

The background of the entire page is a vibrant, high-resolution photograph of a tropical environment. It features a dense canopy of palm trees with long, feathery fronds. In the lower portion of the image, a narrow, stone-lined water channel or aqueduct flows through the landscape. The water is clear and reflects the surrounding greenery. The scene is bathed in bright, natural light, creating a sense of a warm, sunny day. The overall composition is framed by a white border.

AFLAJ AL AIN

From the Past to the Present
Aysha Khamis Ali Al Dhaheri

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Index

06	Foreword
08	Introduction
10	History and Structure
11	Report by journalist Hamdy Nasr, Issue no. 20, <i>Al-Dhafra</i> magazine (2008)
12	Interview with Dr Walid Yasin Al Tikriti by Hamdy Nasr
16	Interview with HE Sultan bin Ahmed Al-Kuwaiti by Hamdy Nasr
22	Groundwater sources in Al Ain
24	Parts of the falaj in <i>Aflaj in the United Arab Emirates</i> by Dr Walid Yasin Al Tikriti
28	Interviews: Dr Walid Yasin Al Tikriti
33	Mohammed Amer Al Neyadi
36	Maintaining the Aflaj
37	Muhammad Sultan Al-Shamsi
38	Mubarak bin Aylan Al Amimi
44	HE Sultan bin Ahmed Al-Kuwaiti
59	Saeed Jumaa bin Fahd Al-Ketbi
66	Irrigation Among the Date Palms
69	Saeed Saleh Al-Ashar Al-Mazroui
70	Khalfan Mohammad Molhem Al Dhaheri
74	Muhammad Hilal Al-Ameri
76	Salem bin Khalfan Al Neyadi
77	Fares Al Dhaheri and Rashid Halis Al Dhaheri
77	Mansour bin Salmeen Al Mansouri
78	Shabib bin Mohammed Al Dhaheri
80	Life in the Oasis
81	Abdullah Salem Al Darmaki
92	Agriculture and Society
93	Ateeq bin Halis Al Dhaheri
98	Abdullah Matar Al Darmaki
100	Stories from Al Ain
101	Al Hadth Musabbah Farhan Al Kuwaiti
103	Umm Abdullah
117	Ghubeesha Hamad Al Humeiri
118	Khasiba Al Ketbi (Umm Ahmed)
126	Suhaila Al Neyadi
128	Matar Obaid Rashash Al Balooshi
136	Conclusion

Foreword

Water scarcity was perhaps the biggest challenge that our ancestors faced in their harsh desert environment. Nevertheless, they managed to develop ways to source groundwater, using basic tools. The falaj irrigation system is perhaps the most unique and impressive of their achievements; not least because of the perseverance and skill required to dig deep enough into the bedrock to reach the precious water table. The water then had to be extracted and carried by canal, sometimes for several kilometres, in order to bring life to palm trees and crops in the harsh dry land.

By studying the methods and achievements of our ancestors, who were forced to survive on the scarce resources they could find, we gain a better understanding of our society's evolution. Digging wells and building canals required careful planning and experience, refined as it was passed down through the generations, without any written records.

The Department of Culture and Tourism - Abu Dhabi (DCT Abu Dhabi) documented and collated this inherited knowledge through the oral accounts of surviving sources. We spoke to credible primary sources of information about the aflaj, who also detailed for us various aspects of Emirati society in the previous century.

This book contains a detailed analysis of the falaj irrigation system of Al Ain. It explains how groundwater was located and the techniques used in digging deep wells and maintaining them. It also describes the impact of these wells on living conditions and the development of agriculture in the area. The book also presents evidence of the existence of a falaj irrigation system dating back to prehistoric times. It relates stories of the people of Al Ain and the historic periods the region went through.

Aflaj Al Ain: From the Past to the Present represents the work of DCT Abu Dhabi in protecting the cultural heritage of the United Arab Emirates. We aim to deepen Emirati pride and understanding in our society, by elevating the importance of cultural heritage in the lives of the people and by passing this on to future generations.

Introduction

The archaeology of the United Arab Emirates and its infrastructure reflect the rich heritage found in our values, traditions and landscapes, and our ancestors' efforts to adapt to the challenging conditions of topography and climate. Our forefathers managed to harness water resources to meet their daily needs and to irrigate plants and crops. Through their engineering skills they developed the aflaj, to utilise what nature provided in this harsh climate. In Al Ain there is archaeological evidence of aflaj dating back to the Iron Age.

We also have information from transcripts and historical documents, as well as first-hand accounts from those who contributed to our heritage and civilization. Through my research, I met many senior men and women who narrated their stories and explained the aflaj in detail.

The civilization of this land extends back millennia. Generations endured the harsh desert conditions and through their resourcefulness, managed to source basic needs such as food and water. They sailed through rough seas, braving ocean waves to fish and search for pearls. Fish and dates were the main food staples. The limited rainfall and hot climate drove them to secure water resources with which to quench their thirst and to irrigate palm trees and crops.

All praise be to Allah, for His blessings upon us by bestowing on our nation the aflaj. These irrigation systems were constructed as aqueducts over long distances and were replenished by springs and streams from groundwater sources.

People undertook great efforts to maintain the aflaj. They developed an irrigation system called seqaya and aflaj areas grew into important social centres for the population. The men would gather near the aflaj to chat and perform maintenance work while the women filled up their water jugs.

The late Sheikh Zayed bin Sultan Al Nahyan, Founding Father of the UAE, was one of this region's greatest leaders. Sheikh Zayed bin Sultan Al Nahyan paid special attention to aflaj maintenance and cleanliness and would personally monitor maintenance works, bringing in workers to construct edges and fences. This led people to exert their best efforts, using available rudimentary methods and tools, in maintaining the aflaj.

There were risks and dangers but citizens appreciated the importance of their work, a voluntary undertaking, in improving living conditions and stability for the future.

The aflaj played a vital role in sustainable agriculture and in the irrigation of palm trees, as well as being a hub of people's daily lives. They therefore represent a remarkable cultural heritage. Some have legends from ancient times, such as the story that jinn (spirits) dug these channels during the age of Prophet Solomon.

The aflaj also represent an important period in the history, environment and geography of the region. They provided a flourishing lifestyle for residents, who were able to cultivate plants in this hostile environment and therefore meet their daily needs, whether travelling by land or sea, through the desert or across water, to regions near or far.

During my research, I learnt about the remarkable achievements of our ancestors in the aflaj. I conducted many interviews with officials and older residents who lived through these days.

I searched for the symbolism of the aflaj, recording the stories and recollections that have brought pride in our heritage and respect for Emiratis. Our ancestors made quantitative and qualitative developments to drive our country forward to compete with other developed nations in scientific inventions and cultural progress, achieving world renown.

We trust in our Rulers and in our people to maintain our country's progress and development, following in their footsteps to become a guiding light for future generations.

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Agriculture and Society

We interviewed Ateeq bin Helis Al Dhaheri about the old way of life, in the presence of his mother. Mr Al Dhaheri said¹⁹ there was specific land for cultivating wheat near the Sheikh Sultan Fort and Al Ain National Museum that is now the site of a bus station. This land, owned by Abdullah bin Hilal Kuwaiti, was irrigated by Falaj Al Aini or by the wells beneath the *Acacia nilotica* tree, through a watercourse operated by bulls. Al Ain was known at that time for its wheat. They used to cultivate wheat in empty lands under the sun although they would plant animal feed such as musiblu (a kind of corn), cowpea and corn under the palm trees.

During the al-heyasa process, the ploughing and turning of the soil, the farmer's bull carried a curved piece of wood across its shoulders attached to a rope from a plough, which the farmer directed. Some residents would hire a bull to perform this task if they did not own one.

During harvest time, all the lane dwellers gathered to reap the wheat in the yannor process, winnowing the wheat by beating it with a stick or using three bulls to tread the ears. This process was called al jaran and they used to chant Al Dan, a kind of traditional song. During these two processes, women prepared the lunches for those at the harvesting.



Children play at one of the mud-brick houses²⁰

Mr Al Dhaheri described the community's social life as: "These occasions were held during feasts where a number of bands participated, such as the Al Hay band which was managed by Khairy, Al Hay's son."

¹⁹ An interview with Ateeq bin Helis Al Dhaheri at his house in Al Sarooj area on 8 September 2014.

²⁰ Courtesy of the Department of Culture and Tourism - Abu Dhabi.

The bands were called Al-Ayyala or Al-A'rdah in Arabic. During the two feasts, he said they used to go to Eid prayer in Al Motawea Lane in the morning on foot through the Al Nakheel area. After praying during Eid, children played with fireworks while men saluted the lane's leader.

“People gathered at Al Motaweab in Khalifa's house [at the southern side of Sheikh Sultan Fort and Al Ain National Museum] to drink coffee and eat breakfast, which included rice and bread. After visiting relatives, people returned to this house after Al Asr prayers to eat a late lunch consisting of rice and meat,” said Mr Al Dhaheri.

The women gathered at home and sometimes would get together at the house of Mr Al Dhaheri's father, where each of them would bring a different dish. These occasions lasted for two to three days at a time, according to old lane customs.

Mr Al Dhaheri's mother said women used to meet Ibrahim bin Othman's wives at the Al-Wata Lane or the fort, bringing food and coffee.

As previously mentioned, Mr Othman, the representative of the governor at Sheikh Sultan Fort, had three wives, Amna bint Saleh, Aousha bint Medea and Amna bint Saif.

Mr Al Dhaheri's mother said: “Women usually gathered at someone's house every morning for breakfast and drinking coffee. In the evening after I'sha prayer, women met together at one of their homes, bringing with them coffee and dates, and one of them would narrate funny childhood stories to the children before bedtime.

“Men, on the other hand, gathered at the mosque or at someone's home. For example, they used to gather at a mosque in Al-Wata Lane, near the fort, as well as at another one in Al Natla. They used to pray daily at these two mosques but they gathered for Friday prayers at the Sheikh Mohammed bin Khalifa restored mosque. This mosque, near Falaj Al Dawoodi, was rebuilt using cement after originally having been a mud-brick building. Ali bin Hamad Al Dhahiri was the first imam there while Imam Salem Al-Kindi was his successor.

“Later on, Abu Mohammed Salem Al-Jeni was assigned to be the new imam. There were several types of homes built out of palm leaves. Old tents were simple and square and built of palm fronds. At the beginning of the 1960s, new rectangular tents built of palm fronds in the shape of a pyramid were invented and named 'sea tents' after the coastal dwellers.

“Homes near the Sheikh Sultan Fort and Al Ain National Museum were built of palm leaves called al e'rshan, and only a few of them were built of mud-brick — because mud-brick buildings were expensive.



Jabra, an old market in Al Ain city, 1969



Women sell their goods at the Jabra, Al Ain city²¹

Sultan Bin Al Yazya, Hilal bin Hamad, Khalfan Ben Ali and Al Motawea bin Khalifa were among those who built mud-brick houses.”

The old market was near the fort and included a fixed number of stores — five stores for leaders and seven stores for the public. This old market was near Abdullah bin Hilal Kuwaiti's mosque and those stores were built out of mud-brick.

In 1962, Sheikh Zayed bin Sultan Al Nahyan built 14 stores in two rows facing one another, near the Al Zerouni mosque. He assigned Musabeh bin Obaid Aldoveh to be their manager and the stores were



A place in old Jabra selling cattle in Al Ain city, 1969²²

21 Courtesy of the Department of Culture and Tourism - Abu Dhabi.

22 Courtesy of the Department of Culture and Tourism - Abu Dhabi.

distributed among the merchants. This market lasted up until 1968 when it was replaced by Jabra. At the marketplace, there was an open square called A'rsa with a huge *Acacia nilotica* tree near its centre, under the shade of which they used to sell clover, in 1961. In 1973, they built a roofed market. The fish market however, was at Kuwaitat Lane. The government paid its residents compensation after demolishing their residences to build an integrated market.

The community used to celebrate the Holy month of Ramadan in harmony and eat Iftar together. Each person brought some food from their house such as bread, milk or powdered milk, and beef or chicken broth. They used to eat rice and meat at Suhoor but this was at home.

Life was simple and Mr Al Dhaheri's mother's herd of cows grazed in the field in Al Sarooj area. Mr Al Dhaheri said in 1957 the farms were attacked by a huge swarm of locusts that destroyed all the green areas. At that time, they followed inadequate, primitive methods to control locusts by lighting fires to burn them. Daba, known for its small size and green colour, was the most dangerous kind of locust.

During those lean years, people used to eat the large grasshoppers they caught, collecting them in containers at night using a tool called mahgan, made of dried fronds tied to another small dried frond at the top. They used to shake the Samor trees to catch locusts, which fell to the ground, collecting them in containers such as cloth bags. They would return home to cook the grasshoppers by boiling them in water seasoned with salt. Later, the grasshoppers were dried under the sun and placed in manahez²³ ready to be crushed. The resulting powder, called sehnah, was stored in containers, to be added to white rice as needed.

The aflaj were places to bathe and sources of recreation, and people sat and watched red, yellow and green water wasps.

Mr Al Dhaheri said the first form of entertainment at that time was a cinema in Al Ain in the early 1960s, operated by the late Ghareeb bin Mohammed Al Balushi. This cinema, built at Al Rabena area near Ali bin Abbas's house, was open to the public every week and people gathered to watch a movie, sitting on the ground. The Antar Ibn Shaddad and Abla love story was among the old movies shown at the time with the projector operated by a small generator.

Residents used to go to Falaj Al Sarooj in the daytime to fill their jugs for drinking water as there was pure water there. At night, women used to fill these jugs from any point of the stream because water at that time was cleaner. The two channels of Al Dawoodi Falaj and Al Sarooj Falaj (also known as Al Aini Falaj), are among the main aflaj and intersect to form an X-shape. The Al Dawoodi Falaj flows along a lower level while Al Sarooj Falaj flows along a higher course.

²³ Menhaz in singular form: a big mortar and pestle made of wood or stone, or a funnel-shaped iron pot. *Dictionary of Colloquial Words in the United Arab Emirates*, Dr Faleh Handhal, Second Edition, 1998.

On the Holy Qur'an, Mr Al Dhaheri said he was one of the students of al-mutawa Salem Al-Kindi, who taught them at Sultan bin Ahmed Al-Kuwaiti's house at the Jabra market, in Kuwaitat Lane. In 1965, when he was 14 years old, there was a teacher who taught boys and girls several verses. Students placed their books on stands of palm fronds. Each student paid one rupee to the teacher every Thursday. Through Qur'an lessons, the teacher taught them Tajweed and Declension.

If a student failed to memorise a few chapters, the teacher used to punish him by suspending him from the palm tree at Al Sebla²⁴ and then hit him with a stick. Parents encouraged the Sheikh to follow this teaching approach under the claim of "whatever doesn't kill you makes you stronger". On the other hand, students who became proficient in reciting the Holy Qur'an would invite their peers and teacher for a banquet.

Some teachers, such as Mohammed bin Hilal Kuwaiti, would celebrate after the memorisation of complete verses of the Qur'an, calling the occasion Al Tawmena. Holy Qur'an memorisation centres were filled with students during the summer as many residents came from Abu Dhabi and Dubai to stay in Al Ain. During their stay, they would encourage their children to join the mutawa's school to memorise and recite the Holy Qur'an.

In the 1950s, the old houses were built of palm trees, but from then on there were mud-brick homes. From the 1970s, cement was used and these houses lasted into the 1990s, when the municipality demolished them to build roads. As a result, the government built new houses in other areas.

On the eastern side of the Al Nakhel Oasis, there are five houses and the area was called Mashinga. Mohammed bin Kharbash, Ali Bou Sheikh, Salem bin Ali, Hassan bin Ali and Mohammed bin Saeed Al-Hammoudi were among the homeowners. On the eastern side of the lower side, there were seven houses in Al-Wata Lane. This area included an old mosque called Al-Wata Lane Mosque, built by Hilal bin Hamad Al-Kuwaiti.

Ali bin Rashid Al-Kuwaiti, Salim bin Mesfer, Mohammed al-Mutawa, Ghareeb bin Mesfer, Obaid bin Butti, Salem bin Barut and Abdullah Al-Muraikhi were among the mud-house owners.

In the far northern side of Al Hosn Lane, there used to be a sand dune called Nad Bayaha, between the lane and the market.

²⁴ Al Sebla: built on a building roofed with leaf stalks. *Dictionary of the Words of the Emirati Dialect and its Origin*, various authors, published by Zayed Centre for Heritage and History, First Edition, 2008.

Abdullah Matar Al Darmaki²⁵ spoke about the harvesting process.

Did you live at a time when the harvest was called al yannor in the Emirati dialect?

“Yes, I did. People cultivated empty farms, growing wheat in the Al Qattara area in front of the market near an *Acacia nilotica* tree. They used to irrigate the wheat crops using watercourses, as water was drawn from the well by a bull.

“At the time of the wheat harvest, residents used to reap it and collect the dried ears in packs. Then they stored the wheat in a previously prepared place in the Al Masoudi area called Al Jarn. This place was built of dried mud in a circular pattern and in its centre there was a pillar or a piece of wood called rayla where harvested wheat packs were placed. First, they led 10 to 12 bulls to walk along a circular path, treading the wheat crop. They would start this process in the morning, continuing until noon. During this process, men often drummed and sang a type of traditional song called Al Dan with verses such as:

‘Beside the *Acacia nilotica* tree, the thresher Nourage is working hard,
At this time of the year and at the same time next year, the harvest festival will come and thresher
Nourage will start working again,
Sun rays make the bull’s horns as shiny as the golden wheat fields,
After lands are filled with golden wheat, bulls run to thresh its grain.’

“Women, on the other hand, stayed at the same place during a celebration, preparing delicious meals such as khabeesa, asida and coffee. After Dhuhr prayer, the bulls stopped work and men used to pray, and then they ate lunch and drank coffee. Secondly, they would start the process of separating straw from the grain and purifying it. Thirdly, they would pack the grain inside packs [after giving each participant his/her share]. After that, they would store the rest of the grain in a specific room at Bin A’ti’s house. In addition, there was a storeroom for straw to be mixed with mud used in construction because this mixture added strength to buildings.

“They actually valued grain highly and always repeated this proverb:

‘The one who owns grain owns gold.’”

25 An interview with Abdullah Matar Al Darmaki at Al Qattara market on 25 September 2012.