

**Date Palms as Living Infrastructure:
An Ethnography of Human-Plant Relationship in Bam City, Iran**

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Abstract

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This ethnography narrates the story of date palms as a living infrastructure in supporting Bam gardeners as they navigate the daily uncertainties in Iran. The research focuses on two main areas. The first part examines the intimate gardener-date palm relationship, exploring how this intimate bond is nurtured through their daily interactions and the profound embodiment of the tree. This multi-species bonding serves as a source of inspiration, instilling a sense of hope and resiliency within the gardening community, especially during challenging times. To illustrate this point, the research offers a poignant example of the 2003 destructive earthquake, revealing how the date palm gardening infrastructure played a pivotal role in the recovery of Bam gardeners.

In the second part, the research contextualizes this bonding within Iran's broader socio-political landscape. It sheds light on how the resilient date palm infrastructure emerged as a result of the land and water reform policies following the 1979 Islamic revolution.

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Dedication

To the resilient date palms and their devoted gardeners in Bam city.

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**Date Palms as Living Infrastructure: An Ethnography of
Human-Plant Relationship in Bam City, Iran**



Prologue

*In your haven, oh beloved date palm
How many days have I yearned and pined,
Collecting your fruit, both ripe and raw,
Gathered all that you were worth, in awe,
A canopy of green and luscious leaves,
Spread over me, oh palm, like a protective shield,
A curtain, with shades of green and gold,
Covering the sun's path, its brilliance untold,
I climbed upon your trunk with a gentle sway,
From your fronds, I hung and swayed away,
And those fresh, juicy dates that were so sweet,
Fell down from above, like a delightful treat,
As I gaze from that height with awe and wonder,
All around me was desert, and sand asunder,
And there, from the edge of the vast, barren plain,
A village of poor wretched souls appeared, in misery and pain,
You, high above in the celestial sphere,
And I, surrendered in your embrace,
Lost in your sweet essence,
I kneaded nectar from the clusters of your bounty,*

*More delightful and natural than honey,
Dates may have thorns, but they are still sweet,
Like a flower without thorns, your bounty was complete,
I was a child but during the month of fasting
I had the intention and determination of a fasting person
And those dates on the iftar table
Were the decoration of the feast of the fasting people,
Secrets were shared, conversations abounded,
As I lay at your feet, humbled and surrounded,
I heard every word that you spoke with grace,
And likewise, you heard every word from my place,
For in your presence, oh venerable palm,
My soul opened up, free from all qualms,
I remember a pleasant morning, oh so clear,
When you placed your head beside mine, so near,
With eloquence, you spoke these words so wise,
“Be fruitful, my son, and let your bounty rise!”*

Yaghmai, Habib (Iranian Poet)

Introduction

At the heart of this narrative, date palms flourish and hopes take root.

For thousands of years, date palms have played remarkable roles in arid areas' culture and ecology. From the banks of the Nile to the Middle East and beyond, these trees have served as central pillars around which life revolves. The city of Bam in Iran is no exception, as it holds a deep historical bond and a distinct identity intertwined with date palms. However, in this research, I show the intimate date palm-gardener bond is a relatively recent phenomenon that emerged following the 1979 Islamic revolution. This profound connection has grown stronger as a response to the precarious daily life in Iran.

This ethnography begins by examining how Bam gardeners perceive and experience their date palms. Using multispecies literature, I explain the ontology of date palms is formed through daily interactions and entanglements between date palms and their caretakers. Date palms are perceived as generous, caring, and resilient “companions”, who “never fail” their gardeners. In one word, they are the “*Barekat*” and blessing of their environment. They are seen as unique beings with inspiring qualities that impart wisdom and are capable of influencing their surroundings. They are also regarded as compassionate partners who diligently fulfill their collaborative roles and anticipate reciprocation from humans. This perception fosters a sense of mutual responsibility

within the gardening community, motivating them to care for date palms and fulfill their obligations towards them.

By attributing human-like traits to this tree, gardeners describe their relationships with their date palms from a multispecies perspective. In fact, they describe themselves as part of a web of species, acknowledging their responsibilities and expectations towards other non-human beings. Thus, to better understand their relationship, I draw on the post-humanist and multispecies literature. Posthumanism is a broad term that encompasses a range of related ontological, epistemological, theoretical, and methodological advancements across various disciplines (Nimmo, 2019). In anthropology, it challenges the conventional notion of human superiority and highlights all living organisms' interconnectedness and mutual dependence (Howard & Küpers, 2021). Moreover, multispecies ethnography, as a research method and a mode of writing, explores the complex interactions and relationships between humans and non-human beings within their shared environments. It considers all creatures as an assemblage or a network of beings in which no one dominates others (Kirksey & Helmreich, 2010; Tsing, 2015). By drawing on this approach and using multispecies ethnography, I am intrigued to understand how this human-plant relationship is formed in Bam and how gardeners gradually become a hybrid of date palm-human.

The process of selecting and going with a specific network of species and embracing a particular ontology across different ones involves multifaceted factors such as imagination, physicality, and politics (Haraway, 2013). Thus, apart from gardeners' perceptions, I intend to position this plant-human relationship within the broad socio-political context of Iran. I build on Khosravi's arguments that the tumultuous socioeconomic and political status of Iran over the past fifty years has significantly shaped a sense of deep uncertainty and instability among Iranians (Khosravi, 2017). As a result, to navigate through these sudden disruptions and cope with a deep

feeling of instability, Iranians have developed diverse strategies (Khosravi, 2017). Bam gardeners, like other Iranians, have come up with their own ways. They have placed their trust in a non-human entity that has consistently displayed resilience, caring, and unwavering support throughout the years. Furthermore, the practice of date palm cultivation and the adoption of traditional gardening methods, combined with water and land ownership, have established a sturdy infrastructure that empowers Bam gardeners to confront the daily uncertainties in Iran.

Through an analysis of date palm's perception in Bam, I reveal a deep-rooted cultural belief that stems from the plant-human relationship, known as "*Barekat*" or blessing. This cultural ritual, conducted annually by the gardeners during harvest time, involves the act of sharing baskets of date with those who lack the privilege of having date palms. By perceiving date palms as "blessings" that share their sweet and fruitful yield with their companions, Bam gardeners reciprocate taking good care of the trees and giving them the utmost attention. Moreover, they bring this reciprocity and caring perspective to the human realm and their community by generously sharing dates, as "blessings", with others. This ritual not only strengthens social cohesion but also fosters a profound sense of community within Bam's culture. In this context, I explore the concept of "blessing" within the plant-human interconnectedness and companionship perspective that fosters a strong sense of community, resilience, and social cohesion when facing social, political, and environmental uncertainties, with a specific emphasis on the 2003 earthquake. I will delve into this cultural belief within the context of the Bam earthquake and the role of these blessed beings in inspiring hope and perseverance while facing adversities.

A Short Introduction to Bam City

Bam city is located in a desert area at the southern end of the Iranian high plateau, and its history dates back to the Achaemenid era, which existed from the 6th to the 4th centuries BC (UNESCO



Figure 1: Bam City Map

World Heritage Centre, n.d.). Despite its arid and inhospitable environment, Bam appears as a captivating green oasis when viewed from above. This remarkable contrast exemplifies the harmonious coexistence between humans and nature that Bam embodies for centuries. Surviving in such a challenging region has not been easy, but the locals have managed to develop sustainable practices that enable them to thrive and establish enduring livelihoods.

One prominent aspect of their sustainable lifestyle is the cultivation of date palms, which hold immense historical and ecological significance. While the exact origins of date palm cultivation in Bam remain uncertain, local people and oral narratives recount their cultivation for thousands of years. They have nourished people, developed Bam's economy, and regulated the social life of folks around them. Although the global market is frequently changing, Karizaki mentioned that after Egypt, Iran is the second leading producer of dates with a thriving date industry that is centred in the southern part of the country (Karizaki, 2017).

Bam is widely recognized as one of the major producers of dates in Iran and across the globe, particularly for its top-notch variety of dates called "Mazafati". Each year, around 100,000 tons of premium quality dates are exported from Bam to other countries (Ghafory-Ashtiany & Hosseini, 2008) In addition to their economic significance, date palms are vital for promoting the

biodiversity of the area. They form intricate ecosystems that serve as homes and sources of sustenance for various life forms, such as plants, birds, reptiles, and insects (Jaradat, 2011). Otherwise, most of them would not survive the severe heat. Therefore, date palms have been the hope of life and a blessing to protect people in that harsh environment.

Bam owes its existence and history primarily to the construction of Qanats, its citadel, and the cultivation of sustainable plants. All three cultural landscapes mentioned earlier share at least one similar aspect which is resiliency and sustainability. The presence of garden houses, mud-built citadel, and water ditch distribution systems, all imply locals' close relationship with their nature. Resiliency and sustainability have been deeply ingrained in Bam's history and culture. Three significant historical and cultural landscapes that endorse this value and shape Bam's identity are date palm orchards, Qanats, and Bam Citadel.

The Bam citadel, known as Arge-e Bam, was built around the 4th century BC from "Chineh", sun-dried mud which was prevalent in Bam's environment, to protect people from political and economic instabilities and possible attacks from other regions (Ziyaeifar et al., 2005). Also, it is noteworthy to add that the citadel is considered the largest mud-built fortress in the world (Kitamoto et al., 2011) Before the 2003 earthquake destroyed the citadel by 70%, it served as a shelter and a way of life for a very long time (Ziyaeifar et al., 2005). The Bam residents lived in the walls until 180 years ago when they gradually moved out and settled in open spaces (Ziyaeifar et al., 2005). The citadel was an attempt to secure the citizens' lives in precarious times and was built sustainably back in the time.

Qanat is another renowned cultural landscape that mirrors the culture of sustainability and resiliency in the city. It is an ancient water supply system that draws water from an underground aquifer with the help of gravity. It was invented by Persians around 800 BC to solve the water

problem in arid areas (Nasiri & Mafakheri, 2015). Qanats and the water ditch system play a crucial role in the agricultural and ecological of Bam. The distribution of Qanat water occurs through an extensive open-water ditch network within the city. Gardeners regard Qanats as invaluable blessings as well, like date palms but without attributing human traits. What is impressive about the Qanat system is, it does not require modern technologies including power or electricity to function and bring up water to the surface, it is engineered in such a genius way to direct water only with the help of gravity (Nasiri & Mafakheri, 2015). Therefore, as long as gravity exists and there is some amount of precipitation near the area, locals can access water.

A Rupture in Life: Bam Earthquake

In 2003, an earthquake struck Bam with a magnitude of 6.5 MW and a depth of around 10 KM (Ghafory-Ashtiany & Hosseini, 2008). It destroyed 80 percent of the city, and took more than 41000 lives, while the date palms remained standing (2008). In fact, the past livelihood of date palm orchards and Qanats was the only one that survived the earthquake. It should be noted, however, that some of the Qanats in Bam required repair following the earthquake. Since then, to gardeners, date palms became more than ever a symbol of “blessing”, hope and perseverance in difficult times. Although cultivating date palms was a traditional way of life in Bam and gardeners had already maintained an affectionate relationship with their trees for centuries, this event reinforced date palm status as loyal person-plant companions who show gratitude and care to gardeners for their hard work and attention. There is a common saying used by local gardeners: *“A date palm will never fail us!”*.

This research focuses on senior gardeners who have been working with date palms for their entire lives and are the main carriers of their community’s traditional local gardening knowledge.

Exploring their knowledge and the way they perceive their environment brings new insights into how different people make sense of their surroundings. Although date palms and dates play a significant role in the history and identity of the Middle East, there is a lack of anthropological research on date palms and their social roles not only in Bam but also throughout the Middle East. Thus, investigating the intimate bond between gardeners and date palms, along with the dynamics of their relationship, will serve as a valuable contribution to addressing the existing research gap in the local culture and history. Finally, we live in a precarious era that poses many environmental, social, and economic challenges; therefore, it is imperative to study how different groups experience and respond to precarious events to better understand and address these challenges.

In August 2021, I embarked on my fieldwork journey in Bam City, my hometown, which I had not visited for several years. I stayed there for five months during the busy harvest season in mid-August to do my research and immerse myself in the field. As part of a gardening family, I had the privilege of accessing and working with ten experienced gardeners who dedicated their lives to this practice. In order to gain a deeper understanding of the gardeners' perspectives and insights, I employed a combination of participatory observation and interview in four distinct palm orchards during the harvest period. I actively engaged in various activities such as collecting date and packing dates, participating in the "Barekat" ritual, and assisting with garden irrigation. These hands-on experiences allowed me to better understand different aspects of the gardeners' work and grasp the cultural and ritualistic significance embedded within these activities. However, there were certain gardening practices that I was not able to participate in due to the traditional gender roles and the specialized training required. Practices such as climbing, pruning, and pollinating. Nevertheless, I carefully took notes and made detailed observations while the gardeners performed these tasks. By closely watching and documenting their practices, and the

nuances of their interactions with the date palms, I aimed to unravel how their daily physical interactions shape their understanding of date palms.

Thesis Organization

The first chapter of my thesis begins by introducing the date palm tree, covering its botanical characteristics, similarities to humans, and its sociocultural significance in Bam. From there, I delve into how gardeners get to know the tree through their direct physical embodiment. I also illustrate how date palms can influence gardeners' perceptions of themselves and their surroundings, by explaining the "Barekat" ritual during the harvest season. I argue that date palms can inspire a sense of mutual caring, resiliency, and generosity within the gardening community.

Drawing on Haraway's concepts of "becoming with" "Companion Species", I show Bam gardeners gradually adopt date palm traits and transform into date palms through daily encounters. Haraway uses the term "companion species" and "becoming with" to refer to the interdependence and co-evolutionary relationships between humans and other animals. She argues that humans and animals have been mutually shaped by their interactions and that we should view our relationships with animals as "companion species" rather than simply as human owners and animal possessions (Haraway, 2013). Moreover, building on "Taking the Love Seriously in Human-Plants Relationship in Mozambique" by Archambault (2016), I explore how the profound and intimate relationship between gardeners and their plants is shaped by shedding light on the reciprocal interactions and influences that shape this bond.

In the second chapter, I examine this date palm gardener relationship in the context of the 2003 Bam earthquake, exploring how Bam gardeners found a glimmer of hope amid the destruction by relying on their date palms when all else appeared lost. In this chapter, I argue that

date palms play an important role in the recovery process after the earthquake in Bam by reconstructing the notion of home and belonging, connecting the past to the present, remembrance, and inspiring them to be resilient. Towards the end of this chapter, I delve into the impact of the earthquake and the dominant perspective on post-disaster reconstruction, which has impacted the practices of date palm cultivation.

The third chapter aims to contextualize date palm cultivation as a resilient infrastructure within the broader socio-political context of Iran over the last five decades. I will examine how the land reform and water reform policies have shaped the emergence of Bam gardeners and formed their relationship with their date palms. Moreover, building on precarity literature and the precarious lives of Iranians, I illustrate how gardeners respond to recurrent socioeconomic disturbances and uncertainties by relying on their date palms.

Chapter One

Becoming with Date Palms

“What we care for, we will grow to resemble. And what we resemble will hold us, when we are us no longer.”

— **Richard Powers, *The Overstory***

On April 27th, 2021, I returned to my hometown, Bam after 8 years of being away. On my way home, I sat in the backseat of a car, gazing out the open window and recalling my memories. As expected, the first thing that I saw was date palms, towering over the garden walls as if they were reaching out to welcome me back home. Seeing them brought me a sense of comfort and belonging, knowing that I was finally home. However, as I continued my way to the center of the city, an unfamiliar sensation began stirring within me, feeling something was not right. I noticed that many of the orchards had dried out and turned into houses, which was a significant change in only a few years. I was aware that much has changed in the aftermath of the 2003 earthquake, yet it struck me to see the extent of the drastic changes. One question started lingering at the back of my mind: What would Bam be without its date palms?

In other locations, also, date palm orchards appeared to be dull and unhappy, with their evergreen leaves slowly turning yellow, and their trunks not properly pruned. Nevertheless, some green and luxuriant gardens could still be spotted in the heart of the city. Date palms were the only thing that could link the past to the present after the 2003 earthquake. Learning about who are taking care of those green gardens and maintaining them as vibrant as before stimulated my curiosity. I understood following the earthquake, the Iran government provided financial assistance to the residents of Bam to rebuild their damaged properties. Given that, gardeners could have taken advantage of this financial support to build bigger residential and/or commercial units in some parts of their gardens. However, they opted not to do so. My research sparks ignited when I had a conversation with our neighbour Hossein, a 66-year-old gardener, regarding the devastation of date palm orchards after the earthquake.

All of us, gardeners, have rebuilt earthquake-resistant houses of the same size and at the same location without even resorting to the felling or hurting a single tree. We respect date palms a lot, even when they reach the end of their natural lifespan, we do not kill them! We allow them to naturally pass away on their own terms.

I asked, what makes you respect and love date palms this much? With a smile, Hossein commented,

It's difficult to explain! You have to work with date palms, experience the hardship of taking care of them, and physically interact with them to truly understand the essence of the tree. That's only when you'll realize what precious beings they are. Sadly, the younger generation's disconnection from the tree has led to significant devastation.

Quite often, I hear gardeners say this statement. I am intrigued by the reasons why gardeners perceive date palms as “lovely beings” and what drives them to continue cultivating them despite the demanding care they require.

In this chapter, I delve into how this human-non-human relationship is shaped through everyday entanglements between gardeners and their date palms. Drawing on “Taking Love Seriously in Human-plant Relations in Mozambique” by Archambault (2016), I am interested in exploring the human-plant relationship in the context of Bam. Archambault investigates the “love” of plants among gardeners in Inhambane within two different layers metaphorically and literally. She explores how the human-plant relationship is constructed through daily encounters of gardeners with their plants, and she goes beyond the ontology lens examining the “roots of this love”. By contextualizing the human-plant relationship, she argues that this mode of connection is a response to the commodification of intimacy (Archambault, 2016). I draw significant inspiration from her work in my research and will explore the intimate human-plant relationship in Bam.

Moreover, I examine the remarkable agency of date palms in influencing their human counterparts and transforming them to become a unique hybrid of “date palm-human” over time. By drawing on Donna Haraway’s work *When Species Meet* (2013) and embracing the concept of “species companionship”, this chapter illustrates how the connection between humans and date palms transcends the conventional boundaries between the human and non-human domains. Within this relationship, both parties actively contribute to and shape each other’s lives, resulting in a continuous and fluid exchange of influences and characteristics.

Furthermore, I illustrate that this unique hybrid of the human and the date palm instills values within the human realm that are shared with date palms by reflecting on the cultural ritual of “*Barekat*” or blessing. As gardeners engage in this intricate companionship, they are inspired to

embody traits such as generosity, care, and resilience—qualities often associated with date palms themselves. This symbiotic relationship not only blurs the boundaries between species but also cultivates a transformative effect on the human participants, prompting them to adopt and embody the virtues that date palms symbolize within their own lives.

An Overview of the Date Palms

Trees and plants have always been an intriguing subject of anthropological study, given their significant roles in human societies and cultures across the world (Rival, 2021). Palm trees are no exception to this matter, they come in a wide range of shapes and sizes and are part of the diverse family of Arecaceae, also known as Palmaceae (Rival, 2021). Date palms (*Phoenix dactylifera*) are a specific type of palm tree that is highly valued among its cultivators (Nixon, 1951). They can grow to a height of 15-30 meters and have a stout trunk that is covered in persistent leaf bases. Date palms are dioecious, meaning that there are separate male and female trees. The inflorescence of the date palm is a large, branched structure that contains many small, cream-coloured flowers (Ramawat, 2009). The male trees produce pollen, which is necessary for fertilizing the female trees and producing dates. Male date palms have long, hanging branches that produce small, yellowish flowers. To transfer the pollen from male to female trees, gardeners use the traditional method of hand pollination that involves manually moving the pollen to ensure fertilization occurs and fruit production is successful. Compared to male date palms, females have shorter, thicker trunks and fuller, more compact crowns than male ones (Ramawat, 2009).

Among different types of date palm trees such as Medjool, Zahedi, Rabbi, Piarom, Barhi, etc. Bam gardeners cultivate mainly Mazafati. In fact, Bam takes pride in being the primary birthplace of Mazafati dates, known worldwide for their exceptional taste and delightful flavour.

These dates are often enjoyed in the form of Rotab, a popular choice among consumers (Salajegheh et al., 2020). They are usually harvested in late summer and early fall, typically from August to September. The Mazafati date palm is a resilient plant that can withstand the harsh desert climate of Iran. It requires plenty of sunshine and moderate water to grow, and it is usually cultivated in large groves. Date palm roots are long, thick, and fibrous, with a shallow root system that extends outwards from the base of the tree (Ramawat, 2009). This research focuses on the female tree of Mazafati.

Apart from the physical attributes that make date palm trees resilient and endearing to locals, they are personified in certain cultures due to the resemblance of their anatomy to humans. The anthropological research titled “The Coconut, the Body and the Human Being” by Giambelli (2021), explores metaphors associated with the coconut palm and its fruit, revealing insights into the culture and traditions of Indonesian islands. He draws a compelling parallel between the life cycle of the coconut palm and the human body. Giambelli notes that the time it takes for a coconut to develop from a flower to a harvestable fruit resembles the length of human gestation. Similarly, the period from planting a coconut tree to its first harvest, lasting six to ten years, can be compared to a child’s transition into adolescence. The coconut tree’s lifespan, which closely aligns with that of a human, imbues it with metaphorical significance in Nusa Penida and Balinese society (2021).

Date palms also have unique physical characteristics and a remarkable lifespan, which is one of the mysteries that brings them closer to the people of Bam. Date palms have a maturity span like that of humans, and unlike most trees, they are dioecious. They take approximately 10-15 years of cultivation and care for date palms to begin producing fruit. According to Bam gardeners, with proper care and maintenance, date palms can have a lifespan of one hundred years to three hundred. They also pointed out that if the top or growing tip of a date palm called *the head* is cut

off, the tree will die. They compare the crown of date palms to a human's head; the way humans need their heads to survive. Moreover, as for propagation, young female date palms produce offshoots, known as "*Jong*" or *babies*- that emerge at the base of the mother palm. They are called "babies" because they closely resemble miniature versions of date palms, rather than mere branches. As mother trees age and mature, they stop producing *Jongs*. When a date palm offshoot is large enough to be separated from the mother tree, it is carefully cut off at the base and planted in a new location. Gardeners must be highly skilled to perform this process, otherwise, the mother tree will be damaged.

The physical similarities shared between date palms and humans have resulted in their depiction in myths and literature as anthropomorphic figures and personifications. In Iran, it is customary to employ "person" as a unit of measurement when counting date palms. For example, phrases such as "one person", "two persons", and so on are frequently used when counting date palms. I illustrate how these physical features and cultural attributions of date palms shape gardeners' social values and ontology in the next section.

Fieldwork Journey

In early August 2021, I began my fieldwork journey as the harvest season approached. This time was chosen carefully because it was a captivating blend of economic activities, the bond between gardeners and date palms, and the revered ritual of "*Barekat*" in Bam. Additionally, during that period, the city buzzed with hope and excitement among gardeners, seasonal workers, date merchants, and neighbours of the gardeners. Everyone eagerly anticipated the taste of freshly harvested sweet fruit and the chance to rejuvenate, both by receiving date gift baskets and experiencing temporary economic relief.

My first collaboration was with Mehdi, a 43-year-old gardener who was also the youngest person I worked with. Mehdi began his gardening career as a teenager and was known as a skilled and trustworthy guardian of gardens, referred to as a “Zaeem”. Zaeems earn trust by keeping promises and being loyal. If gardeners have enough time and energy, they may take care of other gardens too. However, becoming a Zaeem and gaining people’s trust without owning a garden is challenging. Zaeems receive compensation in the form of either a fixed quantity of dates or an agreed-upon monetary amount. Mehdi, in addition to tending to his own gardens, also looked after an orchard belonging to a widow. We had planned to meet at his house before we set off together to the orchard.

At around 6:30 in the morning, I knocked on Mehdi’s door. To my surprise, he and his crew, including his family members and five neighbouring women, were all ready and waiting for me. We promptly got into his pickup truck and headed toward his garden. On the way, I could not help but be fascinated by seeing caravans of pickup trucks, known as “*Vanet*,” spread through the city transporting empty date baskets and tree-climbing gear as well as a crew of helpers and workers toward date palm orchards. With the break of dawn, the city’s famous squares became gathering spots for numerous groups of seasonal workers. Many of these individuals had travelled from the neighbouring province of Sistan and Baluchestan, eagerly anticipating the opportunity to showcase their expertise and discuss wages with garden owners and cultivators. They were dressed in Baluchi attire and carrying their own climbing equipment which differed from Bam gardeners’ tools. During harvesting, the early hours of the day play an important role since the cool temperature prevents dates from getting damaged when falling from the trees. Also, working in cooler temperatures is more comfortable than in the scorching sun during the midday hours.

Therefore, as the sun reached its peak, casting its gentle rays across the landscape, the likelihood of finding a job for seasonal workers would gradually diminish.

Before the 2003 earthquake, the collection and harvesting of dates were collaborative practices, undertaken by the gardener's family, friends, and neighbours. However, in the aftermath of the earthquake, significant changes happened. Now, the same individuals found themselves preoccupied with personal responsibilities, leaving gardeners with the necessity of hiring additional assistance to tend to their orchards and gather the dates. Consequently, the agricultural sector in Bam faced a shortage of workers, leading to the influx of seasonal labourers during specific seasons.

Passing through the main streets and date markets, Mehdi made an interesting comment.

I never sell my dates here on the street market. These buyers, known as “Dallal” (resellers), decrease the value of our dates to increase their own profits. I pack my dates in nice packages and sell them to those buyers who recognize the quality of my dates. I have my own buyers.



Figure 2: Street Market

Becoming Through Embodiment

Upon arriving at the garden where Mehdi was working as Zaeem, I was amazed to see how well-maintained the garden was. Every date palm looked fresh and lush, and the entire garden was a vibrant green. As Mehdi was getting ready to climb up, he enthusiastically shared the story of the date palms in the orchard with me. He pointed to each one, explaining how he had saved the owner's date palms and brought them back to life by taking good care of them as a Zaeem. He showed the surrounding areas that prior to the earthquake were date palm orchards but now are replaced with houses.

Since you have not worked with the tree, and have not gone through the trouble of cultivating and raising it, you deeply would not understand what I mean. But you need to take the thorns of the date palm and get your body scratched and hurt to grow a tree. This is the way that you will learn about it. Date palms are special, and it's not easy to put them into words. You just have to experience it for yourself.

I was intrigued by his words, “getting to know a non-human through hardship and sharing the body with it”. He used an analogy to further explain it to me.

It's like having a child or being in labour. Of course, I'm not a woman and this might not be a perfect example to compare the extent of hardships, but you get the idea; that there is pain and hardships to go through to have and raise your children. You share your body with them, so they become a part of you forever. The date palms are quite the same. My body has many marks of wounds, scratches, and thorn traces, for taking care of them. Yes, it is hard, but does it mean when facing hardship and pain you give up and leave them? No, you still

love them, either your children or your date palms. That's what I mean, to get to know them and how nice they are, you need to share your body with it.

In the conversations of all gardeners, a significant focus is placed on sharing the body or embodying the tree. In Anthropology one of the ways of learning knowledge is through the physical embodiment. Anderson-Fye defines embodiment as “How culture “gets under the skin,” or the relationship of how sociocultural dynamics become translated into biological realities in the body” (Anderson-Fye, 2012). Margaret Lock also in her book *Cultivating the Body: Anthropology and Epistemologies of Bodily Practice and Knowledge* argues that bodily practices and knowledge are intertwined in different cultures and societies, and how they shape our understanding of health and disease. Although her work is not directly relevant to my project, her argument that bodily practices are a fundamental aspect of human experience and that they provide a way of understanding the world that is different from other forms of knowledge is relevant (Lock, 1993). Thomas J. Csordas also explores “embodiment as a paradigm for anthropology”. He defines Csordas embodiment as the way in which cultural meanings and practices are enacted and experienced through the body. He suggests that embodiment is not just a matter of biology, but is also shaped by culture and society, and is, therefore, a fundamental aspect of human experience (Csordas, 2002).

The way Bam gardeners depict their experience of going through hardship and even sometimes physical discomfort when taking care of date palms is not a negative notion. Their ontology and the way they understand the world is only different. They see it as a part of their relationship. As once Akbar noted, *Date palms are our lifeline in this harsh environment, turning the desert into a haven. They provide shade for a diverse range of life forms – crops, animals, humans, insects, and more. It's only fair that we show respect and care for them in return.*

Gardeners need to practice patience in cultivating and caring the tree for ten to fifteen years until it yields fruit. Also, they practice being resilient and not giving up when facing hardship and waiting for the sweet, lovely fruit. Bam gardeners commonly use the phrase “*Kar-e har kasi nist*” which implies that *not everyone is able to do* gardening practices due to the tree’s challenging and time-consuming caring process. Even though they recognize the challenges and face considerable difficulties, they firmly believe that the rewards of staying committed to their trees outweigh all the hardships, making the endeavour entirely worthwhile.

The caring process begins in early spring, which in Bam usually falls around mid-March. The first stage is known as *Bu Dahi* which refers to the hand pollination process. Achieving success at this stage requires the ability to accurately discern the ideal time for harvesting male date palm flowers when they contain the most pollen and female flowers are prepared to receive it effectively. Due to the height of the date palms, a gardener may be required to climb up the tall trees to assess the timing and readiness of both the male and female trees. Upon determining the ideal timing, gardeners select a non-windy day to prevent the pollen from dispersing in the wind. Additionally, they choose a hot, sunny day or noon time to optimize the female tree’s ability to receive the pollen effectively. This process is crucial in ensuring a successful fruit-bearing outcome. All the process is done manually, and no machinery or devices is used.

The next phase begins in early summer when the female date palm produces small, green, and immature dates. This phase is called *Bastan* which means cluster arrangement and closure. In this step, gardeners accurately observe the unripe dates and estimate how many fruits the tree will yield soon. Based on the calculation, they evenly distribute the weight of the dates by dividing them into multiple bunches and preventing them from breaking apart. One intriguing operation that occurs during this step is thinning, where unripe date bunches are removed. So far, gardeners

put in considerable effort to ensure that the tree produces fruit, however, now they must remove some date bunches before they ripen. This method of thinning is delicate, as it can impact both the tree's well-being and the gardeners' financial gains. The number of bunches that require cutting depends on the decision of the gardener. Experienced gardeners can estimate a date palm's yield capacity by assessing its health, growth, and overall condition in producing dates. Mahmood emphasized *in this phase, it is essential to prioritize the tree's health over excessive fruit production by trimming the surplus. Otherwise, the excessive amount of fruit will put significant pressure on the tree and weaken it over time.* Also, in this step, some gardeners prune older leaves as well.

Moreover, in this phase of caring, gardeners strive to reach a balance where both could thrive equally which demonstrates their sense of *response-ability* towards their date palms. Donna Haraway's term *Response-ability* refers to the ability to respond to situations and beings in a way that acknowledges and takes responsibility for the interconnectedness and entanglement of all things (2016). It involves being aware of the impact of one's actions and decisions on others and the environment and actively working towards creating ethical and sustainable relationships with them (2016).

The next important step is harvesting dates, which is called "*Tekandan*". This season starts around late July to sometime in November. Unlike other phases that a gardener or one worker carries out alone, this is a collaborative effort involving several individuals. Since dates do not ripen simultaneously, the harvest process must be carried out three times. Meaning that gardeners need to climb one tree three times a month. Once the harvest season is ending, gardeners need to go up again and cut the collected date bunches down. For aging gardeners who find the tasks too risky to perform, they hire workers to carry out the annual routine while closely supervising their

work. In addition, date palm orchards require weekly irrigation during the summer and spring seasons, and bi-weekly irrigation during the winter and fall seasons. Gardens in the region are watered using either water wells or Qanats, an ancient underground irrigation system. Each gardener has a designated share of water with a specific time slot for their garden's irrigation. Given the vast expanse of date palm orchards, the traditional irrigation process is time-consuming, requiring gardeners to spend hours ensuring thorough watering of the trees.

Through this routine for years, gardeners not only witness the growth of their date palms but also undergo a personal transformation, embodying values and qualities that mirror the very nature of date palms themselves. Drawing from the book *When Species Meet* by Donna Haraway (2013) and the experiences of Bam gardeners, I propose that gardeners and date palms are intricately connected, influencing, and co-shaping each other's existence and environments. While the gardeners rely on the date palms for their subsistence, the date palms thrive and endure with the proper attention and care of the gardeners. Haraway explores the relationship between humans and animals, and how the intersection of different species can shape our understanding of the world. She mentions that the boundaries between humans and animals are not fixed, but rather fluid and constantly evolving over time. She also emphasizes the importance of recognizing the agency and subjectivity of non-human species, and the need to challenge anthropocentric perspectives that prioritize human interests above all else (2013).

Sophie Chao's ethnography *In the Shadow of the Palms: More-Than-Human Becomings in West Papua* also challenges the traditional dichotomy between nature and culture, showing how human and non-human entities are interconnected and co-constitutive (2022). She does this by examining the relationships and entanglements between the indigenous communities of West Papua, specifically the Marind people, and the sago palms, which are vital to their subsistence and

cultural practices. However, the introduction of oil palm into Papua can have a transformative effect on the sense of self, time, and place of those living in these communities. The sago palm is an integral part of the identity of the Marind people, and when it is deforested or replaced by oil palm, they may perceive it as their identity and environment are being fundamentally reconfigured or altered (2022). Date palms also like sago palm plays are part of the gardeners' "self".

On August 14, in the afternoon, I met Hossein at his house. He had rebuilt his house in the style of a garden house as before. The building was situated in the center of the land, encircled by date palm, orange, and pomegranate trees. We sat on a metal bed in the yard, our conversation began with discussing the layout of his house and yard, but it took an unexpected turn when he expressed his distress over the destruction of date palm orchards in Bam. Hossein said, *when someone is hurting one of my date palms, it feels like they are hurting me. My body has gone through much trouble to cultivate and raise these trees, even the notion of hurting the tree makes my body ache.*

His words stuck in my mind and reminded me of the concept of "*Becoming with*" by Haraway (2016). Her concept of "becoming with" is closely related to her broader ideas about "companion species", "sym-poiesis", and "tentacular thinking". She suggests that by recognizing our kinship and interdependence with other species and entities, we can engage in more ethical and sustainable ways of living in the world (2016). For Haraway, the concept of companionship with non-humans implies that humans should recognize and respect the agency of non-human entities, and work to establish more equitable relationships with them (Haraway 2013). What gardeners narrate and describe of their intimate relationship is that although they love most plants and trees, they highly respect those who are as productive, resilient, and responsive as date palms.

We Work Together

On one of the summer days, I was helping Akbar with harvesting dates. Before starting, we strolled through Akbar's garden while he introduced his garden to me. He remarked *this garden is my home; that's why I keep it just as tidy and well-maintained as my actual home*. Some orange trees and pomegranates appeared among the date palms planted in a row. I asked him about these trees and the cultivation process, and later he added an interesting comment:

We, as gardeners, have a deep love and respect for all the trees, but unfortunately, due to climate change and the aftermath of the earthquake, most of my orange trees perished as they are quite sensitive. Only a few of them have survived. However, date palms have remained steadfast and continue to thrive alongside us. They are resilient and do not give up easily. He smiles as if he deeply adores their resilience.

As I walked past the date palms, I noticed scorch marks on the trunks of the three palms, evidence of a recent fire. The fire was not large or threatening, but rather it had left behind a circular mark roughly the size of a hand. What happened to these trees? Akbar said:

I purchased this garden years ago and these traces were already there. Some gardeners when taking great care of their trees, but sometimes the trees stop growing for no reason, they use a fire communication way to punish the tree. It's as if they're speaking to the tree in its own language. The tree understands fire very well and will begin to put forth extra effort to survive. However, not all trees that are subjected to this treatment will survive. While trees like orange trees may perish, date palms continue to thrive. I have not done this before; I did not encounter this problem but it's a common belief and some gardeners do it. I heard that this action responds each time.

He later mentioned that this practice is not a regular occurrence, indicating that date palms typically receive excellent care and respond positively without the need for punishment.

In *How Forests Think*, Eduardo Kohn argues that communication and language are not exclusively human phenomena (2013). He suggests that non-human beings, such as animals and plants, also communicate in their own ways, and that these forms of communication are often based on a shared sensory environment. Kohn uses the example of the Amazon rainforest to explore the ways in which human and non-human beings communicate with one another. He suggests that the forest is a complex system of signs, where different beings communicate with each other through sounds, smells, colours, and other sensory cues (Kohn, 2013).

I asked, *do you have any other communication methods with your trees?* *_Yes, I do talk to them. Every time, I enter and leave the garden, I say hi to every single of them one by one, and I say goodbye when I leave them. In this garden, there are 54 persons of date palms. I know each of them. Date palm is an affectionate tree, if you do not drop by to see them even if they do not need water or any specific thing, I feel they are not happy.*

Akbar continues, do you know what we call date palms? “*Gold nail*”. It means that if you shove a golden nail into the ground, it will stay there for hundreds of years without rusting or losing its value. Date palms are just as resilient and valuable. That’s why we call them “*Mikh-e tala*” which means gold nail.

Sharing the Blessing

Date palms exert a profound impact on the formation of cultural values within the gardening community of Bam. In this section, I examine one of the most important practices that revolve around date palms, “*Barakat*”.

During my fieldwork, I heard the term “*Barakat*” from gardeners quite often, particularly after harvesting each tree, eating dates, and sharing it with others. *Barakat* (Divine blessings) is an Islamic concept frequently mentioned in the Quran. It is defined as “the increase in quality and quantity of God’s blessing via unseen ways to humans, and an invisible blessing that manifests itself as an increase that cannot be calculated in material terms encompassing the whole human affairs” (Demirel & Sahib, 2015). Another definition focuses on the roots of the term which is “growth, appreciation, happiness, and excess”, it also means “blessing and benediction a quality that entails the power to work miracles of a predominantly beneficial character” (Demirel & Sahib, 2015). In Quran, there are several things that have been associated with *Barakat* including water, date fruit, cheese, olive, horse etc. (Demirel & Sahib, 2015).

While *Barakat* is a religious concept, a purely religious approach to understanding it would overlook other factors that have contributed to its development. Among Bam gardeners, the *Barakat* concept has been shaped not only by religious beliefs but also by the agency of date palms and other factors that are unique to their community. *Barakat*, within the context of Bam, manifests in diverse ways, including economic stability, social gatherings, the occurrence of positive events, the experience of joyful moments, and a bountiful yield. Date palms play a vital role in the manifestation of *Barakat* in different ways. From the moment of harvest, when family and helpers gather in one place to collect the delicious dates, to the act of sharing and forging connections with others through these dates, the impact of date palms on the concept of *Barakat* is noteworthy. Mehdi once mentioned:

The Barakat that this tree brings is undeniable. During this season, the city comes alive with a vibrant mix of locals and non-locals, including seasonal migrants and traders from other cities, all drawn by the hope of earning money. All the social gatherings, activities, etc. are

because of the presence of date palms in the city. It's like a big Sofreh (table) prepared for all to eat.

Mehdi emphasized the date palm's role in creating an economic opportunity for everyone teenagers, women, men, seasonal workers, traders, gardens, etc. as well as social activities.

When I was doing my participant observation in Mahmood's garden, I observed an interesting scene. Mahmood's garden gate was open, and a seasonal worker came in while we were working. He came straight to Mahmood and after greeting said, *can you give me a job in your garden? I was not selected today.* Mahmood kindly added, *you see I always have my group members, but my friends in the next garden are looking for some help.* Mahmood called his friends and arranged for him a job in the next orchard. On the way to leaving also Mahmood gave him a basket of dates. He was a total stranger and Mahmood did not ask for anything in return.

My family also follows the same tradition of sharing dates with our neighbours and friends every year, either during or after harvest time, depending on the yield of the fruit. They set aside "the share" of others every year. Toward the end of harvest time, the post offices in Bam become crowded with boxes of date fruits. As dates have a long shelf-life of a year or more, they are able to be shipped without any risk of spoilage or rotting. Gardeners generously distribute dates to far or near friends, family members, neighbours, and even strangers who request them, viewing the fruit as a blessing to be shared freely without any expectation of reciprocity.

Gardeners believe that this blessing extends to both the recipient and the provider. I remember once, my parents shipped a box of dates to a friend of ours in Tehran, which is quite far from Bam. Although they were pleased to receive the gift, they were surprised! They asked me why we went through so much trouble to send them. I had to provide an explanation about the

Bam gardeners' ontology and the significance of the concept of Barakat, which underlies the practice of sharing dates.

Peristiany et, al take an anthropological approach to “grace” which is close to Barakat in Islam. He mentions that grace is a concept that has been overlooked by anthropologists in their study of human societies and cultures. He defines grace as the unmerited favour of God or of another human being and suggests that it plays an important role in many aspects of human life, including social relationships, economic exchanges, and religious practices (Peristiany et al., 2005). He observed how people expressed grace in their everyday lives and how it affected their relationships with others. Although Peristiany et, al's work is interesting and, on some levels could be connected to my research, considering the ontology of date palms alongside the religious traditions will give us a deeper understanding of the concept.

While this practice of sharing has its origins in religious traditions, I argue that the Barakat concept extends beyond religion, reflecting a broader cultural value of generosity and communal sharing of food that is shaped by the agency of date palms. Mahmood once expressed that *date palms are not only productive, but also inherently generous, and this inspires us to act in a similar manner*. Mahmood provided an example of a tree from which we were harvesting fruit, and it had yielded an astonishing two tons of dates. This remarkable achievement serves as an additional inspiration for gardeners to cultivate their own generosity. The gardeners of Bam acknowledge the abundance and generous spirit of the date palm. Through their experience and interactions with it, they develop a sense of generosity and willingly share this blessing with others. There is a prevailing belief that when someone shares dates with those who lack them, the Barakat will be divided and shared between them.

Hossein's story of Barekat was equally captivating. Despite being a renowned gardener now, gardening wasn't his initial career path. He ventured into various professions before eventually finding his calling as a gardener. He had learned gardening skills from his father and bought a garden. At that time, he was running a large brick kiln on the edge of the city and was a part-time gardener. However, as he puts it:

I was not satisfied with my business compared to my garden. Can you believe it, the money that I earned from that brick kiln business with all that industrial equipment was even less than what I received from one garden? It brought me "Barekat", we spent such a good time with the garden money. So, I sold my brick kiln and only focused on my gardening career.

Akbar also narrates his experience of Barakat and shares dates with his children and family members.

I'm almost 84 now, and I enjoy being my own boss, watching my trees bear fruit from the comfort of my home. It makes me happy! While my children have jobs, they don't earn enough and don't have their own trees to rely on for food. Every year, after my harvest, I share a generous amount of dates with them and help them financially in this unstable economy. I even bought my son a store to work in. This is what Barakat means to me.

Therefore, in Bam, the notion of Barakat extends beyond its religious connotations and encompasses a multidimensional interconnectedness among different species. Gardeners understand and apply the principle of "working together", sharing resources, and looking out for each other as crucial for their survival. This concept of blessing and its communal distribution fosters a strong sense of support and resilience within their community.

As the afternoon sun cast its warm glow, marking the end of the date harvest, I would often join the gardeners on their visits to the date buyers. One of these buyers was Ali, a seasoned

merchant who had dedicated over three decades of his life to the date industry. Ali possessed an undeniable passion for dates and date palms, making him an ideal conversation partner for talking about date palms. During our conversation, Ali made an interesting point, *every year, during the harvest season, I know some workers or families in a poor economic situation that they bring dates to sell. I know they do not have date palms, but they receive free dates from gardens and sell them to me.*

The sharing system throughout the city establishes a sense of hope, having a little extra money during the season or enjoying sweet dates. Gardeners also give dates to their workers as thank you alongside their wages. Workers are usually allowed to choose and take what type of date they want. Throughout my fieldwork, I received numerous date fruit baskets for helping gardeners and ate lots of dates on the spot while gardeners encouraged me by saying “Eat date! It will bring Barekat!”



Figure 3: One of the date basket gifts that I received.

Chapter two

Thriving Together in the Rubble



Mehr News Agency, Photo by Hamid Sadeghi

“EARTHQUAKE”! At 5:26 am on December 26th, 2003, I was startled to wake up by the sound of rattling windows, the violent shaking of the house, and my parents’ terrified shouting “Earthquake”! Confused and paralyzed with shock and fear, I watched the ceiling collapse on me. A while later, I found myself pinned under debris, completely immobile, unable to see, and

struggling to breathe. Amidst the chaos, I could hear my father's voice desperately calling out to us and searching for our locations. At 12 years old, I was shocked and unsure of what had happened and what would come next. Although my parents had prepared us last night with winter clothes and emergency food outside the building, I had no idea what a destructive earthquake would be like. Drifting in and out of consciousness, I tried to guide my father with my voice to my location. As I was losing hope of being rescued and my breath getting shorter, I felt my father's hand removing the bricks from my body. After two hours of effort, I was finally freed from the debris, but my father was still searching for my little sister without any indication of her location or her voice. I managed to stand up to see what happened. I could not believe my eyes. The entire city was engulfed with dust. Everywhere I looked, my eyes met with piles of rubble and bricks instead of homes. The screams of people calling out "Where are you?" echoed around me. It felt like a nightmare that I could not believe was real. Nothing felt familiar to me; it was as if I had been transported to a different world. My shock and confusion only grew when I saw my mother and brother injured on the ground, and my father holding onto my sister's body, weeping, and saying that she was gone. The world spun around me as I climbed from the debris pile. I suddenly noticed our date palm groves, the only thing that felt familiar and unchanged. Filled with fear, I touched the trunk of a date palm hoping that the disaster was just a bad dream. However, the roughness of the trunk beneath my fingertips confirmed my worst fears: it was not a nightmare, but a terrifying reality.

We live in an unsettling era marked by various uncertainties and disturbances (Haraway, 2016). Across the globe, communities experience different natural and environmental disasters, leading to significant human suffering, displacement, and ecological harm. Floods, hurricanes, heatwaves, droughts, and even earthquakes exemplify these events, magnifying the vulnerability

of ecosystems (Hamilton, 2017). Iran stands out among the countries heavily affected by such hazards, facing 31 out of the 40 types of disasters (Kaymaram, 1996). The Bam earthquake is considered one of the most significant seismic events in Iran's history. It approximately destroyed 87% of the city buildings and caused the tragic loss of 41000 lives and 30000 injured (Arefian, 2018). This traumatic experience left the locals in shock of losing their loved ones and their livelihoods over a night. Given the frequency of natural disasters and uncertainties in Iran and across the globe, it is important to understand how different cultures make sense of these disturbances and respond to them. Furthermore, it is crucial to recognize the valuable lessons that more-than-humans teach us about resilience when facing difficulties.

This chapter delves into the inspiring role of date palms in fostering hope and resilience within the gardener's community after the 2003 earthquake in Bam. By examining gardeners' narratives, I propose that date palms have evoked a sense of comfort, belonging, and mutual care after the earthquake, and have assisted gardeners in navigating this challenging time. Moreover, I suggest that the belief "Date palms don't die" takes shape within the gardening community as a result of enduring traumatic experiences. This belief reinforces the notion that in the face of future socioeconomic and environmental vulnerabilities, date palms will serve as steadfast companions. It is important to note that focusing on hope does not mean disregarding the injustices caused by failed policies and opportunism. Instead, I emphasize the "art of seeing" and recognize the human-plant relationship in Bam as an existing way of living and thriving together in the face of adversity.

Furthermore, I explore the influence of the earthquake and the government's post-disaster recovery perspective on disturbing the traditional and cultural system around date palm cultivation. In this part, I first uncover the underlying power dynamics embedded within the "sharing" ritual, *Barekat*, and its role in establishing a resilient foundation for gardening in Bam. Through the lens

of gift-giving power dynamics in anthropology, I examine how the ritual establishes a reciprocal relationship that enhances social bonds among the gardening community and reinforces the resilience of gardening practices in Bam. I argue that this system is disrupted following the earthquake, leading to implications for the gardeners of Bam.

The Shared Scars

One afternoon in the summer of 2021, I was strolling around in the streets of Bam and observing the towering date palms over the walls. I could not help but notice a peculiar anomaly on the trunks of most fully-grown date palms. The anomaly was in the form of thinning trunks mainly located in the middle and upper parts of their body. This observation immediately grabbed my attention, as I was aware of the meticulous care that gardeners devote to their trees. The question of what could be causing this anomaly lingered in my mind until we discussed it in a meeting with Mahmood.

The main reason behind these deformations was attributed to the aftermath of the earthquake. Although date palms are resilient, they are living beings and can be easily influenced by their environment. As Mahmood said, *they are not magical beings, they are just special trees*. Date palms like their gardeners have endured the same trauma. They were left unattended for long periods of time when their caretakers were lost or injured. Some were directly affected by the earthquake, the subsequent reconstruction efforts, or the debris removal phases. Others faced months without irrigation as underground water wells or Qanats were damaged. Nevertheless, they survived and served as symbols of inspiration to their gardeners.

The deformities and scars on the date palms' bodies form a connection between the gardening community and the trees, reminding them of how the earthquake impacted them both

and how they responded to it. Mathews' book *Trees are shape shifters: How Cultivation, Climate Change, and Disaster Create Landscapes*, investigates quite the same subject matter. He takes a natural history approach exploring the intricate relationship between people, trees, and their landscapes, the chestnut and pine forests in Lucca, Italy (Mathews, 2022). He shows the morphology of a tree and shape transformations can offer insights into their interactions with both human and non-human factors including peasants, fire, disease, and other environmental elements. These encounters impact the tree's form, influencing what kind of entity it becomes. To elucidate these realities, Mathews relies on the concept of "empirical ontology". By employing empirical evidence and observing deformations, scars, texture, and colours, he uncovers the tree's history of human and non-human encounters and interactions. Mathews notes the shapes of trees and landscapes serve as reminders of past disasters and the care taken by people to preserve their environment (2022).

As our conversation moved on to the topic of deformations on tree trunks, I found it fascinating how Mahmood perceived and understood the scars on the tree. He narrated,

Each date palm's body is a living history. It shows the history of care they received since its planting across different generations. If you look at this tree, for example, you see the way my grandfather pruned the tree at the bottom, followed by my father, and now myself. While the pruning style remains consistent, it has nuances and delicacies based on each gardener's personality. Apart from the caring, it tells the story of hardship. Most date palms have these scars and deformations due to the earthquake, when humans struggled to survive, this "Zaboon baste" (referring to the date palm) put its utmost effort to thrive despite the absence of water, care, and the impact of severe quakes. But the imprints of those hardships and thriving moments remained on their bodies!

Mahmood continued *I find myself consistently comparing my caring and pruning style with that of my father and grandfather. The tree's trunk serves as a perpetual reminder, urging me to match their level of meticulousness and attentiveness.* It is intriguing to see how the body of the tree narrates the story of joy, hardship, care, thriving, and growth to gardeners, and reminds them of how they were treated and cared for by their gardeners.

Interestingly, Mahmood used the term “*Zaboon Baste*” when expressing his feelings about date palms. “Zaboon” in Farsi translates to tongue and “Baste” means “sealed or closed”. It refers to an innocent being whose voice remains unheard due to the absence of a shared language or the inability to communicate verbally. For the gardeners of Bam, every scar, deformation, and semiotic found on the date palms carries profound significance. They perceive these physical manifestations as a language spoken by the trees, communicating with their caretakers and recounting stories of caring, pain, resilience, and growth. However, not everyone is able to understand their language.

Eduardo Kohn’s ethnography *How Forest Think: Toward an Anthropology Beyond Human* reflects on this topic (2013). He explores the nature of language and communication between humans and non-human entities drawing from the concept of semiotics, the study of signs and their meanings, to understand how non-human entities create and interpret signs. In order to understand these entities, we must embrace a more expansive perspective on language and communication that allows us to recognize the agency and personhood of other beings (Kohn, 2013). Using this approach, I contend that viewing the date palm’s body as a space where human and non-human interactions converge and understanding these entanglements as gardeners, cultivates a shared sense of care and responsibility between the date palms and their caretakers.

Drawing on Haraway’s concept of *Response-ability*, I argue that gardeners of Bam have formed a deep sense of caring and interconnectedness with their date palms after the earthquake.

Haraway's notion of *Response-ability* encourages us to acknowledge our capacity to respond to the needs and well-being of other beings, transcending the boundaries of human-centric perspectives (2016). As she puts it *Response-ability is about both absence and presence, killing and nurturing, living and dying—and remembering of who lives and who dies and how in the string figures of natural cultural history*" (Haraway, 2016). Within the context of Bam, the gardeners have cultivated a profound relationship based on mutual care and respect. They view date palms as sentient beings with their own agency and inherent value. This understanding provokes a sense of hope and response-ability toward orchards.

The Sense of Home

It was the second week of my fieldwork that I was working with Akbar in his garden. After we finished harvesting and packing dates, we took a short break by sitting on a mat beneath the shade of a date palm. Even though it was summertime, the garden and the expansive date palm leaves created a pleasant shade and breeze that helped us cool down. It was a peaceful moment, enjoying the pleasant atmosphere amidst the lush greenery. While drinking tea, we talked about the love of date palms and how they helped to recover from the earthquake traumatic experience. Akbar narrated a glimpse of his excruciating experience sharing how his date palms became a source of hope and comfort during this difficult time.

Child, these trees are dear because they have stood by us through countless adversities. Due to the earthquake, we lost everything—absolutely everything! There were no homes, no belongings, and no appliances left. People's businesses were devastated, and above all, we lost our loved ones, our very own family members. Losing three of my children left me in a state of profound loneliness and helplessness. The pain was so overwhelming that I couldn't

imagine a way to rebuild my life and find the strength to endure the suffering. I vividly remember December 26th of 2003. With a heavy heart, I found myself sitting under the shade of my date palms, looking for comfort and shedding tears. As I looked around, I could not help but envision my children's joyful laughter and their playful climbs on the trees. I could feel their presence when taking care of my date palms, and I could see the imprints of their lives on the very trunks of those trees.

Akbar stood up abruptly and beckoned me to join him. He pointed out two cables wound around his date palms and a single cable hanging from his pomegranate tree.

I still have them! A few days before the earthquake, I had some leftover cables in the yard from an electrical project. My children found them and decided to play with them. They wrapped them around two of my date palms and hung one from the pomegranate tree. I scolded them for doing it, but they did it anyway for fun. Now, these wrapped cables are the only physical reminder I have of them, and I am glad they did it.

Akbar continued *whenever I miss them, I walk through the garden to feel their presence. You know, it's heartbreaking that I lost their photos, toys, and clothes in the debris, and then everything was cleared away by bulldozers. I couldn't salvage anything from the past.* Like many other Bam residents, Akbar went through a traumatic experience during the earthquake, which detached him from his sense of "home and place". The earthquake struck without warning, lasting only a few seconds, but its impact left them feeling disoriented and deeply unsettled; their memories, experiences, and symbols that once defined their identity were ripped away. However, amidst the devastation, date palm groves remained, offering solace and helping them rebuild fragments of their memories and reclaim their sense of home.

In addition to rebuilding a sense of “home” and place in Bam for the survivors and gardeners, date palms have also provided a sense of remembrance of the past for the survivors. As was evident in Akbar’s narrative of remembering his children around the tree. Mahmoud, another gardener who lost his father, wife and two of his children shared his experience with me.

My wife and I used to visit this garden together, and I can still feel her presence here. She had a deep love for these trees”! He points out to a date palm row, *“My wife used to claim them as her own, nurturing them and ensuring their well-being. This garden holds memories of my father and children too. If you observe closely, you’ll notice the artistic marks etched on the trunks of these trees. While we follow the same pruning tradition, each tree carries the unique touch and care of its caretaker. I can see his handprints and pruning on their bodies. Together, my father and I planted 56 date palms, 13 orange trees, and three pomegranates in this garden. These are all remembrances of my father. He loved his trees and cared for them, and I will take care of his remembrance too.*

In the article “Stuff Matters, Especially When You Risk Everything for It”, post-disaster ethnographer Anna Vainio explores the significance of everyday objects and the concept of “place” in the recovery phase after a natural disaster (2019). She criticizes how post-disaster planners, politicians, non-governmental organizations (NGOs), and experts frequently prioritize physical rebuilding over the social relationships and personal experiences of those affected. She notes that while infrastructure functionality and safety are important for recovery, it is also critical to recognize that our interactions with physical spaces and objects shape our social relationships (Vainio, 2019). A home, for instance, is not merely a structure but a place where we feel a sense of belonging and safety. That’s why our interactions with spaces, buildings, and personal belongings give survivors deep meaning on various levels (2019).

Vainio argues that the neoliberalization of disaster recovery has led to a narrow understanding of this relationship, where the design and functionality of spaces prioritize the circulation of capital (2019). Through her discussions with Tōhoku region residents, she discovered that during the recovery phase, people felt trapped in a state of uncertainty, not fully rooted in the past or an anticipated future. But, their saved personal belongings, natural surroundings, surviving structures, and local communities acted as anchors for expressing hope and anticipation within an uncertain environment (Vainio, 2019). Therefore, the importance of the physical world, such as personal belongings and the environment around us, cannot be overstated in offering emotional and psychological support throughout the recovery journey.

In anthropology, the term “sense of place” refers to the emotional bonds that individuals or communities form with specific locations or environments. It captures how people attribute cultural, historical, and personal significance to physical spaces, and how these meanings influence their interactions and connections with those spaces (Kamani-Fard et al., 2012). Also, a sense of place can be understood as a complex interplay between physical and cultural factors, including geography, ecology, history, memory, and social identity (Kamani-Fard et al., 2012).

The concept of “place” is closely intertwined with cultural landscapes. For instance, a community that has resided in a certain landscape for generations may form a profound attachment to that place, stemming from how they have shaped it through their cultural practices. In Bam, three cultural landscapes hold significant importance in creating a deep sense of place and “home”: date palms orchards, Qanats, and Arge-Bam (Kamani-Fard et al., 2012). However, the earthquake devastated Arge-Bam, leaving it 80% destroyed. The only remaining symbols of the city were the orchards and Qantas. In Bam as a “Garden City”, date palm orchards are easily visible to all residents, serving as prominent features of the landscape. On the other hand, Qanats, underground

water channels, are not easily accessible as they are located deep beneath the earth's surface¹. Thus, date palms offered gardeners a sense of home and security during that challenging time, providing comfort and familiarity amidst chaos and uncertainty.



Figure 4: Arg-e Bam before the 26 December 2003 earthquake (left) and after the earthquake (right). (Left photo by M. Eslami Rad, Ministry of Housing and Urbanization. Right photo by A. Shahroodi, Nashravaran Journalistic Institute)

“Date Palms Do Not Die”

In September 2021, I had the opportunity to observe and actively participate in Hossein's garden. We started our work early in the morning, and I helped with sorting and packing dates. How dedicated and resilient all the gardeners were. They worked incredibly hard, putting in long hours to take care of the plants and nurture the garden. Their hands were rough and worn from their labour. Whether they were climbing the trees themselves or hiring workers to assist, they were all present and attentive, carefully checking each tree and its health.

¹ In the context of Bam, a “garden city” refers to the customary urban arrangement where houses are surrounded by date palm orchards embedding citron, orange, and pomegranate trees (Kamani-Fard et al., 2012). This urban design nurtured a lively social atmosphere centred around these trees, which became fundamental to the identities of the people of Bam.

Around midday, we paused our work to take a break and escape the heat. When the temperature cooled down in the afternoon, we continued our tasks with renewed energy and a refreshed state of mind. Afterwards, Hossein gathered his entire crew and drove them to his house after cleaning up and loading the pickup truck with date baskets. On the way, he made a stop to show us a barren land he had recently bought, which was only three blocks away from his house. He had already planted 20 saplings there and was very excited about it. He noted,

Cultivation and planting on barren land is a form of Barekat. I am aware of my aging and eventual mortality; I am going to create a small orchard on this land_ a legacy that will endure beyond my lifetime. The earthquake taught me that date palms don't die. So, it's a nice legacy to leave behind while you are gone.

Hossein's words resonated deeply within me. I was aware that Hossein had lost two of his children due to the earthquake. That must have been a painful experience for him. However, I was certain that he did not believe trees were immortal; he was well aware of the orchards' destructions. He was referring to their resilience trait and thriving through thick and thin and admiring them. What intrigued me was how the earthquake had shaped his understanding of date palms as a response to socio-economic, ecological, and human life vulnerabilities.

This notion of "*Date palms don't die*" went beyond Hossein's story; Akbar, too, engaged in a similar discussion with me. He drew my attention to the tree's resilience and adaptability as qualities that inspired him following the earthquake. Akbar, like Hossein, had also experienced the profound loss of his immediate family members, leaving him feeling lonely and seeing how vulnerable their lives are. Cultivating and caring for date palms was not only about their love of the tree but as a response to everyday uncertainties that could happen. As Akbar expressed, *after*

the earthquake, I made sure to plant numerous new date palm saplings. In case anything happens to me, my little daughters will have a source of support. They can depend on the date palms, as the trees can provide them with food and income. I saw date palms won't die!

As we can see, the human-plant relationship after the earthquake was reinforced as a response to socio-economic and ecologic vulnerabilities. The term vulnerability has long been used in social science theories to understand risks, hazards, and disasters. David Alexander (2013), vulnerability is not an inherent trait but rather a concept shaped by society. Alexander emphasizes that vulnerability arises mainly from social, economic, political, and cultural factors that impact decision-making processes (2013). Gardeners of Bam are hopeful and consider date palms as resilient beings to rely on when facing any kind of adversity.

In the context of Bam, resilience does not define as bouncing back to the former system, it refers to actively adapting to new challenges by connecting and taking care of date palms. Being human means being adaptable and having the ability to anticipate and embrace new opportunities when old methods no longer suffice (Hatrup, 2009). Referencing Chie Sakakibara's work *Whale Snow Inupiat, climate change, and multispecies resilience in Arctic Alaska* (2020), I explore the connection between the Bam gardeners and their date palms, revealing that the concept of resilience extends beyond humans and necessitates the involvement of non-human elements.

Sakakibara explores the concept of multispecies resilience in the Iñupiat Indigenous community that has thrived in the Arctic region for thousands of years. She recognizes that resilience is not a solitary human endeavour but is deeply intertwined with the resilience of other species and ecosystems. Her ethnography examines how the Iñupiat people and the marine species they depend on, such as whales, walruses, and seals, navigate the changing Arctic environment

and adapt to the challenges posed by climate change. Moreover, she highlights the multifaceted relationships between the Iñupiat, their environment, and the non-human beings they coexist with. “Whale Snow” sheds light on the importance of understanding the interdependencies between humans and non-human beings in the Arctic ecosystem. It emphasizes the need for collaborative approaches that recognize the ecological and cultural significance of multispecies relationships and promotes sustainable practices that foster resilience in both human and non-human communities (2020).

Akbar shared another anecdote about the earthquake, highlighting how he and his brothers drew inspiration from their date palms to become more persevering and resilient.

It was two months after the earthquake, we were still nursing our injuries and coping with the loss of our family members that I saw the date palms' blossoms, ready for pollination. Despite all the traumas and hardships, they thrived and flourished. This scene deeply moved me to how they keep going with life. Even though we were still physically and mentally recovering, the presence of our trees gave us the strength to stand up and move forward. Despite my broken leg, I managed to climb the trees with the help of a harness and pollinate them. The love and connection I felt for my trees played a vital role in bringing me back to life and reigniting hope within me.

Haraway proposes the concept of the *Chthulucene*, which emphasizes the interdependencies and entanglements of diverse species (2016). She encourages a shift from human-centred perspectives to more inclusive and ethical approaches that acknowledge the agency and resilience of non-human beings. She calls for embracing multispecies kinship and cultivating relationships based on care, empathy, and ethical responsibilities. Her ideas contribute to understanding more-than-human

resilience by highlighting the need to recognize and respect the resilience of non-human beings and ecosystems. Haraway challenges the view that resilience is solely a human attribute and emphasizes the importance of understanding the ways in which humans and non-human beings collectively respond and adapt to environmental challenges (2016).

Latour also contributes to the understanding of resilience from a sociological and philosophical perspective. While not focusing explicitly on resilience, his work on actor-network theory and the politics of nature sheds light on the complex dynamics between humans, and non-human entities, and the resilience of socio-ecological systems (Latour, 2009). His concept of “collective agency” suggests that resilience is a collective endeavour that involves the agency and resilience of both human and non-human actors. He emphasizes the need to consider the diverse perspectives, interests, and contributions of all actors involved in socio-ecological systems to foster resilience and sustainability (Latour, 2009) By integrating Latour’s insights, researchers studying resilience can explore the intricate networks of actors and relationships that contribute to resilience or vulnerability in social and ecological systems. They can analyze how power dynamics, social structures, and diverse interests influence the capacity of these systems to adapt and withstand disturbances (2009).

Multispecies resilience played a crucial role in the aftermath of the earthquake for the Bam gardeners. It extended beyond human resilience and encompassed the interconnectedness between humans and other species, specifically their date palms. The gardeners found comfort and strength in witnessing the resilience of their date palms, as these trees demonstrated their ability to withstand and recover from the devastation.

Disturbing the Local Power Dynamics

At midday, Akbar contacted me and asked if I would accompany him to one of the primary Qanats that he supervises. Excitedly, I accepted his invitation and joined him. It was a scorching day with few people outside. However, as we approached the Qanat, I noticed long lines of cars were parked near the water canal, and many groups of people gathered around, seeking relief from the intense summer heat. The water from the canal was pristine, clear, and cool, rushing out with impressive pressure. Friends gathered near the water, having fun with snacks, games, and swimming in the canal. Some sat on the curb, dipping their feet and dancing in the clear water. Others practiced water therapy, believing in the beneficial minerals of the Qanat's water, and immersing themselves in it. It was evident that water brought the surroundings to life!

Despite Qanats being a cultural heritage, their water is privately owned and managed by local gardeners. Given this understanding, I was taken aback to see Akbar calmly observing them without displaying any signs of disapproval or worry on his face. One of the men swimming in the canal turned red with embarrassment when he realized it was Akbar. He greeted him awkwardly, uncertain whether to exit the canal or stay, causing discomfort among the others who speculated that he might be the Qanat manager. Akbar smiled and casually asked, *how's the water?* and continued his way through the crowd toward the main section of the Qanat. This scene was fascinating to observe. Curiously, I asked Akbar if it didn't bother him that people were utilizing the private water intended for irrigating their gardens. He replied, stating that he had no issue with it as long as they didn't introduce chemical substances or washing liquids into the water. This action reminded me of when Mahmood once gave a worker a basket of dates, exemplifying the concept of blessings and sharing.

Gardeners of Bam hold a position of great influence as they oversee the management of Qanats and tend to date palm orchards, two significant cultural treasures. In a region characterized by aridity, the residents of Bam derive great joy from the refreshingly cold water and verdant gardens. However, since Bam historically was built as a garden city, many of these resources are privately owned. While public parks exist, they lack the same verdant allure as the private orchards that dominate the city's green spaces. Following the earthquake and the modernization of the city, many orchards were destroyed and replaced by commercial and residential areas. However, there are still expansive orchards scattered throughout certain areas of Bam, which consequently means an abundance of water canals in those regions. The climate in these parts tends to be cooler compared to other areas of the city, creating a more pleasant environment for everyone leisurely strolls along the streets or sitting by water canals.

Gardeners also show a deep understanding and allow the community to relish these precious resources by using their water and sharing date fruits. They understand the importance of sharing these blessings and generously ensure that residents can relish the gardens' beauty, serenity, and refreshing, crystal-clear water. By fostering an atmosphere of inclusivity and communal appreciation, the gardeners play a vital role in enhancing their influence within their surroundings. Water and the cultivation of date palms are regarded as blessings for gardeners that bring joy and abundance to the environment, particularly through the sharing system. While the water itself may be privately owned, it travels through open canals across the city, stretching for kilometres to reach the gardens. In certain instances, it even passes through private properties. As a result, the notion of water ownership becomes blurred, simultaneously private, and public in nature. During the irrigation process, gardeners typically oversee the water canals to ensure that they remain unobstructed, and the water flows smoothly, guarding against any harmful chemicals or garbage

that could potentially harm their plants. Despite the presence of some individuals who irresponsibly litter garbage in the canals, particularly in the city center, the gardeners maintain trust in others. As owners of the water, the gardeners also maintain control over the traditional open-water canals. These canals are too extensive to be replaced with closed tunnels, which would be both impractical and costly for them. The idea of sharing engenders an expectation and reciprocity among the recipients, granting them the responsibility to care for the water resources.

Similarly, during the harvest season, gardeners extend the tradition of sharing dates, known as *Barekat*, with their family members, neighbours, and friends, especially those who do not have the privilege of owning their own date trees. The quantity of sharing depends on the yearly yield, the gardener's choice, and their relationship with the recipient, typically amounting to one basket. These sharing practices, whether it's water or dates, are carried out without any expectations from the receiver. However, beneath the surface, the agricultural system of Bam relies on fragments of power dynamics and influence that enable gardeners to sustain its functionality.

Marcel Mauss (2000), in his book *The Gift: The Form and Reason for Exchange in Archaic Societies* examines the cultural and social significance of gift exchange in traditional, non-market-based societies. Mauss explores how gift-giving is not simply an economic transaction but rather a complex social practice deeply embedded in the fabric of society. He argues that gift exchange carries symbolic meaning, establishes social relationships, and reinforces social obligations (2000). Mauss emphasizes that gift-giving is not a one-sided act but involves reciprocal exchanges. The recipient of a gift is expected to reciprocate, often with a gift of similar value or significance. This cycle of reciprocity helps maintain social ties and establishes a system of obligations within a community or society (2000).

The act of sharing dates not only symbolizes blessings and abundance but also serves as a means of cultivating relationships. Furthermore, it establishes an obligation for relatives and neighbours to lend a hand in the harvest, resulting in the exchange of fresh dates and blessings. This ritual functions as a mechanism to unite family members and neighbours in the collective gathering of dates. However, the earthquake and subsequent reconstruction policies have disrupted the former cultural system, altering the dynamics of this practice. After the earthquake struck, numerous gardeners and their loved ones tragically lost their lives. The date palm orchards were left unattended, and the underground Qanats suffered damage. This situation left the gardeners feeling powerless and helpless in the aftermath. Meanwhile, the government designed a recovery plan and divided it among its designated institutions (Arefian, 2018).

While it can be acknowledged that, in comparison to the previous recovery plans, there was a greater level of participation, the predominant perspective remained a top-down approach to the recovery process. Consequently, this centralized control within the government sector had significant implications (Arefian, 2018). Moreover, the focus was merely on saving “biological” lives while neglecting the significance of non-human companions and undervaluing social values resulting in significant transformations within the agricultural system. Using the framework of “Agri biopolitics” in the context of the Bam earthquake, I contend that this approach undermined the significance and ontological importance of date palms as non-human counterparts, thereby devaluing their lives. While the welfare and ecology of Bam heavily relied on them. Agri biopolitics concept refers to the intersection between agriculture, biopolitics, and power dynamics. It examines how agricultural practices are shaped by political and social forces, and how they, in turn, shape the lives, well-being, and agency of individuals and communities involved in agriculture (Hetherington, 2020).

During my fieldwork, I learned that being a gardener and practicing agriculture became more difficult after the earthquake. This was evident in the case of date palm cultivation, which relied on a traditional sharing system that was disrupted by the earthquake. Gardeners noted different reasons for its difficulty such as climate warming, shortage of skilled agriculture workers, and date palm pests. What is intriguing is they mainly relate these aspects to the disturbances of the date palm cultural system. Gardening in Bam is a collective endeavour that includes the active participation of almost all of the local community including family members, neighbours, relatives, and others. This collaboration extends beyond the harvest season and encompasses various caring practices throughout the entire gardening process. It necessitates the care and attention of other gardeners as well as the residents of Bam to ensure the water remains unpolluted. Therefore, a cooperative system is essential for the functioning of Bam's agricultural system.

An important implication that arises from the disruption in the cultural system of date palm cultivation in Bam is the increase in date palm pests. Typically, each gardener in Bam has one or two male trees in their garden, specifically planted to pollinate the female trees during the pollination season. Traditionally, they engage in the practice of sharing high-quality pollination among themselves. This practice serves an important function as it ensures the circulation of trusted, healthy pollen that is native and compatible with the local trees. However, as Hossein noted,

After the earthquake, many gardeners, unfortunately, lost their lives, and their orchards were inherited by their children who were not familiar with the importance of "sharing" and collaboration throughout the gardening practices. As a result, when these new orchard owners have good pollen, they do not share it with neighbouring gardens. For instance, if my male tree fails to produce high-quality pollen in a given year, I have to buy it. However,

the pollen available in the market is often sourced from other provinces with date palms. This creates a problem because when we purchase their pollen, we also introduce their pests into our ecosystem. These pests not only affect my garden but also harm the surrounding gardens. This is precisely why sharing is crucial in our community.

The shortage of workforce also was another important challenge gardeners were facing and emerged from the disturbance of the gift-giving mechanism. As I mentioned earlier, the “sharing” ritual would act as a system encouraging networks of relatives to help gardeners and in return receive date palm baskets. However, in the aftermath of the earthquake, the recovery plan and modernization efforts in the city caused a surge in housing prices, leading to a decline in the value of orchards. As a result, the economic center of the city, previously centred around date palm cultivation, shifted towards modernization and real estate. This shift had an impact on the availability of helpers in gardening practices. Over time, seasonal workers from the Sistan va Baluchestan province began to emerge, particularly during the harvest and pollination seasons. Currently, agricultural workers primarily consist of single mothers, teenage boys, and women with low incomes. Given the limited job opportunities in Iran’s unstable economy, relatives and neighbours are given priority for employment, offering them both a wage and fresh fruits for a season.

The centralization of power in one sector during the earthquake undermined the significance of participation and “sharing” within Bam’s culture. Essential provisions such as food, aid, and medications were primarily distributed through government channels and designated institutions. Additionally, the emphasis on saving solely “biological” lives and prioritizing urbanization devalued the importance of date palm orchards in Bam. Following the earthquake, Mahmood and Akbar highlighted the gardeners’ protests in front of the Agriculture Organization and Bam’s

municipality, demanding assistance to reopen their Qanats (underground water canals). The main message of these protests was “Open the water canals instead of giving us food” (Irna. ir, n.d.). It is evident that the gardeners see their lives as closely connected to their orchards, considering the importance of the date palm orchards’ lives on par with their own.

Nevertheless, gardeners in Bam have persevered through the challenges and have devised new strategies to cope with the changing circumstances. Sharing lies at the core of their worldview, as the food production system and ecological harmony in Bam depend on these collaborative practices. They consider sharing as a “blessing” that promotes unity and brings about abundant harvests. Consequently, a culture of community participation has emerged, fostering the well-being of all individuals involved.

Chapter Three

Land and Water Sovereignty

In Bam's literature, the themes of resilience and sustainability shine through in a myriad of proverbs, poems, and folklore stories. The popular proverb, extending beyond Bam's borders and resonating throughout Iran, is "The Bam's eggplant has no pests!" This proverb refers to a particular type of eggplant cultivated in Bam, which shows remarkable resilience and thrives in the arid conditions of the region. Unlike other crops and plants, this eggplant variety does not necessitate annual replanting. Instead, it resurfaces each year, bearing plentiful fruits. Metaphorically, it signifies invulnerability, suggesting that no harm can befall an individual or a being. Similarly, date palms are often portrayed as dependable and trustworthy, with phrases like "Date palms never fail us!" or "gold nail" underscoring their reliability. All of these stories and expressions revolve around the theme of resilience and sustainability, emphasizing the importance of harmonizing with the environment and making kin with more than humans.

In this chapter, I explore how the broader socio-political context of Iran has shaped the intimate human-plant relationship in Bam and the notion of sustainability within the gardening community. Being inspired by "Taking love seriously in human-plant relation in Inhambane, Mozambique" by Archambault (2016), which investigates the "love" of plants among gardeners

within two different layers of daily entanglements and the socio-economic context of Mozambique, I am eager to examine how the precarious socio-political status of Iran within the last five decades has shaped this human-plant bond in Bam.

Drawing on the ethnography *The Government of Beans* by Hetherington, I explain how date palm cultivation and dates are in Bam as a response to socio-political uncertainty and vulnerability. Hetherington tells the fascinating story of soybeans in Paraguay and how they affected both people and the environment. It examines the government's response to soybean cultivation and its subsequent failure. His focus on the local community revolves around power dynamics, and ecological relationships and on a global scale, the expansion of monocrops and the destruction of ecosystems, highlighting the challenges of government intervention in addressing these issues caused by economic growth (Hetherington, 2020). What I relate to his work is the way anti-soy activists perceived soy as a threat to their social welfare, health, and environmental predator (Hetherington, 2020). Lastly, soy was perceived as a manifestation of Brazilian imperialism, as it was predominantly grown by Brazilian migrants in the border region (2020). The way their perception is shaped by the sociopolitical context of Paraguay is interesting. In Bam, however, dates and date palms play an opposite role I will illustrate how this perception is formed within the context of Iran.

Iran has experienced dramatic changes within only fifty years, including the establishment of the 1979 Islamic revolution and the Iran-Iraq war, which had adverse effects on the nation's infrastructure and economy. Additionally, Iran's foreign policy and nuclear sanctions have further contributed to its volatility. These instabilities have created a profound sense of insecurity and uncertainty among Iranians (Khosravi, 2017). This chapter aims to delve into the perspective of

Bam gardeners, and how they perceive sustainability within their agricultural practices as a means to mitigate the effects of uncertainty and instability.

Furthermore, I examine the agricultural land reform initiatives implemented during the 1960s and 1980s, which played a role in the downfall of the conventional model of extensive landownership and exerted influence on land ownership in Iran. This marked the emergence of Bam gardeners who seized the coveted treasures of the region: lands and Qanats. Through a narrative analysis of gardeners' experiences, I illustrate how the precariousness of living in Iran and land and water reform policies have shaped the gardener-date palm connection as well as the perception of sustainability.

Fifty Years of Precarity

In recent years, the idea of precarity has attracted increased attention and research endeavours among various fields within the social sciences. It is commonly defined as a condition of vulnerability, unpredictability, and lack of security experienced by individuals and communities in multiple aspects of their lives (Kasmir, 2018). Precarity may take many different forms, including the danger of losing fundamental rights like the ability to obtain decent employment, an acceptable income, social safety, and political representation. It can also take the shape of temporary labour, gig work acquired through digital platforms, and other types of contingent labour (2018). Judith Butler defines precarity as a state of profound vulnerability and instability brought on by the social, political, and economic forces that shape our lives (Butler, 2004). In this context of Iran, precarity is defined as a state of perpetual instability, insecurity, and unpredictability that shapes the daily lives of Iranians (Khosravi, 2017).

In *The Precarious Lives: Waiting and Hope in Iran* ethnography, Khosravi explores the experiences of individuals living in Iran who find themselves in a state of precarity. The author delves into the lives of ordinary people, examining how they navigate through a complex web of social, economic, and political challenges, which often leave them in a state of uncertainty and vulnerability (2017). He sheds light on the concept of precarity by focusing on the experiences of various marginalized groups within Iranian society, such as refugees, migrants, and displaced individuals. He explores how these individuals are subjected to precarious living conditions, lacking stability and security in different aspects of their lives (2017). He contends that the precarious condition of Iran arises from the interplay of global neoliberalism, authoritarian government policies, and local social and cultural norms, resulting in a feeling of vulnerability and exclusion among different groups, particularly the youth and the working class (2017). It is important to acknowledge that the precarity discussed in this research does not refer to a new phenomenon and has existed prior to the 1990s. However, it is noteworthy that it has intensified and grown since that time.

In *Precarious Lives: Waiting and Hope in Iran*, Khosravi (2017) discusses “hope and waiting” as a temporal coping strategy in the face of precariousness. Iranians have a cultural inclination towards waiting, where they anticipate delays, predictability, and ambiguity across various aspects of their lives (Khosravi, 2017). Building on Khosravi’s work, I argue that Bam gardeners’ mechanism for navigating precarity and uncertainty goes beyond waiting toward making kin with other than humans and creating sustainable livelihoods.

Drawing on Penglase’s “Everyday state of emergency,” I argue the life of many Iranians is frequently interrupted by domestic and foreign forces (2009). Penglase describes the term as a circumstance in which a crisis or state of emergency persists for an extended period and has an

impact on people's daily life. He also defines it as a situation where individuals are compelled to live in a permanent state of risk or insecurity, where accidents happen frequently and are accepted as a normal part of everyday life (2009). This phrase can be used to describe conditions where there is social unrest, economic hardship, political instability, or natural calamities and the afflicted populace must continually adapt to and deal with difficult circumstances (2009). In fact, the word emphasizes how emergency circumstances become commonplace and how they affect people's everyday routines and sense of security (2009).

In the last fifty years, the Iranian Revolution of 1979 has marked a monumental turning point in Iran's history, bringing about lasting sociopolitical changes. The Revolution toppled the monarchy led by Shah Mohammad Reza Pahlavi and replaced it with an Islamic government led by Ayatollah Ruhollah Khomeini (Amuzegar, 2004) This shift in power brought about a complete transformation of the political system, with religious leaders assuming prominent roles and shaping the new Islamic republic. The establishment of the Supreme Leader and Islamic principles as the foundation of governance introduced a different form of authority and political structure (Amuzegar, 2004). Iran after the revolution experienced struggles for power among different factions and ideological groups. The diversity of views on the future direction of the country resulted in internal power struggles and political unrest (Amuzegar, 2004). The clashes between conservatives and reformists, as well as tensions between secular and religious elements, created an atmosphere of political volatility, adding to the overall sense of uncertainty and precarity.

Furthermore, the Iran-Iraq war and other geopolitical challenges further exacerbated the socio-political precarity in Iran (Farzanegan & Gholipour, 2021). The Iran-Iraq war lasted from 1980 to 1988 and placed immense strain on the country's resources, economy, and social fabric. Additionally, the strained relationship with the international community, particularly with the

United States, subjected Iran to geopolitical pressures and sanctions, intensifying the feeling of vulnerability and uncertainty (Farzanegan & Gholipour, 2021). The revolution was the hope of people toward a more equal and justice society, however, the reality of economic challenges and growing inequality emerged in the post-revolution era. The state dominance in the economy, dependence on oil revenues, mismanagement, corruption, and international sanctions all contributed to economic instability and hindered the government's ability to address social and economic disparities (Khosravi, 2017).

On September 15th, I had the privilege of being welcomed into Akbar's house to discuss the status of date palms and Qanats in Bam. His house was crowded with his daughters, sons, and his grandchildren. They were helping Akbar with sorting and packing dates. While Akbar was supervising them, the national TV was on broadcasting the news in the background. Everyone was listening to the news while working. Akbar's son anxiously muttered, "*Here we go, another catastrophe! What's happening today? More sanctions? Another environmental crisis? Or maybe another economic inflation?*". According to the news, date palm orchards in Abadan and Khorramshahr cities faced a significant threat due to the use of saline water for irrigating gardens. This allocation raised concerns among gardeners who feared for the well-being of their trees and the overall ecological balance. The news attributed this disaster to the high salinity of the dam water designated for agricultural purposes. As this news was displayed, everyone's attention shifted to the monitor to see the new misery which could have happened to date palm gardeners in Bam. The news made everyone distressed. Akbar sighed and noted,

To survive and find stability in Iran, it's important to be as self-reliant as possible. In Bam, cultivating date palms is our sovereignty! Most of us have our own private water shares, and as gardeners, we are the managers of the irrigation resources, particularly Qanats. Also,

date palm cultivation is remarkably able to thrive without the need for any machinery, chemical fertilizers, seeds, electricity, or any external ties that might subject us to the constraints of the state, other organizations, or international politics. This freedom from external dependencies brings about a deep sense of liberation for us.

It was intriguing to see how gardeners strive to navigate daily uncertainties and precariousness by relying on date palm cultivation. For Akbar and fellow gardeners, sovereignty holds great significance in fostering a sense of security amidst the volatile socio-economic and climate conditions. This indicates how the agricultural and water policies around date palm cultivation in Bam shape a sense of sovereignty for gardeners. Additionally, finding sustainable vegetation and plants that harmonize perfectly with the local ecology and are resilient further strengthens gardeners' sense of security and freedom.

Schrijver also relates the local community sovereignty over natural resources as a mechanism for achieving sustainability. Sovereignty in this case refers to the authority and control that a community exercises over the management, use, and conservation of natural resources within their territory or customary lands (Schrijver, 2013). In many cases, local communities have long-standing connections to specific lands and ecosystems, and their traditional knowledge and practices often play a vital role in sustainable resource management. This form of sovereignty recognizes the rights of indigenous peoples and local communities to govern their own resources based on their cultural, social, and economic needs (2013).

The Emergence of Bam Gardeners

Not too far in the past, the gardeners in Bam had little to no opportunities to own or access land and water. They were predominantly relegated to the role of mere workers without the ability

to exercise control over these essential resources. In this section, I explore the history of land reform policies that were implemented in Iran during the period spanning the 1960s to the 1980s, encompassing both the pre-and post-1979 revolution. In my analysis, I showcase how the implementation of land reform policies led to the formation of the Bam gardener class and as a result of this shift, the gardener date palm intimate relationship also was formed.

Based on the history of agriculture and land reform policies, the close relationship with date palms developed after the land and water reforms, specifically in 1980. Before 1960, the agricultural system in Iran was dominated by a few privileged elites, while the majority of people worked as labourers, peasants, or small-scale farmers. This arrangement is referred to as “*Nezame Arbab-Raiyati*” or “semi-feudalism” by Shahbazi and Nowroozi (2018). Throughout centuries, semi-feudalism had a profound influence on Iran’s socioeconomic and agricultural systems. This system of large landholdings and control exerted by the aristocracy over the peasantry resulted in social stratification, economic inequality, and political instability, which persisted for generations (2018).

In the 1960s, the existence of socio-economic disparities and a significant class divide between the peasants and Feudal “*Raiyat*” and “*Arbab*” led to the implementation of a range of policies aimed at addressing these issues. These land reform policies were designed to transfer land ownership from wealthy landowners to tenant farmers and sharecroppers, with the objective of reducing the gap between the two classes and abolishing semi-feudalism (Shahbazi & Nowroozi 2018). Under the leadership of Mohammad Reza Pahlavi, land reforms were implemented in multiple stages, starting in 1962. The initial phase introduced the Land Reform Act, which aimed to address land distribution inequalities. A significant aspect of this reform was the imposition of a maximum landholding size of 30 hectares per landowner in rural areas. The government

purchased surplus land at fair prices, offering a 6 percent annual interest rate over a 10-year period, and redistributed it to small farmers, tenant farmers, and landless peasants (Najmabadi 1987). Landholders were presented with a choice during the land reform period: they could either sell their surplus land to the government or keep it and face potential consequences, including the loss of government benefits and the risk of future land expropriation (Shahbazi & Nowroozi, 2018).

Conversely, tenant farmers or workers who were already working on the additional portions of the sold land to the government were eligible to buy land from the state at a lower rate, with payments spread out over 15 years in 15 installments (2018). At first, this policy appeared to be successful. However, at a later stage, other peasants who were unable to acquire land and remained on the landowner's property expressed discontent and raised objections (2018). As a result, the government made changes to the legislation, which included provisions allowing individuals who worked on land owned by others to either rent portions of the property from the landowners or buy them at a mutually agreed price. However, this stage was fraught with difficulties and led to numerous conflicts between the peasants and landowners in Iran (2018).

Bam, like many other regions in Iran, experienced the impact of land reforms. Due to limited available data and documentation regarding land reforms in Bam, I have relied on the accounts of senior gardeners and the oral history of the city to gain insight into the situation. According to Hossein,

Prior to the 1960s, the city was a small green oasis owned by a few wealthy landholders known as "Khans" including Salar Behzadi, Zaeir, Oulya, Sajjadi, and others. We all locals would work on the orchards and agricultural lands belonging to these Khans. Those days were tough, as we had no freedom, independence, or possessions! Back then, we would nurture and cultivate the date palms, but we didn't own the trees, we had no power! Every

action of us was managed by Khans. We were all regarded as workers, and the concept of a “gardener” as it is understood today did not exist.

After the 1960s land reforms, villages and countryside areas around Bam began to see an increase in the emergence of gardeners. Peasants and workers would purchase barren lands at a low price in installments and turn them into productive agricultural lands over time. However, this policy only benefited the countryside areas, as it was designed for those regions. For Bam, which was a garden city, the workers of the orchards were left out of the policy. The dream of owning an orchard was a distant reality for all of the gardeners. Akbar also narrated his memory of that time regarding land inequality in the city.

I was working for a Khan and was an adept worker. It was a small amount of wage, but I was paid. During the 1960s, it was almost impossible to purchase land because the majority of lands in Bam were owned by particular family elites. The land reform policies before the revolution did not help much because we were not eligible for the policy.

Akbar continues telling an interesting story of his friend winning a bet and gaining a date palm orchard from a Khan.

I had a friend named Ramazan who was exceptionally skilled in qanat maintenance. He was employed by a Khan, who owned several gardens. One day, one of the Khan’s qanats went dry, threatening all of his gardens to wither and die. Despite the Khan’s attempts to find someone to fix the qanat, no one was successful until Ramazan offered to do it. However, the Khan was initially skeptical and refused Ramazan’s proposal. Ramazan then suggested that if he were to fix the qanat, the Khan should reward him with one of his gardens. Eventually, the Khan became desperate and agreed to the offer. Ramazan spent nearly a month repairing the Qanat, and it was successfully revived. True to his word, the Khan gave Ramazan one of

his orchards as promised, turning Ramazan into one of the fortunate labourers whose dream of land ownership came true. However, land ownership was not readily accessible to everyone during that time.

Bam gardeners loved plants and date palms back then, however, the Barekat system and sharing and this type of closeness still were not formed, since they had no power or control over the yields, land, and water.

In addition to the changes in landownership and agricultural production, the social hierarchy in rural areas underwent a significant transformation in both sociopolitical and socioeconomic configurations. The control of landlords over the peasantry was abolished, leading to a rise in social mobility for a large group of sharecroppers who became landowners (Movahedi et al. 2021). However, he also adds that different types of unequal land redistribution occurred as a result of the Land Reform, with a minority of peasants acquiring large plots of land, while the majority received mostly small and uneconomical landholdings, this policy was not successful (Movahedi et al. 2021). The exclusion of Bam and its residents from the program left them with a sense of being left behind and remaining inequality. Soon after, the social structure of Bam and Iran underwent a significant transformation with the implementation of the second round of land reforms in the 1980s, following the 1979 revolution.

During the first ten years following the revolution (the 1980s), the new government adopted a welfare state approach that prioritized the well-being of the impoverished population, which subsequently became the primary social support base for the government. The implementation of this approach resulted in a significant decrease in inequality. However, in the 1990s, the government adopted neoliberal economic policies which led to the emergence of social

inequalities, causing a change in the dynamics that led to the further marginalization of lower economic classes from the government. (Safari 2018). During this period, another significant shift occurred in land ownership, particularly in Bam city. In this regard, Hossein a senior gardener shares his memory of the 1979 revolution and the shift in land ownership.

After the revolution in Iran, many Khans in Bam were fearful of the new regime and its ideologies. Some of them abandoned their lands and gardens to their workers and left the country for good. Some sold their lands at a reduced price and also departed, while others had their lands seized by the new regime and later sold at a lower price to ordinary citizens. In the initial days and months of the revolution, the workers of Bam purchased their own lands, regardless of whether it was big or small. At least, they had something to work and develop.

For half a century, gardeners who have endured inequality and precarious conditions have discovered that resilience is closely tied to independence and control over agricultural resources. As they gained access to land, they embarked on a journey of gradually building a system centred on sharing and blessing which strengthens their resiliency. Therefore, the profound attachment to date palms stems from their quest for independence and sovereignty over their livelihoods.

“Thank God, We Own Water!”

In 2021, at the time of conducting my fieldwork, Iran is experiencing a severe water scarcity crisis. Rivers, lakes, and wetlands are drying up, leading to protests across different cities. This water shortage has posed significant challenges to agriculture, public health, and the overall socio-economic stability of the country. Iran’s geographical location in an arid and semi-arid region, with limited rainfall and high evaporation rates, is a primary factor contributing to the water crisis. However, there are other reasons that exacerbate this crisis including climate change,

mismanagement of water resources and the growth of population (Schneier-Madanes & Courel, 2010). Historically, water in Iran was managed by local communities and private entities. However, in the 20th century, there was a shift towards centralizing water management under government control known as “Nationalization of Water” (Madani et al., 2016). The nationalization of water in Iran took place in several stages. In the 1960s, the Iranian government began to assert its authority over water resources by establishing regulatory bodies and institutions responsible for water management. This included the creation of the Ministry of Energy in 1965, which played a significant role in overseeing water-related policies and projects. One of the key milestones in the nationalization process was the enactment of the Water Resources Law in 1967. This law granted the Iranian government ownership and control over all water resources, both surface and underground. It established the legal framework for managing and allocating water, as well as the rights and responsibilities of users and stakeholders (Foltz, 2002).

The nationalization of water in Iran aimed to ensure more efficient and equitable water distribution, promote water conservation and support the country’s economic development. It involved the construction of major water infrastructure projects, such as dams, canals, and irrigation systems, to enhance water availability for agriculture, industry, and domestic use. However, the nationalization of water in Iran has also faced challenges and criticisms. Some argue that it has led to centralized decision-making, bureaucratic inefficiencies, and a lack of local community participation in water management (Foltz, 2002).

The water from Qanats in Iran followed diverse trajectories, influenced by the specific regions in which they were located. In certain areas, the control of Qanat water fell under the purview of the government, while in other regions, local individuals purchased the water, effectively transforming it into private property (Khaniki, 2019). Qanat ownership, also, until the

1960s land reforms, was largely concentrated in the hands of a small elite, including feudal lords and wealthy landowners. These individuals had significant control over the qanat systems and the distribution of water, often using their power to prioritize water usage for their own agricultural interests. Peasants and small farmers who relied on qanats for their livelihoods had little to no control over the water distribution or the management of the qanat systems (Khaniki, 2019). After the implementation of land reforms in the 1960s and 1980s, there was a gradual transfer of power in water governance and management from the elite to ordinary farmers and gardeners in Iran.

Following the 1979 revolution, Qanat ownership also was transferred to the new gardeners and farmers. This shift towards community-based water management fostered more decentralized and participatory models of water governance, with local communities taking on a greater role in decision-making and resource management (Khaniki, 2019). In the context of Bam, the Qanat management is carried out by groups of trustee gardeners. They are responsible for taking care of water, Qanat maintenance, and water distribution. This model of water ownership and community-based water management empowers gardeners by granting them a greater sense of autonomy and control over their own water supply. By being actively involved in the processes of water care and distribution, gardeners can shape their water management practices according to their specific needs, priorities, and local conditions.

Qanat systems are also highly appreciated by gardeners compared to water wells. Apart from the fact that they are a cultural heritage, gardeners admire Qanat's designed system. Qanat or Kariz is a gravity-fed water management system that draws water from an underground aquifer with the help of gravity (Nasiri & Mafakheri, 2015). What is impressive about the Qanat system is, it does not require modern technologies including power or electricity to function and bring up water to the surface, it is engineered in such a genius way to direct water only with the help of gravity

(Nasiri & Mafakheri, 2015). Therefore, as long as gravity exists and there is some amount of precipitation near the area, locals can access water.

Moreover, Qanats have remained popular among gardeners in Bam because of their simplicity and effectiveness in the management of water, being underground systems that draw water from the deep earth, and their long history with their pasts and ancestors. As a result, gardeners prefer to irrigate their gardens with Qanat water; the water is less likely to be polluted, and it contains useful minerals for trees. Additionally, Qanats can be maintained with a small number of workers, which means they are relatively inexpensive to maintain. In Bam, Qanats are mainly used for agricultural purposes and unlike other irrigation systems. What is common between Qanat, and date palms is their independent characteristics. Qanats have been working on their own through days and nights for centuries. Only with little maintenance they have created and sustained a green ecology in Bam.

In comparing water wells and Qanats, all gardeners emphasized the greater reliability of Qanats. They explained that water wells can be less dependable because they rely on mechanical engines powered by electricity. This reliance on power makes them vulnerable to disruptions during summer when frequent power outages occur, impacting their ability to extract water. In contrast, Qanats are not affected by these power disruptions and consistently provide water. They also mentioned that water wells often require frequent repairs and replacement of engine parts. Without proper maintenance, the engine of the wells can develop issues that lead to oil leakage, which poses a risk of water pollution. This raises concerns about the quality and cleanliness of the water obtained from wells.

Both date palms and Qanats possess resilient characteristics that instill hope and stability among gardeners encountering uncertainty and precarity. As a result, the concept of sustainability

holds significant meaning for Bam gardeners, reflecting their desire to exert control over natural resources and establish a solid and dependable agricultural system.

We, gardeners, feel safer and more independent when relying on our date palms. We have given up hope that the government will support us or bring positive changes for the public. Instead, we seek a way to minimize the effects of the government's flawed policies on our lives.

Conclusion

In the precarious context of Iran, Iranians have come up with diverse strategies to navigate the daily uncertainties and hardships they encounter. For Bam gardeners, it is the date palm cultivation and the robust underlying gardening infrastructure that sustains it. In this ethnography, I illustrate that while date palm cultivation has a long-lasting history, the profound love and the intricate gardening infrastructure surrounding date palm cultivation have emerged as relatively recent phenomena to cope with the daily precariousness in Iran.

By examining the date palm-gardener relationship, I delve into two main areas. First, the intimate human-plant relationship is shaped through daily interactions during the caring process. Second, it investigates the influence of Iran's land and water reform policies following the 1979 Islamic revolution in shaping a resilient infrastructure around gardening in Bam. Drawing on post-humanist literature, I argue that gardeners perceive their date palms as resilient, caring, and generous companions who are capable of agency and reciprocating care towards their gardeners and their surroundings. This understanding emerges by date palm embodiment. Since the cultivation and care of date palms is an entirely handy and manual process, leading gardeners to

intimately experience these trees through the imprints of scars, scratches, wounds, and their heightened senses. This prolonged embodiment fosters a deep sense of interconnectedness and *response-ability*, as gardeners find themselves entwined with their date palms—understanding that harming their tree means harming their own bodies.

Furthermore, through this embodiment, gardeners gradually transform into hybrid beings, internalizing essential date palm characteristics such as resiliency, generosity, and caring. This transformation and inspiration are well-reflected in the “sharing dates” or Barekat practice during harvest time in which gardeners share a basket of fresh dates within their communities. In this context, I argue that this practice is not solely motivated by religious beliefs, but the inherent characteristics of the tree also inspire gardeners to be generous and share a portion of their yields with others. Moreover, this practice epitomizes a spirit of mutual care between gardeners and receivers. Gardeners receive support during the harvest season, benefiting from a helping hand, while the receivers experience temporary economic relief and the joy of tasting the fresh and beloved fruit.

Within the socio-political and historical landscape of Iran, I posit that a profound transformation occurred in Bam city following the 1979 Islamic revolution. Prior to the revolution, the majority of Bam gardeners worked as orchard labourers on lands owned by “Khans”. However, with the implementation of new land and water policies after the revolution, the social class of Bam gardeners emerged, granting them the opportunity to become land and water owners themselves. The important point here is that unlike other regions in Iran where gardening and agricultural water supplies are controlled by the Islamic government, in Bam, gardening and agriculture irrigation are under private ownership. This aspect becomes particularly crucial in the context of Iran, where a serious water shortage prevails. Gardeners possess the capability to

efficiently govern their water usage and maintain greater control over this life-sustaining resource within their community. This empowerment reaffirms their sovereignty and ability to thrive amidst environmental uncertainties, particularly during the water crisis.

In addition to water and land ownership, the Qanat water system itself stands as a resilient and sustainable infrastructure. It efficiently extracts water from underground aquifers solely through the force of gravity, completely independent and unaffected by technology, machinery, or external organizations. This autonomy also renders the Qanat system a robust and dependable resource, instilling gardeners with unwavering confidence in its reliability.

Moreover, the cultivation and care of date palms in Bam showcase a remarkable level of self-reliance and independence. Gardeners employ traditional gardening techniques that eschew the need for machinery, specialized seeds, or external equipment. This self-sufficiency liberates them from potential constraints imposed by international sanctions or the influence of external organizations on their gardening practices. The freedom to preserve their time-honoured methods instills a profound sense of resilience and security, particularly during uncertain times. The 2003 Bam earthquake stands as a poignant testament to how date palms played a pivotal role in supporting the gardeners' recovery from that traumatic experience. While the earthquake caused widespread devastation, the presence of date palms offered solace and hope, inspiring the gardening community to persevere and forge ahead with renewed determination. Moreover, the manual and independent process of caring for date palms enabled gardeners to commence their nurturing efforts earlier contributing to a faster financial recovery for them.

Collectively, all these intricate elements culminate in the formation of a robust infrastructure that bestows upon gardeners a profound sense of freedom, autonomy, and agency, empowering them to navigate even the most daunting of challenges, such as the seismic upheaval of the 2003

Bam earthquake. Within this infrastructure, the resilience of date palm cultivation stands tall as an emblem of strength and continuity.

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