teacher Training College

1. Structure and content of thesis

This work derives from feminist political ecology, Middle Eastern feminist theory, decolonial theory and feminist studies to form an interdisciplinary approach of a decolonial feminist political ecology. Through that theoretical lens, this work builds an understanding of the macro-context of Iran by historically interrelating global and domestic political and economic events and the meaning of these events for Iran's female population. Further, this work historically reasons how foreign and domestic economics and politics shaped water mismanagement to discuss its effects on qanat-based community life. Simultaneously, ways of communing within qanat-based communities and the nature of their perseverance are introduced.

As a Western academic and person of colour with Iranian socialization in Germany, since my childhood, I have been repeatedly confronted with oversimplifications, false assumptions, a lack of historical perspective and stereotyped representations of Iran. Events such as publications of fictive books on Iran, the 1979 Revolution, 9-11, increased activities of Islamist extremist groups and a worldwide European and US-centric media coverage have created a general anti-Middle East aversion and hatred. Further, existing literature (e.g. Bayat, 2010; Bahramitash & Hooglund, 2011; Rawly & Alamy, 2019) generally portrays Iranian women and the Iranian society as Muslim, although the Iranian people consist of diverse groups of different religions, ideologies, social classes, ethnicities, sexualities, and politicisation. I thus made two structural decisions concerning this thesis that reflect theoretical feminist approaches: Firstly, the objective is to provide an extensive background on historical, political and ecological events from a decolonial feminist political ecology perspective. Secondly, I chose to write this work in English to reach broader audiences beyond the German- speaking region.

The holistic background reveals women's work circumstances and feminist political activism and events, which eventually led to the 1979 Revolution and the establishment of a patriarchal theocratic state system in Iran. The decolonial feminist political ecology lens and the historical pooling of events enables a contextual reading on developments that shaped the society and affected the lives of women in the state. The rural contexts of the study are then embedded within this background. As proposed by feminist theory, this generates a multi-angled ground for the extensive comprehension of the complex intersectional processes of female resistances in two qanat-based desert communities in the Iranian Highlands. Women's stories and experiences with socially and politically structured inequities in rural qanat-based communities are recorded and their knowledge on resistances from within a multi-layered patriarchal context situated in extreme climate conditions are discussed.

Besides the economic function of qanats and water availability, the cultural and social influence of qanats on communities, particularly on women, are approached. Current relations between local populations and politicians in a context of natural resource exploitation by the state and private investors, as well as effects of heavy embargoes by foreign governments, are discussed. While interrelating global and domestic politics and economics within the reality of colonialism and Orientalism, in which femaleness is marginalised by hegemonic maleness are revealed. Light is shed on the reproduction of such power structures, both from a historical macro perspective and at the level of micro-power structures, to disclose the correlation of such resistances in a context of an economy built on qanat-based agriculture.

The recent U.S. embargoes on Iran in relation to the nuclear deal have made Iran's aim of self-sufficiency even more necessary. The increase in sustainable agriculture and manufacturing is draining the state's water resources, making self-sufficient production increasingly elusive. Iran's groundwater provides more than 55 percent of the state's water demands, and around ninety percent is used for agricultural purposes (Snyder, 2019). Yet farmers do not have sufficient water and are forced to migrate to urban areas (Khatibi and Arjjumend, 2019; Madani et al., 2016; Shahi, 2019; Yazdanpanah and Hayati, 2013) or abroad (Brussles International Center, 2019). Additionally, inefficient water management, which is applied to meet the increasing domestic and industrial water demands of the growing urban population, leads to water diversion projects. In these projects, the flow of surface water sources is diverted to cities, reducing access for already threatened local agricultural communities. Continuously deteriorating rural water resources reduce ecological resilience for economic and consequently political stability, which creates social disparities and social stress. Social stress affects people all over the state. One major group is desert communities, which employ qanats as their main water supply systems.

The qanat tunnel is the key structure of an approximately 2,600-year-old underground water supply system, and transports water from under the feet of mountains to lower settlements by gravity for consumption, irrigation, and hygiene. Locations for their construction under the feet of mountains are chosen by vegetation and soil as indicators of existing groundwater. The qanat consists of one horizontal tunnel and numerous vertical shafts at intervals of 20 to 200 meters. The longest vertical shaft, the motherwell is dug first to tap the groundwater aquifer and to partly fill with water. The height of water in the mother well is also an indicator for the groundwater table in the area. The horizontal tunnel is dug from the settlement to the motherwell and enters the motherwell at the depth of the groundwater level. It is 90 to 150 m high with a width less than half the height and can be as long as 100 km (ICQHS, 2020).

During and after construction, the shafts function as ventilators, light supply, tunnel access point and as positions to remove excavated material from the tunnel.

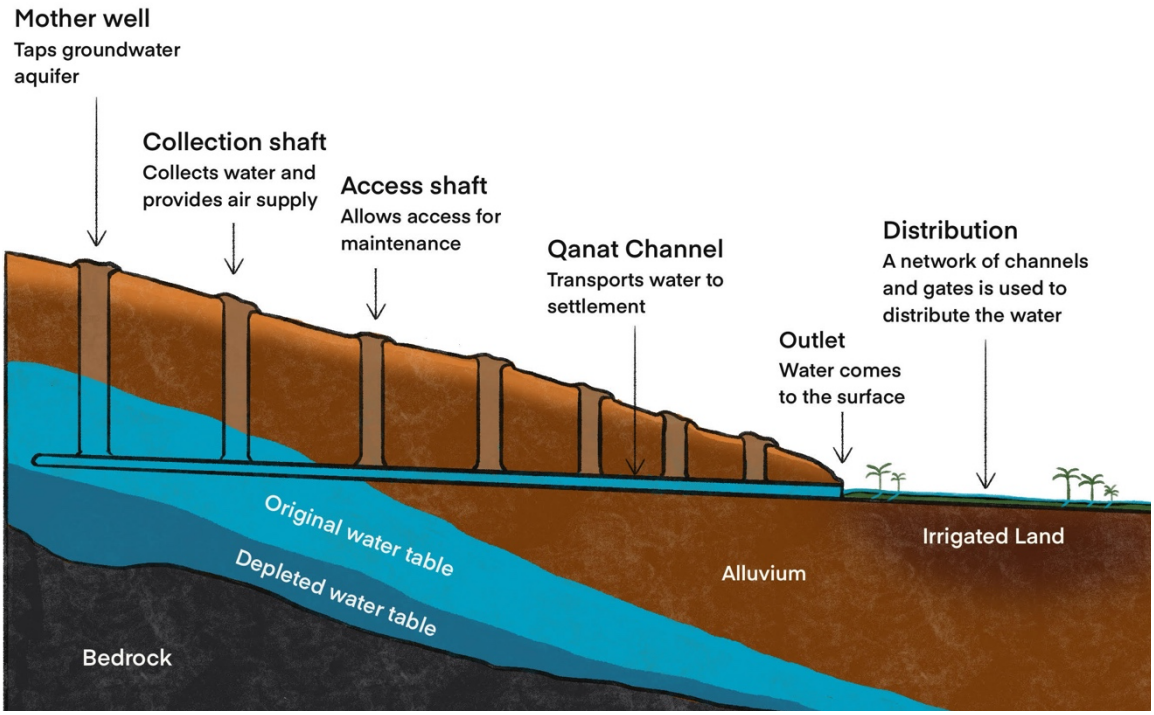

Fig.1: Sketch of qanat cross section

The arid to semi-arid climate of the Iranian Highlands makes sensitive water management and collectively practiced qanat-based agriculture through systematic cooperation significant factors for survival. Centuries-long commoning with systems of responsibility and task division among community members co-shapes knowledge and culture in areas with qanats. This has allowed for rural communities to stay intact within environments of natural, political or economic hazards. Qanats began to be threatened during the 1960s, when the reasons for intense resource exploitation differed under the Pahlavi rule. Striving for global market competitiveness and adapting the industry and trade to Western standards, deep wells and pumped water became a major economic resource for the state. Increased water demand began to deplete and replace the qanats. The increased construction of deep wells all over Iran is associated with the marked decline of groundwater levels, which in turn is linked with an increased incidence of drought, dry qanats, water salinity and rainwater floods. Today, the qanats provide ten percent of Iran's water needs. Yet, as a core of qanat-based settlement, Iran today is greatly affected by the decline of qanat numbers and the deterioration of qanat culture. The reduction of qanat-based agriculture causes changes within social, economic and political rural structures (Labbaf Khaneiki & Nouhpisheh, 2005; Lightfoot, 1996; Semsar Yazdi & Labbaf Khaneiki, 2013; Wessels, 2009). Current science has acknowledged the maintenance of qanats as a major suitable water supply solution for

irrigation. Proposals to save a further loss of qanats and to re-establish their agricultural role are increasing within academia, yet these are being widely ignored, particularly in the political realm. Rural communities are fighting to maintain their qanats as groundwater supplies.

Groundwater as a natural resource belongs to common goods, which are defined as not owned by any private individual and used collectively by one or several communities for the collective welfare (Gaur et al., 2018). Common pool resource theory underlines that if the users of the common are left without any external authoritarian influence, they develop diverse institutional arrangements to regulate use of the resource (Ostrom, 1999; Ostrom et al., 1993, 2009). They collaborate to generate a fair distribution amongst all, while avoiding the collapse of their resource base (Ostrom et al. 1993). Natural resource management, which does not actively incorporate the users of the local resources, will ultimately fail (Bromley & Cernea, 1989). Thus, for decades scholars (e.g. Bromley & Cernea, 1989; Federici, 2019; Ostrom, 1999; Ostrom et al., 1993, 2009) urge public policy to gain a better understanding of self-regulating cooperative actions, instead of creating institutionalised standard solutions for individual local problems of collective property.

Fig.2: Qanat Shaft accesses underpassing a street, 2016

Fig.3: Qanat in settlement, 2016

Simultaneously, feminist political ecology examines the relations between vulnerable waterscapes, gender and global environmental change. The field underlines normative gender discourses and their impact on rural and urban water mismanagement. In focus are the impact of recent political and ecological climate contexts and their interlinkage with changing demands for water resources, and how these affect livelihoods and existing equalities (Buechler and Hanson, 2015). Feminist political ecology suggests that due to the use of environment by gendered labour patterns, some environmental deterioration has stronger impacts on women (Rocheleau et al., 1996). The study field aims to explore

women's local struggles to overcome inequalities and environmental degradation. The analysis of given power relations can bring to light what possibilities of resistance against suppressing economic and political power structures exist for disadvantaged groups at local levels. Destructive utilisation by a dominant group of commoners and the resulting degradation of common resources causes decreases in income for other users. As a solution, feminist political ecology coincides with common pool resource scholars and qanat experts, who suggest an integrated water resource management involving working class people in decision-making processes for collaborative resource management by all commoners and the government (Wulandari et al., 2018).

The concept of Integrated Water Resource Management has become a global principle, which also promotes the necessity of holistic solutions for a fair resource use between all stakeholders and areas of application in order to maximise economic and social welfare while protecting the functioning ecosystems (Agrawal, 2000; UN-Water, 2008). Concerning the competing areas of water distribution, for example, for supply, agriculture, sanitation, industry and energy generation, the international community agreed on the four Dublin Principles of Integrated Water Resource Management: 1) Fresh water is a finite and vulnerable resource, essential to sustain life, development and the environment. 2) Water development and management should be based on a participatory approach, involving users, planners and policy-makers at all levels. 3) Women play a central part in the provision, management and safeguarding of water. 4) Water has an economic value in all its competing uses and should be recognised as an economic good (The Dublin Statement on Water and Sustainable Development, 1992). According to principles of Integrated Water Resource Management, the fact that every policy, program or project affects women and men differently, must explicitly be recognised and gender must be part of the overall policy framework for the optimisation of adequate water management solutions. The field considers as essential that women must have an equal role in management, problem analysis and in the decision-making processes. This can be supported through community organisations and institutions and by establishing participatory capacity (Global water partnership, 2012). Feminist political ecology proposes that a revitalisation of common property resources is crucial for protecting livelihoods and women's bodies (Hartcourt, 2017; Hartcourt and Escobar, 2005; Sato and Soto Alarcon, 2019) and to improve conditions in arid micro-climatic locations (Gaur et al. 2018). These theoretical approaches serve as support for the study of qanat-based communities and their social and economic well-being.

The decay of qanats is treated from a social science perspective by very few authors (e.g. Papoli Yazdi, 2010). No deeper insights exist about the economic and social weakening of rural qanat-based populations by environmental degradation. The linkages of experiences and knowledge of women's

bodies with their environments and access to resources vary with geographic circumstances. Integrated women's perspectives on resource access within patriarchal communities inside Iran are lacking. Iranian women are generally under-represented in scientific feminist literature. Further, existing feminist literature on Iran places urban women in the focus of attention. Women in rural areas with individual ecological settings, as continuous actors of economic events and political struggles, are often not addressed. As farmers and producers of diverse food and non-food products for both self-sufficiency and trade, women have been indispensable economic players in Iran. Activist women have helped to transform culture and politics during different eras in Iranian history. Feminist literature on the Middle East displays that throughout women's resistances in Iranian history, they have learned to deal with patriarchal and patrimonial political systems, whether secular or religious (Alikarimi, 2019; Bayat, 2013; Moallem, 2005; Geytanchi and Moghadam, 2014; Rostami-Povey, 2016; Tohidi, 2016). They found strategies to circumvent rules and regulations with their own forms of resistance, "to refine and redefine their womanhood" (Kashani-Sabet, 2005: 46). According to the respective economic and political circumstances, woman alternately embraced and challenged new government rules imposed on them. The existence of women's movements in Iran is contested, denied and labelled as Western influence by conservative clerics (Kashani-Sabet, 2005). Intellectual discourses and collective activism on equal gender rights are opposing a deeply anchored conservative state system steered by "white bearded", turban-wearing men. However, as part of ongoing global feminist struggles, particularly with a view from the global south, Iranian women, despite the patriarchal theocratic regime, have achieved a relatively strong position in the society.

Yet, to date, women not only had to resist the patriarchist theocracy of the Iranian regime but were also affected by developments during and as a consequence of Iran's occupation by foreign powers. Even though Iran was never a direct political colony of an imperialist power, the repeated Anglo- Soviet occupation of Iran, the interference of U.S. administrations in Iranian politics, the exploitation of its resources and the created roles of the Iranian worker and the Western occupier had significant impacts on the Iranian economy, history, culture and language, particularly in the South of Iran, which continue to the present. When Iranian elites started seeing themselves as the other through the lens of Europeans during the first occupation at the end of the Qajar era (1794-1925) (Moallem 2005), a secular nationalism began to develop, in which orientalist roles of gender, race and sexuality were reproduced (ibid). Resulting from the Qajar's (and later the Pahlavis') desire for European modernity, colonial relations were established (ibid). Iranian imports and exports were affected and controlled by European standards and requirements (ibid). With the aim of keeping up with the global competition from British

colonies and due to an increased demand for carpets, Persian carpet production was enhanced (ibid). From a luxury item representing "Persianness", they became a commodity with orientalist meaning and a mass product. Scholars state that orientalist commodities (Moallem, 2008) such as the Persian carpet or orientalist literature (Tavakoli-Targhi, 2001) function to characterise the Orient and the Occident as opposing, with clear boundaries of differences in culture and civilisation between East and West, the primitive and the modern. The commodification of the Persian carpet goes along with the "transnationalization of exploitive labour" (74), which naturalised and exploited female labour and eroticises and feminises poverty to characterise the carpets as exotic. The portrayal of the female workers as primitive and oppressed in a patriarchal religious culture, which needs to be developed and saved by the Western consumer, created aesthetic value by media and the market. Further, gender roles were reproduced through the male *bazari* (bazar merchants) elite controlling the carpet business and the female weavers (ibid). As carpet weavers and patte embroiderers, the women of both communities, who participated in this work, are commodity producers. Accordingly, they have their own stories to tell about the commodification of Iranian carpets and handicraft or the cooperation with bazaris.

Besides the frequently inaccurate picture of people from "Muslim" contexts by the West, existing literature (e.g. Bayat, 2010; Bahramitash & Hooglund, 2011; Rawly & Alamy, 2019) still generally portrays Iranian women and the Iranian society as Muslim, although the Iranian people consist of diverse groups of different religions, ideologies, social classes, ethnicities, sexualities, and politicisation. Thus, Iranian communities cannot be only Muslim and Iranian women's realities are different from the relativizing and essentializing portrait of one general Muslim entity of oppressed victims. Middle Eastern feminist studies reject such portrait of the Middle Eastern woman (e.g. Abu- Lughod, Moallem, Moghaddam, Najmabadi, Kashani-Sabet). In parallel, feminist political ecology explores bottom-up strategies and counteractions against suppressing economic and political power structures by marginalised groups from local levels (Rocheleau et al., 1996). The historical and political summary serves as foundation to concerned female contexts in the Middle East.

Decolonial theory generally contests a "capitalist/patriarchal/western-centric/Christian-centric/ modern/ colonial world-system" (Grosfoguel, 2011: 13), which continues to categorise people by class, gender, race and religion in order to promote its power structures. Instead, a construction of epistemologies from the south is demanded and struggles of women are seen as active resistance and not as situations, in which women play the role of passive victims. Marginalised groups in general are placed in the centre of social and environmental discussions with the aim of opening discourses for local alternatives to dominant Western approaches. The 'oppressive logic' of 'colonial modernity' with regard

to race, gender and sexuality (Lugones, 2010: 743) is criticised. In this manner, feminist political ecologists are aiming for a more nuanced understanding of the entanglement of racialised and gendered power (Rocheleau et al. 1996). Regarding the historical and political context of women in Iran, the decolonial perspective is necessary in this work and helps me to reflect my words and actions during the process of study and writing.

Interlinking the standpoints of the presented theoretical approaches, I reason that a feminist political ecology from a decolonial perspective aims to deconstruct the othering of non-Westerners historically by revealing existing epistemologies and resistances from feminist contexts of the global south to create new knowledge from the global south to the global north. The global south includes all non-western contexts, comprising Central and South America, Africa and Asia, as well as indigenous people of North America, Canada, New Zealand and Australia. In order to understand the multifaceted intersectional struggles of women against existing power structures, it is necessary to look at them through a lens which is clear of a universality of European and male hegemonic world views. In this manner, struggles of local women must be seen within the reality of a world history of colonialism and imperialism. Thus, the Iranian context is implicit. The struggles of Iranian women against given power structures inside the political and social spectrum of changing gender relations within steadily transforming ecological and economic circumstances represent decolonial resistances.

In order to contribute to the debate of gender-related power struggles by widening the angle of examination through the lens of decolonial feminist political ecology theory, the goal of this study is to obtain a thorough understanding of the contextual perspectives and knowledge of rural women in qanat-based farming communities in the resource-scarce environments of the central Iranian deserts. Iranian rural women as producers of food and commodity products, farmers and as participants of social movements generally, possess experiences of immense value for Middle Eastern feminist studies and for decolonial studies. I assume that as major actors of qanat-based communities and as commodity producers, women are confronted with structural transformations, by which they are affected in other ways than men, which presumably creates different forms and multiple layers of resistance from their side. Further, women in these environments, who produce commodities such as carpets and *patte* (embroidery handicraft from Kerman Province) can share detailed, historical perceptions of such transformations and multi-layered structural power mechanisms, which they face in their communities. Accordingly, these women from qanat-based contexts carry important knowledge, which represent a vital learning realm for decolonial feminist political ecology research in the Middle Eastern context.

By revealing women's everyday experiences and resistances, which face patriarchal theocracy, social restrictions and exploitation, the aim in particular is, to learn about the nature of feminist resistances in a context of extreme climatic conditions, based on qanat irrigation. Two rural qanat-based farming communities in the provinces of Yazd and Kerman on the Iranian Central Plateau. which had captured my interest, allowed me to stay with them and to learn from them. Women from the ages of 15 to 85 are the main group of participants, and secondly, male participants from the same age range. The majority of female participants produce carpets or patte and products woven from straw. In the chosen contexts, I found answers to the following theoretical research questions:

How are epistemologies and resistances from rural Iranian feminist contexts of extreme resource scarcity shaped? How are these embedded in the history of colonialism and imperialism? How do these add to decolonial feminist political ecology theory?

By answering the questions below:

1) What role does the qanat play in the lives of the rural communities?
2) To what extent does the decrease of qanat water affect rural women economically and socially?
3) How are these transformations embedded within power structures and geopolitics?
4) To what extent do rural Iranian women in desert communities see themselves confronted with inequalities in their everyday lives?
5) To what extent do women resist ecological, economic and social inequities?
6) How is the qanat relevant
7) How far is religion relevant?

In the following chapter, I present the theoretical basis of this work by discussing decolonial feminist political ecology as the main study field, and its intersection with Middle Eastern feminist studies.

2. Theoretical and conceptual framework – decolonial feminist political ecology

The theoretical framework of this thesis is feminist political ecology theory from a decolonial standpoint, with the addition of feminist theory. The historical non-existence of women's struggles and achievements has long been produced by global silencing of the significance of women's labour and networking, and their action against inequalities. Few sources in the literature provide perspectives on the issues of women, work and resistance in world history. Female labour and resistance continuously adapt themselves as a result of changing local and world politics, transforming modes of production and

consumption as well as deteriorating ecological environments. Accordingly, in this chapter, I present the literature review beginning with a synopsis of feminist political ecology.

2.1. Feminist political ecology

Feminist political ecology examines the concept of gender in the landscape of political ecology (Hovorka, 2006). The field draws on theories from post-structuralism, cultural ecology and feminist geography. It takes up with the work of Bina Agarwal, who applies interdisciplinary approaches to the interrelation of gender, property rights and inequality, stressing that the "gender gap in command over property" affects the situation of women the most (Agarwal, 1994: 576). Feminist political ecology distances itself from eco-feminist trends, which see the interconnectedness of all life stemming from spiritual and biological factors. Instead, the approach investigates effective political and economic power mechanisms that occur in all levels of the interrelation between humans and the environment (Rocheleau et al., 1996). Rocheleau, Thomas-Slayter and Wangari (1996) laid the foundation for the field. They combine a feminist perspective with the analysis of ecological, economic and political power relations in one frame. Gender is not seen as a social variable beside class, ethnicity, race and others, in relation with power over resource access and control. The field builds on identity, difference and pluralities of context within environmental struggles and change. In this way, intersectional variables that shape constructed marginalizing factors as determinants of the control over resources are analysed. Drawing on Simone de Beauvoir (1949) and Judith Butler (1990), gender differences are not considered to be biologically rooted, but rather to derive from socially constructed gender roles, which vary depending on context (culture, class, race, geographical location) and change over time between individuals and societies. The authors explain that the use of environment and labour patterns is gendered, and that some environmental deterioration has stronger impacts on women (Rocheleau et al., 1996). The poorer her social position, the stronger the effects of environmental degradation (Agarwal, 1994; Mies & Shiva, 1995; Rocheleau et al., 1996; Shiva, 1989).

The pluralities of context that Rocheleau et al. (1996) discuss are particularly subject to intersectional theory or intersectionality, which arose in sociological discourse with the multiracial feminist movement in the early 1970s (Thompson, 2002): Women of colour criticised radical feminism led by white middle-class women, opposing the idea that women are one homogenous group with monotonous, universal experiences. They argue that white middle-class women experience different forms of oppression than black, poor or disabled women, and therefore cannot represent all women within the feminist movement. Feminists of colour aimed to understand how systemic injustice and social inequality appear on a

multidimensional basis, and bring to light how gender, race and class in combination determine women's lives (Davis, 1983; El Saadawi, 1983; hooks, 1990; Lorde, 1968). Intersectional theory (Crenshaw, 1989) looks at social identities that exist in one person and that overlap. The multiple forms of discrimination, domination and oppression that an individual experiences due to these overlapping identities are investigated. These intersecting social identities involve gender, race, ethnicity, nationality, class, sexual orientation, religion, forms of disabilities and illnesses. In social discourses, intersectional identities are generally not addressed and often come with their own instances of oppression, domination and discrimination. Laws, policies (Crenshaw, 1991), or public discussions, for example, map one form of marginalised identity, instead of a multiple intersection of these.

Feminist political ecology aims to understand gender dimensions of such resistances and hegemonic struggles, concentrating on material and discursive practices of gender-based labour division (Elmhirst, 2011). The research field explores bottom-up strategies in women's struggle to overcome inequalities and environmental degradation. The analysis of these power relations brings to light which group is disadvantaged and what possibilities of counteraction against suppressing economic and political power structures remain for marginalised groups at local levels. Such an analysis of power relations, for example, makes ideas of womanhood and manhood more nuanced. It investigates how this marginalizing is reproduced by institutions, ideologies or religious and cultural practices (Brooks, 2006). Thereby, feminist political ecology is not restricted to the analysis of gender, but the body as the main focus of research (Sultana, 2011; Truelove, 2011). The field criticises the simplification of complex development concerns in the global south, which may lead to ineffective projects by the global north (Roberta Hawkins, 2012). It is critical of the neo-liberalisation of universities, which encourages a white, masculine, middle-class anglocentric notion of what it means to be productive during PhD programs, and thereby reinforces privilege according to gender, race and national privilege (Hawkins et al., 2014). Alternatives to unrealistic standard expectations through feminist collective action slow scholarship and ethics of care are explored (Bauhardt and Harcourt, 2019, Mountz et al., 2015).

The relationship between humans and the environment in the chosen context plays a significant role for the qanat-based communities, who supported this work. The main actors, the rural women, allowed me to learn about their perspectives on hegemonic struggles in connection to the gender- based labour division, resource control and politics. This work reveals local counteractions against existing suppressing economic, political and ecological power relations. The aim is to offer an alternative viewpoint on the continuing marginalisation of femaleness by maleness, and its legitimisation by institutions. The groups of women in this study are neither middle class nor urban. As a rare group in

considerations of feminist theory, their knowledge can widen the perspective of feminist political ecology theory. Among the pluralities of context within environmental transformation and struggle, the rural women from the chosen southern contexts help to provide knowledge and normativities from the global south to the north and from the Middle East to the west.

2.2. Decolonial feminist political ecology

Feminist political ecology examines grassroots strategies in women's struggles to overcome gender inequalities and environmental degradation and explores their resistances against suppressive economic and political power structures at local levels. It thus criticises neoliberal, Eurocentric notions and the simplification of complex concerns in the global south. Global and domestic political power structures interrelate with colonialism and imperialism. The two rural global southern communities, which helped implement this work, are affected by colonialism and imperialism, discussed in Chapter 4. The knowledge of the women's bodies offers new non-Eurocentric perspectives as a contribution to feminist political ecology theory. I argue that the decolonial lens is essential for the conceptual application of a reasonable feminist political ecology to these contexts, and so I include a literature review of decolonial theory.

While exploring power mechanisms and the interrelation of nature and culture in the globalised world, feminist political ecology aims to recognise local knowledge and to deconstruct and rethink normalised rationalities. The approach of deconstruction founded by Jacques Derrida (1976), among others, demands breaking down something into its essence in order to understand that its meaning can be understood in different ways by each person Accordingly, looking at the suppression of women, Bina Agarwal began criticizing eco-feminist trends in the 1990s, stressing that it cannot be understood through Western ideologies and perspectives. For a better understanding, contextual investigations are required, in which women's everyday interactions with their environment are shaped by historic-materialistic circumstances of politics and economy (Agarwal, 1994). On the one hand, decolonial theory draws on Bina Agarwal and post-colonial thinkers such as Frantz Fanon (1925–1961) and Edward Said (1935–2003), whose theories were based in India and Palestine as consequences of 18th century Europe enlightenment (Mignolo, 2011). On the other hand, decolonial theory is historically and politically based on the colonisation of America and the European Renaissance, the author explained. Both theories, having emerged in different geographical, social and historical contexts, criticise colonial rule and the othering of non-Western contexts. Decolonial thinking particularly originates with Latin American scholars, such as Arturo Escobar, Walter Mignolo, Ramon Grosfoguel, Gloria Anzaldua,

Eduardo Gudynas and Enrique Dussel. While decolonial theory is influenced by post-colonial thinking, the difference between the two theories is that decolonial theory underlines the fact that 'coloniality of power' has not ended with colonialism (Quijano, 2000). Further, decolonial theory criticises post-colonial theory for being rooted in a Cartesian dualism that creates a binary opposition between discourse/economy and subject/structure. The argument is that culture and political economy cannot be seen as stemming from each other, but are interlinked (Castro-Gomez, 2007). Therefore, some decolonial thinkers even suggest decolonizing post-colonialism (ibid, 2007). Decolonial theory contests a "capitalist/patriarchal/western-centric/Christian-centric/modern/ colonialworld-system (Grosfoguel, 2011: 13), which continues to categorise people by class, gender, race and religion in order to promote its power structures. Decolonial theory therefore demands a transformation of Eurocentric epistemologies, stressing the importance of the production of knowledge in different, local geopolitical contexts. By giving bodily experiences involved in the production of knowledge a central place, proponents of decolonial theory support a serious rethink of social sciences and methods. Therefore, a "transformation" of the existing hierarchies (Grosfoguel, 2007: 9) within the "historical- structural heterogenous totality called the 'colonial power matrix'" is proposed (ibid, 2011: 13). Decolonial theory places marginalised groups in the centre of social and environmental discussions and opens discourses for local contextualised alternatives to dominant Western development approaches. Accordingly, international development projects often replace colonialism and cultural imperialism by aiming for the construction of the "underdeveloped third world", referring to Central and South America, Africa and Asia.

In order to deconstruct the universal application of colonial thinking, a perception of the momentous complex processes is necessary, which engulfs contexts (Escobar, 2008). In Central and South America, decolonial discourses and movements in that regard enabled indigenous peoples to co- decide political issues as discourse-leading actors. In Ecuador and Bolivia, for example, requests of indigenous people reached constitutional status (Gudynas, 2011). Tuhiwai Smith, the leading theorist on decolonisation of Māori in New Zealand in her book *Decolonizing Methodologies* (1999) analyses impacts of Western scholarly research on colonialisation and indigenous cultures. Maldonado-Torres, in the fields of Latino and Caribbean studies and comparative literature, deals with decolonializing struggles and the coloniality of power, thematizing Latin-American responses to neoliberal globalisation and war (2008), as well as the political relevance of various contexts in which decolonial thought is being developed (2011). Villalba (2013) deals with alternative development and alternatives to development from Latin-American indigenous perspectives. Alberto Acosta (2014) analyses how cultural and historic differences

intersect with views on power, knowledge and capital in critical realities of people from multilingual contexts.

In this manner, feminist political ecologists are aiming for a more nuanced understanding of the entanglement of racialised and gendered power, as was suggested in the early years of feminist political ecology by Rocheleau et al. (1996). Lugones, feminist philosopher and author of *Decolonial Feminism* (2010), criticises the use of hierarchical dichotomies and categorical logic, in which only homogenised categories such as 'women' or 'black' exist. The author describes this as the 'oppressive logic' of 'colonial modernity' with regard to race, gender and sexuality (Lugones: 743). Mollet and Faria (2013) criticise feminist political ecology for keeping the mutual constitution of gender and race "understudied and on the margins". The authors argue that people of the global south do not live in different worlds or contexts from western scholars, but that the racist structures and inequalities by which southern lives are shaped, at the same time shape western lives. People of the global south are subject to racialised and gendered relationships of power. Therefore, Mollet and Faria argue that race, in a global context, cannot be dismissed, and context is shaped by the colonial aftermath. As feminist political ecology focuses on context, it has to pay attention to racist power structures in the realm of environmental politics, which may open a more critical analysis of control, distribution and access to natural resources in relation to marginalisation mechanisms. Further, feminist political ecology research has recently shifted away from women's vulnerabilities and the silencing of gendered and subaltern knowledges to underline the significance of social movements, women's embodied practices, collaborative action and evolving social and environmental movements (Buechler & Hanson, 2015). Drawing on Lugones' concept of gender coloniality, Mendoza (2016) views anticolonial feminist theories in relation to the schools of anticolonial thinking, postcolonial and decolonial theory, which analyse the power relations between the colonisers and the colonised. Mendoza compares theoretical arguments with political projects in relation with intersectionality, post- and decolonial feminism. Recently, feminist political ecology scholars increasingly position themselves as politicised feminists in their research, which is reflected in their analysis and writing (Harcourt and Nelson, 2015). Feminist political ecology criticises western approaches and underlines the necessity to recognise other epistemologies pointing to decoloniality, and to rethink identities and dualisms (ibid). The aim of feminist political ecology generally is to challenge hegemonic masculinist epistemologies by research in the global south to reproduce knowledge in higher education of the global north (Harcourt, 2019). Intersectional feminist political ecological resistances with a decolonial approach aim to understand structural linkages between continuing realities of coloniality, which produce violent land loss, disembodiment and deworlding, with social practices and

institutions of decolonial resistance (Nirmal, 2017). In the two villages, which participated in this study, people lose their arable lands due to water scarcity caused by poor governmental resource management, the influence of occupying powers and power structures deriving from land ownership.

Together, both decolonial theory and feminist political ecology demand putting aside the notion of a universality of European and male hegemonic world views, and instead allow for the construction of epistemologies from the south, that is all non-western contexts, comprising Central and South America, Africa and Asia, as well as indigenous people of North America, Canada, New Zealand and Australia. Thus, the Iranian context is implicit. Even though Iran was never a direct political colony of an imperialist power, the repeated Anglo-Soviet occupation of Iran and the interference of U.S. administrations in Iranian politics had significant impacts on the Iranian economy, history, culture and language. This will be discussed further in Chapter 4. These events impacted economy, history, culture and language in parts of the state up to the present. Additionally, events in modern history, which are related to Islamism and US-centric media affect people from "Muslim" contexts in the west. Within such reality, people, who are read as Muslims, continuously get into the position where they must deconstruct western abstract ideas on the respective contexts, particularly the Middle East. That includes Iranians, which in turn involves my personal history and everyday life in the diaspora as well. A feminist political ecology from a decolonial perspective aims to historically deconstruct such othering and simplifications by revealing existing epistemologies from feminist contexts of the global south in order to create a new knowledge flow to the global north. Accordingly, this work aims to produce this kind of knowledge from resource-scarce desert environments of the global south.

The next chapter deals with critical feminist theories relevant for this work.

2.3. Feminist theory on female labour, gendered spaces and women's activism

In the Iranian context, throughout history, women participated in the economy, yet mostly in informal work. Both in the private and public spheres a gender-based labour division was generally implemented. Dependent on the governmental era, additionally a spatial gender division took place. The women commodity producers who participated in this work, are almost entirely occupied in the informal sector. In the two rural communities, they producers play an important role in the village economies and beyond. In part, the women are also farmers. Work is divided according to gender- based tasks: women solely work in their houses and within the villages, while living in resource- scarce environments with male hegemonic structures. Accordingly, this chapter introduces feminist theories on women's work, its contribution to economy, gendered spaces and women's activism against patriarchal structures. The

aim is to build a theoretical background to the rural context of this study.

The historical silencing of women's labour and activism, as well as women's exploitation, is dealt with by feminist scholars from different fields of study. Feminist historian Sheila Rowbotham (1992, 1973), as one of the founders of women's history, asks why women were "hidden from history". Gayatri Spivak (1985), co-founder of post-colonial studies, critiques the fact that marginalised groups within hegemonies are not listened to. She opposes western feminism, which she states, does not consider subaltern women's groups, asking "can the subaltern speak?". She has expanded the field of post-colonial studies by subaltern studies. Silvia Federici (1975) in her argumentation against the general perception that housework is not work, rejects the female role that capital has imposed on women and defined as natural in order to maintain its power. The scholar demands wages for housework even if that means linking it to an acceptance of the capitalist system. Yet, Federici argues, this first step needs to be taken against unequal gender roles, arguing that workers, even if they are manipulated and exploited, at least have their work recognised. In a global analysis of the question "Why housework was not paid" under capitalism (Mies, 1986: vii), Maria Mies coined the term *housewifization* (Mies, 1986: x), the process of tying women to the house and treating them as a fair good by making their work invisible and naturalizing it. Coinciding with Federici's demands, the author criticises the non-recording of women's work in gross domestic product and the definition of paid labour as exclusively masculine, while women's waged work was perceived as supplementary. She argues that women's unpaid work subsidised male wages and contributed to capital accumulation. Influenced by Marxist thought, she criticises the classic Marxist view that women's oppression stems from capitalist systems, which excludes women from productive labour, and which can be overcome by unified activism for employment. The oppression, she argues, is created by a political economy of capitalist patriarchy, which exploits women. Patriarchal exploitation of women's labour and women's bodies is built by gender-based labour, and the exploitation of productive labour is only possible through that of non-productive labour. Thereby, it is not only women's housework and childcare that is exploited, but other forms of women's work as well, for example, in the capitalist production of commodities. Accordingly, women's work is degraded or ignored by being defined as informal, unproductive or as leisure time activity. Women are systematically excluded from productive economic sectors and pushed into less paid, more labour-intense, irregular work in informal sectors such as handicraft production from home or putting-out systems.

Women's disadvantage in the labour market stems from the facts that the disproportionate involvement

of women in non-regular work is increasing (Moghadam, 1998), and that the increase of employment rates through a "feminization of labour" will not benefit women, due to gender-based work segregation and lower wages, as well as the lack of a redistribution of domestic and child-care responsibilities (Moghadam, 1998: 13). From a global context, it is underlined that the tying of women to the house, the "patriarchal gender contract" is not related to Islamic culture but to a cross- cultural affair of gender relations, since the division of labour appears in writings of British historians, who link housewifization with capitalist developments in England (Moghadam, 2003: 1, 1998: 9). The author suggests that education is the key to women gaining access to the labour force and being less vulnerable to poverty. The rise of a skilled female labour force benefits economies, since it will cause growth in national income. To overcome obstacles of non-education and illiteracy, NGOs, according to Moghadam, play a significant role (1998).

Some scholars strictly separate the public and the private spheres. Federici (2004), for example, argues that with industrialisation in Europe by the 19th century, the privatisation of land and the hedging of the commons, people were enclosed physically in the house, which in turn led to social enclosure. People were dissocialised and decollectivized from the community to the family and from the public space to the private space. That separation of public and private spheres has created the sexist division of labour (Federici, 2004) "contributed to work and hiding and rationalising women's exploitation in the family and the home" (Federici, 2019: 4). Yet many scholars oppose drawing a rigid line between the public and private spheres. They suggest that the traditional western liberal demarcation of the two spheres is not a useful lens for understanding dynamics in the society (Suad Joseph, 1997). The boundaries are porous and fluid, and are sites of power struggles, partly due to the centrality of patriarchal kinship structures (ibid). Further, other authors dismiss an opposed public/private binary, in which the private is presented as a sphere of deprivation, and they stand for a more fluid concept (hooks, 1990; Young, 2005). Authors argue that the housewifization processes and gender segregation have created female spheres of collective action. Home can constitute a political site of resistance and a site to construct a self-conscious identity, for example, "historically, African American people believed that the construction of a home place, however fragile and tenuous…had a radical political dimension, one's home place was the site, where one could freely confront the issue of humanisation, where one could resist" (hooks 1990: 42). Instead of an oppressive sphere, Young (2005) underlined that the home and homemaking have a liberating function by pointing to her own experience as a child of a single nonconformist mother in the 1950s.

Instead of focusing on the exclusion of women from the public sphere, Yadav (2010) underlines the

significance of private space, suggesting that it should not be considered separate from the public. In locations which have experienced gender segregation and Islamisation in the public sphere, the private space is viewed as an empowering sphere (ibid). While Islam is often viewed as limiting women and their opportunities for political activism, in fact, Islamisation has been brought about in part through the activism of women (ibid). Future research would have to consider the relationship between the private and the public, and how women can gain increased access through expanding the traditionally private space (ibid).

Alongside loud and visible rebellions, riots, marches, revolutions or other collective confrontational expressions of resistance, the concept of "everyday resistance" (James Scott, 1985) deals with different kinds of resistance. According to this theory, in order to circumvent repressive domination, subaltern groups show certain common behaviour such as foot-dragging, slander, avoidance, or sarcasm. This kind of resistance is quiet and seemingly invisible and becomes part of politics through the everyday life of the subaltern. Subaltern studies, as a post-colonial rewriting of history from India and South Asia, draw on Scott's work (Adnan, 2007; Kelley, 1992; Ludden, 2002; Sivaramakrishnan, 2005; Smyth & Grijns, 1997). The field of everyday resistance has been expanded with views on the effectiveness of resistance (Korovkin, 2000), on resistance in the workspace (Tucker, 1993), on underground resistance that becomes public resistance (Adnan, 2007), on resistance against violence and oppression in the private (McGee, 2017; Wade, 1997) or on queer spaces (Heynen, 2018; Myslik, 1996;). Everyday resistance studies often concern groups such as women, queer people, poorly- educated workers and peasants, migrants and minorities, and the Palestinian situation, but also other fields such as stigma-related resistance (Buseh & Stevens, 2006; Zaijcek & Koski, 2003).

Everyday resistances in the private, the semi-private and the public spheres take place with the aim of circumventing repressive domination of the most different shapes. Looking at women and men in an Egyptian Bedouin community, Lila Abu-Lughod (1998) calls their resistance a practice of "a kind of double resistance", on the one hand against the demands of the elders in a kin-based authoritarian system and on the other hand, inside a Westernised capitalist state (Abu-Lughod, 1998: 52). Dynamics of resistance and power in societies of multiple systems of power need to be understood (Abu-Lughod, 1998) as contemporary notions of liberation, freedom, equality and rights are complex (Abu-Lughod, 2002). Science should move beyond reductionist theories of power and away from the logic that resistance does not mean the fall or partial failure of a system of power (ibid). In various local and everyday resistances, a range of specific strategies and structures of power exist. Women wearing modest Islamic clothing, for example, which resists traditional Islamic dress codes and yet leaves them

unapproachable in terms of morality. Islamic movements are a culturally and historically shaped response within "fields of overlapping and intersecting forms of subjection, whose effects on particularly placed individuals at particular historical moments vary tremendously" (Abu-Lughod, 1998: 53). Abu-Lughod (2002) states that women in Muslim societies are critical of conservative Islamic traditionalism, and simultaneously hold a critical view of dogmatizing Western secular liberalism. The sole association of women's subordination with Islamic ideology is not seen as logical (ibid). Women under authoritarian regimes have different ways of resisting, negotiating, and circumventing gender discrimination (Bayat, 2013). Feminist Middle Eastern studies continue to deepen social and historic research on gender in relation to work, the state, law, religion and feminist movements and modernisation (Lee et al., 2018). Recently, women's relationships with and portrayal in new and old media platforms, social media activism (Eltantawi, 2013) and the impact of digital technologies on different life spheres has been investigated. Social and political change is found to be reflected in women's cyber-activism, their citizen journalism and self-organisation (Geytanchi and Moghadam, 2014) and also addressed as 'silent online revolutions' (Bernardi, 2019). The fifteenth anniversary of the Middle Eastern Women's Studies Journal (JMEWS) in 2019 and its parent organisation, the Middle Eastern Studies Association, founded by Suad Joseph, displays that the field of feminist studies with a focus on the Middle East is young but growing. Yet little written work is to be found on Iranian women, especially on women workers, women's activism, or women's voices and similar issues in Iran, particularly in non-Farsi languages. The number of significant critical authors who deal with politics, social, economic, historic, and psychological views on events in Iran, leave blank the pages on women and work, notably subaltern women (e.g. Bayat, 1989; Dabashi, 2013, 2015; Issawi, 1971; Keddie, 2006; Najmabadi, 2005; Tavakoli-Targhi, 2000). Further, historical studies on women in Iran, mainly begin with the 1905–1911 Constitutional Revolution period, the end of the Qajar Dynasty, except for a small range of literature (Dabashi, 2015; Najmabadi, 2005; Tavakoli-Targhi, 2001). More data exists on post-Constitutional Revolution events such as the Pahlavi era, the 1979 Islamic Revolution and post-revolution events, such as the 1999 student uprising or the beginning of the 2009 green movement. A few authors deal with women workers in Iran in historical reappraisals (Afary, 1996; Afshar, 1996; Bauer, 1983; Moghadam, 1998; Najmabadi, 1998; Paidar, 1995; Povey, 2001, 2015, 2016; Povey & Rostami-Povey, 2010a, 2016; Poya, 1999; Szuppe, 2003).

This work aims to add to the theoretical debate presented above by providing access to knowledge of women from a context which is underrepresented in contemporary literature. Thereby it offers a new, women's perspective on Iran regarding water scarcity, resource access, transformations, equality and gender roles to add to the construction of new epistemologies from the global south in line with

decolonial theory deconstructing Western universality. Since the two rural communities are based on a qanat-based agriculture, which functions by collective action and commoning, it is relevant to understand approaches to collective resource management, introduced in the next chapter.

2.4. Feminist political ecology on collective action and commoning

Qanats do not represent a direct water resource. They are a means of water transport, providing water from a water source. Yet, qanats are often the main water providers for rural communities, which maintain and manage them collectively. In the two rural communities of this study, the qanat plays a major role in the lives of the local communities. One aim of this thesis is to study the relationship between women and the qanats, as well as the power structures in relation to collective qanat management. For this reason, this chapter presents the approaches of feminist political ecology, feminist studies and decolonial theory on collective action and communing.

Common property resources are natural resources which are not owned by any private individual and are used and managed collectively by one or several communities. These resources are used for the common welfare of their stakeholders whose livelihoods depend on them. These resources can include bodies of water, fisheries, or grazing lands (Gaur et al., 2018). They are different from public goods and include open-access resources, as well as common property resources as opposed to private property resources. Common-pool resources are defined as "sufficiently large that it is difficult (but not impossible) to define recognised users and exclude other users altogether", whereby each person's use "subtracts benefits that others might enjoy". (Ostrom 1990: 30) Commoning means the processes of making and remaking the commons (Federici, 2011; 2019), which interlink the relations of commoners – stakeholders of a common-pool resource (Linebaugh, 2009) – and social arrangements among the actors, the resource and other non-human users. If left without any external authoritarian influence, people develop diverse institutional arrangements to regulate use of the resource by investing time in maintenance and repair, political economist Elinor Ostrom, a major contributor to the collective management approach, found (Ostrom, 1999; Ostrom et al., 1993, 2009). Users control each other's behaviour for fair distribution amongst all, while avoiding the collapse of their resource base. Ostrom criticises other approaches that view stakeholders as non-cooperative, static, passive and unable to change given regulations (Ostrom, 1990, 2009). Ostrom et al. (1999) noted that during commoning, the mutual cooperation between the actors alters the yield of the prisoner's dilemma (not ending in a tragedy as suggested by Hardin, 1968) resulting in an equilibrium outcome. State law and policy can thus constitute threats to local commoning (Ostrom, 1990: 175–178). It has been suggested that natural resource management, which does not

actively incorporate the users of the local resources, will ultimately fail (Bromley & Cernea, 1989). For decades, Ostrom has urged public policy to gain a better understanding of self-regulating cooperative actions, instead of creating institutionalised standard solutions for individual local problems of collective property. In order to understand collective behaviour, the author focuses on rational choice theory (Ostrom, 1999, 2007, 2009), which offers a framework for understanding social behaviour. This is based on the notion that a cumulative social behaviour results from the single behaviours of individual actors, each of whom make their own decisions based on their own goals (Blume & Easley, 2006, 2008; Boudon, 2009, 2003; Hindmoor & Taylor, 2015; Sen, 2017). Research on collective management of the commons increasingly steers the focus on the act of commoning, instead of the commons, as the subject of analysis (Bollier and Helfrish, 2015; Linebaugh, 2008) and as a post-capitalist alternative (Bollier and Helfrish, 2015; Gibson-Graham et al., 2016).

Silvia Federici (2019) maps the destruction of the commons by privatisation in the system of capitalist accumulation and identifies land expropriation as the "precondition for both a commercialized agriculture and a wage-dependent" working class (36). In this work, one rural community does not lose their land due to expropriation but loses arable land due to water loss. Dealing with commons from a feminist perspective, she states that for the economic survival of humans, women and indigenous people need to play a leading role in expanding the commons. Federici views collectives with commons as an autonomous space, where control lies in the hands of the commoners, workers' bodies can be free from hierarchies, and capitalist organisation of life and labour can be challenged. Federici states that in their role as unpaid housewives, women were more dependent on access to commons, which is why they have been negatively impacted disproportionally by privatisation and shortages. The author relates the fact that women are housewives to capitalist accumulation, which structurally depends on "the free appropriation of immense quantities of labour…like unpaid domestic work of women". As a consequence of commercialisation and the globalisation of land and knowledge, essential knowledge, which women's bodies possess, is erased. Accordingly, "grassroots women's communalism today" produces new realities and a collective identity with a force "in the home and the community and opens a process of self-valorisation and self-determination" (108). According to Federici, counteraction against the global capitalist system can only be effective if separation of gender, race and ethnicity are overcome. In this regard, the collective work of the women in one community will reveal highly interesting outcomes.

Drawing on ecological and autonomist Marxist feminisms (Federici, 2012; Mies, 2014; Shiva, 2005) and post-capitalist forms of economic community cooperation (Gibson-Graham et al., 2013), studies on

natural resource management are linked to studies of commoning. Post-capitalist feminist political ecology among others, contemplates women-led community cooperatives (Sato and Soto Alarcon, 2019). Similarly, post-capitalist political ecology concerns multispecies community practices with the aim of surviving in damaged (Haraway, 2016; Tsing et al. 2017; Gibson et al. 2018, Sato and Soto Alarcon, 2019) and contested habitats. In this context indigenous custodianship of water resource management has been found to be successful (Chen et al., 2018). Feminist political ecology scholars deal with struggles over land loss as result of climate change, environmental degradation and land grabbing. They look at livelihood, detecting future possibilities from everyday resistances against land loss and displacement with a multi-scalar, micropolitical, differentiated lens. Their aim is to improve the alignment of theory with real practice of the experience and contesting of displacement (Vaz-Jones, 2018). With further regard to water resource management, feminist political ecology examines the relations between global environmental change, gender and vulnerable waterscapes, thus underlining normative gender discourses and their impact on rural and urban water mismanagement. In this focus stands the impact in recent political and ecological climate contexts and their interlinkage with changing demands for water resources and how these affect livelihoods and existing equalities (Buechler and Hanson, 2015). Destructive utilisation by a dominant group of commoners and the resulting degradation of common resources causes decreases in income for other users. As a solution, research suggests involving working class people in decision-making processes for collaborative resource management by all commoners and the government (Wulandari et al., 2018). Authors propose that a revitalisation of common property resources is crucial for protecting livelihoods and women's bodies (Hartcourt, 2017; Hartcourt and Escobar, 2005; Sato and Soto Alarcon, 2019) and to improve conditions in arid micro-climatic locations (Gaur et al. 2018).

Observing commoning in the Iranian context, a study in Ardabil, Iran, suggests that collective action needs to take place according to local characteristics and not at the state level. Yet due to the large number of users and the depletion of groundwater resources, common-pool resource management needs to be reinstalled gradually: 1) by financial government support to farmers; 2) on the local village level with supervisors from the community; and 3) by awarding sustainable and penalizing excessive water use (Azizi et al., 2017). For government support regarding gender equality and commoning, scholars demand the application of feminist political ecology on the macro-level as a knowledge base for government assistance programs (Nam, 2018).

In Chapter 2 to this point, current approaches of feminist political ecology, feminist and Middle Eastern feminist studies as well as decolonial theory have been surveyed. Whether through protests, revolutions

or everyday resistances, this work concentrates on narratives about these issues by women from rural qanat-based micro-contexts. Feminist political ecology addresses the relationship between global environmental change, gender and waterscapes. The water supply resource, the qanat, is used as a common good and a tool for work. The rights and regulations of stakeholders within the commoning structures are clear, and access to water is crucial for the work and lives of the locals. Learning more about this resource will shed light on normative gender discourses and their impact on water management, and vice versa. Further, this work investigates how the decrease in available water and access to it affects livelihoods and existing inequalities, and how these inequities in turn shape resistances in rural qanat-based micro-contexts. The collective work of the women in one community will reveal a successful means of resistance for the commons.

Chapter 2.5. presents approaches of feminist theory on women's struggles and resistances applied to the Iranian macro-context. The discussion is conducted along the lines of decolonial theory.

2.5. A decolonial feminist view on the Persian carpet and resistances of women

The women from Iranian rural contexts who participated in this study are commodity producers, many of whom are active or retired carpet weavers. Accordingly, this chapter presents the theoretical status quo of feminist studies on Iran, including a study on the production, sale and representation of Persian carpets linked to colonialism.

Decolonial theory demands the construction of epistemologies from the south. Minoo Moallem (2005) argues that although Iran was never a direct colony, Iranian elites started seeing themselves as the other through the lens of Europeans. At the end of the Qajar era, a secular nationalism began to develop, in which orientalist roles of gender, race and sexuality were reproduced (Moallem 2005), among others through commercial capitalism (Moallem, 2008). In this regard, Moallem (2018) continues her work, investigating how the Persian carpet developed into an exotic Orientalia desired by collectors, and as a result to a modern transnational commodity along the formation of a state identity. The author argues that the formation of a nation state cannot be separated from the transnational context of colonial modernity, in which characters of nations are invented by cultural differences. In the process of building such cultural differences, commodity culture plays an important role. A nation is constructed and represented by its commodities through mass media and commercial culture. Resulting from the Qajar's (and later the Pahlavis') desire for European modernity, colonial relations were established through the circulation of commodities (Moallem, 2008). Iranian imports and exports were affected and controlled by European standards and requirements (ibid). Due to the competition from British colonies and an

increased demand of carpets by Westerners, particularly from Britain and the US, Persian carpet production was enhanced (ibid). Moallem discusses how Persian carpets first were considered luxury items resulting from the circulation of orientalist paintings and photography as representative for Persianness during the Qajar era (ibid). Further, the author explains how the carpets became a commodity with orientalist meaning and a mass product, for example through display in Hollywood films, advertisements in the US or in exhibitions by the early 20th century (ibid). The author (2008) defines Persian carpets as civilisational commodities, arguing how Orientalist commodities such as the Persian carpet function to characterise the Orient and the Occident as opposing with clear boundaries of differences in culture and civilisation between East and West, the primitive and the modern. And the more the Persian carpet was perceived as different and mythical, the more the desire for it rose as an object for consumption. The process of aestheticizing, circulating and consuming of the Persian carpet, Moallem (2008) calls "commodity aesthetics" (15) and the act of consumerism as a communitarian act, which is less conscious and rather motivated by the effect of imagined community, "affective consumption" (125).

The scholar explains how, after the 1979 revolution this imagined character of the Iranian nation presented by the Persian carpet then develops to "affective nationalism" (Moallem, 2008: 107) that first, made the carpet a major part of the home decoration among the domestic and diasporic Iranians and then transformed to a symbol, which represents the nation in the eyes of the world. Accordingly, what had begun as a nation that presented itself as carpet producer had become a "nation as carpet" (ibid: 125). As a major part of her work, Moallem (2008) displays the exploitation and exoticisation of female labour along the process. The author shows how feminised labour eroticised the carpets and naturalises the labour that produces it. She argues that the commodification of the Persian carpet goes along with the "transnationalization of exploitive labour" (ibid: 74). Moallem (2000) states that the commodification of the carpets was not only successful because the exploitation of female labour was concealed, but also because the carpet production is presented as spectacle in order to promote sales numbers. Rural and tribal carpet weavers are presented as primitive and unskilled. The portrayal of the female workers as helpless and oppressed in a patriarchal religious culture, created aesthetic value by media and the market, supported the exoticisation and feminisation of poverty, which needs to be developed and saved by the Western consumer. Moallem argues that signs of class, race and gender display themselves in the relationship that a subject has with a commodity. For example, Iranian identity is not only reflected in the identification of the Western male from the elite class with the carpet as a signifier of class and ethnic distinction, but also by the *bazaris* (bazar merchnats) as male elites controlling the networks of

distributors and weavers.

Moallem (2005) further argues that since after the Islamic Revolution, Iran is viewed as a feminised body and the Islamic ideology creates a new masculinity of the "warrior brother", while women with re-imposed hijab are submissive "veiled sisters". This evokes a gender solidarity between the sexes, creating a "unified Islamic community" (Moallem, 2005: 28). For a transnational perspective on feminism, it is necessary to recognise the heterogeneity of women's specific local historical subjectivity (Moghadam, 2000b). It is counterproductive of global feminists to see women as victimised and oppressed by patriarchy regardless of their context, and that a need for a global sisterhood is created by Western feminists' view of the "suffering body of 'the other' – the mutilated African woman, …, the veiled body of the Muslim woman, and the constrained body of the Chinese woman" (Moallem, 2005: 167–168). In general, alongside women's resistances in Iranian history, women have learned to deal with patriarchal and patrimonial (Tohidi, 2016) political systems, whether secular or religious. They have found strategies to circumvent rules and regulations with their own forms of resistance, and alternately embraced and challenged new government rules imposed on them in changing economic and political circumstances (Kashani-Sabet, 2005), political trends and cultural contexts at national and international level (Tohidi, 2016). The existence of women's movements in Iran is contested, denied and labelled as Western influence by conservative clerics (Kashani-Sabet, 2005). Yet steps towards equality have been achieved through resistance by daily practices in the public space of work, higher education, art, music, sports or political offices (Bayat, 2013) and by activism (Alikarimi, 2019). Accordingly, women have managed to achieve significant shifts in gender dynamics by presenting themselves as public players. It is suggested that women have reinstated equal education with men and reformed their legal rights, improving employment, empowering themselves and changing gender attitudes in society (Bayat, 2013), and have successfully challenged the gender-biased legal system (Alikarimi, 2019). Their appearance in public, according to the author, also advanced interpretations of Islam towards more inclusive, egalitarian, and women-centred notions. Other authors underline that women do not have gender equality at all: it is the Islamic Iranian State which creates this impression (Moghadam, 2000b).

Elaheh Rostami-Povey works on women, labour and activism with regard to Iranian (2012, 1999) and Afghani (2013, 2007) women, dealing with matters of work, education, oppression and resistance. Building on Abu-Lughod's (1998) argumentation, Tara Povey and Elaheh Rostami-Povey (2016) state that feminist knowledge production is diverse, and that the historical and geographical locations of gender relations and feminist knowledge production need to be considered in order to understand the

complex process of women's liberation. The scholars argue that theory needs to acknowledge that different historical circumstances and global injustices lead to diverse forms of women's struggles. Understanding this diversity does not mean relativizing culture but accepting the existence of different forms of women's struggles for rights and liberation within their context (Povey and Rostami-Povey, 2016). Suleymani (2018) reveals the realities of Azerbaijani women activists, who face racism and sexism both within their own 'semi-colonized' communities and from people with Persian ethnicity (Suleymani, 2018, 7). The author deals with the obstacles of activist women in that context. She suggests that mainstream Iranian and transnational feminist activism are complicit in marginalising minority groups, since they are unable to fully capture the voices of local minority communities. Further, identity dilemmas of an Azerbaijani Turk community in Iran complicate local feminist activism. Accordingly, it is necessary to observe from a wider angle and to involve economic circumstances and changes in gender relations. "Iranian women's voices are important to what is traditionally understood as feminism" (Povey & Rostami-Povey, 2016: 8).

Tara Povey (2016), investigating impacts of Western foreign policies, international sanctions and neo-liberalist developments since the revolution in 1979, found that local non-Western women's organisations are impacted by global and domestic politics (Povey, 2016). While Western policy has claimed to support women's causes against a "conservative theocratic state", it has made it more difficult for women to organize, Povey states (ibid: 12). Further, the sanctions regime has harmed ordinary Iranians. While neoliberal politics have made a conservative political pro-regime elite richer at the expense of the majority, theocratic forces have been strengthened both materially and ideologically, which has greatly affected working class and middle-class women. Additionally, the portrayal of the Middle East as conservative and religious, which need to be liberated by the West, harms campaigns around gender and sexuality in Iran. For this reason, domestic women's organisations work independently from foreign agencies (Povey 2016).

Despite Moallem (2005, 2008) and Suleymani (2018) drawing their argumentation from post-colonial theory, their arguments coincide with decolonial theory proposals, which partly stem from a revision of post-colonial theory, as presented in Chapter 2.2. Moghadam (2000a, 2000b), Rostami-Povey and Povey (2016), Povey (2016), do not mention the term: their statements correspond with the notion of a decolonial feminist political ecology. The struggles of women against given power structures inside the political and social spectrum of changing gender relations within steadily transforming ecological and economic circumstances, influenced by foreign powers and epistemologies, represent decolonial resistances. In order to understand the multifaceted intersectional struggles of women, it is necessary to

view them through a lens which is clear of Western hegemonic perspectives. In this manner, from a decolonial standpoint, struggles of local women must be seen within the reality of a world history of colonialism and imperialism. At the same time, decolonial studies look at the struggles of women as resistance and not as situations of passive oppressed victims. Feminist political ecology aims to explore women's local struggles to overcome inequalities and environmental degradation. The analysis of given power relations in this thesis brings to light if women are in a disadvantaged position, and what possibilities of resistance against suppressive economic and political power structures exist for them at local levels, this thesis brings to light how women are in a disadvantaged position, and what possibilities of resistance against suppressive economic and political power structures exist for them at local levels.

As a result of the discussion in Chapter 2, I argue that Iranian women's rural contexts must be integrated more strongly into feminist political ecology, Middle Eastern feminist studies, decolonial theory and common pool resource theory. With the aim of achieving the best possible quality of outcomes, conceptual instruments are derived from these fields of study and viewed through decolonial feminist political ecology lens. The approach of the empirical study through this lens seems most appropriate for generating a profound understanding of the setting in order to find answers to the research questions: How are epistemologies and resistances from rural Iranian feminist contexts of extreme resource scarcity shaped? How are these embedded in the history of colonialism and imperialism? How do these add to decolonial feminist political ecology theory? The above-mentioned feminist and decolonial concepts on how to approach Middle Eastern contexts or those from the global south, and particularly the necessity to be aware of historical and political circumstances, have been considered in this study. According to decolonial feminist political ecology and common property resource theory, this thesis contextualises the impacts of domestic and foreign occupation, U.S. interference, the Islamic revolution, environmental degradation and commodity production, as well as the impacts of these events on the lives of Iranian women. Further, it embeds into that context the perspective of rural women from two very specific geographical and geopolitical locations of the Iranian Highlands, by listening to the women's narrations on how they manage work, education, oppression and resistance. The aim is to learn from the women how far – as farmers and commodity producers in the informal sector of handicraft production – they have experienced the systematic and sexist labour division and other forms of marginalisations in their work and everyday life. From the carpet producers among them for example, the aim is to hear about their experiences during the process of the commodification of the Persian carpet as exotic Orientalia in the West and how payment issues were handled. Acquiring knowledge from the rural women of the qanat-based desert contexts and answering the research questions will contribute to

decolonial feminist political ecology theory.

In Chapter 3, I present the applied research methods for the study.

3. Applied research methods in the field

I conducted two case studies in two villages of different provinces on the Iranian Highlands. In the village of Kharanaq in Yazd Province, I worked for three months from the summer of 2014 to the autumn of 2016, and in the village of Shafiabad in Kerman Province for two months, from the spring of 2017 to the spring of 2019.

As qanat-based rural communities shaped by patriarchal traditionalism, which actively apply commoning in a harsh environment of resource scarcity, the two villages have been identified as highly interesting for answering the research questions. In an environment of water scarcity, applied collective qanat management and male hegemonic structures, these communities are pertinent in finding answers to the conceptual questions of how epistemologies and resistances from rural Iranian feminist contexts are shaped and embedded in a greater historical context of colonialism and imperialism. Further, the goal is to shed light on women's realities from those underrepresented contexts in accordance with the theoretical framework, and to relate the rural narrations with decolonial feminist political ecology theory in order to see how far these can add to the field of feminist political ecology. In detail, this work aims to hear women's stories about gender-based power struggles in relation to work and life in a qanat-based community on the resource-scarce Iranian Central Pateau. This work can thus provide insights into the relationship between successful commoning and gender relations. The aim is also to understand double resistances against traditionalism and patriarchal theocratic structures, and how these are connected with global and domestic climate and political events. The application of the case study as an inductive approach seemed appropriate in order to locate interest groups. In five one-month stays in the field, I lived with the people of the Kharanaq and Shafiabad communities, as well as in the respective province capitals Yazd and Kerman.

I conducted participatory observation (Geertz, 1995) in order to gain insight into the social and political structures of the Kharanaq and Shafiabad communities. With a particular focus on women's perspectives (Rocheleau et al., 1996), I applied semi-structured (Bernard, 1995, 2006) open (Schlehe, 2003) and semi-open (Ring & Erp, 1992) interviews, planned and spontaneous individual and group interviews, as well as narrative interviews. During my stay I attempted to observe everyday structures and routines. I learned about farming practices and assisted farmers at work. I spent days in the field accompanying farmers and paid pickers harvesting vegetables or grass in the traditional manner. I spent most of the time in

women's spaces talking and getting to know them, exchanging knowledge, learning about their concerns and struggles, their successes and failures, their hopes and plans. Factors such as financial power, acceptance or respect have not been measured: they rely on statements by those interviewed.

By implementing expert interviews (Meuser & Nagel, 1991) with local and external experts in qanat, agriculture, and groundwater issues, I aimed to compare opinions of experts in the field and beyond. I took part in everyday agricultural activities and town gatherings with state officials to find out about the linkages of the organisation with qanat-based agriculture, the townspeople and administration employees. The aim was to detect power structures and to obtain a stronger understanding of economic and political processes, communication and relations among community members and towards institutions (Erickson, 2011). Further, I collected data by conducting group discussions with interest groups (Lamneck, 2005) in public and private spaces, in smaller and larger, mixed and same-gender groups. During the interviews, the aim was to create an atmosphere of equality by allowing for an exchange of questions and experiences. This practice created exchange and trust on both sides. Through this kind of conversation, some of the interview participants have become friends. Instead of fixed interview questions, I used guidelines for the interviews, which served as introductory questions. The aim was to let the person who carries the knowledge generate an inductive ground of concerns, during which the guidelines served to answer my initial question, and new questions evolved during the interview.

With this reciprocal approach, I aimed to constantly involve the participants in the research process by transparently informing them of the initial research outcomes and categories in order to enhance my self-reflexivity (Jones & Jenkins, 2008; Lawless, 1992). Additionally, I searched the library of Yazd University and the National Library in Tehran, as well as the archives of property and water rights in the UNESCO Centre for Qanats and Historic Hydraulic Structures (ICQHS). During the literature research, it was generally not easy to find appropriate and current data on women's activities, such as education and employment.

Among the interviewed were women aged 15 to 72, and men aged 15 to 82. Participants were farmers, carpet weavers, straw weavers, students, teachers, engineers, doctors, nurses, qanat experts, water and soil staff, retired and working housewives and househusbands, the head of an NGO, and NGO members and employees in the fields of gastronomy, construction, and handicraft production.

In Shafiabad, the people I interviewed were all living in the village community. In the case of Kharanaq, many community members were living apart from the village in the cities of Yazd or Ardakan. However,

many of them were commuting between Kharanaq and the cities, visiting on weekends and holidays.

Considering the discursive positioning of different actors independent of their social position, I tried to obtain a wider angle of the multiple voices, opinions and discourses (Forouzani et al., 2013), which from a hegemonic discourse perspective seem contradictory, are invalidated or not recorded at all (Clarke, 2007; Dhawan, 2007; Escobar, 1995; Schmidt, 2004).

As a native Farsi speaker and woman with Iranian socialisation behaving according to the cultural habits and norms that I was familiar with, it was not hard for me to gain the trust of the residents of Kharanaq. I found easy access to women's spaces within which I was able to conduct in-depth interviews. As a western academic, I reflected on my thoughts and goals in order to question stereotypes and colonizing western categories of emancipation and rationality with the help of deconstructive critique (e.g. Dhawan, 2007; Escobar, 1995; Karam, 1998; Mahmood, 2008; Reuter & Villa, 2009).

Further, Tuhiwai-Smith (2012) in her book *Decolonizing Methodologies* calls for a decolonisation of research. The author challenges western discourses of knowledge and objectivity, criticizing cultural assumptions in research by members of the dominant colonial culture. The author presents ways of research conceptualised and carried out by indigenous people working in their own communities. According to the author, indigenous people have a better understanding of information that emerges in research. Tuhiwai-Smith suggests that non-indigenous researchers can improve their outcomes with the help of indigenous researchers. The author draws on Edward Said's notion of Orientalism, describing how indigenous peoples represent the other, or formal and informal travellers and observers. She underlines the necessity for researchers to critique their own "gaze" and to reflect on how far their outcomes potentially represent the "truth", since the western researcher is influenced by western conceptualisations of time, space, knowledge, subjectivity and gender relations. Tuhiwai- Smith rejects the term "colonialism", with its implications of a practice from the past, and argues instead that it has a significant impact on indigenous peoples still today. Further, she argues that indigenous views of history have been negated and seen as primitive. Simultaneously, indigenous peoples criticise the fact that their stories are being told from perspectives of the colonisers and underline how important history is in order to understand the present and "that reclaiming history is a critical and essential aspect of decolonization" (Tuhiwai-Smith 2012: 31). "There are numerous oral stories, which tell of what it means…to be present while your history is erased before your eyes, dismissed as irrelevant…" (Tuhiwai-Smith 2012: 31). Drawing on this importance of history and in this manner of oral stories, I conducted narrative interviews

in the chosen locations of Kharanaq and Shafiabad. Further, in the case study of Shafiabad, the women have become researchers themselves conducting research in their context, interviewing and filming other locals. In the interviews conducted for this study, women told me about their experiences and observations as local researchers, which I have incorporated in the discussion of this study.

Nikita Dhawan criticises hegemonic exclusionary epistemologies and their hegemonic "norms of recognition", which "determine what can be read, heard and understood as intelligible and legible." The author refers to Butler (1999: xx), who argues that these hegemonic norms "make non-normative subjects and practices vulnerable to "normative violence" (Dhawan, 2012: 48). The problem is not that the subaltern cannot speak (Spivak, 1988) but that the hegemonic listener cannot listen or performs a "selective hearing" or has a "strategic deafness" (Dhawan, 2012: 52). Hence, even as a critical feminist representative of marginalised voices, I might enhance the inability of the self- representation of subaltern voices and risk reproducing essentialism and dominant structures that hinder the progress of the decolonial process (Dhawan, 2012: 56). In order to minimise the risk of becoming an instrument of dominant power structures by representing local women, I mainly make use of quotations during the presentation of the field work and the analytical part of the dissertation to allow space for self-representation.

Before he presentation of the case studies, I provide a historic and political summary to build background knowledge for the reader for a better understanding of the contexts of the study in Chapter 4 and 5.

4. Why the Iranian context, its rural women and women's activism count for decolonial theory

In this chapter, I discuss why Iran and the history of Iranian rural women count for decolonial theory. Within a historical summary, I relate political and economic events to the situation of women in Iranian society with the aim of presenting a holistic picture of the macro-context, in which the rural contexts of this study are then embedded.

During the Qajar era (1789-1825), in rural areas, women's unpaid labour provided the majority of farming products and handicrafts (Issawi, 1971; Delrish, 1996; Poya, 1999). Towards the end of the 19th century, the popularity of Iranian carpets in the west grew, particularly after the World Trade Fair in Vienna in 1873 (Issawi, 1971). The capitalist mode of production began to shift forms of female and

male labour (Moghadam, 2016). Along with the construction of factories, Iran's mainly feudal economy, was transforming with the growing development of capitalist relations (Povey, 2015). The first western-style textile factory was established in the 1850s (Floor, 1984). Yet, before the discovery of oil in 1908 and the flooding of the market with foreign goods, Iran's economy and thus export volumes were dominated by agriculture and small-scale manufacture (handicraft, carpets, textiles, leather) (Delrish, 1996; Issawi, 1971). That made womens's and children's productive labour an indispensable element in the running production wheel for both the domestic (Delrish, 1996) and export market (Delrish, 1996; Poya, 1999; Moghadam, 2000a) was crucial. Yet, their wages lay below poverty level (Seyf, 1994). At home or in the new factories, women would spin wool and cotton (Moghadam, 2000a), silk (Seyf, 2001), textiles, clothing, carpets, embroidery, crochet work and produce rice and food (Delrish, 1996; Poya, 1999).

The Persian carpet branch developed into a large employer and carpet weaving became significant for both home and international trade (Delrish, 1996). Here as well, small-scale production with women as the main labour force remained common. Carpet weaving and animal husbandry counted as valuable assets. In many places, it was exclusively women who wove carpets (Issawi, 1971). Turkoman widows, for example, could remarry due to their expertise in carpet weaving and animal husbandry (Delrish, 1996). Yet, the profit of work done in villages often belonged to the landlord (Delrish, 1996). Rural women received minimal payment for their work, often from the distributor. They did not have control over raw materials or the finished products (ibid), in terms of price, for example. Female labour was exploited in many regions of the state, due to a lack of regulations for women workers (ibid). Women represented early proletarians and small commodity workers (Poya, 1999). Despite the economic transformation to capitalism and the forming of semi-proletarian women's groups (Moghadam, 2015), the majority of women were still occupied in rural or household production. They also worked in bathhouses, as nurses or as midwives, carrying out abortions (Kashani-Sabet, 2011), as sex workers, domestic workers, washers of corpses or beggars (Quataert, 1994).

Simultaneously, after decades of their presence in Iran, the British already owned numerous concessions for natural resources and crops, most importantly tobacco, which they controlled in terms of production, sale, growth and export. The control was granted by the Qajar government due to losses to the British and Russians at the beginning of the 19th century. The advantage of European merchants weakened the position of Iranian bazaris enormously (Moaddel, 1992). Resulting increasing prices took women and men to the streets in demonstrations and riots (Keddie, 2006). Although the people were highly dissatisfied with the Qajar regime, an overthrow was prevented by the British and Soviets in protection

of Nasir-al-Din Shah (Keddie, 1966). During the tobacco protest (1890–1892) against the British monopoly of Iranian tobacco production for the first time, all classes nationwide were involved: the middle class *bazaris*, the working class, religious and secular intellectuals, all acted united against the monarchy. Among these uprisings, women played an important role. A decade later, the same parties acted united during the Constitutional Revolution (1905–1911), in which women collectively organised themselves in public. They contributed their savings and belongings to help collect capital for the establishment of the National Bank of Iran. In general, rural and urban women of different ethnicities such as Azeris, Kurds, and Gilakis would take up arms to participate in these movements (Afary, 1996; Nejadbahram, 2012). Women also started boycotting the purchase of imported European textiles by wearing only local fabrics. School children began to proudly wear native dress and, for example, in Tabriz, women organised successful meetings to convince people "to wear their old clothes for some time" with the hope of their own national textile production in the near future (similar to the Swadeshi boycott of British goods (1904–1911) in India) (Afary, 1996). Women protested; marching unveiled through the streets of Tehran chanting: "Long live the Constitution. Long live freedom…We must free ourselves from the religious obligations to live the way we want!" (Bayat-Philipp, 1978: 301–302)." During those times, supporters of women's causes were attacked and accused of promoting immorality and prostitution by a parliament deputy. Women became influential figures during the revolution. They promoted and founded women's and girls' schools and engaged in feminist writings.

Fig.4: Bibi Khanoum Astarabadi (Persian Fa Online, 2019).

Fig.5: PrincessTaj al-Saltana (Harvard University Library, 2019)

Progressive newspapers during that time challenged politics and institutions of the state and published cases of women's support for the constitution, motivating social groups such as women and the rural population to aspire to a more modern society (Afary, 1996). Here, it is important to notice that the writings of feminist women of that time are neither significantly mentioned nor counted as feminist

literature in academia. For example, Bibi Khanoum Astarabadi (1858/9 – 1921), who founded one of the first women's schools, wrote various feminist articles on the right of girls to education or on women's rights. She also published books such as *Failings of Men* (Arabic: Ma'ayabe al Rajal), in which she explains that no man stands above any woman. Or Taj al-Saltana (1883–1936), one of Naser al-Din Shah's daughters, who wrote and spoke publicly in favour of women's work, salary and against dress codes (Afary, 1996). The increased attention to women's causes in the press increased women's public appearance during the Constitutional Revolution, and with it their articulation of discriminatory and oppressive circumstances in public debates. While conservatives tried to stop constitutional women by attacking them through harassment, yet, by 1907–1908, restrictions for women to appear in public were loosening. First conferences and official meetings were held, and the Ministry of Education was established followed by the opening of numerous girls' schools (ibid). These held political meetings at their homes and cooperated with women's secret societies (ibid), which gave feminist lectures on politics and social matters (Afary, 1996, 2001; Paidar, 1995). The campaign for the right to vote was initiated (ibid), a Women's Teachers' College was established (1918) and the Patriotic Women's League was founded (1922) aiming to expand girls' education and women's and adult literacy (Afary, 1996). Women worked as teachers, publishers and activists (Poya, 1999). The significance of both the private and the public sphere became obvious, both of which were necessary as spaces to promote women's issues. This coincides with the theoretical approaches presented in Chapter 2.

During the capitalist shift of production, the British gained direct control over Iranian oil in 1914 (Issawi, 1971; Kazemi, 1985). The purchase of a major part of the Anglo-Iranian Oil Company, which lasted for the next thirty-seven years (Kazemi, 1985), began to cause an enormous shift in Iran's economy (Issawi, 1971). At the same time, the outbreak of World War I (1914 – 1918) was on its way. Due to the presence of Russian troops in North West Iran, the Turks revised Iran's neutrality and came to fight over the Azerbaijan oil fields. For the British, besides their general capitalist interests in Iranian resources, and the Soviet expansion in the north, the aim of their presence was to protect colonial India and to keep the transport route to its colonies clear (Encyclopaedia Iranica, 2019). They justified the violation of Iran`s neutrality (1914) with the aim of protecting the oil fields of the Anglo-Iranian oil company, in which the British held a major stake (Egorov, 2020). Iran unknowingly was divided between Britain and the Soviet Union (Deutsche Welle, 2018). Despite Iran`s declaration of neutrality, it was dragged into the war, which caused enormous loss of life among Iranians due to fighting, famine and the spread of diseases such as typhus, especially in areas where the foreign troops were based (Deutsche Welle 2018). Simultaneously, during the occupation, the costs for the troops had to be carried

by Tehran (Deutsche Welle, 2018). The occupying powers began to flood the Iranian market with Western products, which began to replace Iranian handicraft, resulting in heavy losses of income for women (Moaddel, 1994). Foreign products resulted in women losing their occupations and caused the abandoning of existing craft guilds by 80 percent, of which more than half were carpet weavers (Moaddel, 1994). For example, in the carpet factory Shargh Company, founded in 1912, with 150 looms, for which young women spun the wool at home and nomadic women provided the traditional dye (Issawi, 1971). Further, in 1916, again, a democratic uprising against the Qajar Ahmad Shah by the people was defeated by Russian troops. Germany together with the Ottomans, infiltrated intelligence to the British and Soviet territories. They propagated a Jihad among the majority Shia Iranians for the fight against British imperialism and Soviet communism alongside with the Sunni Turks (Weiß, 2014; Egorov, 2019). The 1917 Russian Revolution forced Russian troops out of Iran (Egorov, 2020).

Iran joined the International Labour Organisation in 1914 and a series of decrees on workers' conditions continued to fight to enhance working hours, minimum employment ages for children, segregated workspaces for girls and boys and women supervisors for girls' safety, hygiene and health (Floor, 1984). Although Iran benefitted from oil production, the carpet industry was also benefitting enormously from the expanding foreign market (Egorov, 2020), and a significant contribution for the state's economy was made by agriculture and handicraft, largely produced by rural women's (Kazemi, 1980a, 1980b) and children's domestic work (Issawi, 1971). Although social, economic, and political spheres experienced some progress, the clergy was still in control of the determination of gender roles and relations (Halliday, 1988) and merchants, aristocrats, large landowners, and tribal leaders continued to be members of the dominant classes (Povey, 2015). Despite the laws in favour of the workers, real income decline, and general labour exploitation existed, and forced women and children to continue working to provide enough food for a family (Gholu Majd, 2012).

During the first Pahalvi administration and its modernisation plans, some girls' education, new legal codes and production practices were modernised. The Expansion of women's education (Najmabadi, 1998) and occupations led to an increasing middle class. Yet the growth of a modern female workforce was hampered (Bharier, 1977). In 1936, the carpet industry continued to be the largest employment sector, in which the majority of the female industrial workforce (21 percent) was occupied (Floor, 1984). 79 percent of the population were still living in rural areas (ibid). In one carpet factory, for example, 75 percent were women, as well as children between the ages of six and twelve. In modern cotton spinning mills, women and children always received significantly smaller payment than men (ibid). A law forbidding labour unions was passed and led to shrinking working-class activity (ibid). In the same year,

the campaigning of women's rights to vote eventually succeeded (Yeganeh, 1999).

Fig.6: Rural activist women in the fight for schools and people's benefits after the constitutional revolution in the 1930s (Iran Freedom Org, 2018)

Despite Iran's repeated proclamation of neutrality during World War II, in 1941, Britain and the Soviet Union once more became allies and began to occupy Iran. Germany`s strong presence in Iran threatened the new allies` interests in the region (Rezun, 1981), for example, Iran`s function as a supply route to the embattled Soviet Union through the trans-Iranian railway (Bakash, 2016) and the Caspian Sea (Zeit, 2019). Some authors argue that their actual reason was the German invasion of the Western Soviet Union (Bakash, 2016; Eshraghi, 1984). For the British, the most important aim was to secure the oil fields (Eshraghi, 1984). The control over Iran once more was divided between the Soviets in the north and the British in the south and in time all strategic harbours, transport routes and finances were taken over. While Britain was the actual imperial power in Iran, the US entered in 1942, trying to keep Britain's influence under control by sending administrative personnel and making infrastructure improvements. Simultaneously, the Soviets retained surplus food and exported it to the Soviet Union (Zeit, 2019). Mohammad Shah Pahlavi, who was seen as a western puppet, was installed in power by the occupiers and his father in 1941, but antipathies towards him expanded, leading to street protests of millions (Keddie, 2006). Britain, instead of using military force during the occupation, established a heavy propaganda machinery aiming for friendly support of British and Indian troops by the Iranians, and to generate a pro-British independent Iran after the war. With a business-as-usual attitude, 'Persia' should have been kept calm. Accordingly, objectives by the British Ministry of Information were sent to the Foreign Office in Iran in 1942 and the occupation was made reliant within the triangular relation between London, Moscow and Washington DC (Abdul Razak, 2016): "I. The aim of British propaganda to Persia

must be to influence the Persians in our favour so that:

> (a) they will maintain internal security in their own and our interests; and (b) they will co-operate with us in the development and maintenance of the lines of communication through Persia to Russia; II…; III. To convince the Persians that it is in their interests that the United Nations should win the war, because by their victory alone can Persia be saved from the horrors of Nazi or Japanese occupation and exploitation, and from being compelled to fight for the Germans and Japanese; IV. To encourage the officers and men of the Persian army to have confidence in themselves so that they can help to maintain the internal security of Persia." (Ministry of Information, 1942 in Abdul Razak, 2016: 819).

The propaganda was primarily implemented by the Public Relations Bureau. Prominent Iranians were included to maintain the spirit of cooperation. One of the central components of the propaganda machinery was the British Broadcasting Cooperation (BBC). Due to high illiteracy, the radio became the 'first line of attack'. Radio stations as well as newspapers and news agencies were brought under British control and press freedom was manipulated (Abdul Razak, 2016).

The mingling of a capitalist drive for modernisation under foreign domination, a Shia Islam ideology, and firm class formation led to uneven developments (Povey, 2015). Despite industrialisation, in the 1950s two-thirds of economic production was still agricultural (assuming 2.5 million farm households) (Bharier, 1977, Mirani, 1983), in which rural women and child labour, particularly that of young girls (Halliday,1979) continuously played a significant role as they did in carpet and textile production (Mirani, 1983). By the 1970s, 70 percent of all cloth production and 72 percent of all carpet production took place in rural areas, primarily by women and girls (Halliday, 1979). The number of rural women employed in the industry was much higher than that of urban women (ibid). However, in general, women were underpaid, whether as family workers or as employees and they depended on the distributors, who functioned as middlemen between the women and the customers (Poya, 1999).

After World War II, the British began heavy propaganda to undermine the communist Tudeh Party, which the Russians by that point had won over and which was systematically and seriously highlighting the poor conditions of workers. In the oilfields of Khuzestan, a successful series of workers' strikes were implemented in 1946. Women again played a major part. One of the British tactics was to portray themselves as the true reformers of workers' rights, beginning with improvements in working conditions in the Anglo-Iranian Oil Company (Zeit, 2019). The attempt of the Soviet Union to separate Kurdish and Azeri territory to establish pro-Soviet states and create

access to the northern oil reserves made it the main opponents of the US in Iran. The so-called Iran Crisis, provoked by the Soviet Union's refusal to withdraw its troops, as agreed after the occupation, marked the beginning of the Cold War (Hess, 1974).

After the British occupation ended in 1946, the necessary tools had been established to continue imperial culture. A democratically elected prime minister, Mohammad Mosaddeq (1882–1967) achieved the liberation of Iranian oil from colonial control in 1951. From 1951 to 1953, against the interests of the Shah and his allies (USA and Britain), he progressed Iranian democratic development and forced the Shah to act in favour of the people (Afkhami, 2009). Mosaddeq's nationalisation of Iran's oil took place at a time when other anti-colonial movements against capitalism and the Anglo-American custodial role were under way in Asia, North Africa and South America (Dabashii, 2007).

Fig.7: Women protest in the early 1950s, banner saying: "Women champions of Khuzestan against the colonialism of the Iranian people" (Yeganeh, 1993)

But the British were not ready to relinquish their access to Iranian oil. Eric Drake, former chairman of British Petroleum in an interview in the film *End of Empire* (1985) said: "We should not allow the biggest

foreign asset in Britain to go without doing something about it (Lapping and Percy, 1985). Sir Donald Logan from the British Foreign Office stated: "We wanted to get rid of Mosaddeq as soon as possible" (ibid). The British, who, according to former CIA Iran Analyst Richard Cottham, "understood the extend of paranoia in this country", on which they "consciously played" to persuade the US "to [become] involve[d] in the coup" (ibid). Although Mosaddeq was the leader of the National Front Party, he had the support of the Iranian left. Consequently, again, in fear of growing communism, this time the CIA, installed operation AJAX. The plan included persuading the Shah to replace Mosaddeq with a pro-American general by the implementation of anti-Government riots by paid protesters and a propaganda campaign to portray him as a pro-Soviet communist (The Intercept, 2018). The geopolitical division of the world between the US and its west European allies on the one side, and the Soviet Union with the eastern bloc states on the other, had grown. Mohammad Reza Pahlavi joined Israel, Pakistan, Saudi Arabia and other Gulf states as part of a major anti-communist alliance in support of the US in the region (Dabashi, 2007). The growing oppositional leftist parties and the National Front were banned and suppressed by the new secret police, the SAVAK (Agency for Information and Safety of the country), which was established in cooperation with US and Israeli intelligence. Press freedom was now controlled by the SAVAK.

The people who were paid to protest did not have any ideology, Cottham further explained (Lapping and Percy, 1985). In 1953, supported by the CIA and British intelligence, Reza Shah Pahlavi succeeded in overthrowing the government of Mosaddeq to regain power in Iran (Said, 1993; The Guardian, 2013; The Intercept, 2018; The National Security Archive, 2013). According to many scholars, the 1953 coup was "the most traumatic event in modern Iranian history, a trauma from which the people have yet to recover" (Dabashi, 2007: 127). Madeline Albright, former U.S. Secretary of State, said: "The Eisenhower administration believed its actions were justified for strategic reasons. But the coup was clearly a setback for Iran's political development" (American-Iranian, 2000). Back in office, the Shah, during an event, toasts Kermit Roosevelt (grandson of US President Theodor Rosevelt) and the CIA: "I owe my throne to God, my people, my army – and to you." (Roosevelt, 1979).

The state was heading towards a partial decentralisation as it developed into a major oil exporter during the 1970s. Industrialisation expanded, and more women were employed as workers in the modern manufacturing sector. Yet the situation concerning paid work for women did not change significantly, and women comprised only between 20 to 27 percent of the paid workers in manufacturing (Moghadam, 1993). Work remained largely at home for women, in both rural and urban areas. Despite some progress in women's occupations and child labour, the majority of families did not consider the public arena under

the Shah's regime a safe space for women. Cultural and religious factors still hindered women from fully participating in public affairs (Najmabadi, 1998). Within the worldwide feminist movement, many women in Iran concluded that they would be regarded as inferior if problems of poverty and repression existed in the state. Female students and women occupied in higher education and politics had grown and increasingly joined workers' councils to fight for occupation, education, child-care centres, since many women would stop working once pregnant (Moghadam, 2000a), and better health and safety conditions for women in pharmaceutical companies or in textile factories (Poya, 1999). Demanded were work environments with less dust and noise, more showers, sinks and soap.

The authors Friedl (1991), Afshar (1994), Poya (1999) and Moghadam (2000) argue that rural women in regard to their work experience felt exploited and alienated from the earnings of their labour, since they rarely had control over the income of their production. Rural women, who produced dairy products and handicraft, or worked as fruit pickers were still not paid directly (Afshar, 1985) and depended on distributors, who decided their wages. These were often paid to the male head of the family (ibid), or their products were sold to the bazar by male family members, who also functioned as middlemen. Therefore, the authors state, women could not turn their activities into sources of power, either in the home or in public (Afshar, 1985; Poya, 1999). Yet the introduction of carpet weaving significantly changed the value of women's work in rural areas, which improved their social conditions. Girls now provided a source of income for their families (Afshar, 1985; Poya, 1999). However, starting at the age of six or seven, girls had to work all day with a break at lunchtime without time to play or study. Despite women's limited control over their labour, products and income, rural women would find ways to gain some control, for example by selling products to tribal women near the village and by buying other products from traveling salesmen. Thereby, women could obtain some control over their products with a small income and transactions. Additionally, for rural women with access to a large group of relatives, possibilities could arise to discuss village life issues and to create interdependent power relationships with people in their communities (Afshar, 1985).

However, despite the massive reform plan in Iran, in cities and villages the illiteracy rate was still high. Yet, it rose from 17.42 to 35.48 percent for women and from 39.19 to 47.49 percent for men within a decade (state: 1976) (Statistic Center Iran, 2006). Scholars argue that the literacy corps program not only influenced the literacy rate of the rural population but also the perception of the employed Literacy Corps personnel toward the Shah's regime. The wide gap between rural and urban access to infrastructure politicised people and swelled numbers of regime critics (Sullivan 1998, Sabahi 2001). The formation of a mostly secular middle class one side and a mostly pious poor faction on the other took

place (Gasiorowski, 2016). Among all groups, who were rising against the Shah, women's activism played a major role (Paidar, 1995; Halper, 2005). The reform plan also ought to enhance rural and urban women's position in society, and the Pahlavi administration had aimed to tie advancements in women's rights to their political programs of modernisation and westernisation (Paidar, 1995). Yet it had not been successful in achieving wide social acceptance of women's emancipation. Initiated from above, a forced path toward equality was unable to generate the people's recognition. Instead, it was considered by many to be western and immoral. The newspaper *Jal Ale Ahmad* in the influential essay 'Gharbzadegi' (Westoxification), for example, described the picture of the women as super-consumerist and propagators of the "corrupt culture of society" (ibid: 213). The forced top-down change of society, and specifically events, such as the forced unveiling of women, which labelled *the hijab* or traditional ethnic dress as backward, took many women to the streets. Rural and urban women participated in protests, joining strikes and boycotts, guerrilla groups and fighting street battles and digging trenches. They represented a crucial motivational foundation for the greater revolutionary movement by working as nurses and doctors, supporting friends and family or spreading 'oppositional literature and tapes' (Paidar 1995: 212). Women suddenly had a larger space and freedom of action. They had disagreements with their families and suddenly 'disobeyed their husbands and fathers on political grounds' (Paidar, 1995: 218) to join the cause.

Since 1973, when the Shah did not participate in the Arab oil embargo against the west, millions of surplus dollars from oil revenues were earned without being used for the people (Najmabadi, 1987; Tavakoli-Targhi, 2002; Dabashi, 2008). Merchants and clerics allied against the monarchy. A secular and Islamist elite were rising (Dabashi, 2008) and together with workers and other revolutionary factions were acting politically against the Shah for the common goal of establishing a democratic state. During the mid-1970s in Iran "there was a cosmopolitan worldliness in the air, when I was growing up in the Pahlavi period... For us, the world was squarely divided into two opposing parts: those who ruled it and those who resisted this tyranny…, either with arms or else with a pen, a pencil, a brush or a camera" (Dabashi, 2008: 134). The widespread protests quickly developed into a revolution with its main thrusts, which was also one of its main slogans: "Neither East, nor West", meaning neither the Soviet Union nor the United States. The people's goal was to gain independence and sovereignty for Iran by removing themselves from the control of imperial powers (Bajoghli, 2019). Some important and popular clerics (Mahmoud Taleghani or Mohammad Kazem Shariatmadari) were supporting the left (Fischer, 2003). During the 1970s, Khomeini's ideas of an Islamic guardianship by one or more jurist(s) began to spread among theocracy students, clerics and bazaris by means of Khomeini's book and smuggled recordings

of his speeches and sermons (Taheri, 1985). However, according to witnesses, who were activist high school pupils and students at that time, it was within the last months of the revolution that Khomeini was perceived by the greater public (see also Black Friday in September 1978). According to contemporary witnesses, he began to address the people, except for the "atheistic Marxists" (Abrahamian, 1982: 479), to stand together against the dictatorship of the Shah (e.g. Goudarzi, 2019). In the focus of concern stood socio- economic inequalities caused by the Shah's politics (Abrahamian 1982). Since secular, leftist, workers and other revolutionary factions did not thematise women's concerns much, because they saw them associated with the Shah's politics (Paidar 1995), the clerical Islamists gained ground to present themselves as the 'true' advocators of women's rights. (Sedghi, 2007). As one major issue, the Islamist propaganda labeled women as victims of the Shah (Keddie, 2006), communicating that they aim to genuinely advance women's rights and pointing to women as 'the source of change within society' (Paidar 1995: 210). Ayatollah Khomeini called women's involvement 'one of the blessings of the movement' and communicated that he views their role in the revolution in front of that of men's. (Halper, 2005:108). The Islamists transformed the label female activism from 'westoxicated' to a moral Islamic act. Thus, many women sympathised with the Islamists as the only opposition with whom they could communicate their concerns. The hijab for example, particularly for women in support of the Islamists, had developed to a physical symbol of dissociation with the west and a sign of resistance against the Shah's European-based perceptions. The Islamic dress (*hejab-e eslami*) in neutral colours was supposed to eliminate visible class differences as well as women's sex-based apolitical image (Tavakoli-Targhi, 2002). However, wearing the hijab did not mean a general acceptance of Islam (Keddie, 2006; ibid), neither did joining the protests. My mother told me that she and most of her classmates joined her teacher during school hours, who motivated them to demonstrate against the 'injustices of the Shah'. She says her main motivation was to protest in favour of decreasing the class differences. She remembers that at that time, her parents and her aunts repeatedly told her that her concerns are right but that she should not 'trust the mullahs'. Her father for example, told her that she and her friends did not know the mullahs. He was sure that "the power of the mullahs in Iran will be the worst thing that can happen to the nation because the pockets of the abas (the long robe of Shia clerics) are so long, they will never be filled". Matters that could divide the oppositional factions, particularly Khomeini's plans for a clerical rule, were not mentioned (ibid).

Simultaneously, western media, controlled by the British occupiers once more implemented propaganda, this time in favour of Khomeini. The BBC admits that its critical perceptions of the Shah helped to transform the people's collective perception (Milani, 2012). Khomeini, obtaining increasing

media attention in French exile, portrayed himself as the saviour of an oppressed people (Milani, 2008), while the influence of more moderate and popular Ayatollahs (Taleghani and Shariatmadari) decreased (Arxworthy, 2013; Harney, 1998; Kraft, 1978). Further, declassified CIA documents suggest that the US worked with hardliners of the Iranian clergy, such as Ayatollah Kashani, a mentor to Ayatollah Khomeini, both weeks before and 16 years before the 1979 Revolution, during the coup of 1953, to reinstall the Shah (The Intercept, 2018): "In November 1963 Ayatollah Khomeini sent a message to the United States Government", explaining "that he thought the American presence was necessary as a counterbalance to Soviet and possible British influence" in Iran and that he believed "in close cooperation between Islam and other world religions, particularly Christendom. All contacts between Khomeini and the US are denied by present Supreme Leader Ayatollah Ali Khamenei." Once more, in fear of the rising left in Iran, the US administration manipulated Iranian history. This time, it supported Khomeini's return by preventing the army from initiating a military coup (The Guardian, 2016). Silently, Khomeini prepared himself to take power. Supported by the west, he succeeded to direct the emotionally loaded atmosphere for his own benefit, won over the voices of many young people and was thus able to manipulate and capture the revolution, as contemporary witnesses report (e.g. Goudarzi, 2019).

Fig.8: Iranian women protesting against the Shah during the 1979 Revolution (pictures: Golestan, 1979)

Accordingly, at this point it is of great importance to understand that the revolution of 1979 in Iran was in no way an Islamic revolution. Disregarded by what happened after the revolution, the revolution itself was one of the most popular of the 20th century and was not a revolution led by elites. By 1979, workers and peasants often did not have enough to feed their families. 80 percent of Iran's economy was based on oil and the Islamists feminist propaganda influenced society and dramatically altered the nature of women's political actions in the course of the 1979 revolution (Sedghi, 2007). Yet female workers, students, and women of different Iranian ethnicities played an important role in the fight against the

Shah's system before Khomeini's public appearance. Their activism raised the general gender consciousness. Both religious and secular women viewed the revolution as a step out of unequal work and legal conditions and uneven political and economic developments. When Khomeini took power, the clerics obtained authority over both the political and religious apparatuses of Iran. The US embassy in Tehran was occupied by Iranian pro-Khomeini students, who took 52 diplomats hostage for 444 days, demanding the extradition of the Shah by the US administration. Immediately, laws were introduced to demobilise and eliminate the secular opposition, such as women's and worker's movements and ethnic minorities, which represented the previous forces of the revolution. Particularly within the left, elite people were incarcerated and executed all over the state. Sharia law was established, which basically removed all women's rights achieved up to that point. Secular women, especially female politicians, were one of the first targets of the suppressive actions of the new regime. In 1980, the Minister of Education, Farrokhrou Parsa (1968–1971) was executed by the new regime, even though she had been out of office for eight years at the time of the revolution and the Minister of Women's Affairs, Mahnaz Afkhami (1976–1978) was forced into exile (BBC, 2009). "I was one of the first groups that were charged with 'corruption on earth' and 'warring with God'. I was on the blacklist and so I had to live in exile", she told the BBC's World Today programme. All non-Islamic influence was targeted to be erased in academia by expelling the majority of students. During the first nationwide university entrance in the academic year 1979-1980, women were excluded from a number of courses (Povey & Rostami-Povey, 2016). One contemporary witnesses and member of the left oppositional party Fadayan was expelled from her medical studies during the Cultural Revolution (1980 – 1983). She re-obtained a work and study permission 20 years later, during Mohammad Khatami's presidency (1997 – 2005). One symbol of women's revolt – not wearing the hijab – was captured by Khomeini and his followers, who according to "Islamic dress code", associated it with being "Westoxicated", a product of Western cultural imperialism (Tavakoli-Targhi, 2002). This time, a top-down veiling was forced back on women's bodies. Women from now on were obliged to wear the hijab, first in all government institution offices, then everywhere in public. In the beginning, women did not follow the obligatory veiling, until the state forced them to. Simultaneously, Khomeini could not ignore the legal and political position women had reached in the public sphere (Halper, 2005). Women who took part in the revolution as Islamists benefited from new welfare campaigns introduced in the 1980s and were involved in the social, economic, and political events in the state with the aim of enhancing their presence (Tavakoli- Targhi, 2002). "Brothers" and "sisters" were supposed to work for the cause of the nation in neutral colours and loose-fitting clothing (ibid).

Gender segregation in public and in the workplace, as well as the sudden mandatory hijab for women (and the dress code for men to wear long sleeved shirts and trousers), and women being banned from certain professions changed their situation, depending on their political ideologies (ibid). Authors (Moallem, 2005; Povey & Rostami-Povey, 2016, 2012; Poya, 1999; Rostami-Povey, 2010a, 2013; Sedghi, 2007) state that gender segregation in the workspace enabled women to work in areas which they did not have real access to during the Shah's regime. Eventually, that led to an increase of women in the workforce and education, since Islamisation opened the door to school and employment for women from socially conservative families, who have been discouraged from entering these under the Shah (Sedghi, 2007).

Fig.9: Farrokhrou Parsa (Zan-e rooz, 1968)

Fig.10: Mahnaz Afkhami (BBC, 2009)

The progress of the 1979 revolution empowered a generation of working and middle-class women (Bajoghli, 2019). Yet while religious women found male-dominated workspaces, secular women lost their jobs and, contrary to their situation during the Pahlavi era, were isolated (Povey & Rostami- Povey, 2016, 2012). Religious, working class and urban poor people who were previously alienated, were given priority in employment and education and thus, power. The social and material benefit for supporters of Islamisation divided the women's movement in support of Muslim feminists. Due to their association with the Islamic state, they achieved state-sponsoring. However, in general the state promoted a patriarchal system with a rigid gender division of labour and women's housewifization (Rostami-Povey, 2010; Nejadbahram, 2012). In time, the new regime's promotion of the state-driven economy isolated Iran's market from the global economy and strengthened its segregation policies completely. Women were excluded from the public sphere, and employed women who did not dress or act according to

the state ideology lost their jobs. Female heads of schools were replaced by male principals with male secretaries. The new body politics and the economic crisis drastically reduced working opportunities for women and increased impoverishment (Poya, 1999). The most important task for a woman now was to be a good mother and housewife with appropriative behaviour in public. Gender segregation through the division of labour was justified by the institutionalisation of the role of men as warriors fighting on the "battlefield", and an equally important role of women "behind the battlefield", nursing men, who were injured in the war, doing housework and raising future martyrs (Moallem, 2005: 329). But it required the allocation of separate workspaces for men and women, which were often not provided. Hence, the Islamic hijab and the marginalisation of women in the public sphere ironically created opportunities for many women workers to enter the labour market (Rostami-Povey, 2010a, 2013). Many women found employment in new undocumented occupations, for example, in women's boutiques, in beauty salons or other shops that served women only. Such spaces offered a free exchange of opinions on matters such as politics, society and work in a female public space. For these reasons, authors (Moallem, 2005; Povey & Rostami-Povey, 2016, 2012; Rostami-Povey, 2010a, 2013; Sedghi, 2007; Yadav, 2010) argue, the effects of Islamic ideology on gender segregation and the effects of gender segregation in general (hooks, 1990; Joseph, 1998; Young, 2005) have been, and still are, contradictory. Additionally, the Iran-Iraq war reduced the male labour force and rigid mindsets held men back from being willing to do "women's jobs" such as nursing, teaching, or administrative work. The boundaries of gender- appropriate work blurred and paradoxically, the demand for female workers increased rapidly. The war forced the state to switch from an isolated economy of self-sufficiency to importing expensive food and military equipment in return for cheap oil. Hoarding, shortages and rationing systems led to even higher inflation than before the war (Behdad, 2001; Behdad & Nomani, 2002). Demands for a cheap workforce by private firms increased in the mid-1980s, and during the war period, the number of these informal rural and urban female workers increased (Poya, 1999). The important informal for female entrepreneurship (Bahramitash, 2013) was immune to gender segregation and state impositions, since rural women`s work was counted as housework and not captured by statistics. In their somewhat autonomous position, rural women and their continuous involvement in agriculture and handicraft occupations, whether paid or unpaid, had an enormous impact on individual households and the national economy (Moghadam, 2005, 2009). Their income was essential to overcome inflation and improve living standards. Although they were aware of the importance of their income, women would still categorise themselves as housewives, since their production took place in their homes (Poya, 1999). Gender ideology degraded and undervalued the work of women that were working for minimum wages without any benefits. Women once more began to challenge forms of state-sponsored feminism, which

had the function of separating them from secular nationalist and leftist movements. In fact, after Islamisation, gender consciousness and inequality problems were more a subject of concern, particularly by younger generations, than during the time of rapid Westernisation under the second Pahlavi rule (Rostami-Povey, 2016). After the Gulf War between Iran and Iraq, enhanced oil prices benefited Iran's economy. Oil incomes led to a rise in GDP, in imports and in purchasing power, which enabled the allocation of funds to post-war reconstruction and produced a demand for a workforce. While gender relations remained patriarchal and state controlled, investments in public services, health and education systems continued (Rostami-Povey, 2010b) and the Islamic welfare reforms enhanced access to education for the rural and urban working classes Povey (2011).

Povey (2011) argues that the informal association of women working in the background and the cooperation of women of different institutions such as employment, education, parliament, law, and the media, as a women's movement, plays an important role in shattering the authoritarian patriarchy and promoting the progress towards democratisation. Further, she states that the politicisised women, who had supported Islamisation, have built a stable ground for women in the elite to fight for gender equality and expand the actions and visibility of women in the public spheres. Povey (2015) also argues that besides social movements, the established and growing NGO sector during Khatami's rule and its work were crucial within the process of social and political change in Iran. She states that dynamic movements were able to mobilise a range of diverse supporters in both religious and secular contexts. The movements adopted differing political directions and tactics as a reaction to changing relationships with allies, the state and political elites. These social movements lobby for a form of politics which is dominated neither by conservative Islamism nor Western intervention. Khadjeh Aryan (2012), psychologist and the current vice president of the Iranian Counselling Association, addresses the phenomenon of the "boom of women's education" in the 1990s (Aryan, 2012: 35) and the shift in women's position in society, as well as at responses and reactions of society and the authorities. In 2010 and 2011, 60 percent of participants in the national examination for university entrance were women, who entered high education, competed with men and got ahead of them (Aryan, 2012). Women have realised what a strong affect psychological and sociological education has on their lives, helping them to gain social status, personal dignity and to promote their position in the public, which further empowered other young women to do the same (Aryan, 2012).

Another process that helped this rise, according to Moghadam and Gheytanchi (2010), is that gender consciousness was also supported through urbanisation in the Middle East, which created space for citizen groups to be collectively active and to participate in global finance, trade and technological

developments linked to world society and world culture (Behdad, 2001; Behdad & Nomani, 2002). Yet, women in Iran are still a minority in the formal economy, facing gender discrimination, inequality and various limitations. However, the unprecedented and successful participation of women in higher education along with a rapid growth in educated and employed women, new dynamic women's movements and campaigns have emerged to fight against gender-discriminatory laws. Moghadam and Gheytanchi (2010) see the main form of women's participation in civil society lying in women's rights' organisations. The work of mostly urban professional women's groups aims to "feminize the public sphere" and to expand the space for democratic development (Moghadam & Sadiqi, 2006). The contribution of women in the economy increased the awareness of gender inequality in the views of both women and men regarding the state`s gender ideologies and the demand for change. Povey (2011) underlines that these events take place due to their cultural necessity, not according to neo-liberal agendas, but in local and global contexts and changes in gender relations. As a result, despite all structural restrictions, Iranian women challenged the allotted gender roles in growing numbers, showing the limitations of hegemonic constructs. The material and ideological foundation of the Islamic Republic came to be increasingly questioned (e.g. Moghadam, 2003, 2011; Moghadam & Gheytanchi, 2010; Moghadam & Sadiqi, 2006; Najmabadi, 1998; Paidar, 1997; Povey, 2015; Rostami-Povey, 2010a). However, in the context of the present study, rural women are the main actors to feminise the public sphere and to address and act against gender discrimination.

As suggested by the theoretical frame employed here, this historical and political excursion provides a contextual ground of knowledge to approach Iranian rural contexts of female farmers, carpet weavers and patte embroiderers. Women's issues discussed in the theoretical chapter are applied to the Iranian context and related to political events in a historical summary. Matters of struggles such as the housewifization and exploitation of the informal and formal work of rural and working-class women, as well as children, in agriculture and manufacturing is dealt with. In parallel, collective resistances from the private and the public space at the grassroots and elite women and their strong involvement in economic power struggles, revolutions and movements are revealed. The necessity of women's education, action, and organisation to achieve legal and social changes are demonstrated. Thereby, the positions of rural farmers and commodity producers are outlined. The significance of carpet and handicraft production as well as their benefits and downsides for rural women on the one side and the general Iranian economy including the capital accumulation in favour of landlords, industrialists and merchants is discussed. The impacts of historical events display patriarchal abuse of women's bodies. Also, in the form of dress codes as projection surface for Iranian politics (Najmabadi, 2005; Tavakoli-

Targhi, 2001). Devastating consequences for women through legal transformations are related to colonialist presence in Iran, which caused the death of millions and losses in women's occupation during World War I and the capture of the people's 1979 revolution by Islamists during World War II. Without doubt, the interference and British before, during and after World War I as well as during and after World War II clearly held back democratic and economic developments, women's and worker's rights. Until today, the impacts of the occupation continue to have an effect. Consequently, decolonial theory cannot leave out Iran, when it comes to decolonial knowledge production and process from the south to the north and from the east to the west.

Embedded within this context are the two rural qanat-based desert communities, which I was allowed to live with temporarily. Located within the presented economic, political and historical contexts, feminist political ecology as well as feminist and decolonial theories request the consideration of ecological circumstances and the allocation, control and management of resources from a female perspective. In order to help understand ecological struggles from a feminist perspective, the next chapter presents the climatic conditions and struggles of qanat-based communities. Drought and loss of fertile land resulting from weak domestic water management influenced by economic decisions and interrelated with interests of occupying forces are discussed. Furthermore, community life based on collective and systematic qanat management is introduced.

5. Qanat-based life and modern water mismanagement

5.1. Geography of the Iranian Central Plateau

Iran is part of the alpine fold mountains, which stretch from the Atlantic to the Western Pacific and developed in the Miocene epoch (23 million years ago). The relatively strongly delineated orography, geographically positioned between the Caspian Sea and the Caucasus Mountain ranges to the North and the Persian Gulf and the Sea of Oman to the South, determine the country's different arid to semi- arid climatic regions. From the sedimentation of coastal lowlands, a sharp elevation up to about 5,600 meters takes place into the mountain range. The Iranian Plateau, with 600,000 square kilometres of endorheic drainage, constitutes 63 percent of the country's total area. It is built out of the Iranian micro-plate situated between the Arabic plate in the South, the Eurasian plate in the North, the Indian plate in the East and the Anatolian plate to the West. As a basin valley, it is encircled by the Alborz Mountains in the North, the Zagros Mountains to the West and South and by the Eastern Iranian Highlands to the East. It is separated into six basins of internal drainage (Esmaeili, 2015). According to their tectonic history, the basins can lie between 200 and 1,300 meters above sea level. The plateau lies mostly at 500

meters above sea level, with surrounding peaks exceeding 3,000 meters in the West, while the lowest parts are mostly salt deserts. The two main basins are the Dasht e Lut (51,800 km²) and the salt desert Dasht e Kavir (77,6000 km²). The topography of the plateau is mainly characterised by solid rock upland surrounded by alluvial fans and alluvial plains. Today, a large number of major Iranian cities, which are home to 44 percent of the total population, are located on the plateau, among which are Tehran, Isfahan, Shiraz, Qom, Yazd, Kerman, Hamadan and Qazvin (Encyclopaedia Iranica, 2000).

The hot, dry climate with long, dry summers and short, cool winters result in about 70 percent of the average precipitation occurring between November and March. The mean annual precipitation of the mountainous areas is estimated at 356 millimetres. Situated in the rain shadow of the mountain ranges, the plains receive around 115 millimetres annual precipitation (Anon, 1984; Kowsar, 2008). Exceptional rain amounts are found in the Zagros Mountains and the Caspian coast (500 millimetres) and exceed 1,000 millimetres annually in the western parts of the northern coast. In contrast, on most basins of the Central Plateau, the annual precipitation average is 100 millimetres or less, which makes it among the most arid parts of the world. Both villages of the case study lie in the Dasht-e-Lut, which is characterised by hyper-arid climatic conditions, with temperatures up to 70 degrees Celsius in Kerman Province.

Fig.11: Lut Desert, landscape surrounding of Kharanaq, 2015.

Fig.12: Kalluts near Shafiabad, Lut Desert, 2018

5.2. The qanat: A long-lasting supply system demanding steady maintenance

The qanat is a tunnel that taps groundwater under the foot of a mountain (Figs. 9 and 10). Water drips into the tunnel, fills it and is transported from the aquifer below the earth's surface to settlements located at lower altitudes for consumption, irrigation and hygiene (Labbaf Khaneiki & Semsar Yazdi, 2013). In the desert, vegetation and soil indicate existing groundwater and determine the location of the main well, the motherwell, the longest vertical shaft, which is dug to tap the groundwater. The height of water

in the mother well is also an indicator for the groundwater table in the area. From the motherwell to the settlement, numerous vertical shafts are dug at intervals of 20 to 200 meters. All vertical shafts meet the horizontal tunnel, which begins at the motherwell at the depth of the groundwater, level and ends in the settlement. It can be 90 to 150 m high with a width less than half the height and can be as long as 100 km (ICQHS, 2020). The slope of the tunnel is carefully calculated. If it is too shallow, the water flow will be hampered, water might stagnate and the amount that reaches the settlements will not be sufficient. A too steep slope might result in the deterioration of the tunnel walls. During and after construction, the vertical shafts function as ventilators, light supply, tunnel access points and as positions to remove excavated material from the tunnel. In Chapter 4.3 it was discussed why qanats are seriously threatened with extinction in the future due to massive groundwater exploitation and lowering groundwater levels. Figure 11 shows the decline of the water amount inside a qanat tunnel. The white lines indicate the former water level. “From the air, a Qanat system looks like a line of anthills leading from the foothills across the desert to the greenery of an irrigated settlement” (International Center of Qanats and Historic Hydraulic Structures ICQHS, 2020).

Fig.13: Ghasabeh Qanat, decreasing water level (Radio Zamaneh, 2018)

Fig.14: Several vertical qanat shafts from the air (Rashedi, 2020)

With the mechanisation of Iran’s economy and urbanisation processes in the 1960s, the mismanagement of water supplies began creating a looming water crisis (Snyder, 2019). Shortly after the 1979 revolution, environmental concerns were put on the agenda with Article 50 of the 1980 constitution, underlining the necessity to protect the environment and its resources. But reconstruction after the Iran-Iraq War (1980–1988) and further industrialisation, as well as the goal of self- sufficiency, which led to the cultivation of water intensive crops (Snyder, 2019), consequently put the environment far down on the list of concerns. Natural resources are suffering under heavy mismanagement and corruption. Majid Labbaf from the International Center on Qanats and Historic Hydraulic Structures (ICHQS) in an

interview stated: In 2008, they did a statistical check and found out that Iranian qanats provided seven billion cubic meters of water annually. And last year in 2014, the amount was four billion, within six years." With the depletion of groundwater, the number of qanats and the knowledge and culture attached to them are receding.

In Iran, main water bodies such as lakes and rivers were controlled by the central government, while smaller bodies of water were maintained on a community basis. Even qanats were considered Iranian government assets and therefore were under state control, yet qanat-based irrigation took place independently of the state. Qanats were predominantly owned by up to hundreds of shareholders who possessed water shares. They could use these in combination with their lands if they were landowners, or they could rent them out to other landowners for irrigation. Village communities in the region that owned a qanat were mostly self-sufficient in their water supply. They possessed experience and many generations of knowledge on which they based and balanced their agrarian system in relation with their environment (Behnia, 2000).

In the course of Iranian history, qanats – as infrastructure elements – facilitated food security, enabled water supply and were a major area in the planning of royal complexes, villages and cities on the Iranian Plateau such as Yazd, Kerman or Bam until the 1970s (Behnia, 1987). Qanats also served as important strategic political sites in times of both war and peace. Governments invested in *moghannis*, qanat engineers, to maintain the tunnels and to make them more resistant to natural catastrophes and foreign militant destruction. Records go back to Achaemenid times. In an inscription on a Persepolis wall, Darius the Great (549–486 BCE) calls upon his Zoroastrian god Ahura Mazda to bless his land and to protect it from lies, external aggression and droughts. The king issued a decree for anyone who was involved in qanat construction or any project that converted water for irrigation to dry land (Polybius, 1922–1927). Owners of land with a canal (e.g. private persons, temples or the crown) received payment for irrigation rights (Jursa, 2011). During Achaemenid times, the maintenance of gardens and canal systems was implemented with care and effort (Kleber, 2015). A record by the Greek historian Polybius (Polybius, 1922–1927), which he made during an expedition around Tehran, states:

> "In this region I speak of, there is no water visible on the surface, but even in the desert there are a number of underground channels communicating with wells unknown to those not acquainted with the country… At the time when the Persians were the rulers of Asia, they gave to those who conveyed a supply of water to places previously not irrigated the right of cultivating the land for five generations… [so that] people incurred great expense and trouble, making underground channels reaching a long distance." (Polybius, 1922–1927: 171).

Iranian governments throughout history maintained the water resources of their territory, to which qanats have always contributed, as water provided food security, military supply and often an income resource for those in power. It is also important to understand, at the grass roots level, how people worked with qanats in the past and maintained them. This is presented in the following chapter.

During the Sassanid Empire (224–651 CE), intensive agriculture, which produced a surplus, required the necessary irrigation facilities. The hydraulic infrastructure, including qanats, supplied water to the growing cities, where manufacture and commercial activities were carried out (Gyselen, 1993). The Sassanids created an irrigation department to supervise all water-related affairs (Papoli Yazdi & Labbaf Khaneiki, 1998); or during the Samanid Empire (819–999 CE), a water department calculated and recorded trading taxes (Semsar Yazdi & Labbaf Khaneiki, 2013). In general, water taxes were calculated according to the quantity of water produced, which made water systems an important financial department. It is assumed that in times of peace, governments invested in strong water distribution systems to legitimise higher taxes (Bartold, 1970). In case of conflicts among farming communities, the government would intervene, probably to protect agricultural production, ensuring food security and enhancing state stability (Semsar Yazdi & Labbaf Khaneiki, 2007, 2017). In arid and semi-arid regions, food security and agriculture depended on groundwater (Behnia, 2000). People had to organise their water resources and to fine-tune their irrigation management in order to survive (ibid.). Qanats, beside lakes and rivers, as main water bodies, were controlled by the Iranian state. Yet their management occurred on a local basis (ibid). However, qanats did not only have a water supply function. Since the qanat management, from its construction to its regular maintenance, is carried out collectively, it plays an important role in the social lives of the people. Due to its long existence, numerous stories are told about qanats and cultural norms are connected to it within the communities. Thus, in general, qanats played a major role in the lives of qanat-based communities. One aim of this work is to find out more about the cultural significance of qanats, with the focus on its relation to women by presenting historical facts on women and qanats, as well as folk stories about the qanat and mystic beliefs about water and femaleness.

5.3. Women and qanats

The work of women in the two qanat-based communities was and is strongly connected to the water of the qanat, due to their daily work in agriculture, in the house and husbandry. They have childhood memories with the qanat, and it has a high value for most of the women. This is elaborated in Chapter 6.

5.3.1. Women's contribution to qanat culture

In Iranian history, womanhood was connected to qanat culture on a daily basis at work and in cultural and spiritual forms. Throughout Iranian history, women have contributed significantly to the expansion and maintenance and naming of qanats. Women were able to initiate the construction of qanats. During the Sassanid Empire (224–651 CE), for example, Mehrnegar, daughter of King Khosro I (531–579 CE), responsible for the city of Yazd, ordered the construction of a complex with a qanat named *Mehrpadin* for the people in a village near Yazd. Irandokht, daughter of Khosro II, assigned a colonel named Abrand for the construction of a village named Iran Abad (today, Abrand Abad) with a qanat to make the land fertile, which it was for 700 years before it experienced a dry period. During the time of the author's life, he reports that the area was made green again. The qanat which supplied water for ten villages in the surrounding area still exists today (Afshar 1978, 1997). During the Seljuk era (1040 to 1194 CE) after the Islamisation of Iran, Khadija Khajehbadi from Qazvin, ordered the construction of one (or two) qanats for two rural areas in order to supply water to the people. In Yazd, two women, who were qanat owners, donated the qanat or possibly parts of a qanat to the people. Arsalan Khatoon (*khatoon*, 'lady'), married to the ruler Alaodole Kalanjar, assigned eunuchs to building a minaret and a qanat, which is named Absava today. She gave food to the poor twice daily, and distributed clothes. Two female upper-class servants of Arsalan Khatoon, named Abr and Mobarake, each built a qanat for Yazd. The daughters of Khatoon instructed the building of the qanat of Azabad. During the same time, Maryam Khatoon, the mother of Sultan Qodbeddin, built a qanat for the village called Maryam Abad, which now belongs to the city of Yazd and still carries that name (Afshar 1978, 1997). During Mongolian rule in Iran (1256–1335), Fatemeh Golshan ordered the construction of a water silo, which today is called *Abanbare Golshan* (Golshan's Water Silo).

5.3.2. Womanhood, qanats and folk memory

In many communities, qanats were gendered. Qanats with shallow, calm water were considered male, while deeper, more fluent ones were labelled female. People believed that the low water flow was caused by the laziness of a male qanat and that "his flow" needed to be motivated. For the motivation of a male qanat to let his water flow to the settlement, weddings were initiated between male qanats and women of the community. According to the region, people "took care" of the water flow by certain celebrations. In some places, it was believed that the qanat's wife, a woman, had to take a bath in the qanat regularly, for example, weekly, to increase its water flow (Semsar Yazdi & Labbaf Khaneiki, 2015). In Isfahan Province, women of the community would cook soup and choose a bride from the elderly, who would wear a ceremonial dress and bathe in the qanat. In other places, marriages were arranged between a male

and a female qanat. Therefore, a young boy needed to fetch water from one qanat, carry it to the other and pour it in. Qanat weddings, or other ceremonies, such as the rain dance, are still celebrated in Iran (Yazdanpanah et al., 2013a). Mr Akhoonid told me: “Yes, we know about the qanat weddings, but we did not have any here as far as I know.”

The role that water played in the various aspects of human lives was emphasised in the holy books of the Zoroastrians (the Avesta), Muslims (the Quran) and others. Globally, humans in prehistoric times created gods and goddesses of water, both for agriculture and funeral rites, often with similar characteristics. The next section gives insight into why femaleness and water are connected.

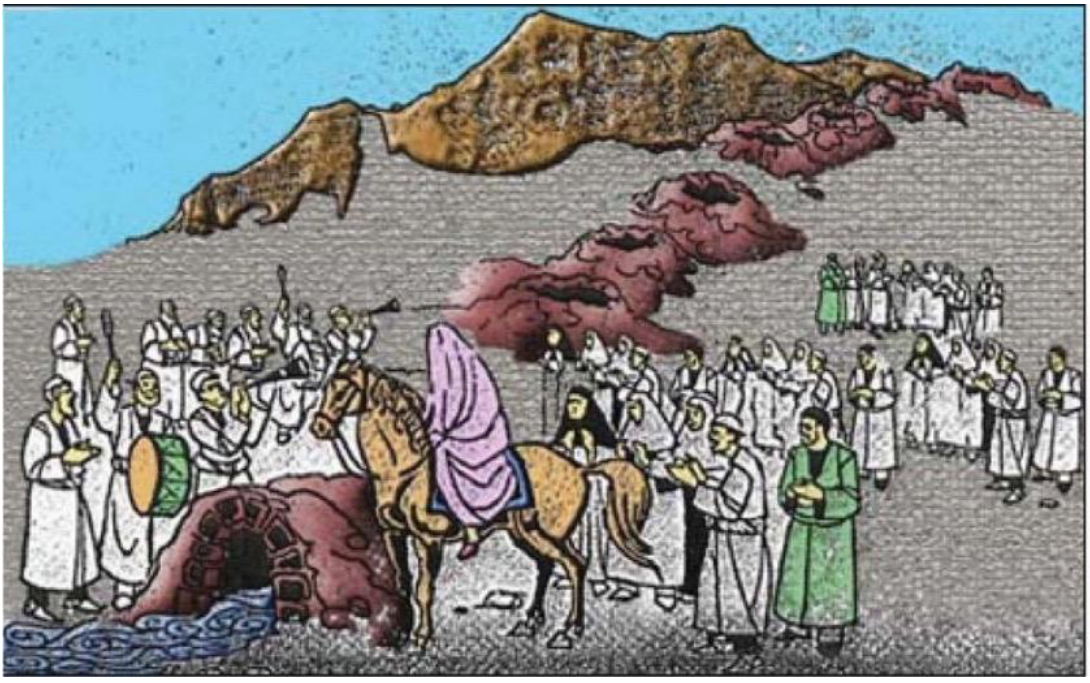

Fig.15: Drawing of a qanat wedding (Ettela’at, 2016)

5.3.3. The female character of water in myth and religion

The four elements, fire, water, air and earth are holy in the Zoroastrian religion, which to a great extent deals with the two opposites of good (the god Ahura Mazda) and evil (his inferior opponent Angra Mainyu). The central elements are fire, which stands for life and purity with a cleaning function and water, the origin of all material. The creation of the earth is believed to take place after that of heaven and water. The old Indo-Iranian word for water, *aban* (plural, Avestan: *apo*) is grammatically feminine. The element itself was always characterised as female, represented by a group of divinities, the *Apas*. These represent the waters and manifest their diversity of shapes and tempers, whether as waves, drops or separate streams, pools or wells. Introduced in the 4th century CE, an iconic shrine cult of the deity Aredvi Sura Anahita, female guardian angel of the *Aban* (waters), lasted until it was suppressed by the

Sassanid (224– 651 CE) dynasty (Boyce, 1975: 454–465). In Yasna, a part of the Avesta, the waters are worshiped as the *aurani*, wives of *Ahura Mazda*. They were celebrated every tenth day of each Zoroastrian month. In Yasht (book of hymns, part of the Avesta), which includes myths from the time before Zarathustra and in the Bundahishn (a text about cosmogony, mythology and legends), Anahita is also presented as the source of the world river, which carries her name (Curtis, 1993). Her role is to increase life and herds, and to bring prosperity to all countries (ibid). She flows widely, heals and helps against the *daevas* (bad creatures working for the evil power) and is devoted to Ahura's love (ibid). She is associated with wisdom and fertility, giving sperm to men, purifying the wombs of women and encouraging the flow of breastmilk. She is described as beautiful and strong, wearing beaver skins. Warriors in battles called for her assistance and victory. She likewise is worshipped by heroes and villains, who bring sacrifices to her (ibid). In general, the concept of waters and Anahita tend to merge with each other, probably beginning with the increased promotion and prominence of Anahita under the Achaemenids. The existing prayer to the waters consists almost entirely of verses from the Avestan hymn to Anahita.

With the Islamisation of Iran, the worshipping did not end: To Muslims water is not less holy. The Quran states that all living things are made of water. The Islamic religion is confined to a mainly dry geographical area, where water is considered a precious gift. It is sent from heaven and should be treated carefully. As it is a divine gift, it can never be possessed by anyone. If a person pollutes water, they will be severely punished. It is to be used for growth, sustenance and purification. Throughout the day before prayer or entering the mosque, Muslims are required to perform ablution rituals and wash their hands before and after eating. The holy Zam-Zam source, whose water is the best and noblest of all waters, according to the Quran, had been found by a woman, Hajjar, the wife of the prophet Abraham. It is believed to have healing properties. Even in the afterlife, it has an important role as it flows in the form of rivers through paradise. Muslims are encouraged to conceive nature as a blessing and to constantly contemplate and reflect upon it, particularly grass, water and fire, the three wonders of the natural world (Ahmad, 2015).

Important female figures have always been associated with water, its function and meaning. The strong worship of water by Zoroastrians as well as Muslims might be another reason why water and water supply systems, such as the qanats, have been maintained carefully until modern Iranian history. With attempts to modernise the state according to Western standards during the Pahlavi era (1925- 1979), the state failed to implement adequate water resource management, which had negative effects on surface and underground water and consequently also on qanats. The next chapter gives an insight into these

effects.

5.4. Water mismanagement and the decay of qanats

Inadequate water management started when Iran became increasingly integrated into regional geopolitics and transnational capitalist activities. During the Pahlavi era (1925-1979), its economy was expanding, particularly by oil exports (Dabashi, 2007). As consequence, the agricultural sector was highly stagnant growing very slowly for several decades, with a decline in production until 1961 (Khamesi 1969). Due to a lack of means, rural agrarian production was not able to cope with population growth and an integration in the world market (Kazemi, 1980). The decline in agricultural output strongly affected the social and economic situation of many farmers. The income difference between farmers and landowners increasingly began to widen in the 1950s. As a consequence of unsatisfactory political and economic implementations, antagonistic voices rose amongst an increasingly politicised general public (Hooglund 1982, Lambton 1969). Farmers' uprisings and intellectual and artistic movements had started. Since the tobacco revolt (1891-1892) landlords, aristocrats, bazaris and religious scholars had accumulated widespread power and communist ideas had gained popularity. The increasing rise of political opponent factions by nationalists, socialists and Islamists within the realm of global political events represented a threat to the Pahlavi rule and the interests of the US administration (Ansari, 2001). Under domestic and international pressure from the Kennedy administration (1961–63), Mohammad Reza Shah initiated a national reform plan (Ansari, 2001; Dabashi, 2007; Kheirabadi, 2009), the so-called *White Revolution* ('white' because bloodless). It was created to restructure Iran's economy, increase its competitiveness on the global market, strengthen women and workers on social and economic levels, and push toward infrastructural modernity according to western standards. A major part of that modernisation plans represented land reform (Afkhami, 2009). While the purpose of land reform was promoted to give peasants more autonomy and power to modernise agrarian structures, another aim, authors suggest, was to calm the unrest and to introduce a capitalist production mode (Danesh 1992, Najmabadi 19787). The land reform instituted the redistribution of land from big landlords to small farmers and promoted the mechanisation of agricultural production. Farmers who received land were obliged to pay back the government a monetary amount and to join mandatory state-controlled cooperatives, which were responsible for integrating the local economies to new national social and economic standards. Cooperatives in turn would be equipped technically and agriculturally (Ajami, 2005; Najmabadi, 1987). The cooperatives had the task of supporting peasants and substitute the traditional top-down system. Technical and chemical supplies were supposed to be divided between members of collective cooperatives, who were responsible for integrating the local economy into the

national structures. However, among the members of different classes in rural cooperatives, funds were divided quite unequally (Ansari, 2001). Further, major landlords were allowed to keep their lands, while traditional farmers had the right to keep one sixth of their shares per village (Ajami 1973). Yet they were allowed to choose the most profitable share out of their property, while payments and provisions, which had to be paid to peasants, ceased. Thus, they still earned a sufficient revenue (Danesh 1992). Generally, bureaucracy and biased state officials favoured landlords, who were initially trying to push against the reform plan (Ansari, 2001). They would always find new loopholes within the reform regulations, which enabled them to overcome restrictions, for example to keep or regain larger shares by transferring official ownership to relatives. During the first stage of the reform (1963–1966), statistics show, only 15 percent of all land was selected for redistribution to small farmers (Hooglund, 1982), while forty-two percent of all Iranian peasantry were excluded from receiving land.

Support for the farmers and an alternative to a top-down system failed. Impossible obstacles were created for the 83 percent illiterate population in 1976, leaving them powerless (Kazemi, 1978). Besides the paperwork, small farming required labour intensive cultivation, household labour, and draft animals, whereas farming on large lands depended on labour-saving technologies. A study of Iranian farms found that in the case of full mechanisation on 100,000 hectares of land, 60,000 agrarian workers lost their jobs (Behbahanee, 1984). In fact, enormous power became concentrated in the hands of large landowners and bureaucrats (Katouzian, 1974; Yeganeh, 1985), enabling them to manipulate reform decisions according to individual interests (Danesh, 1992). Small farmers who received land and should have been the direct beneficiaries of the reform, were forced to sell their lands to large landowners due to financial shortages. Many of these small farmers migrated to the growing cities, which in turn required a stronger increase in resource supply. Studies link urbanisation to rural transformations (Danesh, 1992; Khosravi, 1976) such as landlessness (Danesh, 1987) and show that generally massive urban migration by farmers was proportional to land concentration in the hands of a few (Najmabadi, 1987).

Thus, although land reform ought to have given peasants more autonomy, modernisation opportunities and mobilisation of unused capital, authors suggest that the actual aim of land reform was to dismantle the political power of influential landlords. Despite some supporters of beneficial change, the aim was to sustain as much of the established power in the political elite as possible (Ajami, 2005; Dabashi, 2007; Danesh, 1992; Kazemi, 1980a, 1980b; Hooglund, 1982; Najmabadi, 1987). The government aimed to gain popularity in the eyes of the peasants, to calm the economic unrest, to show the progressive parties a revolutionary spirit of the crown, and to introduce a capitalist production mode (Danesh, 1992; Katouzian, 1974; Najmabadi, 1987). Authors largely agree that a strong, externally governed

management of rural cooperative alliances, which ignored local customs, traditions, and knowledge, caused the negative outcomes of land reform. The lack of local autonomy that could have promoted agricultural innovation from the bottom, instead led to mechanisation of large farm units and increasing unemployment (Amid, 1990; Danesh, 1992; Ehlers, 1979; Hooglund, 1982; Lambton, 1969; Najmabadi, 1987).

Amidst the rising rural unemployment, the Shah's administration seriously aggravated the heavy economic decline: 1) By subsidising wheat and bread for urban consumers in support of farmers and 2) by importing cheap bread and rice from the USA and India. The cost of living had risen to a point where employees depended on extra income from corruption to meet living costs (Gholi Majd, 2012). The subsidies and the unbeatable US competition dumped Iranian domestic market prices way below their true value in the free market and discouraged farming business in 1970 (Dabashi, 2007; Danesh, 1992). Additionally, despite financial support, heavy machinery and phosphate fertilizers, agricultural productivity declined sharply, and landlords were unable to fill the production gap due to the urban flight of farmers. Agricultural productivity decreased immensely and so, despite a rising food demand at about 12.5 percent annually on the domestic market due to population growth, an immense gap of decreasing inland supply was created. By 1968, Iran had transformed from a net exporter to a net importer of all kinds of products, such as oil, rugs and rice, and this doubled from 1970 to 1975 (Dabashi, 2007).

Another reason for the agricultural shortcomings, despite all investment, is argued to be the lack of water, which made increased productivity impossible. The arid land, on which most of Iranian farming takes place, requires adequate water management. In order to provide urban and rural freshwater networks, devices or services for digging deep wells were made available. The first first deep well was dug in Iran in 1946, followed by many more (Semsar Yazdi & Labbaf Khaneiki, 2013) and the new, relatively cheap pumping technology changed accessibility to underground and surface water. People demanded deep wells and pumps in their own backyards for private and easy water access or as a means for irrigating their fields. Over time, the decreasing costs of pumping technology enabled their increased acquisition (Molle et al., 2003) and became the preferred solution for water supply (Aqasi & Emami Meybodi, 1999). and quickly spread all over the country. In contrast to local techniques, such as qanats, the wells enabled unlimited water extraction and consumption, to which the farmers adapted their agriculture. The extensive extraction of water began to exploit aquifers, drive groundwater levels to dramatic depths, and to dry out the first qanats. Simultaneously, the well pumps were consuming high amounts of fossil fuel and later also electrical energy, which is constantly polluting the air with carbon

dioxide (English, 1997; Kowsar, 2008; Labbaf Khaneiki & Nouhpisheh, 2005; Lightfoot, 1996; Semsar Yazdi & Labbaf Khaneiki, 2013; Wessels, 2009). Functioning agriculture performed by peasants and, to a great extent, included investments into the maintenance of qanats. This was done by former landowners, who no longer saw its necessity. Private financiers of deep wells either used the water for their own purposes or rented it out per hour (Bonine, 1989). Accordingly, people who had lost their free qanat water, (or that of another water supply systems) were forced to purchase or rent water from well owners (Labbaf Khaneiki & Nouhpisheh, 2005).

Concurrently, during land reform, Lambton (1969) found that group farming by cooperative societies, which were particularly applied in qanat applying communities, were "clearly fundamental" for the initial success of land reform. She states that peasants in qanat communities, who owned land as cooperative societies and could cultivate without the influence of a landlord, were able to afford and enhance the coordination of their agrarian management. Particularly villages that dealt with resources free from external authoritarian interference showed an improved resource maintenance and effective management of land and water (Lambton, 1990), while members developed an enhanced sense of loyalty towards their community. Yet, in less autonomous communities, cooperative societies could not perform well and qanat systems often became void (Jomepour, 2009; Lambton, 1969).

Experts largely agree that a strong externally governed management of cooperative alliances, which ignored local customs, traditions and knowledge, caused the negative outcomes of Iranian land reform. The lack of autonomous grassroots organisations that could have helped to support agricultural innovation from the bottom, and bureaucratic mismanagement from the top with the aim of keeping up with modern food production led to poor decisions, which supported the mechanisation of large farm units, and in fact increased unemployment (Amid, 1990; Danesh, 1992; Ehlers, 1979; Hooglund, 1982; Lambton, 1969; Najmabadi, 1987). Land reform was induced top-down with minimal grassroots input, manipulated (Momeni 1980, Danesh 1992) and corrupted, blocking the majority of poor peasants from achieving their economic needs (Danesh, 1992; Hooglund, 1982).

In the aftermath of land reform, despite the rapid modernisation efforts by the Shah, in 1970 the overall rate of unemployment among rural residents lay at 22 percent among women and 13 percent among men (Official National Census of Iran, 1976). In rural areas, the number of working-class residents who lost their average size of land and their shares of land and water increased. Less powerful landowners lost their properties and the number of upper-class rural residents decreased, while the relative land ownership of a few further increased. The steadily widening gap between rural and urban development

since the initiation of land reform might be considered to be the best proof of its failure (Kazemi, 1980a, 1980b; Khosrovi, 1979; Najmabadi, 1987). By the time of the 1979 Revolution, Iran's population had grown from ten million to thirty-five million with a relatively young mean age, which caused another boom and more than doubled the population in the two following decades. The expansion of deep wells on the Iranian Highlands and around the country has changed the social and economic structures of villages and towns (Ajami, 2005; Ehlers, 1979), which led to the dissolution of locations as original habitats (English, 1997; Labbaf Khaneiki, 2013).

Based on the studies presented in this chapter, it becomes clear that if modernisation is to take place in rural areas, it is necessary that the planning occurs with the involvement and participation of the inhabitants of the local context. Otherwise, mismanagement may take place, which can have negative impacts on the respective rural population. This coincides with theory on communing in Chapter 2.4. (e.g. Gaur et al., 2018; Ostrom 2009; Yazdanpanah et al., 2014a; Al-Nakib, 2014).

A general historical background of Iran's modern history has been given by discussing the impacts of domestic and global politics in combination with imperialist and colonialist control on women's lives. This chapter sets the effects of political and economic events in relation to the development of ecological circumstances for qanat-based villages on the Iranian Central Plateau. The historical summary in Chapter 4 and the ecological background in Chapter 5 set the foundation to more deeply investigate the two micro-contexts of the chosen qanat-based rural communities, and how their realities and perspectives appear within the given macro-context dealt with in Chapter 6. In the following, the studies in Kharanaq and Shafiabad and their outcomes are presented, beginning with
an outline of the current water scarcity situation evaluated by qanat experts, followed by the introduction of qanat-based community life and commoning.

6. Approaching the field

As a result of the theoretical and historical discussions up to Chapter 5, I argue that the rural contexts of this study have great potential to add interesting outcomes for the field of feminist political ecology. Based on the theoretical and historical discussion, the target of the fieldwork is to gain insight into the micro-contexts Kharanaq and Shafiabad, where I had the chance to become familiar with and analyse qanat-based community life. The focus of the fieldwork is the work of rural women occupied in agriculture, handicraft production and husbandry. The conceptual framework of decolonial feminist political ecology, in combination with the historical background provided here, represent a helpful frame for

approaching the rural communities. With the aim of achieving the best possible quality of outcomes, in Chapter 2, conceptual instruments are derived from feminist political ecology and common property resource theory, Middle Eastern feminist studies, feminist studies and decolonial theory, and are interlinked to a decolonial feminist political ecology lens. The approach of the empirical study through this lens seems most appropriate for generating a profound understanding of the setting and to find answers to the research questions. These theoretical concepts from a feminist perspective assist in approaching the Iranian context both historically and at present.

Feminist political ecology investigates effective political and economic power mechanisms that occur at all levels of the interaction between humans and the environment regarding identity, difference and pluralities of context within environmental struggles and change (Rocheleau et al., 1996). In this way, intersectional variables that shape constructed marginalizing factors as determinants of the control over resources are analysed. The field aims to understand gender dimensions of resistances and hegemonic struggles, concentrating on material and discursive practices of gender-based labour division (Elmhirst, 2011), and explores grassroots strategies in women's struggles to overcome inequalities and environmental degradation at local levels. As qanat-based rural communities shaped by patriarchal traditionalism, which actively apply commoning in a harsh environment of resource scarcity, these concepts are considered for the approach of the two rural contexts of Kharanaq and Shafiabad. As demanded by decolonial feminist political ecology theory, the goal of this study is to hear women's stories about gender-based power struggles in relation to work and qanat-based community life on the resource-scarce Iranian Central Plateau. Effects of transforming landscape, gender-related resource use and access, agrarian changes, rural-urban transformation, work and resistance are investigated, and in application of the above-mentioned concepts of Feminist political ecology, women's realities from these underrepresented contexts are analysed with the aim of adding to the field of feminist political ecology theory.

The aim of feminist political ecology generally is to challenge hegemonic masculinist epistemologies by research in the global south to reproduce knowledge in higher education of the global north (Harcourt, 2019). The field criticises western approaches, and underlines the necessity to recognise other epistemologies, pointing to decoloniality, and to rethink identities and dualisms (Harcourt and Nelson, 2015). Anticolonial feminist theories analyse the power relations between the colonisers and the colonised and compare theoretical arguments with political projects in relation to intersectionality, post- and decolonial feminism (Mendoza, 2016). In this manner, feminist political ecology criticises neoliberal, Eurocentric notions and the simplification of complex concerns in the global south. Global

and domestic political power structures interrelate with colonialism and imperialism. While exploring power mechanisms and the interrelation of nature and culture in the globalised world, feminist political ecology aims to recognise local knowledge and to deconstruct and rethink normalised western rationalities. Therefore, the decolonial lens is essential for the conceptual application of a reasonable feminist political ecology theory. Decolonial theory demands a transformation of Eurocentric epistemologies, stressing the importance of the production of knowledge in local geopolitical contexts. By giving bodily experiences involved in the production of knowledge a central place, proponents of decolonial theory support a serious rethink of social sciences and methods. Therefore, a transformation of the existing hierarchies within the "historical-structural heterogenous totality called the 'colonial power matrix'" is proposed (Grosfoguel, 2011: 13). At the centre of social and environmental discussions are discourses of local contextualised alternatives to dominant Western development approaches, dealing with alternative development and alternatives to development from Latin-American indigenous perspectives (Maldonado-Torres, 2008; Villalba, 2013). The two rural communities from global southern contexts, which supported this work, are affected by colonialism and imperialism. Learning from and analysing the two rural locations through the decolonial school and knowledge of the women's bodies from the resource-scarce environments offers new non-eurocentric perspectives to add to feminist political ecology theory.

According to feminist political ecology and decolonial theory, Chapter 4 provides an understanding of the macro-context of Iran by historically interrelating global and domestic political and economic events and the meaning of these for Iran's female population. The historical chapter summarises Iran's position as a nation affected by British, US and Soviet imperialism and colonialism. It reveals women's counteractions against patriarchal structures and the impacts of foreign and domestic political and economic events. Further, previous studies (Tara Povey 2016) investigating impacts of Western foreign policies, international sanctions and neo-liberal developments since the revolution in 1979 argue that Western policies, which claim to support women's causes against a "conservative theocratic state", hamper the work of non-Western women's organisations in Iran. The portrayal of the Middle East as conservative and religious, which needs to be liberated by the West, harms campaigns around gender and sexuality in Iran (ibid). Additionally, literature found that the sanctions regime harms ordinary Iranians. Neoliberal politics have made a conservative political pro-regime elite richer at the expense of the majority, and theocratic forces have been strengthened both materially and ideologically, which has greatly affected working class and middle-class women (ibid). In this regard, the decolonial feminist perspective and the historical and political context in this work provide a stable foundation for

investigating and analysing the perspectives of the women from the two communities on domestic and foreign politics, as well as their organisation in women's groups, and places this into relation with imperialist and colonial structures.

In feminist literature on women's work, presented in Chapter 2, authors note the gender-based work segregation with the special segregation of the private and the public (e.g. Federici, 2019). The field views patriarchal exploitation of women's labour and women's bodies built by gender-based labour, and the exploitation of productive labour only possible through that of non-productive labour. Women's work is degraded or ignored by being defined as informal, unproductive and women's time activity (Federici, 2019; Mies, 1986), and women are systematically pushed into less paid, more labour-intense, irregular work in informal sectors such as handicraft production from home or putting- out systems. Feminist theory deals with the development of the Persian carpet as exotic Orientalia for the West, and how this kind of exploitation and the othering of the primitive rural weaver promoted this development. The historical discussion on women's work and education provides insight into the exploitation of women's and children's labour. This provides a sound base for the fieldwork, which aims to learn from the women how far – as farmers and commodity producers in the informal sector of handicraft production – they have experienced the systematic and sexist labour division and other forms of marginalisation in their work and everyday life. From the carpet producers among them for example, the aim is to hear about their experiences during the process of the commodification of the Persian carpet as exotic Orientalia in the West, and to analyse how findings are linked with colonialism and imperialism.

Feminist political ecology and common pool resource theory address the relations between global environmental change, gender and vulnerable waterscapes, thus underlining normative gender discourses and their impact on rural and urban water mismanagement. Thereby, the impact in recent political and ecological climate contexts and their linkages with changing demands for water resources and how these affect livelihoods and existing equalities are investigated (Buechler and Hanson, 2015). The field urges public policy to gain a better understanding of self-regulating cooperative actions, instead of creating institutionalised standard solutions for individual local problems of collective property (Ostrom, 1999). Common pool resource theory stresses that state law and policy can constitute threats to local commoning (Ostrom, 1990) and that natural resource management, which does not actively incorporate the stakeholders will ultimately fail (Bromley & Cernea, 1989). Literature argues that during communing, stakeholders control each other's behaviour for fair distribution amongst all (Ostrom, 1990, 2009), that it is based on the stakeholders' mutual trust, without existing hierarchies, and

that it is successful in maintaining the resource (Federici, 2019; Wulandari et al., 2018; Ostrom, 1990, 2009). The field proposes that a revitalisation of common property resources is crucial for protecting livelihoods and women's bodies (Hartcourt, 2017; Hartcourt and Escobar, 2005; Sato and Soto Alarcon, 2019), and to improve conditions in arid micro- climatic locations (Gaur et al. 2018). The collective grassroots organisation of women in communities produces new realities and a collective identity and initiates a "process of self-valorisation and self- determination" (Federici, 2019:108). Counteraction against the global capitalist system can only be effective if separation of gender is overcome (ibid). Additionally, Chapter 5 reasons, how foreign and domestic economics and politics shaped the appliance of water mismanagement throughout Iran, and how commoning enabled communities to maintain their qanats. Qanat-based community life is introduced with the qanat as a common good and basis of agriculture. Since the two rural communities are based on a qanat-based agriculture, which functions by collective action and commoning, the above-mentioned theoretical concepts and the background information about qanat-based community life will be supportive in approaching the field regarding these subjects. In the two rural communities of this study, the qanat plays a major role in the lives of the local communities. With the theoretical and historical foundation in this work, the aim is to study the relationship between women and the qanats, as well as the power structures in relation to collective qanat management, in order to shed light on normative gender discourses within collective community structures. Further, the target is to investigate how the decrease in available water and access to it affects livelihoods and existing inequalities, and how these inequities in turn shape resistances in these contexts. Resistances are addressed by investigating women's everyday actions. The aim is also to understand double resistances against traditionalism and patriarchal theocratic structures and see how these are connected with global and domestic climate and political events. The study provides access to knowledge of women from rural qanat-based desert communities, which are a highly specific underrepresented context in contemporary literature. Thereby it offers a new, women's perspective on Iran regarding water scarcity, resource access, transformations, equality and gender roles to add to the construction of new epistemologies from the global south in line with decolonial theory deconstructing Western universality.

The historical chapter reveals that alongside women's resistances in Iranian history, women have learned to deal with patriarchal and patrimonial political systems, whether secular or religious (Tohidi, 2016). Everyday resistances in the private, the semi-private and the public spheres take place with the aim of circumventing repressive domination in very different forms. In the literature presented in Chapter 2, opinions vary over whether the public–private segregation is empowering for women, who

have been allocated to be in the private as housewives. The historical chapter sheds further light on resistances from the private and the public by Iranian rural and urban women. For the fieldwork, these built a firm base with which to approach women's resistances in the communities shaped by patriarchal traditionalism and theocratic Islamic law. Western feminists view southern women as victimised and oppressed by patriarchy regardless of their context and see the "suffering body of 'the other', for example the veiled body of the Muslim woman as counterproductive (Moallem, 2005: 167–168).

In line with decolonial feminist political ecology and common property resource theory, this thesis contextualises the impacts of domestic and foreign occupation, U.S. interference, the Islamic revolution, environmental degradation and commodity production, as well as the impacts of these events on the lives of Iranian women. This provides an accurate foundation to embed into that context the perspective of rural women from two very specific geographical and geopolitical locations of the Iranian Highlands, by listening to the women's narrations on how they manage work, education, oppression and resistance. These have been identified as salient for answering the conceptual research questions. Regarding their relevance for decolonial feminist political ecology theory, the women's matters of concern shaped the categories of analysis for this chapter. Within the conceptual frame, the methods for the fieldwork are planned and conducted. Since concerns of the women are different in both villages, within the decolonial feminist political ecology frame, the categories of analysis differ in each study. These are presented, analysed and embedded into the domestic and geopolitical macro-context and interrelated with environmental degradation and resource scarcity. Finally, outcomes of both studies are compared and discussed. Acquiring knowledge from the rural women of the qanat-based desert contexts will contribute to decolonial feminist political ecology theory.

At the beginning of the study, I visited rural communities in the provinces of Yazd and Kerman, known for their rich qanat culture. The villages were introduced to me by members of the international UNESCO centre for Qanats and Historic Hydraulic Structures (ICQHS). I began with the search for a number of villages which apply qanat-based agriculture and where women are involved in agricultural activities. Eventually two villages stood out as highly interesting to me: Kharanaq in Yazd Province and Shafiabad in Kerman Province. As the aim of this work was to trace possible resistance movements in relation to transforming environments, water resources access, work and patriarchal social structures, Kharanaq is interesting since it is losing the amount of its water due to a general decline of groundwater in Iran. Shafiabad is relevant because the activism and collective work of the local women, which is linked to the village qanat, generated improvement in women's social position and a general revival of its culture. With the acceptance of the local communities, I began my research.

Fig.16: Map of study locations Kharanaq and Shafiabad

6.1. Problems of water scarcity in Iran and on the Central Plateau today

In Iran's diverse topography and climate variability, temperatures range between –20 and +50 degrees Celsius and annual precipitation varies from below 50 millimetres to 1,000 millimetres. The average annual precipitation is 250 millimetres, which constitutes less than one third of the global average (Madani et al., 2016). The mean annual precipitation of the mountainous areas is estimated at 356 millimetres and that of the plains at around 115 millimetres (Kowsar, 2008).

Exceptional rain amounts are received in the Zagros Mountains and the Caspian coast (500 mm), whereby the western parts of the northern coast exceed 1,000 millimetres annually, relatively evenly throughout the year. In contrast, the average annual precipitation on most basins of the Central Plateau is 100 millimetres or less, which puts it among the most arid regions of the world. Additionally, decades of inadequate water management and extensive water use are associated with declining groundwater levels, drying of lakes and rivers, subsidence of land, deterioration of water quality, desertification, soil erosion and dust storms. Through heavy water extraction, the level of groundwater that is tapped goes

deeper, and with greater depths, the salinity of water often increases. Pumped to the surface, salty water can pollute the soil, resulting in damage to flora and fauna and the pipe networks of buildings. The over-exploitation of groundwater was and is constantly causing hydrological droughts and dry- outs of qanats and other local water supply systems (English 1997; Kowsar, 2008; Lightfoot, 1996; Semsar Yazdi & Labbaf Khaneiki, 2013; Wessels, 2009). These factors resulted in high unemployment rates and more rural-to-urban migration among the new, small farmers (Danesh, 1992). Consequently, the 50 percent of the total population who lived in rural areas by 1979 has reduced by more than half today (Dabashi, 2008) and the concentration of Iran's population in urban areas has increased to 75.3 percent (Worldometers, 2019). Tehran, for example, is home to almost 20 percent of the state's population. The absence of small or medium-sized cities complicates water management and delivery and creates even more problematic circumstances. While in rural areas, the physical unavailability of water is a limiting factor (Karandish and Hoekstra, 2017), in the cities, water is used without any bounding factors. Iranians use an average of 250 litres of water per day, which is twice the global average (Madani et al., 2016). In Germany, for example, the average is 121.5 litres per day, while Germany is considered a water rich country (Federal Ministry for the Environment, Nature Conservation and Nuclear Safety, 2019). One reason for the high use of water is that water has a very low price in Iran. The price does not represent a real incentive to conserve water, both in urban and rural areas. Altogether, the state is facing unprecedented water problems (Edraki, 2018; Kalantari et al., 2018; Rezaian, 2014; Yazdanpanah et al., 2013a). A study from 2013 by the World Resources Institute ranked Iran the 24th most water-stressed nation. Majid Labbaf Khaneiki from the ICQHS in Yazd gives reasons for the water shortage:

> "One problem is climate change. The earth is getting warmer and that affects us, too. The other problem is political and cultural. Wrong politics are being implemented; people do not have consideration. Many factories are built in the middle of the country, far from the borders, to keep it away from external threats. For example, they built steel factories in the middle of the desert. It requires a whole river of water and what do they do? They use the groundwater for it or take water from nearby rivers. They know very well about all these facts, but none of them think in long term logic. They think about their term of office. They say: 'If I want to be the director here for four or five years, what can I do to fill my pockets? I won't be here in 50 years, so I don't care'."

Simultaneously, the agricultural sector is the largest freshwater user in Iran. It consumes up to 92 percent of Iran's water (Madani et al., 2016). Due to the oil-based economy, less attention has been given to the agricultural sector in modern history in general (Madani, 2015). However, the mismanagement of water resources began to take place during the Pahlavi period, when the government tried to force modernisation on the agricultural sector, and after the 1979 Revolution during the Iran-Iraq war. In this

regard, Mr Hassanzadeh from the Ministry of Water and Soil in Karaj said:

> "Water is scarce, so if you force everyone, who has land to work in agriculture, it will not work. After the war there was no industry, so they motivated people to be farmers. But in order to use the lands, water, gas and electricity were necessary. The state gave them subsidies and the wrong permissions: deep wells! The people without work all became farmers. In 1995, we had 100,000 deep wells in Iran. Today, 20 years later, there are 800,000 wells. They are emptying groundwater."

The drive for increased productivity of the sector has led to expansion and improvement of cultivation infrastructure, yet a transformation of applications is required from outdated farming technologies and practices with low efficiency in irrigation and decreasing production. While irrigated agriculture is the dominant practice, the economic return on water use in this sector is significantly low, and inappropriate crop patterns are incompatible with water availability conditions in most areas across the state. Recently, the water footprint of produced and exported crops has been considered. Yet farmers often continue to choose crops which have a higher market price than traditional crops of the respective area (Madani et al., 2016). Mr Hassanzadeh, regarding qanat-based agriculture, explained:

> "Our problem is not unemployment. Everybody is employed. Our problem is that the water down there [the groundwater] has been emptied. When the aquifers are empty, you have water scarcity and you do not have qanats. The well water has 20 litres [per second], the qanats of the country give you five or six litres [per second]. Many let the qanats dry out and chose wells instead. With that water, they cultivate melons for 100,000 Tomans per kilo and throw them away because there is no production strategy existing." Melons require intense humidity to grow, which does not exist on the Iranian Central Plateau, the centre of qanat-based agriculture. Further, Mr Hassanzadeh states: "There is no stable bazar. You cannot rely on the fact that onions this year cost 700 [Tomans] per kilo. For example, because suddenly everybody cultivates onions and due to overproduction, you throw them away."

Although Iran has always had drought periods, this time it is different, according to experts. The state faces a severe water crisis, which has been made even worse by climate change (Karimi et al., 2018; Yazdanpanah et al., 2013b). Lelieveld et al. (2016) examined the potential impacts of climate change on Iranian agriculture. In all scenarios of the existing studies, climate change is expected to significantly affect Iran's agricultural practices due to changes in precipitation, temperature and fertilisation. Water resources will be reduced in various regions of the country and the state's total crop yield is projected to decrease. Additionally, reductions in precipitation and rises in temperature can significantly increase the requirement for irrigation water. The reduction of water supply for irrigation will cause a risk to

national food security (Kang et al., 2016). Studies show that the decline of water resources reduces the livelihood of farmer families (Azadi et al., 2015; Keshavarz et al., 2013; Keshavarz et al., 2017; Khaleghi et al., 2015; Vaseghi & Esmaeili, 2008), which will lead to rural poverty and forced migration (Nazari et al., 2018). The impacts of climate change on agriculture will be very serious for poor families and small-scale farmers with little adaptive capacity (Karimi et al., 2018). Mr Hassanzadeh analysed:

> "If there is no income, how can you maintain a house, [no matter] how much you may love it, how much it may be historic and worthy. If there is no money, how do you want to keep it? Then I say, 'I help you. I put a pump into the qanat, I give moghannis under-priced artificial tools. I destroy the qanats. I, who am working here for 13 years now, came to the point that there is no income in agriculture because there is no system in it and the state brings things, which exist since thousands of years, into disorder.'"

More than thirty-one percent of Iran's population are employed in agriculture (Tahbaz, 2016) and thus, these people are directly affected by a decline of water resources (Madani et al., 2016). At the same time, these only represent 23 percent of all jobs and contribute to 13 percent of the gross domestic product (Tahbaz, 2016). This condition may not change as long as there are no alternative income sources in other sectors.

Besides the fact that about one fourth of the jobs in Iran are in agriculture, the Islamic Republic has had the goal of being a self-sufficient economy since it came to power in 1979. A major issue in arid and semi-arid regions such as Iran is efficient water management programs for the generation of food security. Due to international sanctions on the Islamic Republic and the Iran-Iraq War, sufficient food production has been a major goal and a challenge for the government. Therefore, the cultivation of strategic staple crops, such as wheat, has continuously increased after the 1979 Revolution. Strong subsidies were set to expand the agricultural sector, leading to heavy water exploitation. The aim for food security has led to water insecurity (Madani, 2016). While cultivation areas did not significantly grow from 1980 to 2010, total crop production grew by 170 percent and the population increased by 92 percent (Karandish & Hoekstra, 2017). Today, the drive for food security and awareness of the water resources situation have created a conflict of interest in the state. While there are serious concerns of a situation in which Iran is dependent on food imports, experts believe that the state does not have the capacity for self-sufficient food production (Tahbaz, 2016; Karandish & Hoekstra, 2017). Thus, irrigation efficiency is a crucial factor. Average water use efficiency is approximately only 35 percent (Madani, 2014) compared to 70 to 90 percent in the west in 2015 (Food and Agriculture Organization

of the United Nations, FAO 2018).

Another means of providing water is the dam. In order to secure irrigation water for rapidly growing water needs, dams have been constructed all over the state since the Pahlavi era. Their main function is to provide electricity and water to urban centres in rural towns with little benefit for agriculture (Shakoori, 2001). Iran ranks third in the world in dam construction (Lehane, 2014). Damming has caused environmental degradation: deteriorating water quality, increasing desertification and salination (Madani et al., 2016; Nikouei, 2013; Shahi, 2019; Semsar Yazdi & Labbaf Khaneiki, 2013) and forced migration (Shahi, 2019). Two-thirds of Iran's land is rapidly turning into desert as a result of damming projects (Nikouei, 2013; Semsar Yazdi & Labbaf Khaneiki, 2013).

The problem of water scarcity in Iran forces politics to react, at least verbally. In fact, a priority of Iranian governments since the 1960s has been to improve the productivity of irrigated agriculture (Forouzani & Karami, 2011). In places identified as high drought risk areas, construction of dams and the exploitation of groundwater, among others, are decreasing (Zarrineh & Azari Najaf Abad, 2014). Instead, wastewater treatment is being increased (Sheidaei et al., 2016) and desalination plants are being applied for agriculture (Karimi et al., 2018). At a meeting with the agricultural ministry in January 2019, President Rohani called the decrease in Iran's water reserves "dangerous". A reason for the bad situation is the heavy exploitation of groundwater, which could cause severe damage in the future. Rohani stated that water is essential to the security of the people. He also said that the state needed more food products each year. Thereby, the area of fertile soil is increasingly restricted, which represents a threat for the people. Many critics agree that water scarcity has long been one of the major problems of the country, but without adequate solutions by the government (Keshavarz & Karami, 2013; Madani et al., 2016; Labbaf Khaneiki & Semsar Yazdi, 2018). In general, financial aid or regulatory government policies may result in short-term positive results. But in the long term these may diminish the benefits for poor farmers, and instead support large scale farmers, who are more able to adapt to climate change (Karimi et al., 2018; Keshavarz & Karami, 2013; Yazdanpanah et al., 2015). In this regard, Mr Hassanzadeh from the Water and Soil Ministry criticises that "in countries like Sweden or Germany, people plan 20 years up front. Here someone comes and sits in a seat and suddenly decides: 'Give them the permission for deep wells.' And all others, who work below that person, need to do as she said. And the state told itself: 'So far people are calm. We will help them once in a while so that it stays calm.' The qanats are worth nothing to the state. A farmer doesn't have income. It is cheaper for her to import from Turkey and Afghanistan than to cultivate. Automatically, young people change their profession. They want a certain level of luxury. There is no future for qanats, only if they really accept them as cultural heritage

and the state finds the motivation to maintain them as a cultural branch, which they then take care of." Simultaneously, in Iran there is a trend in scientific research to deal with Iran's water scarcity problem and to take the qanat water systems into account and to understand the importance of their maintenance. Conferences are being held to address water-related problems (e.g. the Annual Congress of Soil and Water Conversation in Tabriz, 2019; Annual Congress of Development of Agriculture, Natural Resources, Environment and Tourism in Tabriz, 2019) or to discuss the future of qanats and their cultural and environmental significance. For example, recently at the Payam Noor University of Ardakan, the first national conference on qanats, water and water legacy sessions were held for two days with experts, shareholders, and people in charge of the nation's water and qanats in terms of their cultural, economic, managerial and technical aspects. A large number of papers was presented by experts from provinces such as Sistan-Baloochestan or Markazi, besides Yazd and Kerman. During the conference, subjects such as social knowledge in relation to qanats or the qanat as a model of learning about water use presented two major points for the participants. Professor Papoli Yazdi, among others, said: "Even the qanats provide ten percent of the country's water, the teachings that we can get from qanats are social teachings in terms of how people worked together, how people put effort together, how they initiated corporations, which are still existing after centuries and sometimes thousands of years." In general, currently, a shift is to be observed from discussion of technical points of view to the cultural and the local points of view on qanats. Even though qanats enabled livelihood and population growth in Iranian rural areas in harmony with nature, some scholars believe that qanat agriculture made rural economy highly rigid and immune to modernisation (e.g. Danesh, 1992). Others show that small family farming managed by illiterate farmers is not compatible with centralised bureaucratic water or irrigation management controlled by external administrators, with little or no understanding of unique village contexts and culture. In cases where the decisive power was fully transferred to the communities, the concomitant feeling of responsibility was found to have resulted in a stronger social cohesiveness and effective water use. Lambton's outcomes strongly correspond with described behavioural patterns of Ostrom's 'self-governing of the commons' and other scholars of the property school, as well as of recent outcomes (Chen et al., 2018; Gaur et al., 2018; Yazdanpanah et al., 2014a, 2014b). Rural communities, which were able to continue their local agricultural practices and irrigation management, succeeded in maintaining sufficient production.

Both Kharanaq and Shafiabad were able to maintain control over their village qanats. How the locals managed to stay autonomous from state regulations and were able to maintain their qanat and continue the collective management will be discussed in the following chapters. When I arrived in Kharanaq for the

first time on a pilot field visit in 2014, Mr Akhoondi (55), a farmer in Kharanaq and a retired teacher, showed me around and introduced me to the Kharanaq community. He had migrated from Khanaraq to Yazd 25 years ago. He was explaining the agricultural practices to me, when a young woman of around 25 years of age passed by, a dark blue chador with a floral design tied around herself, and her child, bound on her back. She was holding a sheet full of green haulms. Mr Akhoondi introduced me to her: "This is Maryam, she is just coming from the field. In this town, our women work together with us. They are strong. Look, she even has her child with her at work. In Kharanaq, I was confident that I would be able to gain valuable information related to my research project. I stayed one night at the house of Sakineh Rahmani (72, retired farmer) and Haji Azizi (82, retired moghanni and farmer), who are Mr Akhoondi's parents-in-law. During my short stay, I talked to some of the residents and arranged interview participants for my next visit.

When I returned in spring 2015, I learned that in general "the amount of water has decreased dramatically. Even if it snowed a lot, it would not change much anymore," as Cobra explained. Cobra (52), who is married to Mr Akhoondi, a farmer and retired carpet weaver. The locals associate the construction of deep wells with the decline of qanat water. The expansion in the number of wells in Kharanaq began when people started moving out of the fortress, where there were no wells. The only water source was the qanat, of which one branch ran inside the fortress and another around it between the fortress and the fields. Cobra continued explaining to me that

> "It was a normal development that people bought land or built houses and moved out of the fortress at some point. And anybody who obtained a house also built a well with a hand wheel to pull out the water. The wells were not used much, usually still the qanat was used. Only when it snowed, it was so cold that one couldn't go out anymore and then we used the well in the yard of the house."

Tap water for the houses initially was provided by a well with water of low quality situated beneath the qanat's mother well and therefore could not harm it. The hand wheels later were replaced by diesel fueled pumps and today are run by electrical pumps. Accordingly, in time, with the tradition that new houses have a well with a pump, the water extraction from deep wells increased, which eventually leads to a decrease in groundwater. Due to the reduction of groundwater, the qanat flows today at one fourth of its original amount. The subsequent heavy decline in amount and quality of irrigation water from the qanat is followed by a heavy recession in the harvest, which caused strong economic backlashes for the people in Kharanaq. Until 25 years ago, when the qanat flowed at a satisfying rate, the harvest provided the people of Kharanaq with sufficient vegetables and fruit. It allowed families to keep cattle, bake bread

and produce dairy products. The groundwater decrease today also results in the problems that the well water is highly saline with an annual tendency to increase. Therefore, the residents of Kharanaq, similar to most people of the Iranian Plateau, urgently require fresh water for cooking, drinking and washing. People in Kharanaq, besides the expansion of deep wells, often mention a decrease in precipitation as a direct cause of groundwater decline, mainly in winter. Cobra explained:

> "In the past if there was drought or a lot of snow, it did not affect the water flow. Only if an extreme drought continued for more than three years, the water amount became less. In the past, there was also more snow and therefore also more water in the qanat. In the past, all fields were completely used. If you look now, you see that only here and there some spots are cultivated."

When I was walking around the village with Mr Akhoondi, we experienced a serious discussion between residents of the community. I learned that this conflict of opinion had been going on for some time by then. The village was torn into groups, of which two were dominant: the group of farmers, and non-farmers, who required the digging of a deep well in order to obtain fresh water of better quality for domestic use. The group of farmers, who are mostly landowners, was afraid that if a deep well were dug near their qanat, it would dry up, since the well would tap the aquifer that provides the qanat with water. Critical discussions were taking place in the streets of the village. Everybody seemed to be involved and to have opinions about solutions. In one group, a woman said: "We don't want our qanat to dry out. They should keep the qanat and get us water." Another man said: "They can do something. They can add water sweetener for example. Have you tried the water yet? It has become very salty, and recently, worse and worse." Later, I tried the water, and it tasted salty as if someone had added half a teaspoon of salt into my full glass of water. A woman added: "I don't care from where they get the water. These days they bring water anywhere. We need tap water." A young man replies: "You can get fresh water from the street tap." Mr Akhoondi replies: "Everybody knows that if you dig a well and the qanat dries up, fresh water in your home won't make you happy." Mr Akhoondi, who belongs to the ones who support the maintenance of the qanat, told me: "They are thinking about now. Only now. They turn on the tap and see there is no water, so dig and give me water. In any way they want water. They don't think that if the qanat dries out after one or two years and it becomes empty here, they will have to leave as well. They are making a mistake."

A group of women surrounded me, and I rested on the back of the pick-up truck of a man who was selling homewares. Someone brought me tea. Woman 1 said: "Those of us, who don't have land, in our homes, we always have very little water." Woman 2 complains: "They cannot wash their clothes at

home. That needs to be done at the qanat." Woman 3 added: "People need to get water and gas from somewhere else with trucks." Woman 4 said: "We want water, but they shouldn't dry the qanat." Woman 5 said: "You can go see what they do for the other villages: they even supply them with sweet water, but for our village? Nothing." Sakineh said: "Now one has to get the water from elsewhere, plus it is salty and if this continues, then only a few people will be left over here." Woman 1 said: "Other problems we have are schools, work for women, work for men and bread."

Robab Zarei (42), a strong, seemingly satisfied woman, retired carpet weaver, cook and mother of two, later told me:

> "It would be good if we had a well, but then the qanat would dry up. The tenants would lose everything. We need water in the houses. When you want to shower, there is very little water, but we also need water for agriculture. Therefore, I prefer not to have a well. When it rains or snows it is better, but it does not affect the qanat water. There is a well to support the qanat water. The pipe directs the water into the qanat channel. When it's open, I have ten minutes more water for my fields. You see, how much it affects the water flow?"

Besides the issue of unemployment and the lack of infrastructure, the qanat issue seemed to be of great importance for the people of Kharanaq. Most people talked about how declining water supplies affected them. Further, the subject of collective management was raised (discussed in chapter 2.4. and 5.). The debate was highly relevant in view of the current discourse on water scarcity in both academic and non-academic settings. The discussion in Kharanaq appeared to be appropriate and of great value for this study. My interests lay in learning more about the collective struggles of communities in the course of the decline of qanats, and the situation and resistance of rural women within these social and economic struggles.

6.2. Case study Kharanaq in the Yazd Province – Struggles of women and their thoughts on qanats, politics and change

I returned to Kharanaq in autumn 2015, and in winter 2016–17 with the aim of understanding the everyday lives and the knowledge of local women in qanat-based communities. By gaining insight into their experiences and struggles, their resistances, successes and their awareness of matters concerning them, I wanted to see how women as actors are present in the Kharanaq community, and what experiences they might have with forms of inequalities. My aim was to relate power structures, gender struggles and access to resources by learning about possible social, economic and ecological limitations

and their relationships.

Driving through the wide desert of the Iranian Central Plateau, amidst the dominant yellow and red colours of the sand, green areas and treetops appear, announcing the oases in the desert. One of these oases is the village of Kharanaq. Approaching it, pomegranate and pistachio trees add to the picture and yellow brick stone houses dominate the scene. Entering the village, one passes a police station on the left and a large, paved playground on the right. Having reached a small supermarket, the small new cobbled street with new black lanterns leads down to the old caravanserai on the right and the fortress of Kharanaq on the left. At the end of the street, behind the fortress, the gaze falls on green fields in a downward direction to a valley with a dry riverbed. The ancient arch bridge made of brick stone is still intact, and the light blue onion dome of a mosque before the light brown mountain range on the other side of the riverbed catch one's eye. Beneath the fortress, on the mountainside towards the valley, the river Dokali was flowing as permanent runoff from the mountains; today it flows only seasonally. People cultivated turnips, wheat, barley, watermelons, honey melons and *zardak* (yellow carrots) in their fields.

Fig.17: Women surround me, Yazd, 2015

6.2.1. Geography of Kharanaq

Kharanaq is located at the foot of a mountain range in the province of Yazd, 84 kilometres northeast of Yazd, the provincial capital and largest city, and is thus located in the arid and semi-arid belt of the northern hemisphere with an area of 18,000 km² at a height of 2,000 meters. Together with four other villages the town is part of the district of Ardakan. The soil of the area consists of salt containing desert sand, which exposes towns and cities to strong desert storms. Rain is almost non-existent and groundwater salinity is high (Abbaspour et al., 2009). Soil salinity, occurring in arid and semi-arid

regions, limits plant growth and reduces crop production (Taghizadeh Mehrjardi et al., 2015). Kharanaq is located in the Dasht-e-Lut and is estimated to have existed since the Sassanian Empire (224–651 CE).

Until the 1980s, the town of Kharanaq (literally, 'place of the birth of the sun') was a fortress of one hectare in size built from a mixture of clay, soil, and cretaceous rock. The wall that surrounds the fortress, which simultaneously comprises the village houses, is four storeys high. It consists of six towers and two gates, at front and back. The houses inside the fortress have three floors. The basement served as a stall for cattle. The ground floor was used as a storeroom for fodder and agricultural equipment and the first floor was living space. Families without cattle would use the basement for storage as well. Inside the fortress, the town comprised a *hammam* (bathhouse), a mosque and a minaret. Archaeological research has proven that the minaret and other parts of the fortress stem from the Sassanid era (224–651 CE). Evidence shows that the fortress of Kharanaq was inhabited more than 1,000 years ago (Shahzadi, 1995). Predominantly the architecture stems from Seljukian times (1037–1194 CE). Various parts of the fortress date back to the 14th and 15th centuries CE (Amiri, 2005). The fortress has not been inhabited since the 1980s. Next to the fortress, a caravanserai served as an important resting point and accommodation for silk road travellers. It is also surrounded by high walls. The name of Kharanaq appears in a number of different historical works, for example, in writings from the Seljuk Empire (1037–1194 CE) (Shahzadi, 1995). A historical incident is said to have occurred in Kharanaq: The eighth Imam of Islam, Imam Reza (765 to 817 CE) is said to have crossed Kharanaq on his way to Khorasan. For the predominantly religious people of Kharanaq, this historic documentation has enormous value. The house in which the Imam may have rested during his stay is a sacred site today. Religious ceremonies and gatherings take place here, in which I had the chance to take part.

The qanat flows seven kilometres away from the south. It has a watermill inside and two branches, one that runs through the old town and is dry today, and another, which surfaces on the square in front of the fortress, flows around its wall and then to the fields. With the beginning of the 1980s, people began to move from the fortress into newly built yellow brick houses beside it. Life inside the fortress was not considered sufficiently secure or hygienic by the government. The new houses were built to new living standards and were privately financed or with aid from the state. In the new town, a clinic and a second mosque were built. The mosque also functions as a town hall for meetings, celebrations and mourning ceremonies.

Fig.18: Kharanaq Fortress, 2016

6.2.2. Demography of Kharanaq and particiapnts of the study

Kharanaq has around 400 inhabitants today, but there are no longer many young people. Even the number of children seems to be less than in other villages that I have seen in Yazd Province. The majority of people are between thirty and sixty years old. Around 60 of the households are farmer families, most of whom live permanently in Kharanaq. Others work in factories around the village, for example in asphalt and screw production or for the railway. There are many families who migrated to Ardakan and Yazd and visit Kharanaq on most weekends and on holidays. Some families moved further away, to Tehran or Karaj and visit the village mostly on holidays.

The participants interviewed in Kharanaq were young people between the ages of 13 and 30, middle aged people between 30 and 50, and people above 60 years old. Both men and women participated, with women predominating. The boys and men of the group, aged between 30 and 55, were either working as teachers, workers and office employees or searching for a job. The men above 55 were mostly moghannis, qanat engineers, and farmers. All moghannis were also farmers, some of whom were retired. The girls were all pupils planning to go to university. Among the women were farmers, carpet weavers, housewives, one cook and one librarian, who was working in the village library.

6.2.3. The qanat and the women

In qanat communities, a qanat serves the physical water demands and represents an entity with which humans stand in close relation. The maintenance of the qanat is determined and simultaneously co-determines social, economic and political structures within the community. Within these social and cultural norms, further tasks existed and still exist for women. As collectively managed common resources, qanats did not solely have an irrigational function. They represented the village hub and a main meeting point for people, particularly for women, since they had various functions related to women's everyday work and other activities. In rural communities, members used the qanat according to strict rules. At certain levels along the channel only particular actions can be performed. At the entrance into the city the qanat is still clean and can be used for consumption, further down for washing dishes and again further down for washing diapers. One branch would sometimes be diverted to the mosque for washing rituals and to the *hammam* (bathhouse) for bathing.

Fig.19: Qanat surrounding the Fortress of Kharanaq, 2016

"You could always hear the sound of the qanat water from everywhere, also in the night when people were sleeping", Hakimeh (70), retired cattle holder and farmer, remembered. Sakineh (73) also remembered: "When we were kids, all channels in the fortress were full of water. Haji Azizi visualises: "And it was warm. You could see the steam from seven kilometres away." – "Now it is dry," Hakimeh said. In the past, the qanat played a central role in the lives of the people in Kharanaq. Agriculture, livestock, and carpet production provided the main income. Therefore, besides an irrigation function, the qanat also supplied drinking water for domestic use, for cattle, water for personal hygiene, religious

washing and to wash dishes, clothes, carpets or diapers. Cobra, retired carpet weaver and daughter of Haji Azizi, explained to me:

> "Water for cooking and to make dough was taken out further upstream. A bit further downstream, one was allowed to do ritual washings before prayer, further down dishes were washed, and again further downstream clothes and even further the bottoms of the babies. Everybody would follow these rules."

It was a woman's task to fetch water from the qanat and bring it home for domestic use. In a special clay or metal jar named *khomreh*, they would catch water directly out of the open flowing river in the centre of a village, from a city square, or underground water storage silos, which often lay many steps down underground. It was also used for the cattle. In Kharanaq, often women gathered at the qanat to sit together and talk while doing the washing. As water was always needed in the houses, or there were always dishes or clothes, for example, which needed to be carried to the water or back from the water, the women in Kharanaq had invented a rule, which Cobra explained:

> "Never did anyone go to the qanat empty handed. If someone did so, it was senseless and we would ask the person, why do you go to the water with empty hands? For example, in one hand we would carry the dishes from the dinner of the other night. In the past there was not so much plastic and ceramic dishes. There were big pots and in the other hand an empty bucket to get fresh water. Do you see those pomegranate trees over there? Me and my sister have watered them with buckets. If we didn't have dishes to carry each one of us had to carry two buckets."

Hakimeh (70) and her neighbour Soghra (65), retired cattle holders and farmers, told me about their lives with the qanat. Hakimeh said:

> "We didn't have water in the houses in the fortress. We had to go to the source, yes, the qanat, everything we wanted to do we did there: We washed our dishes, our bowls, clothes, our ritual washings, everything. We washed ourselves in the qanat in a pool. One would cook roots, in the afternoon mill kashk (concentrated whey) and in the evenings cook meat. We wove handicraft. We did not go to the fields."

Soghra said: "I did cultivate the fields and manage the water, I had sheep. My husband was a brick

layer in other places. We had meat, milk and yoghurt."

Fig.20: A woman washing clothes in the qanat in front of the fortress, 2015

Irrigation and harvesting took place collectively. Women could own qanats and certain tasks around qanats as the main water source fell to women. Work on the fields was divided by sex. Sowing and weeding were also women's tasks. The diversion and management of qanat water for irrigation in the fields and work with heavy tools such as aerating the soil in preparation for sowing was men's work. Yet, generally, when men were away from the village for work in winter, women would carry out the necessary tasks in the village. Men were away at least six month per year, since they worked and travelled as moghannis. Women who did not have a male family member, such as Sakineh, would organise irrigation water as well by day and night, or sometimes they would pay someone to water the fields. She cultivated carrots and wheat and recounted how the water decrease affects her:

> "The only disadvantage now is that there is less water. I inherited land from my father and did the irrigation management myself. For the ploughing I had a helper. It is men's work. We did have one and a half hours of water every twelve days, which we could water all our lands with. We were able to irrigate ten korts of wheat."

A kort, the word used in Yazd province (standard Farsi: *kart*), represents one unit of cultivated land. She continued:

> "Now, it is only enough for two or three korts, that means seven or eight korts don't get water anymore and I am hardly able to irrigate three of them. We have water at six. When it is still dark, I go with an oil lamp. I do it myself, but if you pay someone to water the fields, it costs 10,000 Tomans. When one kort is full, we direct the water to the next kort and then to the next."

"On the field, men and women always worked together," Sakineh said. "We were born into agriculture. Our ancestors were farmers." During the winter months, when there was no work in the fields, or it was too cold to work on the qanat, the men were away. Then, the women would take care of work in the village inside and outside the houses themselves. Sometimes a number of men stayed away for longer periods, moghannis for example. Accordingly, in spring women would start to till the fields and manage cultivation. When water had to be diverted from one field to the next by night, women mostly would go out to the fields together to take care of each other.

Besides the technical aspects of qanat irrigation, women and men in Kharanaq are also familiar with spiritual aspects of qanats, such as the gendering of qanats and qanat weddings or the myths of the goddess of the waters, Anahita, and the sacredness of water both in Zoroastrianism and Islam.

This section shows that the women in Kharanaq inherit water shares and that they have broad knowledge about the qanat and water management. They have memories of the qanat and nostalgic feelings about the times when it was in better shape. They also told me about routines they had invented regarding women's tasks with the qanat. The next section gives more insight into the debates over the wellbeing of the qanat and fresh water supply for the houses.

Fig.21: Fields behind the fortress and dry riverbed, autumn 2016

6.2.4. More water in the houses vs. survival of the qanat

As major issues of debate between the two groups in Kharanaq, the ecological circumstances of water scarcity in the village and the maintenance of the qanat were still ongoing. According to narrations of some moghannis and Mr Akhoondi during a group interview, this was not the first fight the people in Kharanaq had "against the wells". They had previously succeeded twice in stopping the installation of a deep well. Repeatedly, there were people who stood up against a well construction in order to save the village qanat and agricultural production. People also stood up against other externally planned implementations for their village. During the Shah's land reform of the 1960s for example, they did not want the lands to be redistributed. According to the narratives of some of the people, a redistribution of lands from landowners to the people in Kharanaq would have had negative effects. The new division would have been unfair and completely disrupted the existing structures, and so people did not accept the change and succeeded in resisting the reforms. They were able to stay independent of state regulations and to keep the norms and rules of their village until today. This event reflects findings of authors presented in the theoretical section (e.g. Ostrom et al., 2018; Chen et al., 2018).

Having avoided external political impacts, the town was not able to escape the strong negative effects of climate change, due to which the water level that feeds the aquifer of the qanat of Kharanaq dropped. Mr Akhoondi said:

> "They must invest a budget so that the qanat works better. In the qanat now, one meter of water gets lost and there is drought. These are the reasons why the qanat only flows at one fourth of its actual amount. If they repaired it, the water that is there wouldn't get lost. The people responsible say we don't have the budget and the people here can't do it on their own."

At the same time, during the White Revolution of the 1960s, Kharanaq retained its social and cultural autonomy. The reason was not that the village holds a rigid stance against agricultural modernisation. There are other reasons why the village is still practising farming in a traditional way. Mr Akhoondi explained: "Agriculture became mechanised. Here when you aerate the soil and cultivate with a spade, the wheat that you have in the hands, costs 10,000 [Tomans] per kilogram. But the price for wheat is not 10,000. It is less. It is not lucrative. Our lands are not suitable for machines. They have a slope, they are small." Some older men who are retired or practise farming with little cultivation say that mechanisation would significantly lower the costs per kilogram of harvest, but simultaneously make the use of qanats increasingly ineffective and redundant. Mr Akhoondi continued: "All these reasons lead to the fact that it is not lucrative. However, the carrots sell well, but because there is not enough water,

they can't be cultivated [now]."

Farmer Heydar Heydarpour (64), while cutting grass with his wife to dry it as hay for their sheep, told me: "Our lands are not smaller, we have less water. Our cultivation and yield are smaller now. You see on all the uncultivated land there should be wheat be growing. Those [lands] were cultivated last year." Farmer Heydar had left Kharanaq as a young man to earn more money outside the village. He started as a moghanni, joined the army and then moved to Yazd to work for a telecommunications company in the network section. After his retirement, he moved back to Kharanaq as a farmer. He inherited all the land, which he works, from his father. Yet he can only afford to live due to his retirement payments. His children and grandchildren live in Yazd. The yellow carrots of Kharanaq are well known in the region and could have been a secure income source. Mr Akhoondi continued to explain why the water decrease has such a strong impact:

> "When you want to grow carrots, you must have grown wheat or barley before. When you plant wheat, the soil cracks. In these cracks, you sow the carrots. Without the cracks it doesn't work. With a machine, it will not work. You need to sow the seeds by hand. Now the soil does not give good wheat anymore. In the past, the tradition was to leave all lands, all agricultural fields that are connected to each other rest for one year in entire Kharanaq, and not cultivate wheat or barley at all. If they didn't sow wheat or barley for a whole year, it would be good again, but not even one person understands that even if you sow ten meters, it will not work if you don't give the soil a break. The wheat they harvest right now is very good wheat and you can mill it to flour, but the dough from it doesn't stay in the clay oven, it falls off into the fire. They only can use it for animals. It is really good wheat, full of vitamins. But the farmer who grows it still needs to buy wheat for his bread. There is not enough water. One piece of land now is divided into three sections and only one can be watered. People need water. They could bring piped water here from Ardakan. It is only 50 kilometres on even ground, but unfortunately nothing has happened yet. They always say, it is on the way."

Farmer Heydar said:

> "They wanted to build a deep well because our water is salty. Our water was always salty, so that does not make sense. You can see it from the ground. If the soil is black, it means the groundwater is salty. If the soil has a beautiful yellow colour, the water beneath it is sweet. Salty water is better than no water, which could have happened to us with a well. In Kharanaq, in the past, yellow carrots, wheat, barley, watermelons, honey melons and cotton were cultivated. Now that there is less water with higher salinity, they cultivate pistachios."

When I visited Kharanaq again in winter 2016, the situation of the qanat and water scarcity was continuously a subject of debate. However, the previous conflict had been solved legally before the court, and the digging of central deep wells for water supply inside the houses had been denied. Experts had testified that the well would most likely dry out the qanat in the near future. According to the participants interviewed, even if large amounts of snow or rain fell now, that would not change much anymore. Robab Zarei's husband, pointing to the fields, then explained:

> "There, where it is green now behind the fortress, everywhere it was green. It was all cultivated fields. It was several hectares and now, it is not even one tenth. Drought is the reason. If they had dug the well, the qanat would have dried up for sure. There is less rain. That lies in the hands of God. Our mother well is 74 meters deep. It needs a lot of rain to affect the water flow of the qanat."

Despite all loss of water and transformed farming opportunities, farmers in Kharanaq continue to cultivate as much as possible. In the past as well as today, the younger generation often searches for other occupation besides farming. The regulations of water and land division that existed in the past are still followed today. The next section gives an overview.

6.2.5. Division of water and land

Decolonial feminist political ecology seeks an understanding of gender inequalities in terms of resource access and control to the disadvantage and to place these in relation to existing marginalisations of women.

Despite the collective organisation, according to Sharia law, the basis of the legal system of the Islamic Republic of Iran, daughters inherit half of the land share with sons, and the same is applicable to water. While many parents nevertheless divide their land and water equally between their sons and daughters, most follow the law, and did so particularly in the past. Consequently, in rural areas generally, men were in possession of land or water, and therefore held the decisive power and access to land and water, and this still applies today. Yet women inherited water shares, which they could donate, rent out, or use as dowry in case of marriage if they did not want to use them for their own purposes. In the case of dowry, often the shares would be given to the husband, who would manage the land and water as the breadwinner. Often also sisters gave the management of the land and water to their brothers. Accordingly, females are also share owners, but the male family members manage these shares and work with them.

On all agricultural lands, production was usually organised in work units of several peasant households. First, the landlord's share would be collected from the harvest before people occupied in agriculture, such as the *mirab*, responsible for division of water among stakeholders, the miller and others were paid. Finally, the rest of the crops would be divided among the active farmer families, according to land rights in proportion to size of owned land. Cattle owners received additional crop shares (Najmabadi, 1987). Hakimeh, retired farmer and cattle holder:

> "Those days they would cultivate yellow carrots and wheat and feed it to the sheep. Some years later, the carrots were sent to Khorasan [Province]. Now, they send it to Yazd. The carrots are good. In the past, we gave it to the landlord as his share and the rest we kept and baked bread for ourselves. We have not had enough wheat for two or three years now, but it is still better today. In the past, we were hungrier, and sometimes people had to give their whole harvest to the landlords, because it was their share, I don't know how many jugs, and nothing was left for ourselves."

Her neighbour Soghra added:

> "The wheat belonged to the landlord. Annually, we gave him wheat and paid 10,000 Tomans for 10 minutes of water, that means 90,000 Tomans per year for ninety minutes of water. Whether the harvest was good or not, we had to pay. Today as well, landlords get their money annually. They don't have any disadvantages. They don't have to pay. The tenants don't have much income. If it doesn't go well, we have nothing. It is hard…Because there is less yield today, we need to buy a lot. Everything we earn, we need to buy something to eat with."

Collective qanat-irrigated cultivation in work units was called the *boneh* system and functioned similarly to the usual landlord-land user relation: landlords divided their lands into small units (*boneh*), which they rented out to sharecroppers who cultivated in groups by division of tasks. The rent was paid to the owner by a share of the crop or monetarily (Amid, 1990). Based on experience and age-old knowledge, agrarian systems were balanced sustainably and self-sufficiently in relation with the environment (Behnia, 1987, 2000; Bonine, 1982). Qanats were usually owned by up to hundreds of shareholders. In order to make the water of qanats widely available for all users and to avoid conflict, a system of water division was developed, which divided water among the farmers of one community by timeshares within daily cycles. Multiple day-cycle units (24 hours) existed, which could have been divided into two twelve-hour units, *taghs*. Throughout Iran, the irrigation cycles are between six and 21

days long.

Today, qanats are worked according to the same system. According to the number of shareholders, water flow of the qanat, respective crop patterns, climate and soil conditions, and social and economic factors, irrigation cycles vary according to the area of application. For example, wheat and barley, the most grown crops in Iran, need to be watered every twelve days, suggesting a 12-day cycle, which is widely applied in Iran, whereas porous, light soils have low water-holding capacity, requiring short cycles. Yet in villages with several qanats, each qanat may have its own irrigation cycle. If the water flow changes due to a certain climatic event or human impact, shares and cultivation are adapted according to regulated evasive manoeuvres, which also are determined by evolved expenditures (Semsar Yazdi & Labbaf Khaneiki, 2013). Water is divided between farmers in the irrigation cycle, in which each farmer gets timeshares. During these timeshares they have permission to irrigate their land. Timeshares are calculated to the split second, usually within 12-hour-units named *taghs*. In Kharanaq, the irrigation cycle has 15 days. If a farmer, for example, has an irrigation right of one hour within that 15-day-cycle, she is allowed to utilise irrigation water for one hour every 15 days or within the 15 days. The length of a cycle is decided according to the respective cropping patterns.

Robab Zarei (42), carpet weaver, who worked in a restaurant as a cook until it closed, is unoccupied now. Sometimes, when she has time, she goes to a friend's house to work on her carpet, which she is weaving for a merchant, and when she finds time, she works in the field. She has another explanation why she and her husband are not occupied much with agriculture:

> "We always worked together, men and women. We cultivated yellow carrots and wheat. Nobody has cultivated cotton or carrots anymore for eight or nine years. It provided a good income. We only have one hour of water per 15-day-cycle. Even if there was more land and water, we still could not cultivate all land by ourselves. It is not possible alone with all the housework and the children. Therefore, we have sold most of our land."

Farmer Heydar has another explanation why the farmland has lost its value and why nobody invests in agriculture:

> "The people who work here on the fields do not own their lands. The lands belong to landlords from Yazd and Ardakan and the rents are not much today. In the year 1342 (1961) during the land reform, they took some lands from the landlords and rents became a bit less for the farmers. Water became less, and the landlords don't invest anymore. The rent of the land with 11 minutes of water is 5,000

or 6,000 Tomans (1–2 Euros). They don't pay him more because it is not worth more."

Heydar further explained using the time units of the *sabou*, the traditional water clock, which was still being used, when Heydar decided to leave the village for work: "Our *sabou* was 11 minutes long, therefore, the unit of 11 minutes." He offers another reason for decreasing yields: "On 300 square meters we had an annual yield of 13 kilograms wheat and nine kilograms cotton. Now that is not possible anymore. There is less cattle and the fertilizers have become chemical. In the past we would use animal fertilizers. The chemical fertilizers decrease the growth and quality." Until the 1970s, timeshares were calculated by the sabou, consisting of a large bowl and a smaller bowl with a hole in its bottom. The large bowl is filled with water and the sabou is put on the water surface. The time that the sabou needs to be filled with water through the hole to sink down to the bottom counts as one timeshare, for example, eleven minutes and 50 seconds. On certain qanats in wintertime, when timeshares were not required, sundials were employed by day and the movement of stars at night was observed (Semsar Yazdi & Labbaf Khaneiki, 2012).

While in the past most landless farmers had enough water to pay the rent of their agrarian lands and the land reform during the Pahlavi era benefitted the farmers without their own land and water to a degree, the heavy loss of water had significant effects on their work. Due to the decrease in water, the land lost its value and landlords lost their interest in investing in the work of the farmers. Besides the loss of water, which made it impossible to cultivate all land as usual, some land-owning farmers stopped cultivating due to the intensity of farm work, which did not suit their lifestyle today. Marginalisation resulting from inequal access to and control over water and land, rather are associated with class differences, not with gender. Yet, the benefitting landlords were and are male.

Fig.22: Water Clock (ISNA, 2019)

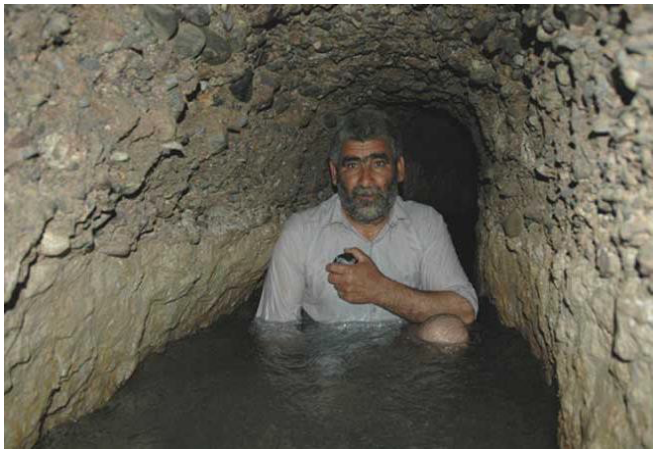

Fig.23: Moghanni inside Qanat (Trip to Iran, 2018)

Despite all difficulties, in Kharanaq agriculture does take place today and the lands are irrigated with the qanat as main water resource supply. Water management and farming is applied according to certain task division, while the tasks still exist and are applied, many professions do not find necessity anymore in Kharanaq. An overview on task division around collective qanat and irrigation management is given in the next section.

6.2.6. Professions and tasks within the collective qanat management

In the past, qanat-based agriculture functioned according to a hierarchical system. At the top stood the *mirab*, who with his team was responsible for organizing a fair water division and water transactions. In places with sufficient rainfall for high qanat flows, there was no need to ration water, as is the case, for example, near the hills around Yazd in wintertime. The *taghdar* (water time recorder) had the task of recording water share use and water transactions among farmers to report to the *mirab*. The *kayyal* operated the water clock and observed each farmer's water share reporting to the *taghdar*. The *jooban* (*joob*, 'ditch') checked the canal and ditch network to prevent the wasting or stealing of water, and the *dashtban* (*dasht*, 'valley') oversaw the delivery of water to each farm unit (Labbaf Khaneiki & Semsar Yazdi, 2013; Nash et al, 2012).

In Iran and in Kharanaq, the profession of the *moghannis*, the qanat engineers, and customs around that profession still exists today. The construction, repair and maintainance of the tunnels and shafts of the qanats are highly dangerous. Today, a moghanni is mainly occupied with maintenance work in the form of restoration and cleaning of the tunnels. In the past, *moghannis* would always wear a white uniform at work and often still wear it today for two reasons: 1) The uniform serves as safety measure: white is supposed to reflect in the dark tunnels so that *moghannis* can see or find each other easier in the dark tunnels. They also wear a padded hat as a helmet during construction work. Today, moghannis also wear modern tunnel construction uniforms with helmets and they use modern tools compared to the past. 2) Their profession is highly dangerous, since in the tunnel they are exposed to a high risk of collapse, the danger of gas explosions or electric shocks during maintenance work. Therefore, every time a *moghanni* goes to work to climb down a qanat, he makes his farewells in preparation for his death in case he dies down in the tunnel. When a person dies, according to Islamic custom, their body is wrapped in a white linen cloth before its burial. Thus, for some moghannis it is still important to wear the traditional white uniform. In older times, and often in contemporary villages such as Kharanaq, each survival of a construction day raised the status of a *moghanni* in the community. The digging and periodic cleansing of a qanat requires special skills and precise knowledge of the area's topography and

geomorphology, which only *moghannis* have. The construction team generally consists of six people (Semsar Yazdi & Labbaf Khaneiki, 2013), or at least three: One *moghanni* and two who remove excavated material. Away for weeks or months, they would work, eat and sleep in the desert. It is hard to motivate the descendants of most of the retired moghannis to follow their footsteps. The subterranean canals can be up to 100 kilometres long and are thus exposed to natural impacts such as earthquakes, erosion, soil accumulation, drought and climate change, besides wars in the past. Hence, *moghannis* need to clean and repair them frequently (Danesh, 1992), which is time-consuming and expensive (Kleber, 2015). Every shareholder has to co-finance rehabilitation and maintenance costs (Semsar Yazdi & Labbaf Khaneiki, 2013), proportional to their water shares. Cobra, married to Mr Akhoondi, further explained the work of moghannis:

> "Most of the time they would travel around to implement qanat construction or maintenance projects. If they were not working in Kuwait, they were in Bandar Bushehr or Bandar Abbas in the South…or actually everywhere. The moghannis were famous in the entire country. Have you seen their uniform? They wear white clothes and a white hat. In the past, men worked a lot, as much as women. They would work hard."

Between 1964 and 1982, during Kuwait's golden era, when the state became the world's largest oil exporter, massive growth attracted foreign workers (Al-Nakib, 2014) among whom were also Iranians. Haji Azizi, retired moghanni and father of Cobra, told me that he was a baker in Kuwait for a while, where Iranian bread became popular during the 1970s with the migration of workers. The bread is still well known and consumed as *taftun*. Sakineh Rahmani, Cobra's mother, remembered: "My husband was in Kuwait, and I was alone with three children. We had 24 hours of water, which we managed." Cobra told me: ""I was five years old when my father went to Kuwait for work. When he came back, we bought a house and moved out of the citadel." While for moghannis there is less work today, there are still families whose lives and work rely on the qanat. Cobra explained: "Today, women go to the fields, they knot carpets and raise the children. If the qanat is destroyed, there will be no agriculture anymore and everybody really would have to go to the industries in the cities."

Today, the qanat also still functions as "piggy bank" for collective finances of the village. All shareholders carry responsibility for the collective well-being through their water shares. A percentage of each farmer's water shares is assigned for the village finances as part of the *waqf*. The waqf parts belong to the people. Waqf is similar to donations for charity or a form of tax, which is supposed to be invested for public benefit. In the context of qanats, a waqf rate is paid from the income from those

shares. It is calculated in *joreh*. One joreh equals a twelve-hour day. Haji Azizi, the retired moghanni, explains:

> "There were times when the lamps of the *hammam* [bathhouse] worked with oil, in the mosque as well. The oil for the light of the *hammam* was partly paid for by the waqf. The reconstruction of the mosque had forty *jorehs* of water and the *hammam* forty as well. For example, I am responsible for one j*oreh* of the *waqf*."

Waqf water can also be used to pay for the food distributed to the people for free during Ramadan (fasting time).

Presenting the tasks in relation to the qanat reveals that the official professions were assigned to male members of the community. Yet, from a female perspective, this section shows that in Kharanaq, the women were the ones who run the village on their own for at least half the year, since the men, who were *moghannis*, worked and travelled. Many also went to Kuwait for work during the state's oil boom. Except during the periods of physically heavy work during the preparation of the fields in spring or the harvest in summer and autumn, the village of Kharanaq was managed by the women. Besides their tasks in agriculture and husbandry and the respective tasks around the qanat, women in qanat communities, and women in rural communities generally, know the art of handicraft, which represented an essential income source for themselves, for male distributors and merchants as well as the entire state economy. In the following section, conversations are presented on this subject from the perspectives of the female carpet weavers in Kharanaq.

6.2.7. The craft of carpet weaving and the value of women's work

While women's and children's work had significant economic and social value throughout history, and contributed significantly to the state economy, it was heavily exploited. Women and girls worked in their homes, workshops and factories producing textiles and fabric, and later, commodities for the domestic and export market. Despite the high value of their work, they were working under severe conditions, constantly underpaid without control over prices, as shown in Chapter 4. Further in Chapters 2 and 4, the exploitation of Iranian women and children's formal and informal work are related to Western commodity markets and occupying powers in Iran. When the Persian carpet had developed into a popular commodity and Orientalia for the West, this exploitation led to the Orientalisation and Othering of the female carpet weavers. Western occupation impacted women's loss of work due to the flooding of the Iranian market with foreign goods. At the same time, decolonial political ecology theory aims to

understand dimensions of resistances and hegemonic struggles concerning gender-based labour divisions. Analyses of power relations and marginalisation and the reproduction of these by institutions, ideologies or religious and cultural practices can unpick complex contexts from the global south to deconstruct simplified notions developed from the global north. This chapter approaches these matters from the perspective of rural women from Kharanaq on their work experiences as carpet weavers and farmers.

In Kharanaq, until the 1960s, women, besides their tasks in the field with the cattle and in the house, made yarn from cotton and cloth out of that yarn. In Kharanaq's subsistence agriculture, cotton production was women's work. Robab Zarei explained:

> "The women harvested the cotton. They could give it to factories, which would make cloth out of it. And they could sell the cloth and use it for their own clothes. This was good, it provided a good income. There is no work for the women anymore. If there was, people could stay [in Kharanaq]. If they could weave carpets or anything."

Haj Fatemeh (60) remembered:

> "In winter my dad went away, for example, he was a gardener for people in Karaj. My mother would do the water management and keep the sheep. I spun wool. When I was a bit older, I sat behind the device and wove cloth, when I was a bit older again, then they had machines and we started carpet weaving."

During the 1960s, Haji Akbar had the idea of asking his sister-in-law from Ardakan (the nearest city to Kharanaq), where carpets were woven for a famous trader in Karaj, to come to Kharanaq to teach the girls how to weave. "He was a good man," Cobra, the retired carper weaver narrates.

> "He took care so that the girls learned weaving. As I was still too small to reach the threads with my hands, the lady let me collect the fuzz from the floor so that I had work, too. While the girls who were four or five years older, were learning to knot, me and the other younger girls were allowed to collect.

At the age of six, Cobra began to learn carpet weaving.

> "Those who were learning would sit in the second row to learn from the teacher. I belonged to the first girls to learn carpet weaving. With our generation, carpet weaving began. My fingers were still

> too weak to pull the threads because my nails were too soft. So, a little bit with force, the teacher pushed our fingers to the threads. In the beginning it hurt until it started working. In order for the girls not to steal anything, the elder told them a scary story: The threads would turn into snakes and jump on their necks if they took anything. In the beginning, we worked at Haji Akbar's house. Later we would all weave at home, as the paths inside the fortress were very dark and dangerous and we worked from morning to noon and in the afternoon, we went back until the evening."

"Day and night, day and night we were weaving. I have woven thirty or forty big carpets. Twelve- meter carpets. My mother as well," Haj Fatemeh told me. In these narrations, the women are telling us, that 1) child labour was conducted; that 2) girls were forced to weave, even if it hurt their fingers, which today would count as physical assault according to Iranian criminal code, § 619; 3. They were intimidated through scary stories, which today would count as psychological assault according to § 619; and 4) girls were kept away from school and free time and instead had to work all day, from morning to evening. Cobra continued:

> "In the beginning, we were paid per day. Later we wove whole carpets and obtained half the selling price. On a carpet twelve meters long, a person works one year and was paid 7,000 Tomans at that time. That was not much. The colours and material would be bought by Haji Akbar."

The girls would call Haji Akbar "master", even though the teacher was his sister-in-law. "He sold the carpets in the city and bought material," Cobra explains further. Thus, the weavers did not have any real control over the actual amount that Haji would receive for one carpet. "It was all based on trust," she said. The girls, whose free time was taken away from them, additionally did not have any control over the amount of their income. Cobra continued: "When our mothers as well began to knot carpets, they were on a level that they could not read a knotting plan." Sakineh Rahmani narrated: "When we started weaving carpets, my daughter Cobra and my other daughter were able to make the patterns, and I would fill it out. The carpet belonged to someone. We didn't have the money to finance the production ourselves and received money for the work." Cobra further narrates:

> "From that time on, generations of girls learned to weave carpets. There was more money in carpet weaving and so the number of women in agriculture decreased and most of them became carpet weavers. Most women who stayed occupied in agriculture would also weave carpets. There were very few who didn't weave at all."

"In the past, when we were weaving, they came to control the workshop", Robab Yazdi explained to me, while she was preparing ingredients for the dough to give to her husband to bake bread in the *tanur*

(clay oven): “If the light was not right, they confiscated the carpet. They did not have permission to produce carpets as long as the light for us was not right. Today, nobody does that anymore. The lives of the people are not worth anything anymore.” The councils reached their peak in 1979 (Poya, 1999; Rostami-Povey, 2010a). However, most of the women wove carpets for decades and many stopped weaving at some point, due to health conditions. Among them, many told me that the main reason they stopped weaving was deteriorating vision, which they associate with decade-long work as carpet weavers. “After I had married and my children were still small, I continued weaving”, Cobra told me, “But today I don’t see particularly well anymore.” Sedique, retired carpet weaver living in Yazd, and Robab Yazdi as well had to stop weaving because they could not clearly see the threads anymore.

Women began to act against the low payment that they would earn. Cobra narrates: “At some point, we wanted to have more money because we put so much work into it. So, we started to buy the materials ourselves, and to plan ourselves as we wanted to receive the full price.” She further mentions:

> “There is other work to do today. In those times, we paid for our dowry ourselves and supported our parents. Women’s incomes were higher than those of the men. Unlike today, yellow carrots did not bring much income at the time because people outside didn’t know them, so there was no business, and the surplus was fed to the sheep. We also had cotton. It was used to make cloth or was sold in the city, or it was given as wedding gifts for the first bed sheets. There was barter business in the past. Haji Akbar, for example, brought us things we needed from Ardakan. Cloths were woven from our own cultivated cotton and given to Yazd to be printed. People all produced their clothes themselves and there was a surplus, which was exchanged, for example, for sugar from Yazd. Those days were interesting. But we also worked a lot, and we didn’t spare any efforts.”

Here, Cobra repeatedly underlines that women were working hard. It becomes clear that women in Kharanaq were often the main income earners at the end of the Pahlavi era, when all over the state women’s occupation was tied to the carpet and textile industry.

> “The older women, who wove cloth and are retired now, at some point could work in the factories because weaving was industrialised. Now that they get a pension, they have a good income. For us, who have sweated for years, there is nothing. Our work was wasted. For carpet weavers, it is much harder to find work in general. And besides, the payment is not worth all the hard work.”

Cobra further sees the generation of her mother, whose women were mainly cloth weavers, as advantaged in comparison to her generation. Simultaneously, her mother, Sakineh Rahmani (73) has the

opinion that women of her generation "worked really hard". She remembered:

> "In the past, it was different. When we were four or five years old, we were weaving cloth. There was no school. We got up in the early morning, prepared the dough for bread, did housework, washed baby bottoms, and worked in agriculture and carpets in winter. In Kharanaq, there was work in summer and in winter. We used sheep wool for our winter clothes. We would weave, sow, knot. Everything we could do we did. My husband went away a lot, to Kuwait, and I was alone with three children. There was no other way. There was no work for men and we women managed everything."

Haj Fatemeh narrated:

> "There was no dry milk. I gave my son crushed walnuts instead. Our clothes we washed with detergent. We went outside and collected a certain herb, we crushed it and softened it, put it in between our fabric and then washed our clothes with it in the qanat. There was also no plastic. We had chicken and meat."

"We had everything," Sakineh said with nostalgia. "We wove fabric from cotton and silk with a device and then carpets. We would sell them. Everything I wove [and earnt from] we spent on the house, and we built a house with it in Yazd. What he earned we ate and what I earned we invested in this house or the house in Yazd." The younger generations of carpet weavers often stopped weaving after they became mothers if their husbands had enough income. Other women, who needed the income, continued to weave at their own home or the home of a neighbour. Some of them would take their children with them. While a woman was weaving a carpet in Robab Yazdi's house, which is spacious and has a garden with a clay oven in a shack, Robab explained to me what she does. "Look, now she is doing the red pattern. This is all playing. I told her to weave a bigger one."

Most young women today go away and put effort into their studies. However, many of the few young women living in Kharanaq are occupied in agriculture. But the older generation of women can be seen in the fields today. The most active ones in farming today are the group of women at the age of 50 and above. Even if they had learned other professions such as teacher or cook, women between the ages of 25 and 60 are almost all carpet weavers. While retired fabric weavers at the age of above 60 today receive retirement payment from their work in textile factories, carpet weavers who wove in their houses for private intermediaries do not receive any payments. To continue weaving would only make sense if there was no distributor in between, but the women in Kharanaq do not have any other way than to sell their carpets through a distributor.

Fig.24: Carpet weaving frame with the child of a young weaver in Robab Yazdi's house

Here, the situation of women before and after the peak time of women's carpet weaving are addressed by the women. They talk about being afflicted with child labour, facing physical and psychological assault. They narrate that they did not have any control about the process of their carpets, even though they knew that the payment they received was deeply unfair. While the older generation of cloth weavers among the women was officially employed and had a good income, young and middle-aged carpet weavers, dependent on distributors, are underpaid. Yet, in Kharanaq, the income of women from cloth and carpet weaving was higher than that of men in agriculture. From a young age, girls supported their families and co-determined their social position, since they owned the knowledge of handicraft, which counted as valuable asset in society. The loss of work for women is partly related to migration from Kharanaq to urban areas resulting from heavy groundwater decrease. The next section gives an overview.

6.2.8. Migration

All-over Iran, heavy groundwater decreases as a result of mismanagement of water and agriculture by the governments and powerful landlords led to the decay of qanats, which is associated with strong transformations of village structures, presented in Chapter 5. Chapter 2.1. and 2.2. discuss that decolonial feminist political ecology, argues that women are affected differently than men by transformations of the ecological environment and looks at struggles to overcome inequalities and environmental degradation. In this Chapter, the significance of the qanat for the community as well as the connection of the decline of qanat water and urban migration is told from the view of women and men in Kharanaq.

The community of Kharanaq was able to take care of its qanat for hundreds of years. People had the capacity to clean and repair the qanat by collective action and they needed to maintain it, otherwise many things would have got out of hand without the qanat water. Cobra remembered:

> "The qanat always had enough water. One day we went to the qanat with buckets to get water and saw that all the water had turned into mud. The women were worried and asked themselves what shall we do? The qanat is broken. They needed the water for all their work, to wash clothes, dishes, to make dough, to cook. Then we called the moghannis, who came and investigated in order to find the problem. After they had worked for some days, there was still no change yet. We
> were worried. Finally, we were so happy because the water was clear again. However, water for the *hammam* could not be used yet at that time. Everything was questioned when the qanat was not functioning."

The decrease of qanat water resulted in a shortfall of water for irrigation and agriculture. These changes are associated with a number of further social and economic problems. For most locals in Kharanaq, this forced many families to migrate to the two nearest cities, Ardakan and Yazd. "People move to the cities because there are fewer possibilities here. In agriculture there is also not much income anymore. Two people who used one piece of land, now have become forty people," another resident, Asghar (48) said. He joked: "When you have found a woman for me, let me know. The fruits that are still growing, if they dry out, we will all die", he laughed. Since the water is less, people also have sold their sheep because there is also less food for them. The consequence is that people move to the cities. Despite many families migrating from the village, it is important to mention that only families who could afford the relatively expensive rents in the cities, or who were able to build a house there during years of work and saving, left the village. Many other families with less financial means, who also wished to leave the village, were forced to stay. Other families returned from migration, due to financial shortages. They found themselves in even harder circumstances in their home place than at the time when they left Kharanaq. However, most of the middle-aged men, who have not left Kharanaq, work outside the village in administrative or physical occupations at the railway, asphalting streets, bricklaying, gardening, or as construction workers, to name a few.

In general, it has become harder to do business in any kind of way in Kharanaq, due to these factors. Administrative tasks have also become difficult. The shortfall of water had minimised the population, and as a result comings and goings in the village also dispersed. With fewer inhabitants in the village, the administration decided to close down the mid-school. The weak education system enhanced migration even more and the strong outflow of people, including teachers and pupils, lowered the administrative

efforts for the village. That in turn included the decline of the village's school system and the initial plan to establish a high school was dismissed. Since education is of high importance for both young people and their families in Kharanaq and in Iran generally, the absence of schools led to enhanced migration because of the lack of sufficient education opportunities for their children. "My daughter could not continue school. She only finished the ninth grade. She didn't want to stay in a dorm, and we were not able to afford the rent in the city. If there was work, it wouldn't have been a problem," Fatemeh explained. Sediqe added: "They don't care about the education of the people. The children cannot stand the dorms and return. They should offer high school until diploma he…those who have houses in Yazd, can send their kids to school." Among the young people who need to decide whether to continue school outside Kharanaq or to stop their education, most enjoy their lives in Kharanaq. Some pupils study at home and are allowed to take part in tests to reach the next grade in school. While most young people or their families have the goal of finishing high school, a few, who are not planning to continue their education, are aware that a major problem is to find a job in or near the village, like Hossein (15): "When we were kids, we would jump in the qanat but now, I am not interested in agriculture. I would like to stay here. It would be cool if there was work here. As I only learned until the second grade, I would do anything that comes up, baking bread or something." Currently, he is helping out at the bakery in the evenings when people buy bread.

Some older women talk about being left alone when their families have left. They talk about having lost their families or many important social contacts in their everyday lives when people began to leave Kharanaq in the 1990s. In general, for families and individuals who stayed in Kharanaq, livelihood decreased due to several factors as result of events associated with the qanat water decrease: 1) There is less work than before, particularly for women; 2) Family members and friends moved away, which for many lowered the quality of social life; 3) Food security or income decreased strongly; 4) Expenses rose because people must buy more food; 5) Access to education is only provided to the level of elementary school. "If I could, for the young people, I would create jobs, so that they could stay here and not be forced to move to the cities," Fatemeh, housewife (35) said. "In the past, no matter how the harvest was, one could always get along with it."

Fig.25: Women sitting in the shade in Kharanaq, 2016

Even the harvest today is very limited, due to the strongly diminished irrigation area and that there is no real income or subsistence to gain from it anymore, people who have moved away from Kharanaq did not give up their fields and water shares. They kept them for their children and grandchildren. For many, the reason is a cultural and nostalgic attachment to their home since qanat-based agriculture and the culture of commoning represents a significant chapter of their village and family histories. It is important to the farmers to pass on that knowledge and culture to the younger generation. Both older and younger residents do not want to lose their qanat and the fields. However, there are some families who never owned lands. Others had a small piece of land, which they have lost with the decrease of qanat water. Most of these families do not have any attachment to the qanat and the farming. Many of them live in the cities and partly spend time in their Kharanaq homes.

Among the migrated families, “Men go to work in factories, women can still work in their jobs as carpet weavers,” Fatemeh explained. Robab Zarei, carpet weaver and cook (42) remembered: “After we had moved to Yazd, I was around 18, we continued weaving carpets at home. There was more to earn by weaving at home, more than in a weaving mill. I don’t know what percentage we obtained from one carpet. Today, I think one gets half.” Women, who moved to the cities continued weaving carpets in the beginning. Many women preferred to work at home than in the factory, where they generally would only get an employment contract if they could work regularly. Most women could not go to work regularly because they had children. However, the lack of space in the rented apartments made it difficult for most women to do so because they could not place a loom in their houses. Accordingly,

they would weave for a factory. Other women would travel back and forth between the city and Kharanaq if their husbands were still occupied in the village. Particularly, in the first years after migration, these problems constituted the reality for many women. Sakineh Afshari
(45) told me that she

> "was a carpet weaver. About twelve years ago, we moved to Yazd. We could not visit Kharanaq easily or our relatives could not come visit us easily. I stopped weaving because we did not have enough space in the flat that we rented. And we were partly in Yazd and partly in Kharanaq, so I could not start work weaving fabric. It was very hard."

Cobra said: "For men, it is very easy to find work in the city. For women it is very hard." Despite all difficulties, after migration, men find enhanced work opportunities. Especially in Yazd the job market is growing, according to conversations that I had with people from different social classes and ages during my years of research in Yazd. Even if they do not have certain professions such as teacher or electric engineer, they find employment in the physical labour workforce, which often does not require particular skills. Accordingly, even though the market for handmade carpets has not shrunk, most women, who were active farmers or carpet weavers, experienced a decrease in income or became housewives since the job market for women in Yazd province is not very extensive. Only recently with the new wave of the establishment of cafes in the streets and food courts in new malls in the bigger cities, is it becoming usual that young people, whether male or female, work in these settings. As a result, many women lose their partly independent income (partly, because they had no real control over the management of the sale of their products) from weaving at home. The little income in factories and the long absence from home and children, was a reason for women to stop working outside the home and become housewives. Yet, carpet weaving is well established, so that some of the women began to work in carpet weaving or sewing factories.

Many mothers explained that their children also needed to get used to the new environment in the cities. They reported that in the beginning, city life caused social stress since it was not easy to play outside in the streets all day as it was in the village. Instead, they were forced to occupy themselves mostly indoors, which was hard. Yet their children had a better and easier educational path ahead of them, due to closer and better access to schools. Some younger women spoke about opportunities in public spaces of the city infrastructure, for example, less strict dress codes and existing access to education, work and social contacts. They could be closer to a mass of opportunities, for example, they have access to educational institutions for further education or to follow their interests in fields such as language, skills or arts.

Overall, with all the difficulties and even if many women did not want to move from Kharanaq in the first place, in the end, they were glad to have moved to the cities, which opened many possibilities and higher living standards to them. Many women report that housework became much easier in the city since fresh running water was available in the houses and groceries, or other necessary items could easily be obtained from the bazar. Sediqe continued: "In Kharanaq we had to wait for someone to bring us fruit and vegetables, but in Yazd it was easier to buy daily items."

Sediqe said:

> "I don't want to go back to Kharanaq, but my husband works in Kharanaq. I don't have any work here anymore when my kids are in their own life. Still, it was very hard in Yazd in the beginning but then we learned the ways and everything. We had more opportunities in Yazd. When I had work to do, I would go myself. There we have fresh tap water, gas and all. I would prefer Yazd for living if it was possible. When we are on retirement, it is not possible to live in Yazd anymore. It would not be enough."

Moving between Kharanaq and the cities is an obstacle due to the lack of public transportation. Robab Zarei, who is satisfied with her life in Kharanaq. told me that she wants to learn the *Gholab Technique* for carpet weaving.

> "But the course is in Ardakan. That is too far for me. I am afraid of driving. In the past, I drove a lot but since I haven't for a couple of years, I forgot now, otherwise I could have driven there. I really like to work and to be busy with something, as one is in the city. I don't like to be unoccupied. I like the city. There you can do anything you are interested in. But I also like it here."

However, besides Fatemeh, the librarian, I met another woman who was employed in Kharanaq. She is a doctor, who lives in Yazd and comes to Kharanaq for work, since she did not find any employment in the city. She was wearing less strict hijab than the women from the village.

This chapter displays that the loss of qanat water for the residents, which is related to decade long mismanagement of water resources by the government, caused heavy urban flight from Khranaq. The decrease of water is associated with the loss lucrative agriculture, work, education and domestic water and energy supply. Yet land and water owners hold on to their possession and attached importance to keeping the village qanat, mainly for nostalgic reasons, since agriculture is not lucrative their anymore. Having moved to the cities, most women, who were farmers and carpet weavers in Kharanaq, became housewives. Even for children it is hard to get used to the more limited space in the cities, yet, they have

more opportunities of education, work and social interrelations in the cities, particularly young women, for who it is harder to move between village and city due to lack of transportation, own worries to be on the way alone or due to traditional gender roles. To obtain higher education in the cities, represents an obstacle for pupils of Kharanaq, even the majority plans to follow it. Older women often feel bored and lonely since their families have left. Even if many families have migrated from Kharanaq, many still live there or returned to live in their home village.

Families with children, who wanted them to continue education beyond ninth grade, were forced to send them away since Kharanaq does not offer higher education. Yet, families often did not send their children to the city but rather accompanied their children due to worries to leave them on their own or due to fear by the children to be there on their own. Some families moved to the cities due to lack of gas pipes and the bad quality of the water in the houses. Mostly women, who do not have any attachment to agriculture complained about difficulties during housework due to the lack of gas or drinking water in their houses and later reported, how much easier housework has become for them in the city. However, families did not migrate because they had found better job opportunities. Rather did families search for occupation after they had decided to move or had moved to the cities. These circumstances were difficult for families with less financial means, some of whom eventually moved back to the village, due to financial shortcomings in the city, where living costs for food and housing are much higher.

Kharanaq is also a touristic village. Yet, the local people did not often bring up the subject of tourism. Therefore, I wanted to know from them, what their thoughts are on this matter. The following chapter concerns the situation of tourism in Kharanaq and discusses related social and economic aspects for the residents.

6.2.9. Tourism and privatisation

In recent decades, the ancient fortress and village of Kharanaq have become a tourist site, with increasing annual visitors. The shortfall of water in Kharanaq minimised the movement of local and foreign people, which decreased opportunities for trade in the village. However, the decrease of water has not impacted tourist visits to Kharanaq. Every-day buses and taxis carry tourists to the fortress, the caravanserai and the qanat.

Most of the people in Kharanaq find that beneficial for the village. Mr Akhoondi said: “It is good if tourists come here.” Haji Azizi added: “There was no car with foreign tourists in the past and later one car or one bus would come here. Now, five drivers would come every day. It is good. For example, for

the shop there. They are renovating the fortress. Its whole beauty is because of the qanat. If it dries up, what beauty does it have left then? From here to Mashhad there are ten caravanserais." Mr Akhoondi explained: "What he means is, there are many caravanserais. But because they have no water, they are just left there without any use. The tourists come here because of the water. Where there is water, there it is populated." In the past, women had some earnings through tourism. Robab Zarei, with whom I had long interview, explained:

> "For New Year, some women would cook a stew, one small bowl for 10,000 Tomans (2,50 Euros) or they would prepare pomegranate paste or other things to sell to the tourists. Not everybody does it because otherwise some would have complaints against each other for taking their spots. Sakineh Askari is one of those who complain if others join. My sister Leyla once had made *sholi* (a typical stew from Yazd). When she [Sakineh] realised, she complained…so we didn't do it anymore. There are more tourists in summer than in winter. For a while, we were weaving carpets. They came and would film us. That was good. But some people think it is not good for women to work there [at the caravanserai] because other men come there."

The doors of the caravanserai are closed and only let people in if they pay an entrance fee. Tourists spend most of their time inside the caravanserai before or after a visit inside the fortress. Consequently, the contact between tourists and locals is very limited. In a group interview with seven of the village women, I was sitting outside one of their houses between concrete blocks, yellow gravel and dust. They had lit a fire to make *sholi*, a local stew, for me and were discussing their possibilities regarding the daily visit of tourists. Fatemeh said: "We cannot even sell bread to them. We must bake ourselves. We can't sell it to the tourists because one bag of flour is 5,000 Tomans." Asghar (48), a male friend and relative of some of the women, replies: "They would not buy it. It is not worth it. They can't." Zahra (20) said: "If you sit down there and sell something, fights come up, why do you sit here? It is my spot. Why do you sell this? And also, what about a person who can't weave carpets, for example? What shall they do?" Manijeh (39) explained: "They won't let us earn money with the tourists." Tahereh (32) added: "There are so many buses coming every day, but they take them into the caravanserai. It is all privatised. It all belongs to one person, and he gets all the profit." Hajar (46) told me:

> "In the caravanserai, I could cook from morning to evening, make their beds. But there is nothing. If there was work that I can do, I would like to do it. I cannot weave carpets anymore because I can't see. I'm becoming blind in one eye. If there was work and income here in Kharanaq, it would be the best place. There is not one day without tourists here. Every day big busses, small busses. Here in our corner, there are five empty houses. Five families, who are not here in winter because there is

no work and no school."

Accordingly, even in the season, tourists arrive on a daily basis in Kharanaq, women are not able to do business with them. The women mention three reasons: 1) The privatisation of the caravanserai, which closes its doors to the locals, literally put walls between the local women and the tourists. Therefore, a real contact between the two groups cannot really take place; 2) Since wheat cannot be cultivated in Kharanaq anymore, people have to buy flour, which has such a high price that it would not be lucrative to bake bread to sell to the tourists for example; 3) The women do not work collectively. They stand in competition with each other.

After the previous chapters displayed thoughts and struggles of the Kharanaq residents, particularly the women, related to the loss of water and further problems, the next section shall reveal, in how far local politics are involved in these struggles.

6.2.10. Resistance against local politics

In the previous chapters, insight into the concerns of people living in the Kharanaq community was shown. The main issues are associated with the natural water resource, the water supply, gas supply, education and work. According to feminist political ecology theory, gender-related environmental struggles and marginalisations from female perspectives need to be embedded in political and social circumstances within the micro-context and the wider political realm. While the wider political realm was discussed in chapter 4, this chapter gives insight into the views of Kharanaq residents on local politics.

Most residents of Kharanaq think that appropriate management of the village is lacking. In a group interview, I asked women what they think is not working in terms of the village organisation. Except for one of the women, all expressed lots of anger: "If I see the mayor, I will tell him something," one said.

> "If you go to the district administration, you will see they have the latest model of car under their feet. They put the money straight into their pockets. They did senseless mirror artwork under the bridge of Kharanaq, for example. For what? Why do they spend money on senseless things? They constructed a sunbath and after a little while the kids broke it…Why don't they, for example, build homes for the poor people who have just married?"

Another woman added: "They are building a fitness studio now. They will never finish it, I promise you." Maryam explained that there is one responsible for Ardakan living in Tehran, who comes every

year to make a list of requests to give to the authorities, but nothing changes. Sediqe added: “They are all hand in glove with each other. They promise everything until they have been elected”. A woman, who came by and heard the conversation, added: “This place doesn’t have a head, an elderly person, for example” while she was getting confirmation by the other women.

> “And if there maybe is one, then he is not able to think. There are clans here. The Jalilis, one clan; the Abolghasemis, one clan; the Shamsis, another clan and so on. And the one who gets up earlier in the morning shouts, ‘Hey, I’m here’. Therefore, this village is not successful. And then the administration, the head is from Ardakan, he is the groom of one of our families here. Is that not saying all?”

As the reason for failures in the general management of Kharanaq, people say that the administration has lost interest in Kharanaq. The women say that even though an available budget exists for Kharanaq on the side of the administration, instead of solving problems in the village, people in charge implement investments in village aesthetics or into leisure time opportunities. The residents find these absurd and not helpful at all. Instead of working on the essential problems, which are clear to the people, the government just seems to spend money occasionally without real incentive. Further, most of the women are sure that the responsible officials are corrupt and work for their private benefit instead of accomplishing positive change with the budget. Besides the failure from the government side, the residents mention that on the part of the community itself there is no collective solidarity. Instead, each individual or each family follows their own interests and therefore, people also work counterproductively in terms of the general village benefit.

The communication between Kharanaq and the district officials takes place through village representatives, who function as mediators between the village and the provincial administration. In that regard, sometimes, people are criticised, who offer themselves for this role and promise to help implement change, but who only follow the interests of their own family after having been elected. When I began to work in Kharanaq, for example, during the dispute for and against the digging of a deep well, the village representatives were people whose own interest lay in favour of the qanat maintenance. They were struggling with the government to force through the ban of a deep well construction to save the qanat. At the same time, village residents, who do not own land and are not famers, and therefore rather require fresh, good quality water in their houses, were accusing them of following their own interests and not acting in favour of all residents. Sometimes, general meetings are scheduled, which all residents can attend to express their concerns in the community. These meetings

are held in the mosque with an open microphone, opposite Haji Azizi's (retired farmer and moghanni) and Sakineh Rahmani's (retired farmer and cloth weaver) house, where Cobra (retired farmer and carpet weaver) grew up. In order to gain more insight into the way the communication and cooperation between the village and the state works, I attended some meetings in the mosque myself. During one of these gatherings in 2016, after some Kharanaq residents had repeatedly articulated their problems in the village by a list of 12 issues, the representative county council Ardakan, Mr Bagheri, stepped behind the microphone:

> "There is some discussion that those responsible need to know about. But district administration only has some limited possibilities. There are some province politics that need time to process. It does not lie in my hands. I already complained, I suggested it already. The land issue is very hard. But I cannot do much about it. The twelve issues that are planned to be taken care off, I hope that it will happen."

The representative repeatedly talked about needing time to solve problems without giving further information on the qanat, water, gas or education, which are the main concerns of the people, who had gathered in the mosque to have their questions answered. Then, the state official changes the subject and talks about work, which represents a further main concern of the Kharanaq community:

> "Another discussion that now is a good time for, is the plan for cooperation of the people. That if 25 families create a company, the state will give them a good credit for five years. We need someone, who is responsible to manage that and to introduce these families to the province administration and if they accept it, then you can start. If the people want something, they also need to create the situation for it. The area of Kharanaq also does not have a good cooperation with Ardakan. I presented your suggestion. When permission is given, we must follow it. Not each request can be answered positively. Mr Tabesh, the head of the area administration [responsible for Yazd] and the head of the district administration [responsible for Ardakan, which Kharanaq belongs to] are all working to get you water and gas. What's necessary is that all people from the villages will cooperate with the responsible people from the district to solve the problems."

However, as previously mentioned, the Kharanaq community also had success with requests to the government. Through continuous communication and by obtaining expert opinions on the qanat, as it is requested legally, people of Kharanaq were able to save their qanat and the digging of a deep well was rejected before the court. According to Mr Akhoondi, therefore, the approval of 5 experts was required by law, who testify that the well would most likely dry out the qanat in the near future.

While the community was repeatedly able to save its qanat legally by resisting, on other levels the women and the people in Kharanaq express disappointment and distrust toward the local government. Even though the locals systematically prepare and communicate their demands, local politics seem to ignore these or make excuses not to have fulfilled them. They make the people of Kharanaq responsible for failing plans and suggest other plans that are not suitable for the ecological context of Kharanaq. The women communicate local problems with each other and their clear political demands to politics with experiences of not being heard.

Besides resistances and awarenesses regarding the ecological and economic circumstances by women in Kharanaq and the community in general, the aim of this work is to trace resistances against patriarchal structures and marginalisations by women in qanat-based communities in the desert of the Iranian Plateau. The next section presents field conversations.

6.2.11. Resistance

One major aim of decolonial feminist political ecology is to trace female resistances within environments of patriarchal marginalisations within environments of ecological degradation. In Chapter 4 the historical summary displays continuous as well as transforming forms of marginalisation towards rural women and their work as carpet and cloth weavers and other commodity producers. The chapter also reveals the continuous resistances by women in Iran against the respective current circumstances. Chapter 6.2. until this point, gave an insight of the struggles of cloth and carpet weavers in the village of Kharanaq and their disappointment in local politics. This section deals with ways of resistances within the conservative desert environment of Kharanaq.

Retired carpet weaver Robab Yazdi (57), who began to weave carpets as a child, underlines that she does not want her daughters to allow their husbands, what she allowed her husband and sees the young generation as different. One of the girls from the community (15), who wants to stay anonymous, loves Kharanaq and does not want to go away. She talks about how she does not take too seriously what people say and follows her own ambitions. She has a secret boyfriend, even it is not seen as appropriate by the community to be in a relationship before marriage. He lives in Kharanaq as well. They text each other, when she gets her mother's phone, or they see each other on the street passing each other, without talking. She also wears very thin chadors sometimes, which neither is appropriate to the majority of the community, because she finds them beautiful and wants to be more beautiful. Another girl, Sarah (15), lived in a dorm in Ardakan for two years. She does not have many friends. Her dream is to become a photographer and to buy a laptop. Her aim is to "get her high school diploma. Photography she cannot

learn here in the area. In Yazd it would be possible. She has a camera." Her mother, Robab Zarei told me. Sarah revealed: "I wish I was a boy. They have it so much easier." Another woman in the community had that thought too. "Sometimes I imagine how it would be if they changed the roles of women and men in the world." Robab Yazdi said:

> "See? Iranians all want to learn English. But people always say: 'what do you need English for?' If we now would get a message in English, we couldn't read it. It's so important. Why should we not be in touch with the world? My little son studied hygiene at work, my other son politics, which this country does not care for, and my daughter is studying psychology. She married after her diploma. I told her not to do it and to study anywhere she wants. Now she is continuing her studies. Studying is good."

Robab Zarei told me that she needs to collect items for her daughter's dowry:

> "She needs a carpet, a TV, a fridge and so on. It should be appropriate. Not too much, not too little. I now already have some electrical devices. There is no other way. You must collect the things piece by piece. It would be nice if both sides can provide everything together, but this is all not important. Important is that they are happy. For me money is not important. It is important that her husband is kind and handsome. Sometimes, people don't let the children choose themselves but these couples divorce after one month. You cannot force them."

Robab Yazdi, who started working as a child carpet weaver but today can no longer work due to decreased vision, remembered:

> "When I worked at my parent's house, they put it on my dowry, and they bought me gold. It was all mine. When I married, my husband worked and invested it in household expenses. He provided for our food, right? When I had woven a carpet, I had to give him the money. At some point, I said it is enough. The kids had grown up, and I told him not to touch my money anymore. I started to keep it and to put the money aside. My daughter told me to buy gold instead, it was not much, but [the price of] gold always goes up. Now that I cannot weave anymore and cannot have a real income from it anymore, I sold my gold and am living from the money now."

Robab further explained, how she began to resist her husband, which she had lived under more than half of her married life. She showed awareness of the unequal patriarchal circumstances that she lives with her husband and expressed regret that she began to act against her husband's rules so late:

> "I should have done it much earlier. I wanted to have it for myself. He took it from me by force. It

was patriarchy and still is. One time I had woven a carpet, which they paid me 20,000 Tomans (today: 5 Euros) for and 200 Tomans as a tip. They gave it to him. When he came home, I asked him: 'How much did they buy my carpet for?' He said: 'what do you care…20,000 and they tipped you 200.' I said: 'The 20,000 for you but give me the 200.' I am not satisfied because my rights were smashed. Generations for generations it was our fault that it came so far."

She was aware that she allowed for this unequal relation to develop over time. She compares the generation of young people to hers and explained that she wants her daughter to have it better:

"I didn't want my daughter to marry. I wanted her to stand on her own feet, not to be like me and waste her life. The young people now are better. The men are also different from the men in the past. My husband helps in the house, but our fathers did mistakes. When my father saw me working so much, he should have put aside my money so that I will no need to hold out my hand to my husband asking for 5,000 (1 Euro). I didn't like to ask him. From a hundred times I told him one time to give me money. But that already crushed me. Why when I wove a carpet, he took my money? Why am I forced now to sell my gold again instead of pulling all my earned money from the bank and live from it? Knowing their father well, my children told me to sell my gold to have my own money. They don't want me to work anymore, but I like to work because when I work, my mind is busy, and I don't think about things or fight with him. I still can weave with glasses. He doesn't let me. Men are jealous if women earn more. I would like to go back but it doesn't make sense. I always tell all women to learn from my story and not to destroy their lives because of a husband, because of children. Tomorrow, when you reach a certain age and your eyes can't see anymore, you cannot work like now. When I see them weaving, I tell them to weave bigger carpets to earn at least two or three million Tomans. I tell my girls not to give their husbands all their money. To keep some for themselves. I tell them, I collected this experience for almost 60 years, but I can give it to you in two minutes. This street I walked, don't go the same, you will meet a dead end."

Robab Yazdi expressed that the problem lies within the society. First, she mentions that it was their fault for generations to go along with the unfair and unequal relations, and then she talks about sharing her "mistakes" with other women and her children so others in the society can learn from her experiences.

This section displays again, how marginalised women and girls are compared to men and how husbands, for example, can have power over the lives of their wives if they want to, since both might have been socialised with such rules. That does not mean that this happens generally in Kharanaq. Most couples I have met, got along well with each other. The narrations of the women reveal, how each of them has her own way to resist against given social gendered expectations and patriarchal power mechanisms

within families. Some might resist without noticing it while others very openly communicate that they wanted change and therefore they started to say “no” and act as they think is right. Particularly for their daughters do many women plan a life with more freedoms, possibilities and most importantly independence than they had themselves. Each woman on her own on her own possible level finds ways to act as she likes and not as it is expected by society.

In the next chapter, the analysis of the above presented field narrations of the women in Kharanaq follows along the line of the theoretical frame.

6.2.12. Analysis of the case study in Kharanaq

Within the theoretical frame of decolonial feminist political ecology, presented in Chapter 2, and the historical backgrounds of political and ecological events in the Chapters 4 und 5, this chapter discusses the views of the women from Kharanaq analytically.

Fig.26: Women in Kharanaq, 2016

Chapter 6.2. all in all, displays that the qanat still represented a crucial aspect in the lives of the people. In Kharanaq most households are still farmer households with a decreasing trend, due to loss of interest and lack of opportunity in agriculture by younger people. The disinterest in agriculture is not associated with disinterest in the qanat. The young people of Kharanaq are positively disposed towards it. Qanat-based agriculture in Kharanaq is regulated according to traditional rules and common perspectives, for

example a sufficient functioning to the satisfaction of its users. The size of agricultural land and crops have been adjusted to the decreased water amount and are continuously respected among the people.

Kharanaq residents repeatedly were able to save their qanat against decisions by the government, which would have harmed it. Through protests and reasonable arguments, the Kharanaq community was able to prevent the digging of a deep well in or near their village and to maintain its qanat independent from the government. Yet, during the land reform some land in Kharanaq had been rediverted from landlords, which led to cheaper rents, however, when the heavy water decrease began, landlords lost their interest to invest into the qanat lands, due to a decrease in their value. Consequently, farmers instead of benefitting from it, lost their occupation completely. For shareholders or tenants of water and land, the community could keep agriculture in the village alive to some extent.

Yet, the consequences of the decrease in qanat water, which was used for irrigation, domestic use and hygiene was discussed by almost all of those interviewed. The shrinking of agricultural fields, the decline of work and income and direct or indirect transformations in different spheres of their lives are associated with it. The drastic loss of agricultural production in quantity and variety due to the water decrease of the Kharanaq qanat has economic impacts. People have fewer products to eat or to make food with, which requires more purchase of missing food items and increases financial expenses, weather farmers or not.

Further, external experts have different opinions on the future of qanats. While some of them try to work against the decrease of groundwater and the diminishing of qanat numbers, others do not see a future for qanats, due to corruption and mismanagement. Among the experts in Kharanaq, the *moghannis* and farmer women and men, have future hopes, plans, ideas and solutions for qanats.

6.2.12.1. Analysis – The qanat and the women

The qanat had a central role in the lives of the women. The qanat was a main tool for their everyday errands in the houses, the fields and for watering the cattle. In Kharanaq, people would follow the general upstream downstream rules, which are applied in other regions in Iran as well. Yet, the women also invented their own rules regarding everyday errands related to the qanat. Many women mentioned all the rules, which shows that they were and are well established. Women also took a bath in the qanat at a spot where there was a pool. The use of the qanat for everyday work and hygiene decreased in time and replaced by the use of tap water, even it has bad quality. Yet, the qanat is still used for washing dishes and to freshen up in the heat of the day. For such use of the qanat the general rules still apply.

Women in Kharanaq did seek water management and field work. In winter, when the men were away, they took care of the village and all the work. Sometimes, the men were away for six month or a longer period, and in spring, women would collectively prepare the fields and take care of agricultural activities in the village. Collectively they managed the work which was normally assigned to men. For water management by night, for example, they would go together for safety or work together with heavy tools in the fields. In terms of the qanat as a water supply system, women had access to it the same as men. Marginalisation related to resource access and control seems not to have taken place or was not mentioned by the women. To the contrary, since the frequent absence of men in the village, women had access to and control over the water resource system.

The women's perspective reveals that despite the gendered division of labour, in Kharanaq, women often additionally took over tasks, which were labelled as men's work. Accordingly, generally the village and qanat irrigation was run by women with the support of some retired men of the village. For some women that situation lasted for years. The qanat, as an essential tool for their work, plays a role in the social as well as the ecological and economic spheres of their lives, which would have looked different without the qanat. Therefore, the memories of the life with the qanat have a social value and create an attachment to it for many of the women.

Women's work as carpet weavers within the qanat-based community of Kharanaq will be analysed in the next section, revealing existing marginalisations and patriarchal power structures.

6.2.12.2. Analysis – The craft of carpet weaving and the value of women's work

As shown in the historical summary in Chapter 4, in Kharanaq as well, women's and children's work had significant economic and social value throughout the history of the village. Conversations in Kharanaq referred to in chapter 6.2.7. reveal that until the late 1970s, life in Kharanaq was based on a subsistence economy, which women's work contributed significantly to. Most women worked as cotton weavers and their daughters as carpet weavers. Many of them mention that women had a better income from weaving in Kharanaq then men did from farming. Additionally, women contributed significantly to farming which was not solely men's work. However, they were also occupied in housework, childcare and agriculture. The men, who in the past were mostly moghannis and in time found other occupations outside the village, only worked in Kharanaq during the farming season. The female narrations on the migration of their husbands and fathers reveals how hard it was for women to be responsible for everything in Kharanaq. Younger women narrate how they grew up without their fathers. The fact that many men from Kharanaq among others, went to Kuwait during the oil boom there, display how global

economic events can affect rural communities in another geographical location.

Older women and their daughters began to work as children. Among the retired carpet weavers, most worked from childhood to retirement in the carpet business. In the 1960s, most of the girls learned the craft of carpet weaving and worked in a workshop in the fortress. They had to work all day as their mothers did. Carpet weaving provided the women with a relatively good income.

However, even women and girls are satisfied with their income at those times, they are aware that they were underpaid and did not have control over the value and price of their work. As Chapter 4 shows, despite its high value, women's and children's work has been heavily exploited and underpaid throughout Iranian history, and this also applies to Kharanaq. Since carpet weaving began in the village, most carpet weaving women relied on external distributors, who provided them with material and orders. Payment for woven carpets had random amounts. The narrations of the women in Kharanaq offer deep, detailed insight into the exploitation of female labour. Even though Persian carpet production in Iran was enhanced by the end of the 20st century, due to an increased demand of carpets by Westerners, particularly from Britain and the US and the competition from British colonies, in Kharanaq, the Persian carpet boom occurred around 60 years later. Nevertheless, the small village of Kharanaq eventually was affected by the transnational commodification process of the Persian carpet, analysed by Moallem (2008). The narrations of the women coincide with the author's analysis of the commercial, capitalist exploitation of the female carpet weaver. It shows in detail how the value of female labour was controlled, first, by the male bazaris, second, by the male distributors, third, by male family members and fourth by foreign Western demand. The women's work offered access to cheap labour to a chain, in which men were the beneficiaries. Women's work was controlled within a patriarchal labour system, which kept them away from information and the chance to make independent decisions about the value of their work. Girls were held back from having a healthy childhood and education, being free from obligations and instead play and learn. The narrations of the women reveal that 1) child labour was conducted; 2) girls were forced to weave, even if they had pain, for example, in the fingers, which today would count as physical assault according to the Iranian criminal code, § 619; 3. They were intimidated through scary stories, which today would count as psychological assault according to § 619; and 4) girls were kept from education and free time and instead had to work all day.

As discussed in Chapter 2, Moallem (2008) calls this exploitation of women and girls, along with the commodification of the Persian carpet the "transnationalization of exploitive labour" (74). People in the West increasingly bought this orientalia from the East. Now the question is how people in the West

could even decide to buy that product despite its production. The commodification was successful due to hiding the exploitation, and instead promoting the production as a spectacle in which rural and tribal carpet weavers are portrayed as primitive and unskilled, helpless and oppressed in a patriarchal religious culture. This way, Western consumers had the feeling of saving the exoticisation and feminisation of poverty, which needs to be developed and saved by the Western consumer. And the more the Persian carpet was perceived as different and mythical, the more the desire for it rose as an object for consumption. The process of aestheticizing, circulating and consuming of the Persian carpet, Moallem (2008) calls "commodity aesthetics" (15) and the act of consumerism as a communitarian act, which is less conscious and rather motivated by the effect of an imagined community, "affective consumption" (125). The girls and women of Kharanaq were directly affected by this worldwide interest in Iranian carpets. This displays that global economic events have effects on the social and economic lives of women in small rural communities.

Despite all exploitation and western interest in oriental products, females derived some benefit from their income. They earned a higher social status because, even though their work was underpaid, its value within the community and the society in general was known. It counted as an asset since it offered women the opportunity to hold savings which could help for later education, to have financial freedom and a better marriage.

In Chapter 4, workers' councils' struggles for better health conditions for women working under harsh conditions in textile factories (Poya, 1999; Rostami-Povey, 2010a) were discussed. These processes had reached Kharanaq as well at the time. The women narrate that, for example, workshop conditions were checked and if standards were not met, a fee must have been paid or workshops were closed down. Further, in Chapter 4, it was presented that child labour, particularly that of young girls, remained prevalent during the 1950s and rural women were mostly occupied in the agricultural, carpet and textile industries (Mirani, 1983), and that during the second Pahlavi era due to global development in terms of education, in Iranian society as well, education became increasingly important for both urban and rural people and children were increasingly being sent to school. That is true for Kharanaq as well. Cobra told me that she still taught carpet weaving to her middle sister but that her little sister ought to go to school and so she never learnt how to weave.

Carpet weaving is not lucrative for the women anymore, since they strongly depend on distributors to sell their carpets and the paid wages are heavily under-valued. Further, the yearlong occupation with carpet weaving has strong effects on the women's health. Conversations further demonstrated that not

only the farmers, particularly women farmers, in the Kharanaq community, but also women who do not use the water for irrigation, are affected by the chain of events resulting from qanat water decreases. In times when Kharanaq was more populated and there was more traffic of people, in general the village had more contact to merchants and distributors, who came to do business. With fewer people in Kharanaq, carpet weavers lost their orders, their income decreased, and many stopped working as weavers. Therefore, carpet weaving as a business is indirectly connected with the decrease of water.

However, as another main reason to stop weaving, many women mentioned that they stopped weaving when they became mothers, due to lack of time. Yet, in Kharanaq, I met women who would use the space in neighbouring houses to weave. Most of them were women without male family members or those who needed to support their families. However, women such as Robab, who told me they had enough income, are also still weaving today. In the past, as mentioned, it was usual that women were responsible for childcare, housework and carpet weaving beside the work on the field and with cattle. Even though many women stopped weaving carpets, it is still the women's main occupation, apart from housework and childcare in Kharanaq today.

In the next section, the consequences of increasing migration as result of lacking infrastructure are analysed, which is related to the heavy groundwater decrease and the amount of qanat water flow.

6.2.12.3. Analysis – Migration

Authors propose that a revitalisation of common property resources is crucial for protecting livelihoods and women's bodies (Hartcourt, 2017; Hartcourt and Escobar, 2005; Sato and Soto Alarcon, 2019) and to improve conditions in arid micro-climatic locations (Gaur et al. 2018). These findings coincide with events in Kharanaq.

Resulting from the heavy loss of groundwater in the region, people in Kharanaq had to witness the decrease of qanat water for agricultural and domestic use to one fourth of its actual water amount, which cannot be revitalised to its potential condition. Thus, people found themselves forced to migrate and to find other occupations in cities. Consequently, the outflow of people, and the presence
and traffic of people in Kharanaq decreased in time. With fewer people in the village, economy, education and infrastructure deteriorated even more. Simultaneously, demands directed to local politics reduced, which might have weakened pressure to implement improvements for the residents. Access to education for children and young people further deteriorated, income opportunities for women reduced, and often enhanced urban migration.

The Chapter “Migration” demonstrates that whether directly or indirectly affected by the decreased qanat water amount for irrigation and domestic use, Kharanaq residents relate it to environmental circumstances stemming from decade-long mismanagement of water resources by the government. Most current and former Kharanaq residents, from teenagers to the elderly, strongly associate transformations in all different spheres of their lives with the loss of qanat water. These areas include work, income, education, infrastructure and community. The changes are caused by a chain of events within several natural, political, economic and social power structures and societal norms. For both women who stayed in Kharanaq and those who moved, the structural changes within the village of Kharanaq brought many difficulties. For women, both migrated and remaining, work opportunities and financial independence decreased. Women who mostly worked in the village all year, and experienced the discontinuation of work and income, did not see any alternative. Instead, they faced significant changes in their daily routines. Suddenly, their work balance was disrupted. The water shortage impacted women’s incomes or their ability for self-sufficiency since agricultural products like wheat have declined and simultaneously become more expensive. Further, the decreasing number of Kharanaq residents and the associated decline of people who visited for trade shrank the women’s contacts to distributors and their orders. While most of the men were often forced to travel to other places for work today, they continue to evade the loss of agricultural work by living in but working outside the villages, while women lose their occupation and their financial dependency on men increases.

The separation from their family, children or friends has social and psychological impacts, from which both migrated and non-migrated women suffer. Women who remained must deal with loneliness and boredom in both cases if their families migrate or if the women migrate themselves. Yet, while for rural women the social and psychological impacts did not change, for those who began their lives in Yazd, Ardakan, Tehran or Karaj, difficulties existed initially.

For women who had migrated, it was not easy to find a paid occupation. Yet, for those who do, particularly when they come from rural areas, it is highly difficult to find occupations other than in the field of handicraft production. In the cities, often the change of the home space from a house to a small apartment is restrictive. For women in the cities, carpet weaving in private spaces became mostly impossible due to the lack of space, which made the arrangement of a frame for carpet weaving impossible. Instead, they could find work as carpet weavers in urban weaving factories, which paid them less than they had been paid by private orders from distributors. In general, there is less work in the public space for women, and this is related to social and cultural norms in Yazd, even though job opportunities exist in urban weaving factories, although they are not well-paid. The patriarchal gender

structures of work in Yazd Province also hinder women from finding work, putting men at an advantage, whether educated or not. Additionally, middle-aged women in the city lose their mobile independence compared to the rural sphere. Women also talk about negative impacts on their children, who suddenly find themselves in a place with highly reduced spaces to play in.

Yet, for migrated women, housework became easier due to more available running water in the houses and therefore the chance to use domestic appliances such as washing machines. Women have greater access to many resources within the urban space and new opportunities with city infrastructure in terms of work, education possibilities, access to facilities, easier everyday errands and a less conservative urban environment. Women who are interested in contacting other people, or who have an affinity with the city culture and other opportunities, are able to move within new, wider social spheres with possible diverse social encounters, exchange of experiences, thoughts, or political ideas. According to some younger women, a potential discovery of different social norms occurred. For example, more casual dress codes or mixed gender occasions, and access to libraries, universities and cafés, can open new possibilities and might offer empowering occasions for many women. Altogether, women and girls who moved to the cities, even due to forced migration, do not regret it. For them, the forms of freedom shift from the rural to the urban space. Other than their children, today, most women in Kharanaq wanted to migrate due to a better livelihood they saw for themselves and their children in the cities. In general, women who have experienced urban migration seem to feel an enhanced livelihood in the cities. However, finding occupation can also function the other way round. Yet, when they retire, many people from Kharanaq move back to their home village. The lack of sufficiently trained personnel for some occupations in rural areas can result in employment opportunities for women from the urban areas, as the example of the female doctor in the clinic of Kharanaq shows.

Within the context of the mainly conservative province of Yazd, women and teenage girls mention social, economic, and psychological transformations, both positive and negative, resulting from changes linked to the decline of qanat water and migration. Even though many women had become housewives, after they became used to life in the cities, they realised that a number of positive changes had taken place for them, which increased their livelihoods. Women who stayed in rural areas are rather in a non-beneficial position. However, there are women who live in Kharanaq with their families and are satisfied with their lives.

The next section offers an analysis of the situation with tourism for women who remained in Kharanaq.

6.2.12.4. Analysis – Tourism and privatisation

The chapter on tourism shows that when women lost their income from carpet weaving, instead, they tried to use the seasonally vibrant tourism as an alternative income source by selling snacks to the tourists. The competition between some of the women led to fights over selling spots and products such as bread or soup. Eventually, due to continued fights, which were stressful for the competitors, women gave up the idea. However, the affected women report that they were satisfied during their work with the tourists. Additionally, with the increased wheat price, baking bread for tourists was not lucrative anymore. Another obstacle for women to gain income from tourism was the privatisation of the caravanserai through its acquisition by a non-local person. This removed their chance of contact with visitors after the caravanserai closed its doors towards the residents of Kharanaq. Simultaneously, male hegemonic social norms hindered the women to continue to weave carpets or sell homemade products inside the caravanserai.

Further, tourism in Kharanaq also has some side effects: It leads to the discard of rubbish inside the fortress and disrespectful behaviour towards the cultural heritage sight with its moving minaret, due to a lack of control by the Ministry of Culture. Traditional dress codes are not respected, although Kharanaq is a highly conservative community. News of such incidents spread and are not appreciated by the locals. In this regard, Haji Azizi (82) told me a story, which was occupying him days after it took place: As a strict Muslim, his religion does not allow him to give women, who are not related to him, the hand or to touch them in any way. A young woman, a foreign tourist, one day approached him to take a picture with him. For the picture she was about to put her arm around him. Trying to avoid it without being impolite, he finally took the picture breaking his moral code. He found himself in a dilemma. Eventually the girl succeeded and then left with her picture. But Haji Azizi was still thinking about what he did and if it was acceptable, when he told me. These are some examples of disrespectful acts by tourists, which cross the lines of the residents and have negative impacts, such as stress and dissatisfaction, on them. All in all, locals do not see any benefit in the vibrant tourism taking place in Kharanaq.

The next section deals with the analysis of the resistances of Kharanaq residents against political inappropriate investments and the lack of necessary support.

6.2.12.5. Analysis – Resistance against local politics

Research by Ostrom (1990, 2009) and others (Yazdanpanah et al., 2014a; Al-Nakib, 2014) suggests that centralised, administrative and legal external influence is incompatible with small farming within unique

village cultures. This applies to Kharanaq. Local people make clear demands to their local governments and knowing which investments are highly necessary and appropriate to achieve structural improvements. And although locals have been approved with a necessary budget from the state side, yet these are not implemented. The government makes questionable investments into decorative work or a sunbath at a place with an average of 363,56 sun hours (world weather online, 2019) instead of supporting necessary and appropriate projects for the community. The women and the local people of Kharanaq in general express the disbelief and distrust in the local government. In general, the meetings between state officials and Kharanaq residents that I attended did not have much clear and informative resolve. Taking part in such meetings and interviews with the locals show that promises, made to the people, are not followed up. Politicians talk about solutions, which do not often make sense to them or are not implemented at all. Responsibilities of the administrative level seem to be passed on to the residents.

The local administration also spoke of the building of a factory. According to experts, presented in Chapter 5.3. such suggestions are major mistakes, for example, Majid Labbaf Khaneiki in his assessment of Iran's current water crisis, counts the implementation of wrong political management as one major reason for today's serious water scarcity. As an example, he mentions the unsuitable building of water consuming factories in a water scarce desert environment.

However, people of Kharanaq were also able to succeed before the state. Following legal procedures, mobilising each other and with continuous effort over years by some of its residents, Kharanaq was able to save their qanat. They achieved being heard in court and prevented the digging of a deep well. However, such processes are time-consuming and obstruct their lives.

The next section presents the analysis of women's resistance against patriarchal power structures within the community, with the aim of tracing possible multilayered marginalisations and resistances.

6.2.12.6. Analysis – Resistance

Even the women, of which many began working as children, were always occupied, they never had real control over the price of their products, even they knew these lay below the market value. Within a chain of male hegemonic control, they relied on male family members and male distributors, who would bring them raw material if necessary, and sell their products to male bazaris, who determined the domestic market prices in relation to the global market. Women would organise the village all year and not leave Kharanaq, while men could leave for work. Women's work was exposed to marginalisation and

patriarchal power structures. Additionally, ecological deterioration resulting in the heavy loss of qanat water and the decrease of social and economic structures as well infrastructure strongly affected women's livelihoods. The narrations of the women reveal, how they are held back from many opportunities of work, income and free movement due to constructed gendered expectations and patriarchal power mechanisms within families and the society. These coincide with events in the historical summary of this work, which displays continuous and transforming forms of the marginalisation of rural and urban women. However, simultaneously Chapter 4 demonstrates their resistances against the given circumstances of the time.

As mentioned above, one major goal of decolonial feminist political ecology is to trace female resistances within environments of marginalisation by patriarchal structures and ecological degradation, which are theoretically discussed in Chapter 2. The chapter reveals that throughout Iran's history, both religious and secular women were always actively working towards equal rights by challenging unequal work and legal conditions and uneven political and economic developments (Poya, 1999; Rostami-Povey, 2010a). Alongside their resistances, women have learned to deal with patriarchal and patrimonial (Tohidi, 2016) political systems by developing strategies to circumvent rules and regulations with their own forms of resistance (Kashani-Sabet, 2005; Bayat, 2013). Although women's control over their labour, products and income was limited, rural women would find ways to gain some control over it by circumventing traditional procedures and village rules (Afshar, 1985). The narrations of Cobra and other women in Kharanaq coincide with the historic and political events in Iran and the suggestions by theory. In the small context of Kharanaq, women at some point stopped leaving all the control over their work and income in the hands of men. Thereby, each one of them found their individual way to resist. Some very openly communicate that they demand change away from traditional expectations, which they started to make a stand against. However, there are also those, who do not find reasons to resist. Within their own possible realms women find individual ways to resist social norms in their everyday lives, while they take small steps away from given behavioural codes and power structures. Theory suggests that steps towards equality have been achieved through resistance by daily practices in the public space of work, higher education, art, sports or politics (e.g. Bayat, 2013) and by activism (Alikarimi, 2019). In Kharanaq, teenage girls seem to be more empowered to act and live according to their ideas. Some of them did not seem to pay much attention to the older women or the community's perceptions. For example, they have a boyfriend or be an artist. Mothers such as Robab Zarei, support their daughters to be as rebellious as possible in that society. Yet other women, like Robab Yazdi (57), regret that they did show stronger acts of resistance at an earlier point in time. Robab Yazdi today regrets that she hasn't

asserted herself against her husband. She as well teaches her daughter not to repeat the mistakes she did. All mothers mention that they want their daughters to have more freedoms, possibilities and most importantly independence than they had themselves. Especially the retired women of Kharanaq are of the opinion that they worked very hard and that they basically ran the affairs of the village on all levels. Repeatedly, they say, "We worked hard, and we did all kinds of work." They are aware that without their work, life in Kharanaq might have been impossible to manage.

According to theory these acts by the women of Kharanaq can be labelled as everyday resistances. Presented in Chapter 2, theory suggests that in order to circumvent repressive domination, subaltern groups show certain common behaviour. This kind of resistance is quiet and seemingly invisible and becomes part of politics through the everyday life of the subaltern (Adnan, 2007; Kelley, 1992; Ludden, 2002; Sivaramakrishnan, 2005; Smyth & Grijns, 1997). In various local and everyday resistances, a range of specific strategies and structures of power exist. Women wearing modest Islamic clothing, for example, which breaks with traditional Islamic dress codes and yet leaves them unapproachable in terms of morality. Islamic movements are a culturally and historically shaped response within "fields of overlapping and intersecting forms of subjection, whose effects on particularly placed individuals at particular historical moments vary tremendously" (Abu-Lughod, 1998: 53).

During interviews, I could observe that women supported each other's opinions due to similar experiences and finished each other's sentences while talking about their lives. Listening to mothers it becomes clear that they stand behind their daughters strongly, empowering them to follow their interests, be self-determined and independent. The support is mutual. Daughters as well, empower their mothers to follow their path, such as Robab Yazdi's daughter, who advised her to buy gold to be less financially dependent on her husband. In Kharanaq, the homes, "however fragile", can be a place of resistance, if, as theory suggests, an exchange and reflection of one's situation within existing power relations can take place. It can shape a "self-conscious constructed identity" (hooks, 1990: 42). Women in Kharanaq are supportive of each other, however, looking at single resistant acts by women in the public, each woman is rather attempting to overcome her own individual struggles.

In terms of societal norms in a Muslim majority community, many of the women I have asked about their stand being Muslim and about compliance of Islamic dress code and Islamic rules. Most women do not agree with the Islamic dress code, which requires the wearing of a chador or the headscarf, and they do not agree with all Islamic rules. Many women in Kharanaq do not have a close attachment to their religion and they would not consider themselves practising Muslims.

Getting to know the women in Kharanaq, I learned that even the women are situated in different circumstances regarding gender equality, they express awareness of the unbeneficial situation. In their everyday acting they are aiming to improve their situation as well as other women in their surroundings. Particularly generation wise, mothers want an easier life for their daughters compared to their own. Individually and by supporting and understanding each other, women in Kharanaq implement everyday resistances. They take a stand against traditional norms through visible acts such as their appearance in public, by asserting their will against conservative male family members, or by invisible acts such as having a secret relationship.

In the previous chapters, the past and present situation of the village of Kharanaq, its women and the situation of water scarcity, collective resource management and commoning were discussed. In the next chapter, I present the second case study, followed by a comparison of the situation of the women and the qanats as well as their interrelation in both villages.

6.3. Case study Shafiabad in the Kerman Province – Struggles of women and their thoughts on qanats, politics and change

The second study was conducted in the village of Shafiabad in Kerman Province. The history of human settlements in Kerman dates back 6,000 years. Kerman Province holds a large number of historical places older than 2,500 years, such as Jiroft (White Muscarella, 2005) or the 2003 destroyed fortress and old town of Bam (UNESCO, 2012). Archaeological findings show the name of Kerman occurring in a trilingual (Old Persian, Elamite and Babylonian) inscription by Darius I (549–486 BCE).

The following chapter gives an overview of the geographical situation of Shafiabad.

6.3.1. Geography of Shafiabad

Kerman Province is surrounded by Hormozgan and Fars Province in the Southwest, Yazd Province in the North, and Sistan and Baloochestan Province in the East. Located in the Lut Desert, the physical features of Kerman are primarily desert. Part of the Kalut desert, rocky hills formed by wind and sand, an important tourist attraction in Kerman Province, was measured the hottest spot on earth from 2005 to 2009, with the highest temperature reaching 70,7 °C in 2005 (European Space Agency, 2013). Its elevation lies between 2,000 and 2,500 metres, spanned by mountain chains with a general pattern from north to east. The upland oases of the province lie at the foot of these chains (Encyclopaedia Iranica, 2017). The climate of Kerman Province is mostly hyper-arid with dry summers and cold dry winters. The Kerman region is exposed to threats by earthquakes, due to the contact of the Arabic and Eurasian

plates, located beneath the land mass of Iran.

Shafiabad belongs to the Takab North rural district, which lies northeast of the province capital, Kerman, and comprises twelve villages and is separated into Takab North and Takab South. It lies under the administration of the Shahdad area in Kerman Province. Like most of the Iranian Central Plateau, Kerman Province falls into the arid and semi-arid climate zone, and thus suffers from water scarcity. While there are several, mostly seasonal mountain streams, the main river is the Halil River. With a length of 390 km, originating in the Hazar Mountains 3,300 metres above sea level northwest of Jiroft. It has a seasonal flow into the Jiroft dam.

The fabric of the architecture in Shafiabad reminds me of oases, which I have seen in books and cartoons. The buildings consist of clay structures, a large, renovated fortress with a tower and the qanat running through it, encompassed by tall palm trees, which can be seen from afar. The qanat runs from the fortress to the village centre and from there to the fields. The date palm trees have grown everywhere, providing shade from the hot desert sun. The only street running through Shafiabad passes the fortress and a little bit further down the *hamam*, which is being renovated. In between the old clay buildings, one finds concrete brick houses with corrugated iron roofs and two small markets selling groceries, cigarettes and ice-cream.

6.3.2. Demography of Shafiabad and participants of the study

The village of Shafiabad has 120 inhabitants and around thirty households (as of 2018), of which most are farmers. During my stay in Shafiabad, among the interview participants and conversation partners, were young people up to the age of 15, people of working age and retired residents. I did not have access to numbers from the current census.

The cultivation was restructured to a monoculture of garlic in 2010. However, besides garlic, other fruits and vegetables are grown. With farming as main income source, families have cattle and possess accommodation for tourists. Most women are *patte* (local embroidery) embroiderers or straw weavers and farmers, and most men are farmers.

When I first visited Shafiabad in the summer of 2017, participants had a lot on their minds that they wanted to tell me. The group of interview participants almost developed itself, when I introduced myself and the research project in Shafiabad. As with Kharanaq, the focus lay on perspectives and narratives of women of all ages in the village, in Shafiabad I had intensive contact with young women. My colleague

and friend Majid Labbaf Khaneiki, who is the author of several books on qanats, introduced me to Shafiabad village, as he had heard about the work of the women there. Filled with hopes of finding valuable information and data, I became acquainted with another beautiful and fertile village in the midst of an otherwise life-hostile desert of the Iranian Central Plateau.

Fig.27: Part of Shafiabad, 2017

I was allowed to stay at the house of Somayeh (29) and her husband Ali (31), who are farmers and hosts for domestic and international tourists. They also hold some cattle in a small stall near the village. In their backyard, they have constructed an accommodation facility with four bedrooms, each room with space for two to three people and a shared bathroom with a shower. Opposite the accommodation in front of the wall, Somayeh had planted sunflowers and other plants in a bed, that went along the wall. Except for the summer months, the rooms were booked up to one year in advance.

Somayeh is a member of a women's work group. The women of Shafiabad initiated a collective in 2014 with the aim of reviving women's handicrafts of Shafiabad and to do away with the distributors, who used to acquire the products for very low prices to sell them in the cities. Najmeh (30), one of the members, patte embroiderer and friend of Somayeh told me:

> "We were six in the beginning. Then slowly men and women saw that our work is a good thing because we also helped our families and also women in the society got to be known better, they started supporting us, they became more. Now from Shafiabad we have 20 people. Most of the

women are members now."

The group does different kinds of work and is steadily expanding both numbers of members and working fields. The group mainly produces *patte*, traditional local embroidery. It is a famous handicraft from Kerman Province: pieces of cloth are embroidered with colourful traditional local patterns and recently, also modern elements, which break with the traditional ones. This craft can be found in the form of cushion cases, table or tea cloths, wall decorations, bags, wallets, and so on. Further, two of the members produce *loupatou*, a thumb-sized doll made of wood and cloth. Older members produce products made of straws from palm trees in the village. The older women teach the craft to interested younger ones. In 2018, they began to produce homemade food products such as garlic pickles, jam and other foods with ingredients that the environment of Shafiabad offers. The group is called Gojinoo and the last time I visited the village in 2018, it consisted of 80 members. Gojinoo is the name of a certain sewing technique on the local patte that is handmade by local women.

Due to my stay at Somayeh's and Ali's house, Somayeh invited other members of the group to her home and introduced me to the women. The day after my arrival, I began to get to know the women and had the chance to start working. I mainly conducted interviews with members of the group. Besides the main group of interest, other interview participants were members of Shafiabad and women from Dehseyf, another village in Takab district. I conducted interviews with 20 participants and repeated interviews with 15 of them, 13 of whom are inhabitants of Shafiabad. The women were between 19 and 60 years old (in 2017) with the majority in their mid-twenties at the time when my research began in Shafiabad. Most of them were farmers and patte embroiderers, some were day workers who came to Shafiabad to help with the garlic harvest. The men, with whom I had conversations, were between 28 and 60 years old. All the men were farmers or day workers. Interviews were held with employees of NGOs in Tehran, among others, with Dr Tahere Violet Ansari (Name changed), head of an NGO for Sustainable Development, with Akbar Karimi (name changed) from an NGO for sustainable development.

During the first interviews in Shafiabad, some of the women were very shy, and it took them some minutes to open up and feel comfortable talking. The subjects of debate dealt with the qanat, the work of the women in the village, the Gojinoo group (to be introduced in a later sub-chapter), garlic cultivation, the presidential elections, and tourism. Depending on the women`s subjects of narration, their knowledge and experiences, for Shafiabad the categories of analysis differ from those of Kharanaq. I begin with the qanat and the agricultural practices as a category of analysis of Shafiabad since I find these an important starting point. Following this, I present women's perspectives on the qanat, their struggles,

their interests, concerns and resistances living in the village.

6.3.3. The qanat and the garlic

Without the qanat, a garlic monoculture would not be possible in the harsh environment of Shafiabad, where it has been applied for six years. It provides the locals with their main income. As with most families in the village, Ali and Somayeh are mainly garlic farmers and export garlic to Turkey. Married for 12 years, they have two children and take care of everyday affairs together. Ali told me that Somayeh's father was the first farmer in Shafiabad to try to cultivate and sell garlic. For two years, Ali and some other helpers cultivated garlic for Somayeh's father. They tried to sell it in the Shahdad area, which did not work well. Somayeh's father knew someone at the bazar in Mashhad, which at the time was very big. Thus, they decided to drive there with a truck full of garlic and onions. They were able to sell the entire load of ten tons within a few hours. From that point, other people started to concentrate on garlic cultivation.

Garlic is sown in September and does not require much water, except for the last month before harvest. The water is provided by the qanat. The water shares are divided into a 14-day-cycle. "It depends on the number of shareholders. Here, we are twelve. In the village of my father, there are seven or eight shareholders applying a six-day-cycle," Somayeh explained. The yield takes place between April and May. There is little water for Ali's land, but he manages to irrigate all his garlic. With six hours of water once a week it is possible to irrigate a half hectare garlic field, on which approximately 20 tons of garlic could be harvested. The harvest is once a year, seven to eight months after sowing. I attended the harvest days in 2018 on the field of Ali and Somayeh's father. The night before Ali said to me: "Come tomorrow to the garlic harvest and you will see how many women there are", and so I accompanied him.

For the harvest, the men stand in a row with spades and the women sit or squat behind them. The men loosen the garlic roots from the soil with a spade and step to the next row. The women pull out the garlic plants and put it behind them. Ali and I collected the plants and bound several in a bundle with plastic cord and a special knot, which I had learned from Ali. That went on the entire day with a lunch break and a siesta at Somayeh's house. At the end of the day, everybody helped to collect the garlic bundles and throw them on the truck, which had arrived shortly before our work was done. That day, we harvested ten tons of garlic.

The qanat is able to provide the necessary amount of water for all farmers. Ali and his fellow farmers in Shafiabad and the neighbouring villages have their primary income from garlic sales. Ali explained:

“Our garlic goes to the North, to Astara and from there they pack it and take it to Turkey. The quality of our garlic is really special, and another good thing is, after the harvest has finished everywhere, then our harvest just starts.” Somayeh added: “The garlic is purple, it’s not white. It’s famous. Other garlic doesn’t have this smell and taste.” Somayeh’s friend Asma Shayegan (26), farmer and patte emboiderer in the group, said: “For example, before they cultivated garlic, there were onions, barley, wheat, especially wheat.” Dates were also cultivated in the region. They were of high quality, according to Somayeh, and were sold in Kerman. In other villages, they would grow citrus fruits, but mainly for their own use. However, the fruit tree gardens have dried out since there is less water now in the region. Out of 57, there is one garden left. There is not enough water, and the existing water is used for the monoculture cultivation of garlic. She describes the gardens: “One row of palm trees and one row of orange trees, again one row of palm trees and then one row of lemon trees and so on. They were so beautiful in winter with the fruits and in spring with the blossoms. One became cured in the gardens.” Asma narrates: “Then, the garlic of Shahdad became popular. Now, they have a higher income from garlic because of the export.” Somayeh further explained that “the garlic revived the people. Their lives have completely turned around…” Her father, for example, always had an income that was enough to easily provide for his family. His income from farming and other sources together lay between three and four million Tomans (1000 Euros). Today a farmer can earn seven million Tomans (2,500 Euros) from garlic alone. “You see the difference?... It is really good.”

Fig.28: Garlic harvest on Ali’s fields in Malekabad, 2019

"While in the past, water shares were easily sold by people, today water owners are not willing to sell their shares" due to the income from garlic, "which is too good," Somayeh said. According to the locals, the qanat water in Shafiabad has not decreased in a way that would be significantly harmful. People have less water because the shares are inherited by descendants and therefore diminish for each child and generation. Despite the decrease of groundwater and the smaller fields and water shares, the amount of water is still sufficient for farming households. One reason, therefore, is that garlic requires less water than fruits and vegetables, which were cultivated here before. The other reason is associated with events in the neighbouring village in the 1990s, which led Ali's family to leave. Fariba (23), Somayeh's fellow member in the group, whose family was affected as well, explained:

> "That other village, Mehdiabad, that we have, their qanat dried up a couple of years ago. We moved here, to the neighbouring village. Everybody has left. There is not a single person living there now. It is empty. After 13 or 14 years, they cleaned the qanat again and it has water now, but the village is still empty. The chance that people would move back is very low. The water is still used. It is divided between the surrounding villages Malekabad, Valiabad and Shafiabad."

Accordingly, today, Ali and other farmers can use the fields and qanat water of the abandoned village for their garlic cultivation. Besides the fields, the clay houses and the fortress still exist. When one walks through the ghost village, one still finds old clay pots and other remains.

The qanat of Shafiabad is approximately five kilometres long. The mother well starts at a depth of forty-five meters and ends with shafts of one- or two-meters depth in the village. According to Ali, the mother well does not have any water anymore. The water of the qanat rather drips in from the rock of the tunnel. Some of the farmers are of the opinion that if today the qanat started five kilometres further beneath the mountain, it would have ten times the amount of water. Generally, the worth of water does steadily rise in Iran. After decades of heavy embargoes and self- sufficiency policy by the Islamic Republic, now, once more, the nation is forced to a higher level of self-sufficiency, which means a higher need for water and more depletion of groundwater. The embargoes on Iran by the U.S. administration and strict penalties to any state that conducts trade with Iran complicate business, and also affects villages in midst of the desert, such as Shafiabad. Heavy inflation due to embargoes lower the income from the garlic trade with Turkey for Ali and his colleagues as well. The Iranian Rial (2019) has lost between one fourth and one fifth of its value in recent years. Inflation and unemployment lead to a rise in farmer protests and rising conflicts. Environmentalists and locals urge the government to end mismanagement of water resources (Aljazeera, 2018).

This section shows that even though the qanat of Shafiabad has lost its amount of water, it is sufficient for lucrative garlic monoculture. Somayeh and other women in Shafiabad have a great deal of information about the qanat. The next section will shed more light on the Shafiabad qanat and its value and function for the local population.

6.3.4. The qanat and the women

The qanat of Shafiabad passes the fortress and the village before it flows into the fields. The local community was able to maintain and has benefitted from it until today. People lived inside the fortress, which the qanat would flow through. There was no other water source. Shahbanoo (50), who knows the art of carpet weaving, straw weaving and *patte* embroidery has been living in Shafiabad for thirty years now. She told me:

> "You see the hamam there? The qanat passed it once and the water mill, it's down here, they would throw wheat in it, and it became flour. Here in Shafiabad the water was very good, it was a lot those times. It was the main branch. In course of the reconstruction of the qanat, they diverted the branch from the hamam to the middle of the fortress court, where it still flows today. Here in Shafiabad the water was very good, it was a lot those times."

Fig.29: Shafiabad qanat, 2018

The former main branch of the qanat, which passes the hamam, is only used today in case the branch that runs through the fortress has a problem. Otherwise, it is closed. There was no mosque, which the qanat in other villages would pass by. People would pray in their houses. Somayeh (29) remembered stories that her parents always told her about the qanat and what would take place around it in everyday life.

> "A lot happened around the qanat. My dad told us that in summer when it was hot and there were many mosquitos, in the evenings they went inside to the qanat, lay inside up to their necks and slept there until the next morning. My mom told us that she always went to the qanat together with my aunt (wife of my uncle), with whom she was good friends. They would wash their dishes and clothes until midnight, and they would always take khomrehs with them to fill with water to have water at the house in the morning."

Besides the housework, some fieldwork and the children, women had a lot of other work. Somayeh explained: "Women, for example, would bring hay to their cows and milk them, they would bring the sheep to graze. They had a lot of things to do. Today as well they have cattle but less than before because of the garlic production, which has a higher yield." Shahbanoo remembered that the women would put a cloth as a curtain to cover the place of the qanat in front of the entrance when they wanted to take a bath. "There was a big pool, we went there, washed ourselves, became clean." In Dehseyf, the neighbouring village, which is about a ten-minutes-walk, women would bathe directly in the qanat with someone watching that no men would come along. "When I stood in the qanat, fresh water would come from in front of me and dirty water would flow behind me. The used water would flow onto the fields after use." Zahra (20), who is still learning to embroider patte in the group, "When we were kids, we milked the sheep, and we played in and around the qanat. Now that we are older, we don't do these things anymore." Today as well, when it is warm outside, one would often see children playing in the qanat in the centre of Shafiabad. Shahbanoo narrated:

> "They would call them *kaki*. When water became muddy, they would say that the kakis, the experts are working in the qanat. It was the time of the earthquake when we lived in Aliabad-e- Hojjat (southwest of Shafiabad). The water flow of our qanat there stopped for five years after the earthquake. Until then, they worked so much that it worked again. It was in the 80s, I think. I was ten. The state would help. They would send moghannis."

Shahbanoo further told me what happened when the qanat could not provide the village with water:

> "When the water of Shafiabad stopped for some time, we would go with a donkey to get water. We

had two bags on the sides, where we would put two khomrehs (clay or sheet jars) inside, whatever we had, clothes, dishes, anything, we would put on the donkey, go to Dehseyf, there was water. We would wash and clean, take a bath there, get on the donkey and come back. For cooking and drinking all came from the qanat. Then later, they brought tanks and put them in the villages, two tanks. They filled them with water in Shahdad [the city closest to Shafiabad], the tanks were very big. When these tanks were full, half of one tank was for Shafiabad. This village had forty families, who used this water."

The qanat's use for agriculture in Shafiabad takes place according to traditional qanat regulation. Ali remembered: "In the past, when we were landlords, there was a *mirab* (water time manager)." Today, everybody knows their water allocation, whose it is before and after them. When their time comes, they divert the water into their field. "For example, yesterday, I had water overnight until eleven o'clock. The one, who is next goes there and diverts the water from my field to theirs." Ali explained that the diversion of water is based on trust. Nobody checks if the other farmer goes to take their water at the right time. Somayeh continued: "Nobody would take the water earlier than their turn. Further, a farmer would realise if their field had less water than usual." The qanat as a common resource is used according to fixed rules, which are generally known by locals and the system of cooperation is based on trust. There is no person who takes care of a fair distribution of the resource: it is all managed collectively.

Fig.30: Somayeh's son Amirali playing in the qanat of Shafiabad, 2018

Asma, patte embroiderer and now also finance person of the Gojinoo group, told me:

> "We, for example, have 24 hours of water, once every 14 days. According to our share we must pay for the maintenance of the qanat, for example if it is broken. Water shares can be inherited, bought or rented. They are not inherited equally. Boys get more. In this region families give more to the boys. I haven't heard of a case that a father gives equal shares to both daughter and son. It might be that siblings themselves divide the shares in another way after haing inherited it."

> "Because 14 days are too long…Water is not traded for anything else because it has a lot of worth." Only farmers who don't need more water than they have would sell it or trade it for something else. Ali continued: "We ask him for two or five hours of water and in return give him something…money or something else, eventually we don't let them go unsatisfied."

Masoumeh (19) told me: "We have two water shares, one in Shafiabad and one in Mehdiabad because my father inherited two shares, from my grandfather, who inherited one and bought the other. There, I know we have 36 hours, but the water of this qanat here is less." Zahra told me about the qanat in the community:

> "Most of the part of the life of the people is really bound to the qanat. If there was no qanat, most of the families would just have nothing. They have no other source of income. Even for us, we have other income sources, maybe one third of our income is provided by tourism, the rest is farming and our cattle…because tourism is seasonal. People come from September till April."

Fariba, who has one child and is divorced and a patte embroiderer in the group, said: "In the village, the lives of all people depend on the qanats…it gives life to the village. If the qanat loses its water, where shall all these people go? Do you know how much it will harm the society? How much it will cause unemployment? How much hopelessness it creates? If the qanat dries up, people who don't have another income, like us [the Gojinoo group], will pack and leave." Mahnaz (27) and Mahdieh
(29) think it is important to improve the situation of qanats in order to achieve a better income for the farmers. Asma said: "We are just getting to know it since our group started. We didn't have any relation with the qanat or any knowledge. The memories I have with the qanat are that it is used for agriculture." Masoumeh said: "I know that the qanats are not in good condition. They always go and fix them and then they collapse again."

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Women and men in Shafiabad are familiar with spiritual aspects of qanats, such as the gendering of qanats and qanat weddings or the myths of the goddess Anahita and the sacredness of water both in Zoroastrianism and Islam.

This section gives insight into women's memories with the qanat, their knowledge about water shares and their appreciation as valuable asset and income resource for the community. Another part of income for the families in Shafiabad is provided by tourism. the importance of tourism for the women of the village and why politics matter in this regard are presented in the next section.

6.3.5. Tourism and politics

While Ali is occupied in the fields, Somayeh, for 10 years during spring and autumn has been mainly occupied in hosting domestic and international guests in their accommodation. In Shafiabad, today, six families have an extra income from hosting tourists beside agriculture. Ali, who worked in a desert camp for tourists before, at some point showed the tourists around in Shafiabad. They liked it and others followed. Somayeh explained:

> "Our village became more known, the Kalut, etc. It became more crowded and there were more tourists, so we decided to start this accommodation. We have a good income. Some people, for example, were drivers for tourists before and did not have a good income, but now they do. Another one was a co-worker of Ali, he also worked in that camp. There are no conflicts because everyone is doing their own work, has their own customers. The camp belonged to the Ministry of Culture before. For two years now, it has been privatised and belongs to one owner of Mahan Airlines. The tourists have a travel agency in Tehran, which are in contact with us. For example, for the New Year's holidays the guests we had, had reserved three or four months beforehand. They send us their list [of visitors] via telegram."

Fig.31: Ali diverting water by night, Shafiabad, 2019

Even the communication application *Telegram* is filtered within Iranian boarders and is not usable without a proxy server, however, most people still use this application. The seasonal accommodation of tourists provides the women of Shafiabad with a good income. Regarding tourism and business, the 2017 Iranian presidential elections are a major subject for many of the women. Thereby they discuss, which candidate can be the better one for their business.

Somayeh is not sure if the reason that many people in Kharanaq stood behind President Rohani was due to their work with the tourists: “Since Rohani, in recent years a lot of attention was given to tourism by the Ministry of Culture. It doubled and tripled.” Asma added:

“At least the time of Rohani was good for this region. Tourism rose in comparison to the past. At least he did that job for us. Maybe for other regions, for a factory or other young people it was income lowering but for me here that is enough. Some time ago, the TV said that Kerman is first in the country when it comes to tourism. But they are destroying the Kalut.”

Fig.32: Somayeh and Ali's cattle, 2019

Fig.33: Tourists in Somayeh's accommodation (picture: Ali, 2017)

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Somayeh replies: "But this year they are preventing cars from entering the area. If they built a parking space there, it would be helpful." Ali as well will vote for Rohani, "because he is good for business." Fariba will also vote for Rohani. She argues:

> "I mean it is right that he didn't do anything grave, or maybe I don't know about it. But that the situation did not change is also not bad. Before, a litre of fuel rose from 200 to 1,000 Tomans very fast. But after he took office, nothing became more expensive. The NGOs come to the villages easier. They believe more in NGO work."

Asma said: "Four years ago, when I wanted to vote, I didn't have any knowledge about any of the candidates because I was not interested. I didn't vote. But now it is important to me." While many people I spoke to in Shafiabad were sure to vote for Rohani, Fariba and Asma know as well that other people in the village think differently, such as Masoumeh (19), who is a salesperson in the group, patte embroiderer and mainly a producer of Loupatou, doesn't know who she should vote for yet: "I don't have a good feeling toward Rohani. About Reisi, I don't know much. I don't have a good relationship with the TV." Najmeh (30), patte embroiderer in the group, said: "I haven't decided who to vote for yet because I am still thinking and have doubts between two of the [candidates]." Asma notes: "People

expect that Rohani comes and directly gives money into their hands without them doing anything. They are only complaining that Rohani didn't give them anything. Maybe it looks like that on the surface, but I have a different opinion."

Tourism, which is still young in Shafiabad, and the promotion of tourism is of enormous importance for the women in Shafiabad since it provides them with a good seasonal income. The women of Shafiabad made tourism of their main income source. Thereby, besides hosting tourists and being farmers, their main occupation today is handicraft production. The following chapter presents the value of women's work and introduces the Gojinoo group.

6.3.6. Handicraft in Shafiabad, the value of women's work and the Gojinoo Group

Depending on age, women are straw weavers, patte embroiderers or carpet weavers, and some are tailors. Masoumeh told me:

> "Usually women, who are occupied in the house, embroider patte. Those who are older and cannot see well anymore, because it requires fine sewing, weave straws. In the past they didn't work with patte, their income, which they earned by straw or carpet weaving, was used to buy food and diapers, for example. For other women a main seasonal occupation is tourism, and most women are partly farmers. In the fields, men are rather responsible for the harder physical work in farming, such as preparing the soil and working with heavy tools. Looking after the cattle is done by both men and women. And lighter physical work, such as sowing, weeding and harvesting is rather done by women. For example, they work on the fields during garlic harvest, collect hay for the cattle and look after the animals, milk the cows, or take the sheep to graze. Today people in Shafiabad have less cattle than before since garlic production provides more income. Everybody is somehow involved with farming, particularly during the garlic harvest. At that time all family members help out with the harvest and some families even pay day workers, who come to earn a little money."

There are also cases like Asma's family, where the women of the family are the sole farmers and water managers. She told me: "Because my brother died a couple of years ago, and my dad was more occupied in date trade and not in the village much, my mom mainly was occupied with the farming. She also did the water management with help. She would, for example, pay a worker or one of our relatives. As far as I know, the amount of water of the qanat was never in real danger." Mina, whose family members are farmers as well, is a salesperson in the group: "I sew patte and I know as you saw today, just a little bit straw weaving. The other girls can't weave." She also works on the fields with her family, who grow garlic and hay:

> "I, for example, go to help my dad to pull out garlic when we harvest. I myself pull it out with a spade. Some can do that, but usually women don't do such work. In our village there is no woman, who would take a spade in her hand to get water, but in the village of Valiabad we have one. I think her husband is dead. Anything you would say that the men do, be sure they get help from their wives."

Shahbanoo (50) told me that the actual handicraft of women in Shafiabad is palm leaf weaving and narrated:

> "At my mom's house, I made brooms and mats, when I was 15. I learned it when I was 12 or 13. We also sew patte. When I first learned it, I sewed two pillow sheets for myself. My mom filled them and added them to my dowry…When my children were small, I also wove carpets. I learned it when I was nine. I was in the second grade. She wouldn't let us go to a male teacher. She saw it as bad. For two years, there were two female teachers. In the third grade, it was a man. When my mother learned that we have a male teacher, she took me off school, put a carpet in the house and asked the neighbours to send their children to learn carpet weaving and then come to our house for weaving, she would give them food, clothes, and money in return. That way I learned it. She had a small carpet-weaving workshop. Now they don't weave carpets anymore because of the machine carpets. When we would weave carpets, they would buy one carpet of three meters width and four meters length for 13,000 or 15,000 Tomans from us. We provided the materials ourselves and somebody came from Shahdad to take the carpets."

Somayeh, who is a manager and an accountant in the group, said: "We revived it. Straw weaving was dying out. They [still] wove straws but with difficulty. They would sell a hat for 1,000 Tomans if any at all. They had completely put aside the straw weaving, right Fariba?" Fariba: "It had become very seldom." Somayeh: "Very seldom. Our mothers also sewed patte. The mothers of our mothers did straw weaving." Fariba: "Some did Goldoozi [embroider on cloth]." Somayeh: "Goldoozi was made on fabric (cotton), not on shawls. I don't know where exactly patte came from, but I think that someone came to the village with patte, and people asked what it is. It came from the city." "Around the time when I learned carpet weaving, patte embroidery was introduced in Shafiabad," Shahbanoo told me. She continued:

> "My mom would do straw weaving, which was the actual handicraft here…Patte sewing came when I was eight or nine years old. A friend of my mom came here from Kerman and had that fabric in her hand. I asked her what she was doing and what that is. She said: 'Patte.' So, girls learned to embroider patte until today. Our mothers for example, they know carpet weaving, but we don't. It

takes a very long time that is why they might have stopped weaving."

For the members of the Gojinoo group, patte sewing has become the main occupation today. While many of the girls where already weaving on their own at home, others learned it when they joined the group. Zahra for example, is still learning it. In the spring of 2018, I was sitting around some of the products done by members of the group together with Asma, Masoumeh and Somayeh at Somayeh's house. Looking at the products, which are lying in the middle on the carpet, drinking tea. Somayeh said: "Zahra is still sewing very badly." Asma replies: "Zahra? Catastrophe, she doesn't have any interest in patte, but she makes nice earrings, *sisis* (handicraft made of palm tree bark) and *neys* (straws)", which all belong to the products that the group makes now." She shows me earrings that Zahra made of cloth and yarn.

The Gojinoo group was started through the initiative of the NGO Boompajuhan, based in Tehran. With the aim of making changes in society by empowering rural communities, the work of the NGO focuses on the collaboration with local communities. During the projects, the locals discuss relevant topics such as pollution, resource exploitation and environmental protection. They find out what their common concerns are, how they can work on them and how they can be more self-sufficient. The locals thereby work out which resources the environment provides for them and how these can be used without exploitation. In the case of Shafiabad, the first goal of the project was to understand the concerns of the locals by locals through a participatory research project, initially with video documentation. For the research and education project, a women's and a men's group had been created. The members had learned how to use a camera for photography and filming from a filming team in cooperation with the NGO Boompajuhan. Najmeh (30), who is patte embroiderer for the group said:

> "One day they gathered everyone in the mosque, Fatemeh (43, Mina's mother) came and told me that some people came from Tehran, they gathered and are talking about the village, the qanat and the fortress and these things, 'Do you want to join?' I said: 'Yes.' Then we went there and later we met at Zahra's house and got in touch with the pv (participatory video) project. What is a camera? How do you hold it? How do you work with it? etc. In the beginning the men also took part, but because of farming and the work they have, they gave up. They didn't come anymore. Of the women, six stayed and continued."

"Before the group, we all sewed patte by ourselves for the distributors. Someone gave us cloth and yarn and paid us according to what we sewed, but for sure it was very low," Somayeh said. Najmeh, Asma's sister told me: "They gave us much less payment. It depended on the size of the patte." Masoumeh

explained: “It was really a bad thing that we stick the needle and sew and the distributor, for example, just pays us the sewing work. It was also hard work. One patte that he would give us 150,000 Tomans for, he would sell somewhere else for 500,000. For a *badoom* (almond, here: form and size of patte), which is worth 20,000 Tomans (5 Euros), they [the distributors] would pay 2,000 or 3,000. One distributor, for whom I sewed, exported the patte.”

> “The *gazangabil* (a syrup with which *gaz*, an Iranian delight is made), which this region is known for, and which has a very healing function, an expensive raw material, which we win from those trees in the desert. It is anti-jaundice, antifebrile, etc. It has a lot of uses. One kilogram is about 200,000 Tomans (50 Euros). They would buy it for 20,000 [Tomans]. Think about it, it is ten times less the price,”

Fariba said. The low income in time drove the women away from handicraft. Accordingly, “We decided to pull out of the business with the distributors for the first time, while we were still only meeting to talk. There was no group yet.” Somayeh told me. Fariba explained how the women were able to bypass the distributors:

> “We found out who can do what and why they don’t do it anymore. We talked about women’s concerns. One reason was that the distributors and dealers bought work that was done with a lot of effort. One concern was that they had no independence, for example, me, who wanted to study but couldn’t. Very few, for example, two or three out of 20 girls could study outside of the village. Then we concluded that if we required things directly, maybe we would receive bad feedback from the people. So, we started working on our handicraft. We started researching the difficulties of our handicraft. We asked questions. We talked to the people. The six of us went on like that.”

“The six of us were different from the others,” Somayeh said. “It was Fariba (23), Najmeh (30), Zahra (20), Asma (26) and Fatemeh (43). Our first goal was to give the women of the village power. It should be so that people could make use of what they have, to be able to get the necessary benefit of it.” Somayeh continued:

> “We thought about why, for example, the role of handicraft became so rare in our village. We decided to become a group to practice patte sewing and straw weaving, because straw weaving was done by our mothers, we never practiced it. It was about to die out. So, we decided to include it in our work and even the young people had to learn it. Each one of us added, I remember, 20,000 Tomans (5 Euros), we were six people; that made 120 [thousand] Tomans. We started our work with 120 Tomans.”

Beside the women's own money, an NGO donated 500,000 Tomans and the employees of Boompajuhan added 300,000 Tomans. [From that money,] we went and bought cloth and yarn. Then we ordered some patterns from a designer. This way we worked for a year without touching the earnings to save some money, with which we can work." After some time, while still discussing their goals, the women began selling their products to tourists in the fortress. Fariba remembered: "We didn't have any space we just took a spot there, cleaned it and…that day my brother came to help us. We divided the work in the meetings. We decided together who is talented in what work." "We started producing and selling it to the tourists who come here.

Fig.34: Mina and her son at the sales booth, entrance of the fortress, 2018 (picture: Lidia D'Opera)

In the first year, we sat here in the entrance of the fortress", Somayeh told me. Fariba said:

> "When we had arranged our products in the caravanserai, we wondered how much support we got because it was for the first time that handicraft was sold in a tourist spot in any of our villages. That year we sold 800,000 (200 Euros) or 1,000,000 Tomans. Then we started working again. We didn't have a sewing machine for example, we used mine and the devices from my tailor shop. Then we slowly started buying equipment until we bought a machine, and we got an iron as present. So, our devices were complete. People saw our success. They saw that the women are not working for the distributors, they are receiving the actual profit, they have goals. Slowly they found us interesting. After the project went on for one and a half years, the men began feeling drawn towards the group."

Somayeh added: “Then we got orders.” After one and a half years, the women began to have an income from the handicraft business, which would be accounted as follows: From each sale of each product, 70 percent goes to the woman who produced it and 30 percent goes to the collective box, which is used to buy material and to save money for investments.

This section displays that in Shafiabad, women who would produce handicraft on their own being underpaid by distributors began to work collectively and succeeded in excluding distributors from their sales. By communicating their concerns and goals with each other, they were also able to revive straw weaving, a traditional local handicraft, which was dying out with the new generation of women. Initiated by a local NGO, women began to research in their own village to find out what people’s concerns are. By communicating with each other and thinking about common goals, they were able to make some highly favourable decisions for themselves and the community. However, when the women began their project, they had to face strong opposition by the community, which they had to resist. With a decolonial feminist political ecology lens, one main aim of this work was to trace resistances by the women of Shafiabad against male hegemonic structures within communities, which in turn are located in a state with patriarchal theocratic rule. The next section presents the narrations of the women in Shafiabad on their experiences during the initial phase of the work in the Gojinoo group and actions they took to able to continue.

Fig.35: Members of the Gojinoo group, 2018 (picture: Sajjad Avarand)

6.3.7. Resistance

When the women first wanted to start the group, they had to face different obstacles. In the beginning six women had the courage to start something new, but many others were sceptical. When the six started their work, they told me that many people were unable to grasp why the women of the village were suddenly occupied with new activities. The refusal of the community to understand the women's project was not easy for them to deal with initially. In order to be able to continue the group work, the women in Shafiabad had to resist verbal violence and defamation by a majority of members in the community. In this section, they tell me how they experienced the time after the Gojinoo group had started.

Fariba narrates:

> "The people disagreed with our work. But we stood in front of them. That alone was really hard. I'm saying it easily and therefore it may seem easy, but it wasn't. When they saw us somewhere in the corner, they would say: 'Hey, you are here. Does your husband know about it?'"

Somayeh told me:

> "They really disturbed us, Peyvand. They would give us stupid text messages and calls. It was really bad. We were really fed up with this place. For example, when the six of us gathered and wanted to go somewhere, we would talk and laugh and our voices would be loud, for example, they would go and build something huge from that. We had a lot of difficulties. Asma has a bachelor's degree. She is the first of the village whose parents allowed her to study. It is crazy. You hear some weird things from people in the villages. Maybe in your villages such things are not existing at all, but when we go to Shahdad for example, we have to wear a chador and no make-up. Apart from the fact that those same native people from Shahdad, when they go to Kerman, they become really nasty, while in Shahdad they have to 'behave'. And look now, how good it is here. Maybe for you it's nothing."

People did not understand why young women of the village suddenly walked around with cameras. Many in the community found it indecent that women met repeatedly without real reason, that they stayed in the fortress or worked with foreign men. The people also did not trust the NGO employees, who came there as foreigners. Somayeh remembered:

> "Before, people would say: 'What does a woman have to do with outside work? A woman should stay at home and wash her clothes, her dishes, cook food. She does not have to do anything with outside work. What does she have to do with shooting films? What does she take pictures for? They will not reach anything. They [the NGO] all only think about themselves.' They had good reasons

to not believe that this group will reach anything, because every time someone came here to do something, they really came for their own profit. They said: 'Each time these people come here they get millions [of Tomans] of salary. You are the disadvantaged, that you leave your own lives and give them your time.' and such things."

Asma remembered:

"People had a different view of the whole project, regarding the fact that women are in the streets working with cameras, because we were the first to do that. Therefore, sure there was some talking, and it was really not good for us at all. They said things behind our backs so that each one of us really became sad about it. They would insult us, or some would not come to our houses, when we set up meetings. Obviously, that was hard for us."

The women say that they could not have resisted and continued without the support of their families: "Our families stood behind us. Maybe if they hadn't, we might have made less progress," Somayeh told me. Asma, who holds a bachelor's degree in social sciences, told me her experiences as one of the two first students from Shafiabad to attend uiveristy in 2010:

"I didn't think that a woman has to stay at home for sure. I even wanted to convince all my friends to go to university and to get out of this environment. Some of the people here didn't like that. My parents let me go and many supported us. Even though my parents are illiterate, they seriously cared for our education and for the group they gave the decision to me. 'However, if you want and think it is right, do it.'"

The families of the girls, who disagreed with the project, would say it is senseless. It will not get anywhere. To convince their families, the girls would explain the goals of the group." Somayeh further explained:

"The people of the village, each family, even if they know each other, are neighbours, from the same tribe, or are close to each other, they deal totally different with things. In general, the six of us were different. For example, Ali from the beginning, did not have any problem at all that I work with a man. Ali worked with tourists for a long time, or Fariba's family often go to the city. They partly live in Kerman, but there are families who have never even left the village. I think the living and working environment had a lot of influence on the way people looked at It [the project]." Fariba told me: "My family didn't make any problems from the beginning. They just said: 'Take care when you walk in the village because the community is small.' And it was really small, and people didn't understand what we are doing."

Besides the women, who joined immediately, other women in Shafiabad, who are members of the group now, had their doubts and it took them some time before they reached the point of joining Gojinoo. Mina, for example, told me:

> "In the beginning I didn't like the group at all. Maybe it was because I didn't understand what they are actually doing. I didn't have a good feeling toward it. Maybe because of the camera. It made me curious. 'Ok, there work is handicraft, what does that have to do with a camera?' They came a couple of times and filmed my mom. And I would tell her 'No, don't let them film you.'"

Mina's mother had to convince Mina to go to a group meeting with her. Eventually out of curiosity she went to a meeting and immediately joined the group. She explained her initial doubts:

> "I wouldn't think that their work is so serious. I had a totally different imagination. The day I first went there, some people from abroad were filming the Lut Desert. I realised that these people are good people and that I had wrong images. I liked the seriousness of the meetings. It was very good."

Masoumeh as well belonged to those who were not interested and joined after two years:

> "Then I saw that they are very active, that they pursue their work seriously, that they sew patte, that they are together, that they are having fun, so I said to myself, let's go and see what is going on there (laughing). And I stayed. At some point, the group had established itself. People were affected in a way that it was no problem that women who wanted to, could just go there and join if they wanted to."

The initial six women worked from the beginning against all counter action they had to face. For one and a half years they did research and produced handicraft without having an own earning from it. Many of the women mentioned that the strong will they had to continue despite all difficulties, came from the feeling of dissatisfaction and the strong desire for changing their situation. They did not know exactly what needed to be changed. They knew that things did not feel right. Somayeh, for example, explained to me:

> "I knew there had to be more than that. I was waiting for something to happen, that women get out of this situation. In this group, the first six or seven members are all like that, I would say. They really wanted change, otherwise they couldn't have done it [go through with the project]. It wouldn't have been possible because if you [really] want, you sacrifice a lot of things."

Najmeh said:

> "It was hard for us to get the material for our work, we had to go to Kerman. Because we wanted to reach something, we dealt with everything. The work pressure was very high in the first one and a half years. Believe me that we did all the work. We were only six, and for New Year, we had an order of 300 pieces of patte. And then, there was also the talking of the people. The pressure did bother us but because the work was important to us, we didn't give it much attention."

The women recorded the process of their research in Shafiabad and the surrounding villages. Fariba remembered:

> "When we started the group, everybody was making fun of the fact that we had cameras in our hands and that we worked with percentages. There were also problems in the lives of all of the girls, who were facing their own problems, but they stayed. Me myself, I became pregnant. Normally, pregnant women don't work, but I worked eight months and 15 days. I sewed for the group. When Arash [her son] was twelve days old, I was back at work. The girls met at our place, and we sewed. There was this motivation that this group has become strong now and is working. We faced some difficulties, some dissent. But because we worked hard and the qanat became a concern, the distributors became a concern and slowly our goals became clear and now we are women who want to help the qanats with our handicraft. When I think about it now, I get a strange feeling: The women are much more serious in work that they do, in whatever you may think of. It shows that the women's role is much more important than the men's role. In anything they did they made much faster progress."

Now that they have income, most women who do not have their own family spend the money for themselves: "I top up my phone or buy clothes for myself and if I don't need anything anymore, I give the rest to my family," Mina said. Najmeh Shaygan told me: "We buy clothes for ourselves, shoes or mobile phones from Kerman." Those who have a household or a child, spend it on the household or for their children. Najmeh, for example, said: "I spend my money more on houseware, nothing special, because I always had what I wanted." Fariba said: "I spend it on my child and myself, for example, for clothes." Others save it for bigger investments in the future. Masoumeh explained:

> "My dad or mom never talked to me about money. Until now, I never gave anything to them. I spent it for myself. I bought a gold necklace, for example. The group is really good. I leave my money with Asma, who is the accountant, until it becomes a lot, for example 200 [thousand] or 300 [thousand] Tomans and then she gives it to me. The Loupatous, they sell well, it is only me and another girl who are producing these. One is 5,000 Tomans (1,20 Euros). Because I use my own fabric, I only pay 15 percent for the qanat."

Najmeh explained, why having your own income is so important: “It is a help. With it, the women can be independent so that they don’t need to ask the men for help. So that she can buy things she needs from her own money. I normally never really needed anything in particular because fortunately my husband provided everything.”

Among the three aims of the Gojinoo group were to revive the village’s handicraft, to erase the distributors, and to invest in the qanat. However, that was not clear from the beginning. After two and a half years of work the women began deciding what to invest the money from the collective cash box in. Suggestions which had been made were to help children with cancer, to build a gym for women or a mosque, to asphalt the streets, to install mechanical dustbins, which can be emptied automatically by a dustcart. After suggestions had been collected, one older woman asked why they should not invest in the qanat. “We looked at her without understanding”, Zahra said: “Why should we provide help for the qanat? What does it matter to us?” Fariba continued: “The qanat belongs to the men. What can we do about it? We thought very superficially about things that we didn’t have. The qanat was not in our minds at all.” “When we were working and researching our problems, one important issue was the qanat,” Fariba said. “After some time, we realised that the qanat doesn’t distinguish between men and women and that we could have a role in it as much as men,” Zahra explained. Somayeh told me:

> “The first aim we have now is the qanat, the revival of the qanat. Suddenly the qanat became important to us. We woke up. We thought the qanat is something that will never end. It is just always there. Its water had become less for a while but after the cleaning it is in good shape again. It is better. The money that goes to the qanat is used for its maintenance.”

Asma remembered:

> “If there is no qanat anymore, the life of people will not exist, because there will be no income. Most of the people are farmers. If there is no qanat, everybody will go to Kerman and what circumstances do the suburbs of Kerman have? Very bad ones, they live in small cabins. If there is water for these people in the village, they are able to cultivate and help other people, and even to the state it is a little help. The straw weaving that the girls do, that alone, how shall the straws become strength when there is no water to do handicraft with it?”

“If we help the qanat it is as if we are helping the income of our own families. That was our main motivation”, Najmeh said. Asma further explained: “We haven’t given the money to the qanat yet. We have the plan to do it. We are working on it. We looked at some villages and wanted to see which qanat is in worst shape.” During their research, the women learned many things about the situation of qanats

in Kerman Province, which Fariba told me about:

> "Human power [for work in relation with qanats] became less because the young people don't care for the qanat. It is not of any interest for them. Since the water amount is low, they can't use it much. They are cold-hearted towards it. It is more the white beards [expression for the elderly men], who are around it."

The research was and is conducted in other villages. Fariba explained:

> "First, we inform the village council and the village headmen and then they introduce us to some white beards. We make an appointment with a village. We talk about qanats, what problems they have and if their water is from a qanat or pipes, whether they clean it, and how they clean it, whether it is better with a wheel or an electric lifter, how it is safer and so on."

Eventually, when I returned to Shafiabad later, the women had concluded that the donation of five to six million Tomans (1,000 to 1,500 Euros) to one qanat would not bring significant change. Fariba explained:

> "We put a lot of 'Whys' in front of everything again and again. We really found things out so that we can argue because of this and that reason we decided to buy a lifting device. The mobile device can be used by all villages in the surrounding area. The easier and faster work it can do to a much greater extent is a benefit, which can reach a large number of people. It will make it easier for the farmers, and also that the work process becomes faster and that the human power gets less and instead of 50 kilograms of mass, they can pull up 300 kilograms of mass, when they clean a qanat."

Somayeh remembered:

> "After the filming project after two years work, we showed the movie in the mosque. They [the men] were really happy about it. After they learned about our decision, they completely changed their minds and views about women and the work they can do and that they should not be restricted. They really understood then that the women's aim is the qanat. The qanat is important for them [the women]."

The work of women in Shafiabad village and the efforts they had to put in to resist counteractions, verbal violence and rejection towards their work, women report, changes occurred as a result in Shafiabad and the surrounding villages of Takab North and Takab South. Somayeh remembered:

> "There are some things in our village, which were almost dead, for example, our handicraft or the

> qanat that we didn't care about at all. The patte sewing still existed but the profit flew to the pockets of the distributors. Now it is coming back to life. I am very happy about that, mainly because we removed the distributors. Now there are also difficulties, but it has changed. The girls are learning to design themselves. Our embroiderer, who was Fariba, had to come here from Kerman, but now it's better. When we have work to do, she is here. We became very close to each other."

Fariba explained, how the group grew: "When they saw that in our village handicraft is produced and the distributors are bypassed, actual profit is gained and the qanats are cared about, they came and joined us. We also talked to them, but they saw the developments themselves." Today, the group consists of 80 members and the core group of six, decided to do educational work, to go to other villages and to present the project to other women. One group is active in a city near Kerman, Shahrake Saidi. Fariba sums up: "The number of members went up, the sales increased, the quality of our products improved. We realised where we had problems and worked on those, for example our designs." Asma said: "There is solidarity and consulting with each other. We have designers, accountants, sellers, etc. We ourselves have less time to sew now." After the number of members increased, talents emerged and working groups started to be formed. "After a while, they know themselves what to do. When in one group for example, one knows a certain sewing design, they will have meetings themselves and will learn from each other", Fariba explained. The core group of the six began to produce less themselves and instead, go after acquisition, finances and organisation or designing. Somayeh said: "I want us to become known more. To go to the north and farther. I mean it." Somayeh and Asma tell me: "The Hammam is planned to become a selling place and a cinema for women and children." Asma laughs and added: "The fortress stays. We are 80 people! In Kerman we have spots for sale. In Tehran we don't have a permanent spot, yet." Masoumeh added: "In Tehran we sell if there is an exhibition, for example." Somayeh said: "We have dreams for Gojinoo. For example, some came from Tehran, and they knew Gojinoo." Masoumeh added: "That makes us happy." Besides the number of visitors, the group's sales depend on the quality of their products. In order to enhance the quality and to regulate other necessary production aspects, the members from Shafiabad have regular meetings with the members in different locations in a steady exchange of information and opinions. According to my observation, their interactions, appointments and errands seemed quite free of restrictions.

The women tell me more about their experiences with the women in the other villages. Somayeh said: "Now when we go to the other groups, we totally understand them." (All confirm, laughing). Somayeh continued: "Yet they didn't suffer from the difficulties that we did. Maybe we had tried alone to change something. Maybe we wanted to reach something each on her own. We would never have thought about

a group." Fariba continued: "When we go to other groups, for example, me or Somayeh, there are always one or two girls, where we feel that they can be beside us, taking things in their hands. Then we say: 'Maybe she could work with the neighbouring village, etc, she could do research, etc.' We all still do research." Somayeh added: "And for each place, some of us have more responsibility. We all have found each other during our work, on a path, on which we coincidently had certain goals, and it is a lot to work a whole year very fast and to sell products without taking any money. We worked from the heart and soul." Asma continued:

> "We also learned a lot of things from each other. When we gathered, I would learn something from Masoumeh, and she would learn something from me. And that went on this way. We also took some classes. Classes how to manage a workshop. Me, Asma and Fariba went to Kermanshah and some of the girls went to Tehran for classes. The work in this group has built trust and changed the culture that a girl does not have to stay at home and that a woman can work as well."

Somayeh remembered: "I didn't believe that we would achieve anything, even if I really wanted it. But when we obtained the first orders and bought the sewing machine and materials, in that new year I really gained hope. We were very patient." Zahra said: "Before we wouldn't even see this fortress, since we were kids until we joined the group. In the view of the people, it is a very bad thing to go to the fortress. Girls had restrictions." Mina told me: "When we started going there, people would say a thousand things: 'What? Mina went to the fortress alone?'" Zahra continued:

> "We had to stay at home and not go out. To do what? To watch television or do the handicraft that could be embroidered outside as well. 'Do it inside and do it for the merchandiser. What is the reason for you to go out?' It was like that. But when this group was founded, it was a reason for us to come to the fortress and even to learn about its history. That much good does the group for us. On the one hand, the qanat became important to us, on the other we learned about [the history] of our fortress, the caravanserai. We learned how good we have it here without knowing it. Maybe most of us did not have any targets in life. 'Oh, leave it, the day after tomorrow you will become a bride' and finish."

Somayeh told me:

> "When I went to a public office, I could not speak, I was ashamed to speak to a man, but since then I go very easily. I communicate my will. I thought a woman is not able to make any decision about anything. I thought a woman does not have the power to talk with someone because, when she is busy in the house all day. Even if around me there were a lot of men, a lot of tour leaders or tourists

came along with Ali, yet I wouldn't even say 'hello'."

Mina said: "I was an antisocial person, I didn't go to the fortress at all, I was always at home, my head in my cell phone, I didn't have to do anything with anybody. I didn't know anybody in the village. It is hard to express."– "Maybe this had gone to our blood, to our skin that a woman is just washing, cleaning. That she is not capable of anything else," Somayeh continued. "I could have become a translator and gone with the tourists to the Kalut. It is true that Ali never had a problem. But people would have said: 'What is a woman's business going with a bunch of men?' Because of people's talk, but also because I therefore had to go to Kerman, it was not possible." Mina said: "We village women would underestimate ourselves and sit at home and not want to do anything because people talk. Or someone maybe wants to go to university but doesn't go because of the talk of the people." Somayeh said: "I was always searching for something that can get women out of this state, and the first thing I said in the group was that I want the women's lives here to change."

The women all reported that before the group, they only knew each other from afar and some would not even greet each other. Zahra told me about her experience: "With Asma for example, I always wanted to become friends. But we all had a way that we would not go out. We didn't have any excuse or reason to do something together and to get closer. We were not involved in these things at all." Fariba told me about another reason that girls would not greet each other: "You know in the village people live tribally. There are four or five families, and these families normally have differences with each other as they did here. The differences are about water, for example, or land, etc. For example, I was not a friend of Mina's at all because our families had disagreements.

"But we found something beyond sitting at home," Zahra said, and Mina added: "Something happened in the mosque one day and I went and talked to them very easily, it was very normal for me." A discussion had started after someone had pulled down the curtain inside the mosque. Mina, who was passing the mosque and learned about the problem, suggested that it might probably have been a child. After some arguing, eventually the men agreed that it might have been a child. Fariba continued:

> "The family differences all were put aside through this very group and its goals. It is a lot that I could go to Ali's place; that Asma could come to our place, or we could go to Kerman. All that took its time. Even now if the families faced new difficulties, the girls became so dependent on each other that they would never allow it. This solidarity has formed already. There is one guy, Mr Assad who was heavily against us. Now he is heavily drawn to us because he saw that when the women gather, they did not just want an excuse to meet but it is for a good thing and additionally disputes within

the community were put aside because of the work of this group."

Fig.36: Initiation of the lifting device with attendance at a qanat shaft, Somayeh standing in the middle without chador

Zahra added:

> "This group was a reason for us to gather and become friends. Everybody, according to their character, is good to talk with about certain things. With Asma I talk a lot, when we do educational research and walk in the village, about how things went on, how we can change things, how the meeting was, how the women reacted."

Somayeh said: "The friendships are so strong that when a big problem came up, I told Asma and Fariba, but my sister doesn't know for example." These friendships had significant impacts on their lives and gave them strength to continue during the difficult initial years of work. Najmeh finds that:

> "This intimacy that has developed between the women of this village is a good thing. Every time we are together. We all feel so good. We talk and laugh. It is much better for our minds than sitting at home, where we didn't do anything special. We cooked, for example, but since Gojinoo started, it had a great impact on my mind and mood. When we had meetings, we talked about the problems, about life, about personal things. Before, we used to see each other at weddings, or on mourning ceremonies at the level of one 'Salam, how are you?' Not anymore. I myself did not have any contact with most of the girls. This group had a huge effect. That is not only for me, but for each single girl."

Asma said:

> "The friendship relation that was built among the girls, also had a big impact on the motivation of the girls. Even we didn't have any income in the first one and a half years, because of this contact, the intimacy that grew among the girls might have helped the girls to move something in their families, so that there finally began to agree."

Fariba said: "I am very happy that we all met, that the women gained their independence, that they totally have the right to go out now." Somayeh analysed: "The group empowered us in general. The group enlightened us, made things clear. Maybe we would have never understood what 'woman' means." She added: "The women of this village changed a lot. It is like they came to life. They believe in themselves, they got power."

Moreover, besides the significant change in themselves, the women also report on changes in the community. "Today, we come and go easily to the caravanserai", Najmeh Shaygan said. "Nobody complains. It is much easier for me. If I, for example want to walk in the village with foreign men, the men of the village don't even see that anymore," Fariba told me. Mina said: "My dad for example would disagree, when I wanted to go to the fortress. Now when he sees a car with tourists he said: 'Mina, go.'" And Zahra said:

> "Now, when I go out, he knows what my aim is, there are some meetings of the Gojinoo group, where we want to talk together and go after our responsibilities. It is not as before at all anymore that they would come and be on our nerves because they know what our aim is. Look what huge change happened here in one year. Think about how it first began to form, and what happened and what we won. We came from a small spot to a shop in the caravanserai and the hammam and the caravanserai of Kerman. No one really stood behind us, now imagine what went on that we reached all this."

Asma explained:

> "The change in the men occurred, I don't know, maybe…as soon as our group came to life, they saw with their own eyes that women also have the ability to earn money or to help a qanat, to be in the society, to talk well with men, and to pull her kilim out of the water [Iranian saying, meaning standing on once own feet and being able solve one's own problems]. During the meetings and discussions concerning the qanat, they saw that we could talk and argue. When someone sees something with their own eyes, and it gets proved to someone, it is a different thing."

Somayeh suggests:

> "Maybe the point where we let the men know that we want to help out for the qanat maintenance, that was the point when the men really started believing in us. Some men suggested that in exchange for the money the women gave for the qanat, they could give us money as present from the garlic income. They suggested it themselves. But we haven't decided yet what the help will look like. When they make such a suggestion, it shows a lot."

Fig.37: Zahra and Mina in the women's store in the Fortress with straw woven products and patte products (pictures: Somayeh, 2019)

Mina finds: "The culture of our village has become more social." Najmeh Shaygan said: "Men are much better towards us. If we want to drive to another village and a man has a car, he drives us easily or they help us when we have something to do here." Further, the women tell me about an incident that took place after the men had learned that the women wanted to support the qanat(s). The idea came up in the village to give the *hammam* to the women. While most men agreed to the idea, some men didn't want to give the women the hamam. "I remember that the men themselves came to us and were the ones who told us that they signed an agreement with the ministry that they would give the hammam to us. That much they began trusting us," Asma remembered. Meanwhile, the Ministry of Culture had sent workers to renovate the hammam for the women, without informing the men of the village. Mina narrated:

> "My dad saw workers inside and came to me and said: 'My God Mina, they are renovating the hamam. But we'll take it back from them. Go and say that this hamam is yours. I told them already,

> but I think it's better if you go and tell them yourselves. I told them, this here belongs to Gojinoo, what are you doing here?' That support is really important. That the men of the village as well are standing behind us, when we want to go after certain work. That is great, and also that he said: 'I told them already, but if you go yourselves, if you are four or five people, it will be much better than if a man talks. Go yourselves and defend yourselves.'"

Asma told me: "This incident really, not only for me, for every single woman, it is like: Does it mean that they really changed their minds that much?" Mina narrated another story in this regard:

> "My nephew is four years old. Even he knows that I am working in the fortress. A couple of days ago he came running to me saying: 'Aunty, Aunty, there is a car. Don't you want to go to the fortress? I'll come with you.' A hundred percent, it will have an impact on him that he sees his aunt working. Maybe compared to his dad he will see women as stronger, or handicraft will be more important to him. Because our work is handicraft, I think it will impact all children. I would like to change the culture of the village more. It needs to improve, for example people should talk less behind others backs. If the culture was more developed, the problems wouldn't arise."

Change also displays itself in terms of village dress codes. Masoumeh told me:

> "What changed is that when we go to the fortress now to work, we go with pants and *manto* [thigh-long jacket]. Nobody criticises that. Before if we had wanted to sell something from our handicraft, we would have had to wear chadors. The difference is that inside the store it is a small area, and it doesn't matter much anymore. I think the project changed the culture of clothing for women a little bit, still in the village everybody is wearing a chador. But in the fortress, those who want, can take the chador off easily. Before that it was very hard, the view of the people wouldn't let us, even if we wanted to."

Fariba said and continued to talk about her own attitude towards that matter.

> "I don't think *hijab* [here meaning being pious or being a good person] is in the *chador* [head to toe cover of Muslim women, mostly in Iran]. I think hijab is inside of you. If I wear a hijab very tied like this [she covers her whole body except for her face with her flowery thin chador] and do things, I am not supposed to do, what sense does it make? For example, is it better if I wear it like this [pointing to herself, meaning to wear it loose] and help my community or if I wear it like that and don't do anything? Regarding my clothes for example, for me it was always easy. There are other girls here also think that hijab doesn't show your piety, for example Asma…all of the six."

Somayeh sums up:

> "I think they believe now that the group is getting somewhere, that it is gaining power. That the group can talk, after we had some meetings in Shafiabad and elsewhere. I think the trust grew or when they came from the UNESCO to talk to the women. Maybe until then people still did not really take it seriously. People came from outside, they paid attention to us and talked to us. Why did these people for example not talk with the farmers, the men? Why did they invest their time in the Gojinoo group?"

"The mindset of the people in our village is really good compared to the neighbouring villages," Mina thought.

> "Still, we need more. I don't know how we can improve the culture. I think it is a hard job because these people have these minds their whole lives. I think our work made them a bit better than before, actually a lot. I want that to happen for the whole country, for all women, that they become able to do things and that they believe in themselves and the work they are doing. A woman can achieve anything she has in her mind. You should never underestimate yourself. That I learned from this group very well. To have self-esteem, even though we are villagers. When they come from Tehran and other places, for example, when they learn that these products have been made by the women of this village, they are stunned because they don't think village women can do such things. With our group now they know. Even you came all the way from Germany, so obviously you heard about us, right?"

Somayeh thought: "If one day we would not need the men's help anymore, maybe then I would think that women's power has found completion; they achieved what they aimed for."

6.3.8. Migration

The people of Shafiabad do not actively plan to migrate. Mina, for example, does not want to go to the city even briefly: "When I go there, I want to come back to our house, to our village. The city is only useful to city people [laughs]. I think life here is better because it has nature; it is easier to go out. In the city if you walk two steps you have to pay for everything. Here, you are freer. It is easier", Mina said. She continued explaining:

> "Those who move to the city go because I think they are forced to due to work. For example, my brother went to the city because we had not much water. He didn't want to go. He said to my dad: 'If you had four or five hours more water, I would stay right here.' He is a cook now. If young people

cannot be farmers if they don't have enough water, they go to the city and rent a place like here with a little garden, etc. in areas where the rent is lower, where they can afford it. They are not satisfied for sure. If you leave your own house and rent another place in the city, where in the end the owner complains, and you owe him or her something."

Najmeh thought the reason why most women want to stay in Shafiabad was "because people have closer relationships with each other now. The village has everything you need, right at your hand." Fariba expressed it this way:

"It is important for me that I am a village girl, I am proud that I could gain my independence as a woman from the village, that I could take a step for my community, that I could do something for my qanat. We were able to obtain our independence by working together. And that we can work in other communities is very important to me. Maybe some of the girls are ashamed to be from the village because nobody cares about the villages and about us."

Asma said:

"Even though there is only an elementary school in Shafiabad, the closeness of the city gave most families the opportunity to let their children continue school in Shahdad. There we had a dorm, which was not bad, it was a good experience as well, because it made us live apart from the family, learning not always to depend on them. In my opinion that is a good thing."

Masoumeh said:

"When I go to Kerman for two or three days, I begin missing it here a lot. I have a strong feeling towards this place. If one day I go to Kerman for studying, after my studies, I would come back for sure. I really liked to go to university [starts crying], because I knew that my dad did not have much income, that is why I didn't insist much. He always said go and study, but I knew he just said it so that I would not have less than others, etc. If I want it. I know that I can do it. I am sure. I have the ability to study."

Zahra continued:

"In summer I got to know this group and it went under my skin and therefore, I decided not to go to university, maybe that is a negative aspect but look, people go to university to learn how to look at things and to get the intelligence to understand things to reach something and be someone in the society. But in my opinion, for me so far this group is university. Really, I learned so many things. For example, that people are kind and straight and good. Just sometimes hard circumstances

> lead to pressure on people in a way that they become bad. I understood that you should never judge too fast. Put yourself in other people's shoes; see what difficulties they are facing; then talk. I learned that I have other talents, that it's possible. I want to be active in the environmental field or tourism, etc. and later to study and get a degree."

Najmeh thought:

> "Whether here or in Kerman, you can be happy anywhere. I had a fiancé in Kerman, but I broke up. I want our village to change, to become better than it is. That people are good towards each other and that they are happy, that men and women live well together. Asma does want to continue studying in Kerman, not in Tehran, Kerman is closer. I prefer living in the city, for sure. I really like the village and would do anything that was asked of me to do for it, but naturally there are opportunities in the city that you do not have in the village, and it is more modern, the university, a lot of possibilities, it has stores in every street. You can easily buy the things that you need. My family left it free for me to decide to stay or go. Maybe I decided to stay because of my family myself, because they do not have a problem if I go. Maybe when I marry, I'll move to the city. I want to stay with my parents, also because of their age. I am very satisfied up to this point."

Asma explained: "Many of the girls want to continue studying, to go to university, to take part in society, to have a profession in which they can be occupied. The first steps towards that goal are to make the families and brothers agree to send their children to university." "Our project will definitely help to reach that goal because we managed to change the views of the people so much, so for sure we will be able to do that as well." Somayeh said: "When I think about the past, I see that I made many very bad decisions. I didn't continue my studies, I married early, but yes, somehow these were not my decisions. Maybe some I took because of my parents." She continued to sum up: "I see that many things changed for women, but still, I want more change, a lot of it. Somehow, I feel there is still patriarchy, somehow women still do not have the power to make decisions. I don't mean at home. I mean in general." I asked Somayeh if she knows what feminism is. She replied: "No, I do not know what feminism is." I explained briefly to her that feminism is the belief and a political movement that seek social, economic, and political equality for all genders (Encyclopaedia Britannica, 2017). She replied:

> "The way you explain it, yes, I am a feminist and the others, too. Looking at our village, what we can do is to make the group stronger, then automatically the men will believe that women are also able to do things, they also can achieve anything they want. It takes a long time. It is true that a percentage [of men] changed but it still needs work, still it needs time. I am sure that one day the men will think like us. This will happen."

When I went back to Shafiabad in 2018, Asma had married and had not started her studies. Zahra was engaged and not in Shafiabad as often. Najmeh, who has one daughter, was pregnant. There are now 80 members of Gojinoo and there is a steady exchange between the women of Shafiabad and members of other villages in the form of meetings. In the meetings they discuss developments, what could be done better, which products are needed more, how they can expand their sales, how are the finances, and so on. The women seemed even busier than the year before. Every day some of them had to attend a meeting in another village or a meeting in Shafiabad. I often had to wait one or more days until I could have an interview with the women.

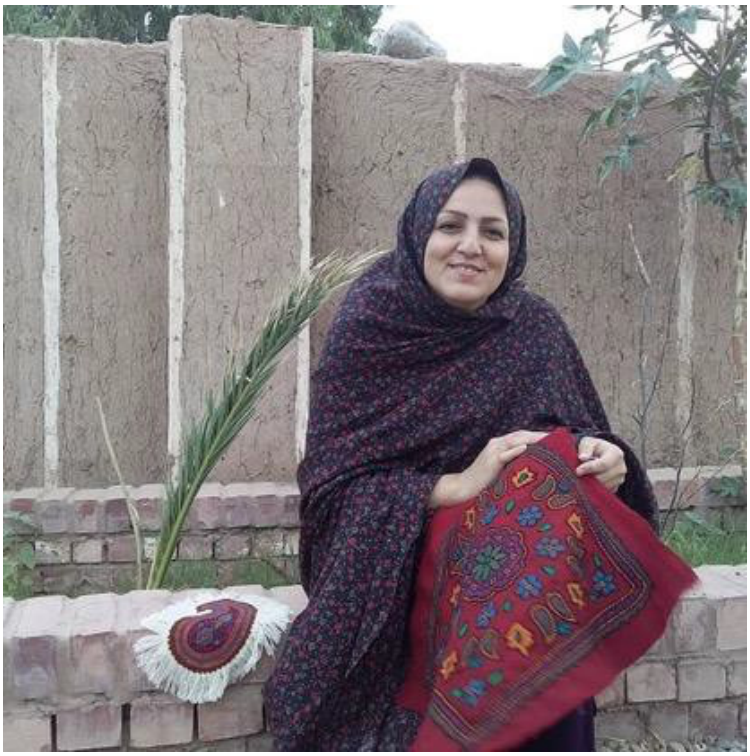

Fig.38: Somayeh in her backyard embroidering patte (picture: Sajjad Avarand, 2019)

In this chapter, an insight into the lives of people, particularly women, in Shafiabad village was presented. The data was provided by interviews and conversations with the interview partners and my own experiences during my stay. Women living in a highly conservative rural society as farmers and underpaid handicraft producers share their experiences of starting a strictly contested collective project with a local NGO. It is revealed how against all hate speech and defamation by their community, they continued to work with the support of their families and each other and finally succeeded in earning money. Further, this chapter reveals how men's attitudes began to change significantly, when the women decided to invest their income in the village qanat. The women narrate how societal changes occurred in time, how rigid mindsets transformed, and former opponents developed into proponents.

The women share how empowered they feel today and why. The next chapter summarises and analyses the presented topics from women's perspectives in Shafiabad according to the categories of analysis.

6.3.9. Analysis of the case study Shafiabad

In line of the theoretical frame of decolonial feminist political ecology, presented in Chapter 2, and the historical backgrounds of political and ecological events in the Chapters 4 und 5, this chapter discusses the presented field narrations from Shafiabad analytically.

6.3.9.1. Analysis – The qanat and the garlic

In Shafiabad, the qanat has a high value to the people. Its irrigation function is significant for the recently launched garlic monoculture, which is the main income source for almost all the families in the village. These facts make the qanat of Shafiabad an irreplaceable asset for the locals, most of whom have the common understanding that their lives would come into disorder without their qanat.

Research on collective management of the commons increasingly steers the focus on the act of commoning, instead of the commons, as the subject of analysis (Bollier and Helfrish, 2015; Linebaugh, 2008) and as a post-capitalist alternative (Bollier and Helfrish, 2015; Gibson-Graham et al., 2016). Correspondingly, common property management in Shafiabad offers highly important information. The qanat-based agriculture is regulated successfully by the farmers without government influence according to collective management rules and division of land and water. Further, labour tasks are gendered. Harder physical work on the agricultural fields and the irrigation management is usually men's work, while women work on the fields during harvest. Yet, in families without male family members, the women become the sole farmers and water managers, performing male labelled tasks. The locals report effective collaborative repair operations, which enabled them as well to revive a damaged qanat in an abandoned neighbouring village, which still represents an important water supply source to them today. These findings coincide with research by Ostrom (1990, 2009), Federici (2019) and others presented in Chapter 2.

Generally, the condition and maintenance of the qanat was thus rather men's concern, until, with the formation of the Gojinoo group with initial support of a local NGO, the qanat became more popular and a concern for the women in the village as well.

The collective management of the qanat is based on mutual trust of the stakeholders without existing hierarchies such as suggested by theory (Federici, 2019; Ostrom, 1990, 2009). The traditional

professions, which were essential for the collective qanat management to function, have become unnecessary today. The water timing and the according irrigation of the fields is done by the farmers themselves without a controlling person. The findings in Shafiabad do not fully coincide with suggestions presented in the theory part of this work. It applies for Shafiabad that stakeholders avoid the collapse of their resource base and findings coincide with the critique of approaches that view stakeholders as non-cooperative and unable to change given regulations (Ostrom, 1990, 2009). Yet, findings also display that users do not really control each other's behaviour for fair distribution amongst all, as suggested by theory (Ostrom, 1990, 2009). Water management in Shafiabad is solely based on trust among the fellow stakeholders.

Altogether, even though people were forced to adapt their crop cultivation to lower water amounts, due to a general groundwater decrease, the people of Shafiabad still have a satisfactory amount of water for sufficient garlic cultivation, which is the farmer's main source of a satisfying income.

6.3.9.2. Analysis – The qanat and the women

A destructive utilisation by a dominant group of commoners and the resulting degradation of common resources causes decreases in income for other users. Therefore, theory suggests involving people on the grassroots level in decision making processes for collaborative resource management between all commoners and the government (Wulandari et al., 2018), and that the government must reduce its role in order to motivate collective management (Azizi et al. 2017; Ostrom 1990, 2009; Yazdanpanah 2014a, 2014b).

In the case of Shafiabad, the collaboration between the women and a local NGO led to new successful implemented solutions regarding the management of the common resource supply system. After two years of research in their community and surrounding villages to find the most beneficial appropriate solutions for problems existing in their communities. motivated by the NGO, the women concluded to invest in the maintenance and care of the qanat. By buying a mobile lifting device, which can be applied for any qanat, benefits all communities in the area. These findings are highly interesting for decolonial or post-capitalist feminist political ecology, which look at women-led community cooperatives (Sato and Soto Alarcon, 2019) and for Feminist Theory. The outcomes coincide with suggestions by other authors, who found that indigenous women's custodianship of water resource management has been found to be successful (Chen et al., 2018). Dealing with commons theory suggests that for the economic survival of humans, women and indigenous people need to play a leading role in expanding the commons (Federici, 2019). It is suggested that collectives with commons are seen as an autonomous space, where

control lies in the hands of the commoners and workers' bodies can be free from hierarchies, and capitalist organisation of life and labour can be challenged (ibid).

During their autonomous research, the women's knowledge expanded on subjects which they had never considered before, particularly the natural resources of the village. Awareness and Understanding was increased among the women on the existence of coherences regarding origins and solutions of problems. The local research led to the conclusion that many of the local concerns in Shafiabad are linked in a chain of circumstances that start with the well-being of the qanat: Enough qanat water will enable families to continue farming with a reliable income, and allow for the palm trees, as a natural resource for handicraft production, to grow. The income of the people depends on the existence of the qanat. If the village provides enough income, people will not be forced to leave and might not face difficulties associated with migration.

Furthermore, the successful contribution to the care for the qanat by the women in Shafiabad enhanced the relationship between the men and women in the community. This is connected to the irreplaceable value that the qanat has for the people. The significance of the qanat for the men and the beneficial investment in the resource supply system appears to have been perceived as an act of support to them by the women. Eventually, men's attitude towards women in Shafiabad has substantially changed. They have developed high respect and a strong belief in women's capabilities. As a result, women were handed over partly decisive and financial control over the local water resource for future problem solving.

The next section analyses the narrations and thoughts of women on politics and the value of tourism.

6.3.9.3. Analysis – Tourism and politics

The garlic export provides the farmers with double the income than before the transformation of their agriculture to monoculture. Therefore, foreign politics and economic developments are relevant for people in Shafiabad. Since the income of most farmers depends on garlic exports to Turkey, the heavy embargoes placed on Iran by the US administration complicate the trade processes. Further, the associated heavy inflation lowers the income from garlic trade with Turkey for the garlic producers. Production and transport costs have risen. For example, the day workers daily wage rises, which farmers pay out of solidarity since they do not want to support exploitative trends. The daily income of a male worker in 2018 was 30,000 Tomans (7,50 Euros) and for female workers, who have different tasks, 20,000, "since their work is less hard", according to farmer Ali. These wages are relatively low in

relation to living costs in Iran. Due to the heavy currency devaluation, export costs rise in general and profit decreases for farmers.

Events in foreign and domestic politics are also highly relevant for the tourism business. Besides agriculture, 15 percent of the local families have a seasonal income from hosting tourists. Further, markets owners in the village are benefiting from tourists visits as well. As a historic city with cultural heritage sights and interesting spots for eco-tourism, Kerman has always been attractive to domestic tourists. With an increase of international tourism in Iran in the past decade, Kerman province as well is experiencing increasing regular visits. With the renovation of Shafiabad's fortress in 2013, the number of tourists in the village began to rise steadily and despite the current negative political stand between the west and Iran, according to Somayeh, member of the women`s collective, tourists are continuously visiting Shafiabad. The village is particularly attractive for tourists, since it lies on the way from Kerman to interesting natural sights in the desert such as the Kalut and the Gaz Forest. Today Shafiabad is known for its intact qanat, the ancient fortress and the local handicraft by women.

For the Gojinoo group, tourism is providing the main source of income. Along with the relevance of visitor numbers arose an interest in political issues for the Shafiabad women, which did not exist in the past. Many people in Shafiabad associate Rohani's presidency with rising tourism. According to the locals, he often discusses the importance of tourism for Iran's economic growth and his administration supports a maintenance of cultural heritage sites and the attraction of tourism. During the election phase in 2017, many of the women argued about who of the single presidential candidates would be more beneficial for them. Thereby of interest were both domestic and foreign politics. Simultaneously, the successful renovation of the Shafiabad fortress with the goal of attracting desert tour tourists took place in 2003, ten years before Hassan Rohani took office. For Iran in general, analysts do not see tourism growth associated with governmental efforts. These might rather be connected to the heavy devaluation of the currency and conflicts in other states in the regions, which motivates Iran visits, since it is cheap and safe (Al Jazeera, 2019).

Yet, when I visited Shafiabad in 2018, many women had given their vote to Rohani. In fact, since the Rohani administration replaced their predecessors in 2013 and sat at the table with the west, three main European airlines restarted flying to Tehran. According to British Airlines, for example, Iran's capital is an "important destination" for the company. Foreign hotel chains invested in real estate in Iran. One reason are the 24 UNESCO World Heritage sites (The Telegraph, 2019). According to the Iran Travel and Tourism Corporation (2019), Iran has been experiencing an 11.74 percent annual growth rate in

international tourism since 2008. Data compiled by Iran's Culture Heritage, Handicrafts and Tourism Organisation indicate that from 2017 to 2018, the number of visitors (domestic and foreign) shows a 52.5 percent increase (Financial Tribune, 2019). Compared to tourist arrivals in Iran in 2018, UN numbers display a growth of 27.9 percent for 2019 (Independent, 2020). Rather, it is the Iranians whose travels to other countries decreased strongly, due to the devaluation of the currency. Reports show that the number of their travelling abroad in the summer month of 2018 dropped by 13 percent compared to 2017 (Iranian News Agency, 2018) and by 45 percent during New Year's Holidays in 2019 compared to the previous year due to the sanctions (Radio Farda, 2019), which heavily impact Iranian Air travel costs.

Shafiabad, which has 300 inhabitants and is located in the central Lut Desert, is being directly affected by both domestic and foreign politics. Accordingly, since the income of many women's families depend on tourism in there, and people associate the respective administrations with the increase and decrease of tourism in Iran and thus, their village, both domestic and foreign politics are relevant to people.

The next section reviews and analyses work and the collective projects that the women in Shafiabad are occupied with.

6.3.9.4. Analysis – Handicraft in Shafiabad, the value of women's work and the Gojinoo Group

While the traditional handicraft, straw weaving, was dying out and carpet weaving was only practiced by older generations, patte embroidery still took place in Shafiabad, yet, with a decreasing trend. The women were knowingly exploited for their embroidery and other food products by the distributors. They felt powerless to counteract against it until it was revived through the women' collective project in the village. Initiated through the co-operation between a local NGO and six local women, today more than 80 women are working in the Gojinoo group as members, of which a part is based in other villages and a suburb of the city of Kerman. The group has excluded the distributors and works without hierarchical or capitalist principles. According to her talents, each member can adopt tasks and responsibilities, while the amount of invested effort can be chosen. Working material for the production is taken from natural resources in the environment or is acquired from funds in the collective cashbox. The products, by now, are sold in shops in Kerman, on exhibitions in Kerman and Tehran and inside the fortress in the village. Besides the number of visitors, the group's sales depend on the quality of their product and production processes. Therefore, the Gojinoo members have regular meetings in a steady exchange of information and opinions. According to my observation, their interactions, appointments and errands seemed quite free of restrictions. Unmarried women, who were forced to stay in their houses, now had free mobility

inside as well as outside the village. Every day the Gojinoo members were busy working, whereby they were steadily moving from one spot to the other; from one task that had to be finished to the next. Except for arrangements for the group, their errands were also related to individual matters, to family matters and to the garlic cultivation in autumn 2018. The men would support the women with transportation to further locations for their work or with technical issues.

Looking back to the beginning, particularly, the men of the village had difficulties understanding that women suddenly work outside the traditional gender norms and spatial separation. All the women and Ali, as a male community member, report that the culture towards women and women's work, at least regarding the local women, has crucially changed. According to them, transformations developed from total rejection of the group and mobbing attitudes in the beginning, through accustoming to it to an eventual acceptance and respect. By continuing to work, running the sales of their products independently and thereby, erasing the underpayment by merchandisers, women achieved crucial financial advantages. In control over their product with an overview over market prices, their sufficient income brought them independence in spending it according to their wishes and necessities. Many of the women often spent money for the benefit of their families. The new feeling of freedom and self-determination, which they had developed led to an increase of self-esteem. The increase of self-esteem and independence is also bound up with the successful work process of the women's collective, which included the necessity to prove points in front of the men during interactions and discussions and demonstrate their capacity of understanding matters. In order to feel confident during meetings women considered it necessary to attend these with an appropriate ability and knowledge to argue about issues, which were formerly seen as men's concerns. They would prepare themselves in the group through exchange of knowledge and collection of information. In time, most men got used to such involvement by women and their capacity, which began to normalise the picture of their presence on 'male terrain'.

Thes substantial change of men's perception and a strong belief in women's capabilities by men are, for example, displayed by the incident around the hamam. Firstly, the men reacted to the women's help with the qanat by handing over the management of the local hamam to the women, who decided to use the rooms as space for cultural events and children. Secondly, the same men, who did not want their female relatives to be seen in public, now stood behind and encouraged the women of their community to confront male strangers.

The first goal of the women's project was to understand local concerns by locals through a participatory research project, initially with video documentation. This type of research, as suggested by Tuhiwai-

Smith (2012), is one tool to decolonise methodology by the deconstruction of western methods of research in indigenous contexts. Thereby, the local NGO had a supporting role by initiating the research project in Shafiabad. Without the presence of the NGO in Shafiabad, the women might never have started the collective work, through which they found great strength and self-determination. The NGO also functioned as an intermediary between the village and the government, when, for example, the Ministry of Culture of Kerman agreed with the NGO to support the renovation of the hamam financially so that it can be used by the women.

These outcomes correspond with findings by theory that women's movements and the work of local NGOs in Iran during the past two decades has demonstrated unprecedented historical transformations, with a response of crucial changes in the consciousness and visions of social change (Povey, 2016). Theory (e.g. Azizi et al. 2017; Ostrom 1990, 2009; Yazdanpanah, 2014a, 2014b) further suggests that sustainable management at village level needs collective action appropriate to local circumstances, and that the government must reduce its role to motivate collective management. Yet theory (Azizi et al. 2017) also suggest that the government should give financial support to the farmers and that, due to the large number of users, the resource management should be done on the village level with people of the communities in charge. Findings in Shafiabad display that the government supported the village by investing in cultural heritage sites and the protection of the qanat through the NGO as mediator. Yet, no supervisors were necessary for the implementation. Both the common property management of the qanat and the collective work of the women are based on mutual trust without existing hierarchies among the stakeholders and members.

All change that the women have succeeded in achieving is connected to their resistance, for which the qanat played and plays a significant role. The next section analyses the forms of resistances by women in Shafiabad and the and relates these to structural transformation within the community.

6.3.9.5. Analysis – Resistance and the significance of the qanat

Through resilience, resistance, and continuous collective work, the women of Shafiabad succeeded in achieving transformations in the mindset of their fellow community members from total rejection of women's collective work to respect and support. The women report that without a strong will in the initial two years of work, they could not have persevered with the physical work pressure and the psychological stress, caused by the heavy insults and ongoing defamations of people of the village.

All the women underline that before they started the collective work in the Gojinoo group, they had to

play according to patriarchal traditional moral rules. Even in more moderate families, women would rather stay at home because of peer pressure. The general mindset that women`s appearance and gatherings in public are not decent, hindered women in Shafiabad to pursue their interests. While in the initial phase of the project there were women, who immediately agreed to take part, or whose families supported them to do so, such as Somayeh, Fariba or Asma, there were others, for example Zahra, who were not allowed to leave the house. Others, who did not want to take part themselves, might have been affected in their decisions by peer pressure within constructed gender roles. Women were cut off from having social contacts outside of the circle of the family. All the women underlined that before the group, many disadvantages existed for them: They only knew each other from afar and often held prejudices against each other; Women were knowingly exploited by the distributors without having the chance to change their situation. Generally, the strong restrictive culture that women were exposed to in Shafiabad, affected their decisive behaviour and had a strong impact on their everyday lives, which made them feel unfulfilled and desiring change.

Feminist political ecology criticises western approaches and underlines the necessity to recognise other epistemologies and cosmo-visions pointing to decoloniality, and to rethink identities and dualisms in contexts (Harcourt and Nelson, 2015). That dualisms do not provide qualitative outcomes is also displayed by context of Shafiabad. According to the women of the village, the conservatism of the community is not connected to Islam. The women associate the rigid thought structures with the people's lack of education and lack of contact with a world outside of the village. Women consider mindsets of families or family members as different and relate openness of people in the community with previous contacts in touristic circles or other social structures that differ from those of their village. Naming Fariba's family as example, who had lived in Kerman, Somayeh further associates living in urban areas with openness. Further, women consider their new way of performance in the public space to alter gendered behavioural constructs in Shafiabad and the value of local handicraft for younger generations, which they think can bring along cultural change. Mina, for example, mentions her four-year-old nephew, who grows up with the idea that a woman's presence in the fortress is not wrong or immoral.

While all the women remembered the difficulties that were associated with the work of the group, simultaneously, all of them reported that they have observed significant changes in the behaviour of the people in the village, when they started earning money and increasing their self-determination. But most women are convinced that particularly with the decision to invest in the support of the qanats of the area came along the shift of the attitude towards women. Having surpassed rejection and verbal violence

against them, the women have successfully achieved the initially formulated goals of their project in additon to further goals that arose during the process: 1) By resisting the psychological pressure on them and working one year without personal income, they have succeeded in getting the working group established and seting goals. 2) With their collective work and a collective cashbox, they managed to erase the distributors from the chain of sales, to expand the handicraft production, increase the number of Gojinoo members and earn an appropriate income, over which they have decisive power. As a result, they have enhanced their financial independence and achieved initial improvement in men's attitude towards them. 3) After the women have conducted research, collected knowledge and decided to invest in the qanat, a turning point was created that eventually transformed the community's mindset about the women from general rejection to respect and support. 4) The new circumstances significantly strengthened women's social position in the community demonstrated in a higher self- confidence, strong friendships and high solidarity among the women and an increase in free mobility and determination. This also displays itself in terms of village dress codes. Most women do not want to wear the hijab and they do not consider themselves practising Muslims. The work of the women in the Gojinoo group enabled the women to replace their chador (full-body cover) with wearing a manto (thigh-long jacket) in the fortress.

The transformation of gender roles through the presence of the women in the public sphere of the village going after "men's business" coincides with theoretical suggestions by authors studying the Iranian context. These state that steps towards equality have been achieved through resistance by daily practices in the public space of work and higher education among others (Bayat, 2013) and by activism (Alikarimi, 2019). Accordingly, women have managed to achieve significant shifts in gender dynamics by presenting themselves as public players. Thereby, the semi-public space in the form of the home of one of the women, where the exchange of thoughts, the expression of solidarities and mutual understandings and the forming of new ideas could take place, empowered the women to implement ideas and motivated them to continue against all opposition. That goes along with arguments by authors that the housewifization processes and gender segregation have created female spheres of collective action. Home can constitute a political site of resistance and a site to construct a self-conscious identity through free confrontation of issues (hooks 1990, Young, 2005). During the process, the collective work of the women in Shafiabad also had crucial outcomes regarding their mutual relations, which increased the empowerment process and strengthened their social position. The realisation of mutual fights and wishes in their lives led to enhanced trust among them and the development of strong friendships. Somayeh, for example, explained that with her friends she can discuss subjects, which helped her in her

private life. The women report that the feeling of solidarity among them encouraged them to make a stand in front of the community.

Their strong developed mutual solidarity is addressees to women in general. They all report that they have passed feelings of boredom or loneliness an instead have grown confidence. The cooperation of the NGO with the women of the village and their engagement and resistance have led to a huge reinforcement of their confidence. The empowered position of the women in Shafiabad impacts other women in the society. Other women in the Takab district and the outskirts of Kerman joined the women's collective and progressive action. Further, women from Shafiabad can offer advice to other women from their own experiences. These findings coincide with theoretical suggestions presented in Chapter 2 (Escobar, 2008; Gudynas, 2011). Accordingly, grassroots women's communalism today produces new realities and a collective identity with a force "in the home and the community and opens a process of self-valorisation and self-determination" (Ferecici, 2019: 108).

The changed situation for the women in Shafiabad had an impact on their attitude towards migration from the village. The next section gives an insight on this matter.

6.3.9.6. Analysis – Migration

The chapter "Migration" in Shafiabad illustrates that the collective work of women, their resilience and success has transformed the community in social, economic and ecological spheres of their lives. The women of Shafiabad are expanding their recognition in the Takab district and are steadily broadening the scope of the group's activities by recruiting new members, some of whom have different knowledge and new ideas. In general, the Gojinoo group has a growing total income. Beside the newly gained financial strength, the strong social bond that has developed among them and which repeatedly was the driving force for them to continue since they established the group, today is an important reason to stay in the village and to continue working with Gojinoo.

Due to this highly satisfactory position, the women of Shafiabad do not plan to their home village to aim for a better life elsewhere, except for some young women, who consider moving to urban areas for academic pursues. The men in Shafiabad as well expressed to be satisfied with their lives in Shafiabad, mostly due to the functioning qanat, which enables garlic monoculture and therefore sufficient work opportunities and income in the village.

Women were able to expand the effect of their empowered positions by sharing their experiences with

women in the surrounding communities. Word-of-mouth recommendation spreads the story of their success in the surrounding villages, so that more women dare to join and become part of the movement. Word-of-mouth recommendation spreads the story of their success in the surrounding villages, so that more women dare to join and become part of the movement, which might as well impact the attitude of women towards migration in those other villages.

In the previous chapters, field conversations and observations were presented on Shafiabad, which mainly display the empowerment process of the women in the village and the significant role of that the qanat played in that regard. The narrations and thoughts of the women as well as the way they address and identify matters demonstrates how each of them has made an individual conceptual progress. They are aware of their achievements and the great amound of resilience that was necessary for it and that they aim to accomplish further change in their community. In the next and final chapter, the outcomes of the analyses of the two case studies, Kharanaq and Shafiabad, are summarised and compared with each other.

6.4. Comparison of the two case studies

Living with the female commodity producers, who shared their experiences and their knowledge with me, enabled me to draw connections between their lives within the micro-contexts in an environment of extreme climate conditions and historical and political events regarding natural resource management and women's movements. Light is shed on how environmental transformations, political water mismanagement and changing water demand impact the communities. A closer look is taken on how women's work is embedded in male hegemonic structures and how transformations of women's work and activism affect women's livelihoods. The women`s individual experiences in the two contexts have been bundled, embedded in the broader history of Iran and related to geopolitics and environmental transformations. Further the results have been contrasted with earlier outcomes and approaches presented in the theoretical discussion of this work. In this chapter, the findings from the two studies are compared and further analysed. This work offers another viewpoint to further unfold the continuously reproduced marginalisation of femaleness by male hegemony, its legitimisation by institutions and which ways women find to counteract and resist such structures. Among the pluralities of context within environmental transformation and struggle, the women from the rural desert contexts with qanat-based agriculture represent a rare and interesting group of consideration for feminist theory. Their knowledge offers new information to widen the perspective of decolonial feminist political ecology theory.

Experts (Aljazeera, 2018; Labbaf Khaneiki & Semsar Yazdi, 2013; Madani, 2014; Nikouei, 2013: Snyder, 2019) agree that Iran's water scarcity problem is steadily increasing and that it mainly stems from massive water resource mismanagement. Authors express their concerns about missing long-term solutions for resource use, a strong qualitative domestic production management, or livelihood security for farmers (Karimi et al., 2018; Keshavarz & Karami, 2013; Yazdanpanah 2014a, 2014b; Yazdanpanah et al., 2015). According to the experts, poor management began during the Shah's land reform and continued after the 1979 Revolution, when the Islamic Republic's decade-long post-war and then the self-sufficiency plan began as reaction to western embargoes until the present. The current political events in times of imposed heavy embargoes (since 2018) by the US administration and strict penalties for any state that conducts trade with Iran increased the self-sufficient production. The resulting highly increased demand for water represents a crucial setback in the development of sustainable agricultural water resource applications. The associated enhanced depletion of groundwater accordingly, requires a transformation of the production sector to stop the ecological and economic downward spiral.

The heavy US embargoes increased inflation to a point that has plunged Iran into the heaviest economic crisis since the revolution (New York Times, 2019) resulting in extreme price increases in goods and services as much as 50.4 percent compared to the previous year. Prices for food increased by 85 percent (Radio Farda, 2019). Inflation rates due to US embargoes in Iran were over 60 percent in 2018 (International Monetary Fund, 2019). Further, the International Monetary Fund (IMF) reports that 2019 was one of the worst economic years for Iran since 1984, when the state was at war with Iraq. The forecast of the World Bank for the state's economy is a further shrinking by 8.7 percent. In Kharanaq, people mainly perceive the impact of price increases in food products, particularly wheat.

The currently rising high wheat price, which according to the women, has already been relatively high in recent years, particularly burdens the local population. For the Shafiabad farmers, the heavy inflation, besides the price increase of food products, mainly affects the garlic export negatively. Because of increased export expenses, many farmers stopped exporting garlic. The resulting domestic oversupply of garlic leads to a decrease in its price and thus the farmers' income.

6.4.1. The qanat and the people

At the same time, people have been able to maintain the culture of qanats as water supply systems since the initiation of Iran as a nation state. The relationship between human and environment in the chosen context play a significant role for the qanat-based communities, who supported this work. The qanat continuously plays an essential role in the rural communities of Kharanaq and Shafiabad. Within

the harsh conditions of the arid Iranian Plateau, both communities have repeatedly faced heavy water shortages when the qanat malfunctioned. Usually without state support, the communities were collectively able to save and thus maintain their qanats. The incompatibility of small farming and centralised, administrative external influence (Gaur et al., 2018; Jomepour, 2009; Lambton, 1969), and the creation of mutual loyalty among users, during maintenance of a common property addressed by theory (Chen et al., 2018; Gaur et al., 2018; Ostrom, 2009; Yazdanpanah et al., 2014a, 2014b), are reflected in both case studies. The communities were able to create an autonomous space and apply collective water management based upon traditional management regulations, yet other than in the past, without traditional definitions of professions that managed the water distribution such as *mirab* (water manager) or *taghdar* (water time recorder) and their hierarchies. They work collectively, free from hierarchies and capitalist organisation based on mutual trust, which coincides with findings by theory (Federici, 2019). The only profession, which still exists is the moghanni's.

In the case of Kharanaq, the successful maintenance of the qanat was achieved through local movements against groundwater exploitation and pollution by private investors, who would apply deep wells. Landless farmers, as well as land and water owners experienced negative effects during the land reform in the 1960s related to the qanat, which they associate with water mismanagement by the government. According to them, the redistribution of lands initially benefitted landless farmers because they had regular work on the fields. Yet, with the heavy groundwater decrease, which resulted in dropping rents for the lands so that landlords stopped investing in the maintenance of profitable and sustainable cultivation of the lands. This coincides with arguments by authors in the historical summary in Chapter 5.3. The repeated construction of deep wells and new factories with high water demand close to the village led to the decrease of qanat water. Today, the Kharanaq qanat cannot provide sufficient income from agriculture anymore. Yet, it has high emotional value for both farming and non-farming families, many of whom have migrated to urban areas. Even without any income, landowning families have kept their fields by adjusting water management and cultivation to the new circumstances with the aim of self-supply and cultural legacy for their children. The strong nostalgic attachment to the qanat in Kharanaq might be associated with the fact that the reduction of its water to one fourth of its regular amount represents a significant loss and therefore, forced the people to reflect on qanat-based life, and to appreciate its benefits more deeply. On the contrary, Shafiabad residents did not face losses in the wake of reform implementations. Simultaneously, they were witnesses to the complete abandonment of the neighbouring village, which lost its qanat to damage and consequent desiccation. To the local population in Shafiabad, the qanat is essential for their lives, since it provides the community with the irrigation

water for their garlic monoculture, which represents the main source of income for most of the families. The example of Shafiabad displays that qanats are not a system from the past, but they can represent the foundation of entire village economies so beneficially that migration is not necessary for the farmers. These findings are highly relevant for political ecology theory and Integrated Water Resource Management.

6.4.2. The qanat and the women

Even if past hierarchies among the qanat shareholders have been voided, long-established patriarchal power structures, which legitimise male hegemony of resource division and access, remained. Frequent unequal distribution of land and water shares in favour of males and a gendered division of labour still exists. Accordingly, the crucial role of water shares in qanat-based economies of desert communities puts women at a disadvantage. Since irrigation is mainly men's task, women often pass their shares or their management to male family members. As a result, women do not stand in direct contact with the qanat. Accordingly, access to information on the qanat and an official income from it mainly belonged to men.

Yet, this was whether a concern for women in Kharanaq nor in Shafiabad. In terms of the qanat as water supply system, women had access to it such as men. In both villages, women were responsible for management and irrigation affairs, mostly, when no male family member lived in the household. In Kharanaq, women would manage water and the fields in winter, when men were working elsewhere outside the farming season. In spring as well, women would collectively prepare the fields and take care of all agricultural activities. Collectively they managed the work, which was assigned for men. A marginalisation related to resource access and control seems not to have been sensed by the women. To the contrary, since in Kharanaq men often were ascent, women had access and control over the water resource system. The women's perspective reveals that despite the gendered division of labour, in Kharanaq, women often additionally took over tasks, which were labelled as men's work. The women in both villages underlined the significance of the qanat's maintenance, and are deeply interested in past, present and future qanat affairs. Even women associated a lot of work with the qanat, yet, it has an important social value that creates an attachment and a fear of losing it. In the past, the qanat represented an important social hub and a working space for women, without which their everyday errands would not have functioned. The qanat as essential tool for their work, has a part in the ecological and economic spheres of their lives, which would have looked different without it. These outcomes present new valuable information for feminist political ecology theory.

In Shafiabad, additionally, the young women, who had no point of contact with the qanat or the issue of water management, today are one of its beneficiaries. This is related to participatory research by the local women, which, suggested by Tuhiwai-Smith (2012), is one tool to decolonise methodology by the deconstruction of western methods of research in indigenous contexts. As a result, women found that local concerns in Shafiabad are linked in a chain of circumstances beginning with the well-being of the qanat. The investment in the qanat and the women's contribution to the benefit of the entire community represent highly interesting findings for decolonial or post-capitalist feminist political ecology and for research on women-led community cooperatives (Sato and Soto Alarcon, 2019). The outcomes also coincide with suggestions by authors, who found that indigenous women's custodianship of water resource management is successful (Chen et al., 2018) or with findings that economic survival of humans, women and indigenous people need to play a leading role in expanding the commons (Federici, 2019).

The qanat may be considered as having functioned as link between the relationship between men and women in the community. This development displays the significant value of the qanat for the people and is a highly valuable information for feminist political ecology. Women's beneficiary actions for the collective water resource or the resource supply system can enhance women's position in society.

Regarding the spiritual aspect of qanat culture, both communities are familiar with the stories about gendered qanats and qanat weddings and myths of the goddess Anahita and the sacredness of water both in Zoroastrianism and Islam.

6.4.3. The value of women's work

While women's and children's work, had significant economic and social value throughout history, and contributed significantly to the state economy, it was heavily exploited. Women and mostly girls worked in their homes, workshops and factories producing commodities for the domestic and export market. In Kharanaq, despite their highly valued work, women were working under severe exploiting conditions without access to knowledge over prices of their products. In Shafiabad and the surrounding, women and girls wove carpets. School girls were taken out of school to weave in workshops. In the 1980 patte embroidery was introduced and slowly became the main occupation for the women. In Chapter 2 and 4 the exploitation of Iranian women's and children's formal and informal work is related to Western commodity markets and occupying powers in Iran. The case of Kharanaq offers a deep insight into the exploitation of female labour resulting from the transnational commodification process of the Persian carpet analysed by Moallem (2008). The stories of Kharanaq's female carpet weavers coincide with the

author's analysis that the commodity as attractive Orientalia for the West supported the exploitation by orientalising and Othering of the female carpet weavers (Moallem, 2008). Thus, the narrations of the women from both rural contexts reveal highly interesting, detailed information for decolonial feminist political ecology and Middle Eastern feminist studies.

For decades, women have produced products for individual use, sale, or barter trade, besides their daily work as farmers. The barter in time was replaced by sale to distributors for the resale of women's handmade products in urban areas for the domestic and foreign market.

Women are aware that they were being exploited within a chain of male hegemonic control relying on male family members and male distributors to male bazaris, who determined the domestic market prices in relation to the global market. Women were not included in decision making processes. Additionally, in Kharanaq, women would organise the village sometimes the entire year, in Shafiabad they hold cattle. In both villages, women were also responsible for farming, house and care work. Women were exposed to marginalisation and exploitation. Referring to Tohidi (2016), events in the two villages display in detail oppression of femaleness by hegemonic maleness, reproduced by institutions, state ideologies or cultural and religious perceptions. The clear display of the execution of child labour and exploitation of women's work in both Kharanaq and Shafiabad recalls Maria Mies' (1986) and Federici's (1975, 2004, 2019) discussion on female exploitation. Accordingly, the existence of a political system of capitalist patriarchy allows for the exploitation of women's work, or more precisely is built on it. Tying women to the house makes their work invisible, naturalises it and thus treats it as a fair good, left unrecorded in the GDP and undermine their skills.

While the carpet weavers in Kharanaq had social contacts with peers in the workshops, in Shafiabad, young women were isolated from social contacts outside of the family circle since they were working at home. Today it is the reverse for young women. While women in Shafiabad are no longer tied to the house and working collectively, in Kharanaq it seemed as if young women and girls spend time rather in the houses. From a global context, it is underlined by theory that the tying of women to the house, the "patriarchal gender contract", is not related to Islamic culture but to a cross-cultural issue of gender relations, since the division of labour appears in writings of British historians, who link housewifiation with capitalist developments in England (Moghadam, 2003: 1, 1998: 9). It is argued by theory that with industrialisation in Europe by the 19th century, the privatisation of land and the hedging of the commons, people were enclosed physically in the house, which in turn led to desocialisation and decollectivisation from the community to the family, and from the public space to the private space. That separation of

public and private spheres has created the sexist division of labour (Federici, 2004) “contributed to work and hiding and rationalising women’s exploitation in the family and the home” (Federici, 2019: 4). The findings of this work further show that male hegemony deprives women of the decisive power to place a value on their own work.

However, despite all exploitation and western interest in oriental products, the income of females was partly beneficial, particularly in Kharanaq. Carpet weaving earned them a higher social status because, even though their work was underpaid, its value within the community and the society in general was known. It counted as an asset since it offered women the opportunity to hold savings which could help for later education, to have financial freedom and a better marriage. Yet, at present, the missing direct contact to the customers or merchandisers still prevents women from deciding and controlling the price of their products an according to their value. Therefore, in Kharanaq, women stopped weaving since it is not lucrative anymore and it is time consuming work, which women are not willing continue besides the house and care work. While women in Kharanaq lost their work, In Shafiabad, have a beneficial income after having removed the distributors from their sales chain. With the enhanced work situation and associated economic and social benefits, the women of Shafiabad are satisfied with their work situation.

6.4.4. Migration

While in Shafiabad, the qanat water did not reduce in a way that it affected the community negatively, Kharanaq resulting from the heavy loss of groundwater in the region, had to witness the decrease of qanat water for agricultural and domestic use to one fourth of its actual water amount. Due to less qanat water, a lack in infrastructure, lack of work and educational opportunities, people found themselves forced to migrate. While in Shafiabad, people found garlic monoculture to provide them with a lucrative income and thus, prevented them from migrating, in Kharanaq, with less people in the village, economy, education and infrastructure deteriorated even more. In Kharanaq the outflow of people, simultaneously reduced the pressure directed to local politics to implement improvements. Income opportunities for women aggravated more, and often enhanced urban migration. Authors propose that a revitalisation of common property resources is crucial for protecting livelihoods and women’s bodies (Hartcourt, 2017; Hartcourt and Escobar, 2005; Sato and Soto Alarcon, 2019) and to improve conditions in arid micro-climatic locations (Gaur et al. 2018). These findings coincide with events in Kharanaq. Whether directly or indirectly affected by the decreased qanat water amount for irrigation and domestic use, Kharanaq residents relate the incident to environmental circumstances stemming from decade long

mismanagement of water resources by the government. Most women and teenage girls, who are current and former Kharanaq residents, strongly associate transformations in all different spheres of their lives with the loss of qanat water. They mention social, economic, and psychological transformations, both positive and negative, resulting from changes linked to the decline of qanat water and migration. For women, both migrated and remained, work opportunities and financial independence decreased. Women, who mostly worked in the village all year, and experienced the discontinuation of work and income, did not see any alternative and instead had to face the disruption of their work life balance. Water shortages impacted their ability of self-sufficiency negatively, due to less yield, for example of wheat, and parallel rising living expenses and food insecurity. The decreasing number of Kharanaq residents and the associated decline of people who came there for trade, shrank the women's work opportunities. While men continue to evade the loss of agricultural occupation by working outside of the villages or urban areas, women both remained or migrated lose their occupations with increasing financial dependence on men. Both migrated and non-migrated women suffer from loneliness. Yet, while for the remained women no changes took place in their lives, migrated women agree that after they had overcome the initial difficulties in the city, it offered them a better life. Many became housewives, due to lack of working space in urban apartments or the low income in weaving factories, which hampered them from continuing carpet weaving, However, easier housework and access to greater infrastructure increased livelihoods due to higher access to new risen opportunities in terms of work, education possibilities, facilitated everyday errands and a less conservative urban environment. Further, they found themselves in new wider social spheres with possible diverse social encounters, exchange of experiences, thoughts, or political ideas, and more casual dress codes. However, there are women, who live in Kharanaq with their families and are satisfied with their lives. In Shafiabad, mostly the functioning qanat and the lucrative garlic monoculture provides people economic security and women strengthened their social, economic and ecological circumstances within the community. The significant transformations for women to a point of satisfaction, for them makes migration unnecessary.

The success of the women in Shafiabad is also related to tourism. While in both communities a vibrant tourism offered business opportunities for women, and in Shafiabad, the community opposed women's presence in the public more strictly than in Kharanaq, yet the women in Shafiabad managed to use the tourism to their benefit. In Kharanaq, the women could not benefit from tourism, since they were forced to stop due to 1) the privatisation of the caravanserai, which hosted tourists behind closed doors and hampered the women's contact with tourists, 2) competition over selling spots and products among the women, which often resulted in conflict and demotivated them to continue. Women's position,

which was already weakened by work decreases due to lack of water and suboptimal infrastructural conditions and resulting migration, further attenuated and reinforced migration. Quality of life decreased, particularly for women who stayed in Kharanaq. Findings coincide with theory (Federici, 1975, 2019) that as unpaid housewives, women were more dependent on access to commons, which is why they have been impacted disproportionately in a negative way by water shortages.

6.4.5. Resistance – the significance of women's collective work and the qanat

Nevertheless, the disadvantaged position of the women in Kharanaq is not a sign of missing resistance. In both communities, women make stands against male hegemonic structures.

In the past, unequal work-payment relations were generally accepted or tolerated by the women, whether due to a sufficient economic fulfilment or the lack of choice as a working person. Most women of the older generations in Kharanaq, are confident that their daily work was crucial for the functioning management of the village business and that they generally have had a higher income than men. Most of them wove as long as their physical condition or their family situation and housework allowed for. In time, exploitative conditions and deteriorating health impacts, eventually drove younger generations of women in both villages to invest less effort and time into the production of handicraft. In Kharanaq, they complained about high production expenses and time investment in comparison to the low payment and the decreased demand as consequence within the chain of the decrease in qanat water. However, in Shafiabad, the young women, who are mainly patte embroiderers, addressed unfair work conditions, a general inequality and conscious or unconscious feelings of marginalisation in everyday life, senses of boredom, dissatisfaction and a wish for change more directly. They particularly associate these circumstances with having been reduced to housewives. Women in both villages generally opposed to the unfair income conditions by stopping or reducing that work.

In Kharanaq women often have their own way of resist the setback of social and cultural mindsets in solitude, without an existing communication about the matter among each other. However, when women find themselves in the situation to exchange opinions and thoughts, for example in political debates, they have mutual understanding expressing similar experiences. The missing thematisation is not accompanied with a lack of awareness: "I often wonder how the world would look like if you changed the role of women and men." Even they are enclosed in the private space and are isolated without a collective (Federici, 2004, 2019), individually, in their everyday routine, conscious or unconsciously, women resist male dominance. Through everyday resistance, they take a stand against traditional norms through visible acts such as breaking the range of usual dress codes, by asserting their

will against conservative male family members, or by invisible acts such as having a secret relationship. As theory suggests, in order to circumvent repressive domination, they show certain common behaviour. This kind of resistance is quiet and seemingly invisible and becomes part of politics through the everyday life of the subaltern (Adnan, 2007; Kelley, 1992; Ludden, 2002; Sivaramakrishnan, 2005; Smyth & Grijns, 1997). In various local and everyday resistances, a range of specific strategies and structures of power exist. Theory also labels wearing modest Islamic clothing, which resists traditional Islamic dress codes and yet leaves them unapproachable in terms of morality, as resistance (Abu-Lughod, 1998: 53). Individually, both for themselves and by mutual support and understanding, also across the generations, women in Kharanaq implement everyday resistances. However, looking at single resistant acts by women in the public, these have not led to significant changes regarding the social standing of the women in Kharanaq. Difficulties during individual fights also led women to giving up and accepting the situation.

When the women in Shafiabad were beginning the local research project despite unknown outcomes, had to face massive counteraction and verbal and psychological violence by the community. Individually, while some women had the support, others had to apply persuasion strategies within their families. It was the individual agency, which paved the way for 1) the implementation of group and 2) for more women to dare to join. The forming of a collective resistance movement is the significant difference in the comparison to the resistance in Kharanaq. Mutual empowerment through joint struggle represented the crucial source of strength and resilience to persevere. Collective action, common bonds and the consideration of communal benefit enabled the women to stand against the massive pressure through counteractions and psychological abuse in the form of discrimination, intimidation and verbal violence and to reach goals beyond their own beliefs. Resilience and solidarity helped the women make the following achievements: 1) By resisting the psychological pressure on them and working one year without personal income and in agreeing upon joint goals, they got the collective established. 2) With the collective income partly saved in a cashbox, they managed to erase the distributors from the chain of sales, to expand the handicraft production, increase the number of group members and earn an appropriate income, over which they have decisive power. As a result, they have enhanced their financial independence and the behaviour of the men toward them has positively transformed. 3) Based on knowledge production by outcomes of their local research project and the decision to invest in the qanat for the benefit of the entire area of Takab North, a turning point was created that eventually shifted the men's attitude toward the women from rejection to respect and support. 4) The new circumstances significantly strengthened women socially in the community, which is displayed by a higher self-

confidence, strong friendships, high solidarity among the women and an increase in free mobility and determination. The access to a "piece of control" over the water supply system in the form of finances and decision-making has shown itself as a significant factor for women's quality of life. These are important findings coinciding with scholars' suggestions that a revitalisation or a strengthening of common property resources is crucial for protecting the livelihoods and women's bodies (Hartcourt, 2017; Hartcourt and Escobar, 2005; Sato and Soto Alarcon, 2019) and to improve conditions in arid micro-climatic locations (Gaur et al. 2018). Here, a further concurrence can clearly be detected with Silvia Federici's (2019) suggestion that collectives with commons as an autonomous space have control over their work their bodies and can challenge capitalist organisation of life and labour.

The women of Shafiabad created a movement of resistance, which succeeded in bringing change and transform their roles as unpaid housewives and to decrease or erase existing restrictions. I have met self-confident personalities, who communicate their thoughts and who own freedom of movement and wear relatively light hijabs. These represent relatively radical changes, since women in Shafiabad were usually expected to wear a chador and not go out much. The women have experienced the necessity of setting mutual goals to deconstruct unequal gender roles, which they think, must be continued. Somayeh, for example, said: "If one day we would not need the men's help anymore, maybe then I would think that women's power has found completion."

Coinciding with the ideas of Joseph (1997) and hooks (1990) presented in Chapter 2, in the case of Shafiabad, a safe space was created that enabled women to create collective organised resistance through dialogue, exchange of thoughts and a revelation of commonalities of power struggles. Mutual contextual feminisms have taken place, which enabled the opening of a discourse of gender struggles against a religiously legitimated patriarchal hegemony, which has infiltrated into Iranian culture and has become institutionalised. The achievement by the women in Shafiabad coincide with Bayat's (2013) and Alikarimi's (2019) argument that women in Iran managed to make some significant social and legal shifts in gender dynamics by imposing themselves as public players in daily practices like work and education. The findings coincide with suggestions by feminist theory and are therefore highly important for the field of study. Accordingly, grassroots women's communalism today produces new realities and a collective identity with a force "in the home and the community and opens a process of self-valorisation and self-determination" (Federici, 2019: 108).

According to the women from Shafiabad, the conservatism of the community is not connected to Islam. They associate the rigid thought structures with the people's lack of education and lack of contact with

a world outside of the village, which created aversion against sudden new activities and occupation of women in their community instead of grasping. Women consider mindsets of families or family members as different and relate openness of people in the community with previous contacts in touristic circles or other social structures that differ from those of their village.

The different outcomes in Shafiabad and Kharanaq display the important distinction between individual and collective resistance. According to theory, in various local and everyday resistances, a range of specific strategies and structures of multiple power exists (Abu-Lughod, 1989). Resistance happens within overlapping forms of subjection, whereby the effects can "vary tremendously" for "particularly placed individuals at particular historical moments" (Abu-Lughod, 1989: 53). The linkage between the private and the public should be considered in terms of how they affect each other, and how women can gain increased access through expanding the traditionally private space (Yadav 2010). The initial individual forms of private inner resistances within the home in Shafiabad found a space to meet in another home, a semi-private space, where women succeeded in binding them to start a collective and significant resistance movement and take it out into the public sphere.

Decolonial feminist political ecology research has shifted away from women's vulnerabilities and the silencing of gendered and subaltern knowledges. Instead, it is important to focus on social movements and women's embodied practices and their collaborative action (Buechler & Hanson, 2015). Collective resistance by the women in Shafiabad has evolved a social and environmental movement generating their recognition to a level which has enabled them to co-decide resource-related political issues, which coincides with findings in Central and South America display (Gudynas, 2011). Further, the fact that from their empowered positions in the community, women of Shafiabad could expand the effect by sharing their experiences with women in the area corresponds with suggestions from Central and South America (Escobar, 2008; Gudynas, 2011).

The findings of this chapter are highly important for decolonial feminist political ecology theory.

6.4.6. Tourism and politics

Women in both communities showed a high interest in politics, which is a form of activism. "As in the case of many contemporary movements, Iranian women's activism is connected into local, international and transnational politics" (Tara Povey (2016): 1). This coincides with the findings. In Shafiabad, the interest in politics stemmed from their association of tourism growth and an expanding freedom of action for domestic NGOs, supported by the Rouhani administration. In Kharanaq women were also

informed about and involved in local political developments. Particularly demands existed concerning the supply of appropriate infrastructure and effective care for the water supply system.
Administrative failures in Kharanaq are excused by passing responsibilities on to other offices or to the locals Consequently, people were largely left alone with unresolved difficulties that resulted in heavy urban migration. In comparison, district politics in Kerman supporting processes in Shafiabad. For example, the Ministry of Culture supported the reconstruction of the fortress and the idea of transferring the responsibility of the historic hamam to the women, and subsequently financed its renovation. Further, the domestic private sector is promoting Shafiabad's tourism in the form of tourism agencies. Theory (e.g. Azizi et al. 2017; Ostrom 1990, 2009; Yazdanpanah, 2014a, 2014b), suggest that sustainable management at village level needs collective action according to local characteristics, and that the government must reduce its role in order to motivate collective management. Yet theory (Azizi et al. 2017) also suggest that the government should give financial support to the farmers and that on the ground. The findings in Shafiabad coincide with theory in so far that financial support by the government in support of local interests is beneficial, for example in the case of the hamam renovation. Yet, findings of this work do not go along with the suggestion that a person should supervise the collective work, as it is argued by theory (Azizi et al. 2017).

Further, the current Rouhani administration is not related to the growing tourism sector in Iran. On the contrary, experts do not see a correlation between tourist growth and presidential candidates (see Chapter 6.2.4.). Further, according to employees of domestic NGOs in Tehran their work is heavily hampered by the state. Another reason that makes foreign politics significant, particularly, for Shafiabad is that its garlic sales are being directly affected by the heavy embargoes on Iran and the resulting heavy inflation of the domestic currency. Garlic exports to Turkey are complicated by heavy embargoes placed on Iran by the US administration. Further, the associated heavy inflation lowers the income from garlic trade with Turkey for the garlic producers due to increased production and transport costs.

These findings display that the women from both villages are implementing activism by following and criticizing politics and articulating demands. The findings also reveal that despite their absence from an urban centre, located in the central desert, the women are directly affected and therefore, highly interested in domestic and foreign politics. These findings are significant for decolonial feminist political ecology theory.

In the case of Shafiabad, the NGO had an assisting and beneficial role for the women's success. Besides functioning as intermediary between the community and the government, it also mediated between the

local women and the community by initiating a local research project as instrument for detection of mutual concerns and in support of the implementation of systematic solutions. The great benefit through women's decision is based on the knowledge production that took place during their research in the area. Coinciding with Tuhiwai-Smith (2012), who calls such method 'tribal research' along with her suggestions as how to decolonise methodologies, crucial knowledge was accumulated on the local level, which now also benefits my work. The involvement of the NGO in beneficial events for Shafiabad during its cooperation with the local women, displays the potential important role an NGO can play for progress in a community. These outcomes correspond with Povey's (2016) findings that women's movements and the work of women's NGOs in Iran during the past two decades has displayed unprecedented historical transformations, with a response of crucial changes in the consciousness and visions of social change. The findings of this chapter demonstrate interesting and valuable information for decolonial feminist political ecology and Middle Eastern Feminist studies.

6.4.7. Iranian women vs. theocratic patriarchy

It is necessary to mention another factor in relation to this work that. During the years of work and research for this project, I could not disregard the continuous stereotyping of women and women's groups by scholars, despite the broad theoretical approval of and attention to the contextual circumstances. In the case of research in Iran, the stereotypes are often projected to women in the entire nation state. In different works by numerous authors (e.g. Bayat, 2010; Bahramitash & Hooglund, 2011; Rawly & Alamy, 2019), women in Iran are often regarded as a general identity of Muslim women. The analysis of this work coincides with theory, insofar as that women under authoritarian regimes have different ways of resisting, negotiating, and circumventing gender discrimination and that women's appearance in the public their dispute of laws, and their everyday resistance can create transformative change in a society. However, this work does not agree with suggestions that women's movements influenced the moderation of the interpretation of Islam towards more inclusive, egalitarian and women-centred notions (Alikarami, 2019; Bayat, 2013). Sharia Law represents the legal foundation of the Iranian judicial system, which shall support theocratic dictatory and simultaneously, puts the majority of the population in the form of many minorities and women in a disadvantaged position. In the case of Iran, it is crucial to pay attention to the considerable different objectives that a theocratic state has compared to its multi-ethnic, multicultural, multireligious society. Further, in Iran, a young population with a median age of 30.1 in 2019 (Wordometers, 2019), generally stands in sharp contrast to the existing conservative theocratic patriarchal rule. That clearly generates interesting friction between government and society, which are bolstered by the fact that the largest age cohorts of the population lie in the age ranges of 25–

29 years and 30–34 years (ibid). The fact that between 1999 and 2015, gross enrolment of higher education tripled from 19.13 to 71.9 percent, which exceeds the ratios of the United Kingdom or Japan and is twice as high as the global average (World Education News and Review, 2017) amplifies the friction. This in turn might be enhanced by events such as the removal of bans on women entering certain study fields in university in the early 1990s (Keddie, 2000) and the consequent enrolment of female students at more than 60 percent.

The following counter reaction by conservative clerics against women's progress that is considered a threat to traditional values, demonstrates that Supreme Leader Ali Khamenei and his supporters hamper the progress of women in the society. This paragraph will further discuss that matter. The government continuously emphasised the important role of women as mothers, encouraging them to have more children. While the Islamic Republic repeatedly underlines its achievements of expanding women's education because of the high female university attendance, it put quotas on female admissions to hinder the annual number of female students from exceeding 60 percent (Majbouri and Fesharaki, 2017). The ban usually applied to the fields of technology and engineering, which are considered male working realms. In 2012, for example, 33 universities banned women from 77 academic fields, including engineering, accounting, education and chemistry. Despite the ban, in recent decades, the number of female students at Iranian universities was higher than that of male students (Radio Farda, 2017). Their attendance has hovered around 65 percent for almost two decades (as of 2016), except in the field of engineering (Roudi et al., 2017). However, despite the increase in female education and decrease in fertility rates, female labour force participation has remained low (Majbouri, 2017). Youth unemployment in Iran for females rose from 32.1 percent in 2009 to 41.4 in 2014 (World Education News and Review, 2017), which still represents half the employment rate of men (Radio Farda, 2017). That stems from the fact that the government applies its system of female constraints to the job market. Iranian law forbids women to be employed in 'dangerous, arduous or harmful work' (Iranian Labour Code, 1990) but also from working as judges. In 2015, the government announced 2,284 new civil service openings, of which 16 were designated for women (Ceasefire Centre for Civilian Rights, 2019). Iranian higher education institutions discriminate against women from occupying academic and administrative positions, determine gendered hierarchy and power distribution and consequently, reinforce and reproducing the systemic ideological patriarchy (Rahbari, 2016). Yet, none of these factors could generally deter women from studying and working in Iran and abroad. Women are visible in both private and public workspaces in all fields. In the USA, for example, more than 60 percent of Iranian university applicants have been female over the past ten years (World Education News and Review,

2017).

Further, In Iran an eight percent annual increase in social media use had reached the number of 47 million in 2018 (Financial Tribune, 2019; Datareportal, 2019). With a population of 82.9 million people (Worldometers, 2019), that means 56.6 percent of Iran's population regularly use social media platforms. Around fifty percent use the applications Instagram in October 2019 Statcount, 2019). Iran is 20th in the world in terms of Twitter output volume (effective, 2018). During the "twitter revolution" along with the so-called 'Green Movement' as a reaction to the 2009 election fraud, besides physically demonstrating on the streets, people made use of digitally networked protests (Bennet and Segerberg, 2013). Having learned from the past, the regime cut off the internet connection immediately, when protests started in January 2020 as a reaction to the accidental shooting of a passenger plane over Tehran by the government. In societies with highly limited freedom of expression, social media platforms are playing increasing and crucial roles in politics and are an essential tool of resistance (2012). Statistics in the US show that in 2019, people between 18 and 29 used social media platforms to 90 percent and 82 percent of people of the age group 30 – 49. Accordingly, social media as a tool of resistance plays a crucial role for the female population group in Iran as well, has shown a generally feminist attitude and continuous presence at the forefront of feminist and political struggles during the history of the state. The emergence of social and political change is found to be reflected in women's cyber-activism, their citizen journalism and self-organisation (Geytanchi and Moghadam, 2014) and in transformations and manifestations of women's issues, speaking of 'silent online revolutions' (Bernardi, 2019) (see Chapter 4).

As suggested by theory, it is essential to understand the historical and cultural context of women in the respective environment, before looking at gender affairs (Hartcourt, 2019; Povey & Rostami- Povey, 2016). Thereby, it is necessary to be careful not to give certain aspects within the context inadequate weight. Further, theory argues that feminist knowledge production is diverse and thus the historical and geographical locations where it takes place need to be considered in order to grasp the complex process of improvements of women's circumstances (Povey & Rostami-Povey, 2016). "Therefore, Iranian women's voices are important to what is traditionally understood as feminism" (ibid: 8), such as the voices of women in one local context, who are confronted with different obstacles (Suleymani, 2019) than for example, the women in Shafiabad and Kharanaq. The younger generations in both villages use social media on daily basis. They relate to the world wide web and follow current trends. The young women in Shafiabad use the application Instagram for work both as tool for tourist reservations and for communication regarding the collective work in the Gojinoo group. Rural women's economic

activity is estimated to range between 40 to 50 percent. The existence of a significant informal economy, particularly by women in the agricultural sector, hampers the capture of real figures, due to work in agriculture, animal husbandry, handicrafts, processing, and preservation (Moghadam, 2009). In the case of Shafiabad and Kharanaq the women are part of the informal economy, mainly through agriculture and handicrafts, tourism and partly husbandry that provide income. That unrecorded income is a significant part of each household's economy today and in the past. Accordingly, the progress in Iran in favour of women is linked to women's individual agency, which results in a collective achievement. Women are active actors in the economy and active initiators and participants of social movements throughout Iranian history. They continuously have succeeded in creating social, legal and economic change in the society, as presented in Chapter 2. The studies in Shafiabad and Kharanaq confirm that and additionally display that such strong female resistances do exist in small rural desert communities. Iranian people and Iranian women, consist of diverse groups of different religions, social classes, and ethnicities with diverse ideologies, sexualities, sexual orientations and experiences, who are politicised and non-politicised. For example, the most widely celebrated (Iran Chamber Society, 2019) holiday for all ethnicities in Iran is the Iranian New Year, *Nowruz* ('new day'), which originates in the Zoroastrian religion, yet is not related to Islam. Overall, even though the present case studies took place in major Shia Muslim environments, in both villages' events were not associated with religion. Many women in Kharanaq and Shafiabad do not consider themselves as practicing Muslims. Their feminism rather is a matter of individual agency and general resistance from a marginalised positions within conservative communities in an environment of resource scarcity. In both cases, it is rather the achievements of women to take a step forward in the process of dismantling patriarchal structures. The majority of people in Iran is not socialised as Muslims or as religious, neither do they identify as such. They represent various entities of different intersectional encounters. The women in Shafiabad associate the conservatism of the people in their village, who were mostly men from the generation of their fathers and grandfathers, with their lack of education and the lack of different experiences in other environments.

The findings of this work offer detailed information about women from a rather rarely considered geographical location embedded in the historical macro-context of Iran and its experience with colonialism. Accordingly, this work is important and supportive for decolonial feminist political ecology in its aim to reveal epistemologies from a decolonial standpoint (Harcourt and Nelson, 2015), to reproduce knowledge from the global south to the global north (Hartcourt, 2019), and to understand structural linkages between women's continuing realities of coloniality.

7. Conclusion

By deriving approaches from feminist political ecology theory, Middle Eastern feminist theory, decolonial theory and feminist studies, this work builds a decolonial feminist political ecology lens to approach Iranian feminist contexts in two rural qanat-based communities. Second, through that theoretical lens, an understanding of the macro-context of Iran is provided that is based on a historical interrelation of global and domestic politics and economics, and their impact on Iran's female population. Third, this work reasons how foreign and domestic economics and politics have historically shaped the appliance of water resource mismanagement, to then discuss its effects on qanat-based community life. Simultaneously, the way of commoning within qanat-based communities and their nature of resistance against centralised state impositions are introduced. With the historical discussion through a decolonial feminist political ecology perspective, a holistic foundation is established to understand female narratives introduced in this work. Finally, women's stories and experiences with structural inequities in their communities, located in a climate of extreme drought, are examined. By revealing women's knowledge of feminist resistances within such multi-layered patriarchal contexts, the significant differences in the impact of individual and collective resistance becomes apparent. This chapter presents the findings.

Outcomes show that for the farmers in qanat communities, an intact qanat as the irrigation resource is the primary individual and common concern. The qanat is a common good and still represents the basis for communal life. With a history of maintenance efforts and resistance to privatisation by the authorities, today farmers still must continuously make a stand against the loss of their qanats as a consequence of privatisation, water exploitation and pollution. Despite Iran's increasing water scarcity and political mismanagement of water resources, communities succeed in maintaining their resource supply system by careful autonomous communing. Contrary to suggestions by common-pool theory, findings show that successful commoning functions without any mutual control mechanisms. The entire system of sharing the common property is based upon trust and collective work, free from capitalist organisation. Even though the maintenance of qanats is based upon traditional management regulations, traditional professions no longer exist, and hierarchies among the shareholders have been voided. The one profession, which remains is the moghanni's, the qanat engineer. In an environment of resource scarcity, in qanat-based communities, the amount of qanat waterflow co-determines the quality of life in the community. Qanats which have not lost significant water amounts can represent the foundation of the economy of an entire community. Besides their function as water providers for irrigation and housework, qanats have important cultural and emotional values for the local population. Therefore, when qanats lose their water due to ecological deterioration, they might be kept alive for nostalgic

reasons. With the qanat culture also the stories about gendered qanats and qanat weddings as well as the myths of the goddess of the waters, Anahita and the sacredness of water both in Zoroastrianism and Islam are associated.

Control over qanat water represents power and independence, which expands massively with the reduction of available water resources. Long-established patriarchal power structures, which legitimise male hegemony of resource division and access, remain. Based on the rule of Sharia law, unequal, gendered resource division is still applied in communities, however, not exclusively. Many families hand down land and water property equally to sons and daughters. Due to the crucial role of water shares in qanat-based desert economies, a practice of that law for property division puts women at a disadvantage. According to gendered labour roles, men deal with matters of land and water. Accordingly, control and access to information on the qanat and an official income from it mainly belong to men. However, findings also show that the unequal water division is not a significant concern for women, and that despite the gendered work tasks, they deal with water management and the irrigation of fields.

Outcomes reveal that the decease of qanats means the loss of social relationships and cultural values for the people, particularly women. The decrease of underground water reduces agricultural occupation. With the forced change of labour away from the village, rural infrastructure deteriorates, village structures are deeply transformed and lead to heavy urban migration, which in turn seriously undermines rural structures. Resulting from deterioration of rural structures in conservative environments, women lose their occupations in relation with the qanat and lose customers for their business with handicraft. Consequently, they become tied to the house, while men continue to evade the loss of agricultural work by working elsewhere. This study finds that local communities are seriously weakened both economically and socially by the decrease of qanat water. Occasionally, the lack of sufficiently skilled personnel for some professions in rural areas can result in employment opportunities in villages for women from the urban areas.

It is additionally revealed that ecologically and economically caused structural transformations concerning qanats impact women much more strongly than men, and rapidly reinforce their social, psychological and economic decline. When women do unpaid house and care work, they are more dependent on a functioning common property resource. Findings agree with theory that a deterioration of the common property impacts women disproportionately in a negative way (Federici, 1975, 2019; Rocheleau et al., 1996). However, outcomes of this work add that the negative impacts are

probably stronger within a conservative society, in which women are less likely or less accepted in society to break with manifested gender roles. These results coincide with the suggestion that a revitalisation or a strengthening of common property resources is crucial for protecting the livelihoods and women's bodies (Hartcourt, 2017; Hartcourt and Escobar, 2005; Sato and Soto Alarcon, 2019) and to improve conditions in arid micro-climatic locations (Gaur et al. 2018). Further, this work displays that it is also crucial to revitalise and strengthen local handicraft made by women to protect their livelihoods and to prevent knowledge of local art from being erased while new generations come of age. These are interesting findings for feminist political ecology, common pool resource and feminist theory.

Outcomes also reveal in detail how women carpet weavers and patte embroiderers experienced the exploitation as commodity producers. These add to the analysis of the Persian carpet transformation to a mass product, which is argued to be rooted in colonialism and male exploitation and control of female labour (Moallem, 2008). This work additionally reveals that, particularly for carpet weavers, the exploitation began in the form of child labour. Within a chain of male hegemonic control, women's work faced exploitation by male distributors, and the male bazar elite, who determined the domestic market prices in relation to the global market. Further, this thesis displays that women as well participated in the reproduction of this male hegemonic business chain depriving their daughters from education. Further, this work adds to theory that, despite the work under severe working conditions, carpet weaving earned females a respectable income and thus a higher social status in the society.

The findings coincide with theory (Povey, 2016) that the sanctions regime has greatly affected working class and middle-class women and further adds that embargoes have heavy negative impacts on rural women, and both local and global politics in general directly affect rural communities. Embargoes on Iran complicate export trade for farmers in qanat based economies and increase production and transport costs. They cause heavy inflation of the affected domestic currency, lower incomes and increase living costs. The findings further display that rural women implement activism by following and criticizing politics and articulating their demands. Despite their absence from an urban centre, and being located in the central desert, rural women are affected by and therefore interested in domestic and foreign politics. These results offer significant additional information for decolonial feminist political ecology theory.

The findings further coincide with the suggestion that governments should provide financial support to the farmers at grassroots level (Azizi et al. 2017). This work agrees with theory (e.g. Azizi et al. 2017; Ostrom 1990, 2009; Yazdanpanah, 2014a, 2014b) that sustainable management at the village level needs collective action according to local characteristics, and that the government has to reduce its role in order

to motivate collective management. Outcomes display that communing and collective work function best without any involvement by the government or supervision among local people. Here, a further concurrence can clearly be detected with the suggestion that collectives with commons as an autonomous space have control over their work and their bodies and can challenge capitalist organisation of life and labour (Silvia Federici, 2019). These findings as well are highly relevant for political ecology theory.

The outcomes of this work coincide with the argument that indigenous women's custodianship of water resource management has been found to be successful (Chen et al., 2018), and that for the economic survival of humans, women and indigenous people need to play a leading role in expanding the commons (Federici, 2019). This work also finds that women in empowered positions in a community can expand their effects on surrounding communities, which coincides with suggestions by decolonial theory (Escobar, 2008; Gudinas, 2011). The following findings represent highly valuable information for decolonial or post-capitalist feminist political ecology, which look at women-led community cooperatives (Sato and Soto Alarcon, 2019) and found that "grassroots women's communalism today" produces new realities and a collective identity with a force "in the home and the community and opens a process of self-valorisation and self-determination" (108).

It is revealed that for women as major actors of qanat-based communities and commodity producers, who see themselves confronted with inequities in their everyday lives, great structural transformations create new forms of multi-layered individual and collective resistances. In terms of individual resistances, solitary, in their everyday routine, consciously or subconsciously, women resist male dominance. Gendered labour roles within a rural familiarity delegitimise women's freedom of movement and entrench both their financial dependence and social disadvantage. Within ultra-conservative patriarchal contexts, dominated by dogmatic perceptions of moral rules, patriarchal structures are created, supported and reproduced by a legal system based on religious ideologies. Analyses of this work agree that the home can be a place of resistance if, as theory suggests, an exchange of ideas and reflection of one's situation within existing power relations can take place. It can shape a "self-conscious constructed identity" (hooks, 1990: 42). This study shows that effective resistance against a strongly anchored, multi-layered patriarchy requires collective organisation. Collective resistance instead of individual resistance or competition can enhance women's economic situation, enable self-determination and thus, bring financial and social independence. Functioning collective work by women requires cognitive enhancement by defining routes of inequalities and analysing marginalisation surfaces. Such knowledge production can be achieved through mutual

exchange of experiences and information in the form of gatherings among the women in a community that aim to determine solutions and conceptualise and implement collaborative goals. More importantly, cognitive enhancement can be achieved through local research conceptualised and carried out by local women, and such research can improve the research of a non-local researcher (Tuhiwai-Smith, 2012). Coinciding with Tuhiwai-Smith's (2012) approach, this work reveals that cognitive enhancement though tribal research enormously benefits rural women and their communities. Knowledge production and collective work are the keys that enable women to gain access to further resources. Findings display that collective work of women creates empowerment, which can be significantly supportive of resilience and resistance.

It is demonstrated that for contextual resistance regarding qanat-based desert contexts the modification of male hegemonic control over common-pool resources and work structures for women independent from men can be supportive. Further, financial and cognitive progress of women can transform patriarchal mindsets regarding gender roles and women's capabilities, increase appreciation and respect for women, and thus promote more equality in a community. The findings reveal, that if common resources are involved in women's successful activities, this can multiply beneficial effects towards a strengthened position of women in a community.

Simultaneously, this work illustrates that appropriate involvement of local NGOs can be highly beneficial for communities, playing a potential important role for progress in a community. Thereby the local NGO might function as initiator of local or tribal research for the accumulation of crucial knowledge of women as well as an intermediary between the village and the provincial administration and thus support the production of decolonial methodologies and knowledge production. These outcomes also correspond with Povey's (2016) findings that women's movements and the work of women's NGOs in Iran during the past two decades has displayed an unprecedented historical transformation, with a response of crucial changes in the consciousness and visions of social change. Findings further demonstrate that domestic politics hamper the work of local NGOs. These outcomes demonstrate interesting and valuable information for decolonial feminist political ecology and Middle Eastern Feminist studies.

Because women's resistance strategies are not labelled as feminist or as strategies does not imply that they are neither one, nor the other, as feminist theory already suggests. Findings show that women link social inequities, which cause limitations in many aspects of their lives are structural, with conservatism stemming from inaccurate mindsets and lack of education, patriarchal traditionalism, and the lack of

contact with more progressive contexts. Such mindsets within male hegemonic structures are reproduced and strengthened institutionally by the theocratic state system of Iran. Even though the present case studies took place in major Shia Muslim environments, in both villages events and movements are not associated with religion or Islam. Together with their everyday individual and collective struggles, Iranian rural women from contexts with extreme climatic conditions create strategies, which become tools of resistance against social norms and theocratic law. The Islamic theocratic state has a relatively young and well-educated population, in which females are one of the principal groups affected by politics. Iranian rural and urban women resist systemic and institutionalised marginalisation as a daily routine, and systematically by organised work and activism. Many of them do not agree with Islamic rules such as the dress code for women (and men) and they would not consider themselves practising Muslims, or they do not have a close attachment to religion. It is necessary that feminist theory and the international community understand the need to deconstruct the notion of Iranian women being necessarily or solely Muslim, and the concept of Muslim women aligned with a single entity of an oppressed group. These findings should support the aim by feminist political ecology to shift from the notion of women from the global south, particularly in Muslim majority contexts, as victims. The presentation and comparison of the two case studies reveals highly interesting data unveiling Iranian women as embodying a significant demographic, political and cultural source for decolonial feminist political ecology and Middle Eastern Feminist studies.

Finally, during the theoretical research of this study, I learned about work of Iranian feminists, who were important figures for the women's movements around the time of the Constitutional Revolution in Iran (1905–1911) and who are not mentioned in feminist study literature. These women are, for example, activist and writer Bibi Khanoum Astarabadi (1858/9–1921), who founded one of the first women's schools, wrote various feminist articles and published books. Or feminist writer Taj al-Saltana (1883–1936), one daughter of Naser al-Din Shah, who wrote and spoke publicly in favour of women's work values and against dress codes.

Concludingly, women's resistance and activism, whether rural or urban and whether past or present, is continuously taking place due to heavy gender inequality in Iran. To create political and cultural change women's collective action will continue to be necessary.

Future feminist research in Iran is necessary because the knowledge of rural women and women in general is rich in new information. As future topics of studies I suggest the promotion of tribal methods or local research concerning problem solving within communities. I further suggest revealing individual

and collective resistances of rural women, or how to enhance local community- based NGO work as mediator between the local female researchers and the government. Locations of research can be other qanat-based communities or rural communities that apply communing. Another highly interesting area of research for decolonial feminist political ecology and human geography can be the resistances of ethnic minority women in relation with natural resources in Iran (e.g. Kurdish, Balochi, Afghan). Simultaneously, projects are important that work at the intersection of theory and practice and bring both spectrums together to find best possible solutions to solve women's struggles. The underrepresented realities and knowledge of Iranian rural and urban women's groups have great potential to add material to current intersectional decolonial feminist and ecological discussions and can broaden the perspective of decolonial feminist political ecology, human geography, Middle Eastern feminist studies and related fields.

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Appendix
Interview Participants from Kharanaq and Yazd mentioned in text

Ali Asghar Semsar Yazdi, Qanat engineer at the ICQHS Asghar,

asphalt worker

Fatemeh, librarian

Cobra Azizi, retired cotton spinner

Group of five women of housewives and carpet weavers Group

interview with retired moghannis

Hakimeh, retired landless farmer and cattle holder

Haji Azizi, retired moghanni with farmlands (husband of Sakineh Rahmani), worked in Kuwait Haj

Fatemeh, carpet weaver and cattle raiser

Hajar, one of the women, who were sitting with us while the soup was cooked

Heydar Heydarpour, farmer Hossein,

baker

Majid Labbaf, qanat engineer and geographer at the ICQHS

Manijeh, one of the women, who were sitting with us while the soup was cooked

Mr Akhoondi, retired teacher with farmlands (Son of Sakineh Rahmani and Haji Azizi) Mr

Bagheri, representative county council of Ardakan

Robab Yazdi, retired carpet weaver, living in Yazd

Robab Zarei, carpet weaver (mother of one of the 15-year-old girls, who participated in the interviews)

Four 15-year-old schoolgirls Robab`s

husband, school bus driver

Sakineh Rahmani, retired cotton weaver, farmer and livestock owner, who managed water herself, since her husband worked in Kuwait for several years

Sakineh Afshari, retired carpet weaver, living in Yazd Sedique,

housewife, living in Yazd

Soghra, retired landless farmer and livestock holder, who managed the irrigation herself, since her husband was brick layer working outside of Kharanaq
Tahereh, one of the women, who were sitting with us while the soup was cooked

Interview Participants from Kharanaq and Yazd mentioned in text

Mr Hassanzadeh, water engineer of Water and Soil Ministry

Interview Participants from Shafiabad mentioned in text

Ali, Ali, garlic farmer and livestock holder (husband of Somayeh) Asma,
finance person and patte embroiderer, member of Gojinoo group Fariba, patte
embroiderer, member of Gojinoo group
Fatemeh, patte embroiderer, member of Gojinoo group
Mahdieh, patte embroiderer, member of Gojinoo group Mahnaz,
patte embroiderer, member of Gojinoo group
Masoumeh, Loupatou producer, patte embroiderer and member of Gojinoo group Mina,
patte embroiderer, member of Gojinoo group
Najmeh, patte embroiderer, member of Gojinoo group
Najmeh Shaygan, patte embroiderer, member of Gojinoo group Shahbanoo,
straw weaver
Somayeh, patte embroiderer, livestock owner and tourist host, member of Gojinoo group
Zahra, patte embroiderer, member of Gojinoo group

Interview Participants from in Tehran

Dr Tahere Violet Ansari (Name changed), head of an NGO for Sustainable Development
Akbar Karimi (name changed) from the NGO Boompahoohan.
Employees of NGOs (not named for security reasons)
Family members and friends (not named for security reasons)

From Berlin

Family members and friends (not named for security reasons)

Guidelines for semi-open and narrative interviews

According to Nikkta Dhawan, hegemonic exclusionary epistemologies and their hegemonic "norms of recognition determine what can be read, heard and understood as intelligible and legible". Even as a critical feminist representative of marginalised voices, I might enhance the inability of the self- representation of subaltern voices and risk reproducing essentialism and dominant structures that hinder the progress of the decolonial process (Dhawan, 2012: 56). In order to minimise the risk of becoming an instrument of dominant power structures by representing local women, I mainly make use of quotations during the

presentation of the field work and the analytical part of the dissertation to give space for self-representation. Further, in order to let the person with the knowledge, the speaker, generate an inductive ground of concerns, instead of fixed interview questions, I used guidelines for the interviews, which served as introductory questions. While on that ground, the guidelines served to answer my initial question, new questions evolved during and for the interview.

What is your profession? Are
you from this village?
How many inhabitants does this village have? With
what are the women's usual occupation? What do
men usually do here?
What do you grow here?
What are women's tasks? What are men's tasks?
What water do you use?
How was the water division managed before?
Have you ever had anything to do with water management? How are
the water shares divided?
How can one acquire water shares? Do
other villages use qanat water? When did
you acquire piped water?
Can you tell me about your life as a child, growing up with qanats? Can you
tell me about the situation of qanats in your area?
Can you explain the problem of qanats?
What is the situation of agriculture in your town today? Does that
mean anything in your life?
Who are the main people affected?
Have you noticed any changes in the situation over the past few years? What
does that mean?
In your opinion, how do the people respond to this?
In your opinion, how does the local government respond to this? What
would you suggest doing?
What would you change if you could?
What was your knowledge about the qanat before the project?

Can you tell me the story of the women and the qanat project from the beginning? Has anything changed in the village?

Have people's views changed?

How has your own life changed?

Is it better today?

What would you still want to change? Do you feel anything about the qanat?

What do you think about having to save the qanat? Has anything changed for you?

What would you like to change if you could now? Where would you prefer to live? Why?

What do you think about the hijab? Are you religious?

Are you Muslim?

Do you agree with wearing the hijab? Do you agree with other Islamic rules? Can you expand a little on this?

Can you tell me anything else? Can you give me some examples?

Are there still things that you would like to change? Do any new plans exist for the village?

Do you have any new plans for your own life?

Eidesstattliche Erklärung

Statutory Declaration

Hiermit versichere ich Peyvand Darvish,
Wohnhaft in Berlin,

an Eides statt, dass ich die vorliegende Dissertation selbständig und ohne fremde Hilfe und nur mit den angegebenen Hilfsmittel verfasst habe. Die Dissertation ist in keinem früheren Promotionsverfahren angenommen oder abgelehnt worden.

I hereby declare that I have written the present thesis independently, without enlisting any external assistance, and only using the specified aids. I also declare that I have not submitted the dissertation in this or any other form to any other institution as a dissertation.

Berlin, 11.05.2021
Ort, Datum
Place, Date