

# Hormuz and Musandam: a spatial approach through time (with a special emphasis on grain production, storage culture and regional mobility)

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## ABSTRACT

The article attempts to place Musandam in the context of a relationship with the ancient trade center of Hormuz. It tentatively tries to give some directions that define Musandam not only as the periphery of the Arabian Peninsula, but also as the southern hinterland of the former world trade metropolis. And in this context as an active part of the flows and activities of the strategic strait for a period of at least 400 years in Hormuz' heyday between the 14<sup>th</sup> and 17<sup>th</sup> centuries.

The spatial approach is based on field research in Musandam focusing on grain production and regional mobility, conducted first in the 1970s and later in the 2010s, completed by the analysis of literature on the history of Hormuz and the greater region. Traces of this ancient connection are still recognizable, shaping the landscape and culture of today's Musandam.

**KEYWORDS:** Hormuz, Musandam/Oman, 14<sup>th</sup> - 17<sup>th</sup> and 20<sup>th</sup> centuries, grain production and storage houses, regional mobility.

## هرمز ومسندم: مقاربة مكانية عبر الزمن

## (مع ترکیز خاص على إنتاج الحبوب، وثقافة التخزين، والحرک المناطقی)

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## المکتوب:

تهدف هذه الورقة إلى وضع مسندم في سياق العلاقة مع هرمز كمركز عتيق للتجارة. من خلال طرح بعض الاتجاهات الأولية التي تقدم مسندم ليس فقط على أنها على هامش شبه الجزيرة العربية، بل على أنها المنطقة الخلفية الجنوبيّة للحاضرة التجارية العالمية السابقة. وبالتالي تشكل مسندم في هذا السياق جزءاً فعّالاً من تيارات ونشاطات المضيق الاستراتيجي مدة لا تقل عن ٤٠٠ عاماً أثناء فترة ازدهار هرمز، والتي امتدت بين القرنين الرابع عشر والسابع عشر.

المقاربة المكانية مبنية على بحث ميداني تم تطبيقه في مسندم، يركّز على إنتاج الحبوب والحرک المناطقی في المنطقة. تم تنفيذ البحث أولاً في السبعينيات من القرن الماضي وألّاحقاً في العقد الثاني من القرن الحالي، واستكمّل بتحليل للدراسات التاريخية عن هرمز والمنطقة المحيطة به. يمكن رؤية آثار هذا الرابط القديم حتى الآن، حيث ما يزال عالماً مؤثراً في صياغة المشهد الطبيعي والثقافي لمسندم في الوقت الحاضر.

**الكلمات المفتاحية:** هرمز، مسندم/عمان، القرن الرابع عشر إلى السابع عشر، القرن العشرين، إنتاج الحبوب، مخازن، الحرک المناطقی.

## INTRODUCTION:

Musandam is generally considered a periphery on the north-eastern edge of Arabia. It is connected to the south by a sparsely populated land mass and deserts. The Omani exclave lies far from Muscat, the vibrant capital of the Sultanate. To the north, east and west Musandam is surrounded by water. This secluded location seems to have been the eternal fate of the mountainous peninsula.

From a bird's eye view, however, the peninsula with its long coastlines and rugged fjords, the *akhwar*, is clearly situated in the middle of the Strait of Hormuz (see also Fig. 6). Its northern bay-rich promontory and islands are part of the important sea route, whose name derives from the island of Hormuz. For centuries, the life and economy of the entire region was related to this infertile piece of land.

Flying over Musandam at high altitude, this immediate proximity to Hormuz and the Iranian coast becomes apparent. The first visit to Musandam by one of the authors of this article was by plane, an Oman Air Force Skyvan that flew regularly from Muscat to Khasab. In the 1970s, there were no other viable access routes, apart from a time-consuming travel by the naval ferry. Beneath the window of the plane one could see a spectacular cliff coast, broken up into spurs, capes and firths, and numerous rocky islands reaching far into the Strait of Hormuz. The coasts of Iran seemed within reach. From high above, Musandam appeared as if in a middle: To the south lay the UAE and Oman, to the north it was surrounded by the sea and bordered by the Iranian islands of Qeshm, Larak, the historic Hormuz and the vast Iranian mainland.

Seen from a lower altitude, the view from above offered a second perspective. This perspective was provided by the numerous helicopter flights during the research stay in the seventies. One could discover a multitude of green areas, which were dotted in the rugged plateaus and slopes between the peaks of the mountains. There were also hundreds of grain plots, even in hard-to-reach places in the rock, and countless small settlements. Their sheer quantity in this seemingly inhospitable landscape was immediately surprising.

Both bird's eye perspectives, near and far, were unexpected: the innumerable green fields and small

hamlets in the midst of barren mountains. And, most surprisingly the perception of its central location, when Musandam had always been described only as a periphery, a corner or an "*excrescence*", as the British administrator-researcher Bertram Thomas put it (Thomas, 1929: 71).

This paper attempts to place the two spatial perspectives - mentioned above - in the context of the relationship between Musandam and the ancient trade center of Hormuz. And we tentatively try to draw some connections that define Musandam not only as the periphery of the Arabian Peninsula, but also as the southern hinterland of the former world trade metropolis and as an active part of the flows and activities of the strategic strait. In this perspective, further vital development of Musandam, its potential for growth at this decisive position should be considered for all future observations and analyses.

We base our spatial approach on our own field research in Musandam, conducted first in the 1970s, and 1980s and later in the 2010s, completed by the analysis of literature on the history of Hormuz and the greater region. This can, however, only be a first step towards investigating the relations between the Omani exclave of Musandam, the Gulf Islands and the northern shores of the Gulf. Further multidisciplinary and, above all, archaeological research in Musandam itself is needed to deepen this investigation.

It should be emphasized that the long-term field research in 1977-1979<sup>1</sup> of one of the authors was the first ever social-scientific and social-geographical field research in Musandam. It covered the entire province from the Jazirat Musandam in the north to Dabba Al Bayyah in the south. All villages and oases on the coast and a large number of settlements in the mountains, on the populated high mountain plateaus, slopes and in the *wadis* were investigated and several case studies done. Accordingly, both research and environmental conditions were exceptionally complex and needed always to be adapted to the situation: travelling on foot or by donkey in the mountains and by rowing or diesel-powered boats along the coast. Many months were spent with the mobile and sedentary populations. Interview

<sup>1</sup> Various re-visiting research visits were done between 1981-1983, when one of the authors was working for MoSaL in Muscat

partners – man and women – came from all parts of the region including the islands. The research material consists of several volumes of field notes,

extensive cartographic material produced during this period, a large collection of photographs and various artefacts and voice recordings.

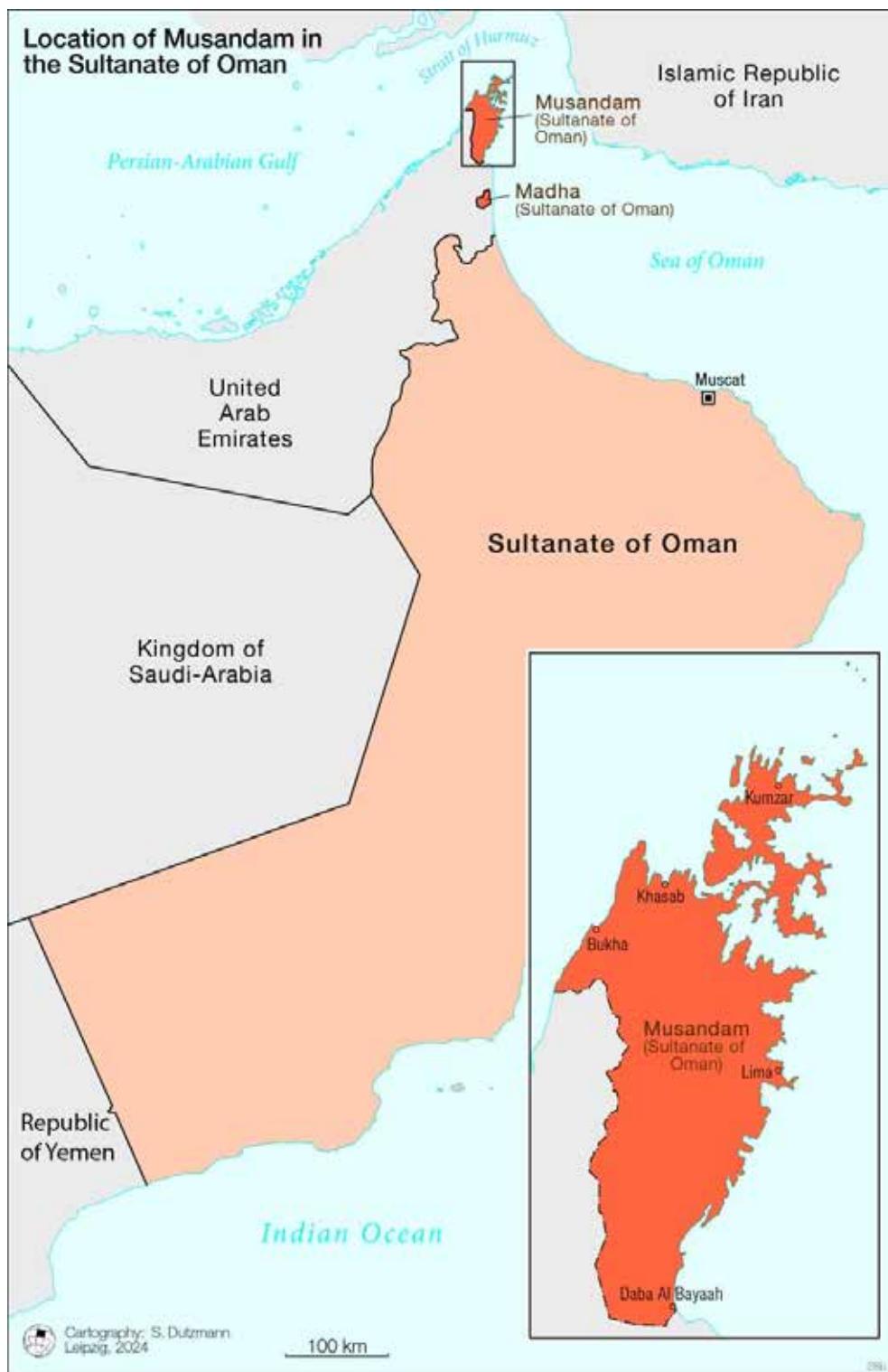


Figure 1: *Location of Musandam in the Sultanate of Oman*

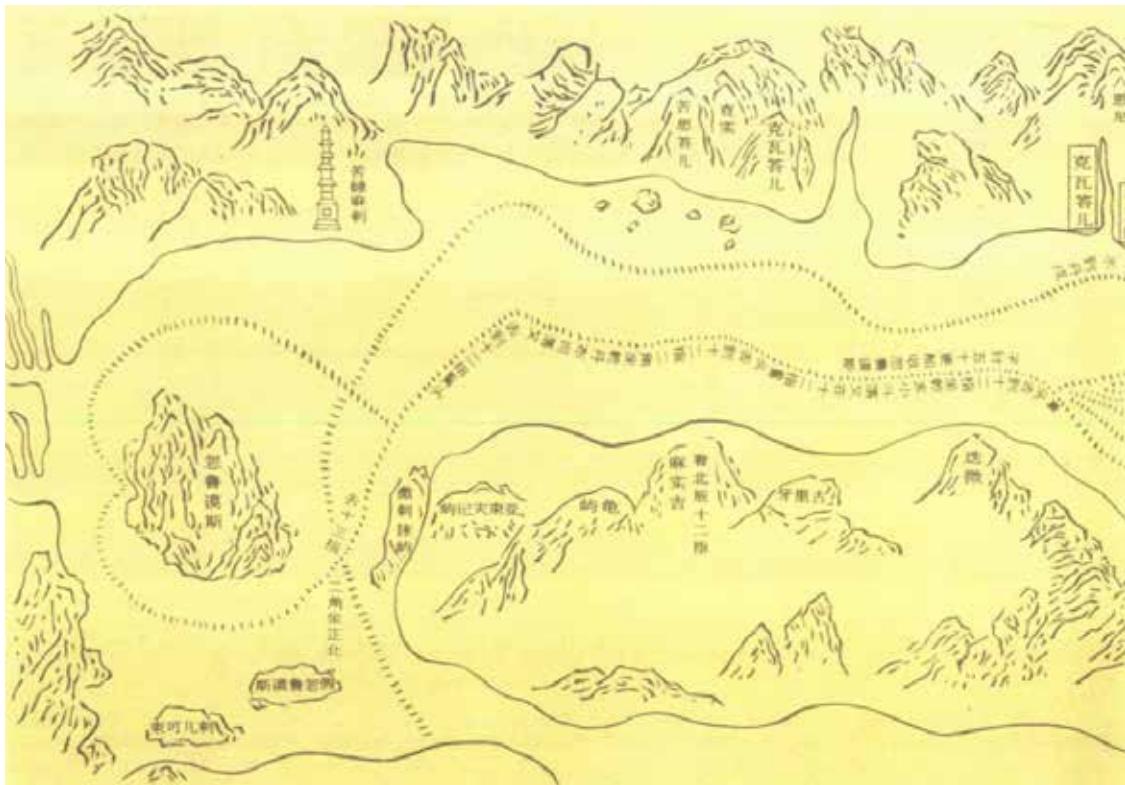


Figure 2: *Strait of Hormuz in the Mao Kun navigation map, around 1410* (Source: Wikipedia commons)



Figure 3: *Musandam, the Omani Isle of Salamah with light tower in the Strait of Hormuz (1977)* © Dr. Wolfgang Zimmermann

Our guiding hypothesis for the following article is that Musandam was an important part of the southern economic hinterland of Hormuz for a period of at least 400 years in its heyday between the 14<sup>th</sup> and 17<sup>th</sup> centuries, and that the traces of this relationship are still recognizable, shaping the landscape and culture of today's Musandam<sup>2</sup>.

The paper is divided into five chapters. Based on historiographical analyses, field research and cartographic material, the topic is examined from a spatial and social-scientific perspective. The first chapter presents Hormuz as a global trading centre between the 14<sup>th</sup> and 17<sup>th</sup> centuries. The approach is based on historical sources. A focus lies on the examination of early reports from Persian, Chinese, Portuguese and Spanish travelers, particularly with regard to the supply situation of the island's population and the merchant ships. The second chapter combines systematic literature analysis with field work done by one of the authors in Musandam 50 years ago. This second chapter is dedicated to the then role of Hormuz as a driving power for the economic development of the entire region. Its special relations with and effects on Musandam are highlighted in particular concerning grain cultivation and exports. In the third chapter the authors outline traditional grain cultivation in Musandam in the 1970s. The objective is to draw some conclusions between the agricultural practice 50 years ago and during the 14<sup>th</sup> and 17<sup>th</sup> centuries. The fourth chapter is an excursus on grain cultivation of one specific region in Musandam, which like no other stood for cereal production. The fifth chapter summarizes the findings of the relations between Musandam and Hormuz, its mutual benefits and values.

## 1. HORMUZ - GLOBAL TRADE CITY

Over many centuries, Hormuz acquired the reputation of a well-famed centre of trade<sup>3</sup>. During the period when the city was still situated on the mainland, west of the oasis of Minab, Hormuz managed exclusively regional trade for the Persian province<sup>4</sup>. Around 1300 Hormuz was relocated on

<sup>2</sup> See Zimmermann and Goldfuß, 2023.

<sup>3</sup> Schwarz, 1914; Williamson, 1973; Carls, 1999 and Couto, 2010

<sup>4</sup> Carls, 1999: 39

the island of Jarun at a distance of 30 km, so as to be sheltered from landside attacks and to better control access to the gulf by its own fleet. Trade centres further to the west thus lost their significance<sup>5</sup>. This relocation of Hormuz actually became the “turning point” in its history<sup>6</sup>. The city took the name Hormuz with it<sup>7</sup>. After times of relative independence, Hormuz was governed by the Portuguese for more than 100 years between 1515 and 1622. After the fall of Hormuz and withdrawal of the Portuguese, the city was replaced on the northern shores of the Gulf. The site was later known as Bandar Abbas<sup>8</sup>.

The Persian scholar Abd Razzaq Samarqandi who visited the island in 1442 gives an early quite detailed description of Hormuz (quoted from Piacentini Fiorani, 2000: 177):

*“Harmuz, which they also call Ġarūn, is a port on the open sea which has no equal on the face of the earth. Thither be take themselves merchants from the seven climes: from Egypt and Syria, from the Land of the Rums, Ādarbāyğān, Arabian and Persian ‘Iraq, and the provinces of Fārs, Ḫurāsān, Maṣwara’ al-Nahr and Turkistān, from the Qipčāq plain, the territories of the Kalmūks and all the realm of China and Ḫānbāliq. Thither coast-dwellers from the confines of China... the coasts of Arabia as far as Aden, Ġiddah and Yanbū’ bring rare and precious things to which the sun and the moon and the fertilizing virtue of the clouds have given lustre and beauty, and which can be brought by sea to that country. To that land come travellers from all parts of the world, and whatever they bring they find in that city, without overmuch search, the equivalent value thereof in whatever form they desire, whether by sale or exchange. The official levy is the ten*

<sup>5</sup> Hormuz quickly rose to become an international trading metropolis and the reputation of its fantastic wealth subsequently spread all over the world. It was described, for example, by the famous English poet John Milton (1608-1674) in his epic poem *Paradise Lost*: “High on a throne of royal state, which far - Outshone the wealth of Ormuz and of Ind, - Or where the gorgeous East with richest hand - Showers on her Kings barbaric pearl and gold, Satan exalted sat, by merit rais’d” (Milton, 2005: 40)

<sup>6</sup> Williamson, 1973: 59

<sup>7</sup> Carls, 1999: 53 ff, 61, 205

<sup>8</sup> Carls, 1999: 13 and Schweizer, 1972: 8-11, who also presented this clearly in cartographic form

*percent ad valorem duty on everything except gold and silver. People of all religions, and even idolaters, meet in this city, and nobody permits any hostile gesture or injustice against them. For this the city has been given the name of Dār al-Amān (The Abode of Security)".*

The global importance of the city of Hormuz started in the 14<sup>th</sup> century and lasted until the end of the Portuguese era<sup>9</sup>. At the peak of its global outreach four trade missions sent by the

Ming emperors Yōnglè 永樂 (reign 1402-1424) and Xuāndé 宣德 (reign 1425-1435) reached Hormuz. The mighty fleets were led by the Muslim admiral Zhèng Hé 鄭和 (1371-1433 or 1435)<sup>10</sup>. During three of his missions Admiral Zheng He was accompanied by the Muslim translator Mǎ Hǔan 馬歡. He wrote a report which was finished after the return of his last voyage and widely disseminated throughout China under the title *Yīngyá shènglǎn*瀛涯勝覽(1416), translated into English by J. V. G. Mills *The Overall Survey of the Ocean's Shores*. Hormuz is described vividly by Ma<sup>11</sup>. About the trade activities, he stated: "Foreign ships from every place and foreign merchants travelling by land all come to this country to attend the market and trade; hence the people of the country are all rich" (Ma/Mills, 1970: 165).

On the equally important navigation map of Zheng He (*Zhèng Hé hánghǎitú* 鄭和航海圖), known by the name of Máo Kūn 茅坤 Map (compiled in 1621 and published in 1628 in the Ming Dynasty military treatise *Wǔbèi zhì* 武備志 - Fig. 2 -), Hormuz (in Chinese Hūlǔmòsī 忽魯謨斯) is the point of final destination surrounded by the islands of Qeshm (Jiāhūlǔmòsī 假忽魯謨斯) and Larak

<sup>9</sup> Schwarz, 1914: 543, proves, based on Teixeira, that a decline of Hormuz began already with the Portuguese rule from 1507.

See also Williamson, 1973: 61 f

<sup>10</sup> Jost, 2008; Lin/Zhang, 2015 and Kauz/Ptak, 2001 who confirm that „... Hormuz constituted a major port-of-call for the early Ming navigators“ (p. 30)

<sup>11</sup> The chapter on Hormuz (The country of Hu-Lu-Mo-ssu), 165-172, summarizes the impressions of Ma, especially customs and religious customs, the people, street life, money, writing, climate, geography of the island, products and goods. Ma repeatedly takes a position on Islam in his description of Hormuz (p. 166). He also mentions the lack of "wine shops" (p. 167)

(Láerkeshù 刺兒可束)<sup>12</sup>. On the last page, the Omani isles of *Salamah wa Banatuha*, (Sálámöyü 撒刺抹嶼 - see Fig. 3 and Fig. 4 -), appear next to Hormuz and on the penultimate page of the map Musandam (Dōulímǎxīnfū 都里馬新富) is mentioned for the first time in navigation directions.

Trade relations between Hormuz and China had existed since early times<sup>13</sup> and were especially strong during the Yuan Dynasty (1279-1368). Due to the enormously far stretching power of the Mongolians, the spheres and interests of Eastern Asia and the Gulf Region almost converged<sup>14</sup>. From around the year 1293 the presence and constant trade activities of large

Chinese junks in maritime Hormuz are reported<sup>15</sup>.

Hormuz concentrated for almost 400 years between the 14<sup>th</sup> and 17<sup>th</sup> century not only the important regional trade within the Gulf, but also major trade activities to and from central Persia and beyond, Oman, Southern Arabia until the Mediterranean and Eastern Africa. It was also the main trading hub for all transoceanic long-distance commerce. Trade with India was both complementary and indissolubly linked to the regional trade, especially with the Gulf.

The geography of the isle (see Fig. 5), the wealth and role of Hormuz have been described extensively<sup>16</sup>. The same applies to the physical

<sup>12</sup> See Ptak, 2019

<sup>13</sup> For a comprehensive insight into the long and varied history of relations between the Chinese and Islamic worlds, see Park, 2012. Also, on the use of Chinese porcelain in Hormuz and the Persian court: Loureiro, 2015.

<sup>14</sup> See Park, 2012: 91-124: chapter interpreting the Mongol World: Chinese understanding of the Islamic world, 1260-1368

<sup>15</sup> Aubin, 1953: 90. Also, Kauz/Ptak, 2001: 27: „During their long sojourns in Hormuz, Chinese officials must have been in frequent touch with the local elite. This probably enabled the princes of Hormuz to gain some insight into the Middle Kingdom's commercial power and the nature of the tribute trade system. They thus sent several embassies to China which were classified as „tribute envoys“ in Ming sources. These embassies submitted „horses and local products to the Chinese Court. The Chinese in turn learned about the role Hormuz played in trade with the Middle East and, more indirectly, with the Mediterranean“.

<sup>16</sup> See Teixeira, 1902: 164/6 and Barbosa, 1912: 90 f. A summary gives Rowland, 2017; See also Carls, 1999.

size of this large and densely populated city: „*Une évaluation de 1554 parle de dix à douze mille feux (vizinhos), soit au bas mot dans les 50.000 inhabitants. À la fin du siècle le même chiffre est avancé ...*“ (Aubin, 1973: 150)<sup>17</sup>. This included also a huge number of civil and military officials<sup>18</sup>. Duarte Barbosa who visited Hormuz shortly before 1519 called it the “*fair city of ormuz*” (Barbosa, 1912: 90). Two examples underline the economic significance of Hormuz and the multitude of its trade partners: When Alfonso de Albuquerque (1453 - 1515) seized Hormuz in October 1507, 400 ships were gathered in the port, 60 of them being of considerable size (quoted from Floor, 2016: 117). A hundred years earlier, the fleet of Admiral Zheng He reportedly comprised the impressive number of 200 ships (*hăiyunchuán* 海運船) including 62 treasure vessels (*băochuán* 寶船)<sup>19</sup>.

This significance as global trade hub was meticulously analysed and presented from a European perspective by Dejanirah Couto, from a Chinese perspective by Ralph Kauz and Roderich Ptak and in a comparative approach of the Chinese and the Islamic world by Hyunhee Park<sup>20</sup>.

The most important goods traded to India were pearls, salt and horses. Dejanirah Couto states about 1,000 horses per year (Couto, 2010: 48)<sup>21</sup> and for the year 1550 she even talks about 2,000 horses, which

<sup>17</sup> See also Garcia de Silva y Figueroa, who was in 1617 in Hormuz and left a detailed description (Silva Figueroa, 1903: 250-269). On page 262 he speaks of 2500 to 3000 houses/households, 200 of them Portuguese and on page 263 of 40.000 inhabitants. Teixeira, 1902: 167, who visited Hormuz in 1596 writes: „The city is not now very great, though it has been. But the most and best part of it was removed to clear a great esplanade in front of the fortress. The houses are well built, of an indifferently good stone, quarried on the island, and of that fished out of the sea, as has been related already, which is light, and best endures the earthquakes from which the isle suffers. The cement is made of white gypsum, abundant on the mainland, which they call gueche and of a local sort, red, and not so good.“ See also Carls, 1999: 63

<sup>18</sup> Aubin, 1953: 127

<sup>19</sup> Jost, 2008: 11-18

<sup>20</sup> Couto, 2010; Kauz/Ptak, 2001; Park, 2012. See also Lin/Zhang, 2015 and Jost, 2008

<sup>21</sup> And Aubin, 1953: 97, comments that the horse trade is well documented and speaks of 1400 horses a year

means about 150 per month. Jean Aubin describes in detail the journey of a ship between Goa and Hormuz in 1520/21. He confirmed the number of 71 horses on board (Aubin, 1988: 421) which meant a weight of 50 tons without the animal feed. Among the huge variety of traded goods were also Persian silk, carpets, pearls, food products (dates, fish, vegetables, fruit and dried fruits, grain etc.), salt, gold and silver coins as well as fine weaponry. From India came cotton products, butterfat, sugar, rice, spices, wood and iron, plus luxury goods like precious stones, jewellery and Chinese porcelain. From central Persia came medical drugs and alum<sup>22</sup>.

The merchants lived in the city of Hormuz and traded from there. The stores and warehouses were situated there, too. Numerous goods from all over the seas were loaded and unloaded. Big ships bounded for and returned from India, southern Arabia or Africa as well as small vessels for and from the ports of the Persian Gulf. Customs were paid. Hormuz was the trading, reloading, transition and distribution hub, a logistics centre and an important resource point for ships and crews. The numerous and necessary labourers and craftsmen either lived on the isle or travelled there temporarily as seasonal workers<sup>23</sup>.

Hormuz: major economic factor for the region and relations with Musandam

Hormuz was not only a central commercial hub, but also a major economic factor for the whole region: such an important city with this huge population needed supplies, especially food and first and foremost potable water. Ships calling at Hormuz required provision for onward journeys<sup>24</sup>, crews and travellers had to be fed during their stay; the horses needed fodder plus straw both at land and during the transport to further destinations. Hormuz itself was a small, mountainous and mainly barren island. In this arid environment without life-supporting oases<sup>25</sup>, it was a crucial logistical task to ensure these complex

<sup>22</sup> See Couto, 2010 and Aubin, 1953 and 1973

<sup>23</sup> Aubin, 1973: 151 mentions seasonal workers in Hormuz.

<sup>24</sup> On the equipment and provisions of a ship around 1520/1 writes in detail and impressively: Aubin, 1988: 428 ff

<sup>25</sup> A very descriptive account with topographical map of Hormuz gives Schweizer, 1972: 10

supply structures. Pedro Teixeira mentions these conditions in his book about his visit to Hormuz in 1596: “*Although the isle produces nothing of*

*its own, all supplies are imported in abundance, and everything fetches a fair price, and is sold by weight.”* (Teixeira, 1902: 166 ff).



Figure 4: Musandam, view from Jazirat Musandam into the Strait of Hormuz (1977) © Dr. Wolfgang Zimmermann

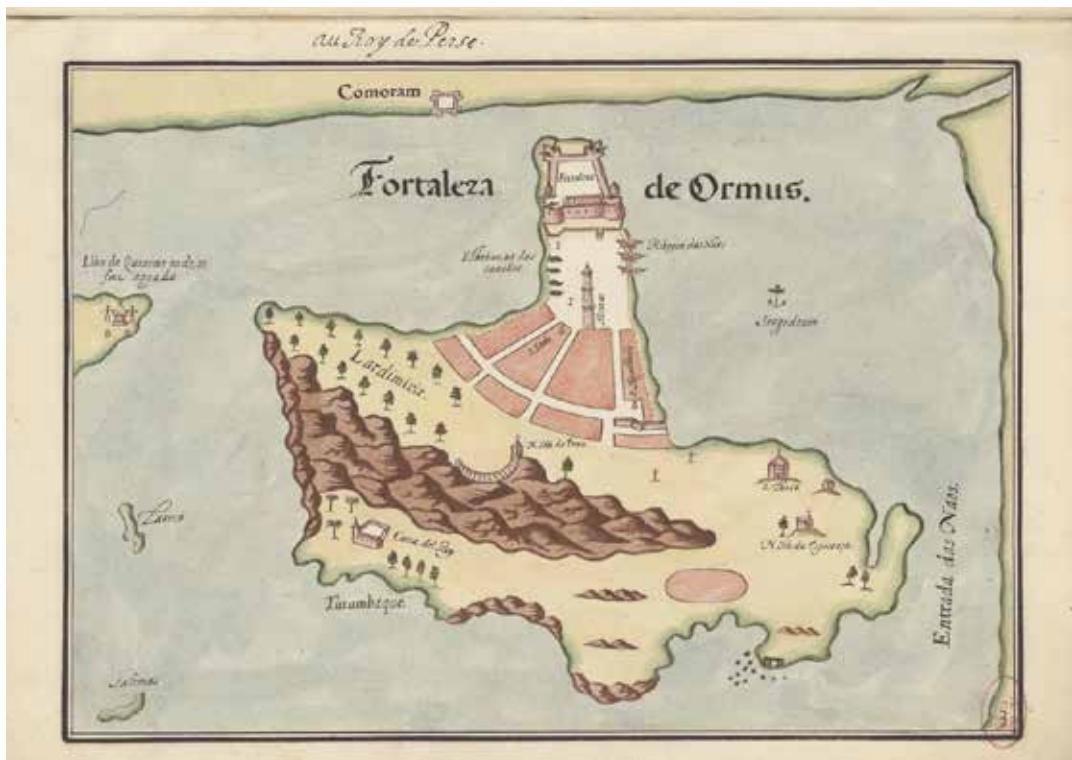


Figure 5: Hormuz around 1610/20 (Source: Albernaz, Joao Teixeira 1648. *Plantas das cidades, portos, fortalezas da conquista da India Oriental*. Courtesy of the Bibliothèque Nationale de France)

Hans-Georg Carls examines in his German doctoral dissertation<sup>26</sup> the supply routes coming from various places on the Persian mainland and the other islands. Daniel Potts gives in his study about Qeshm, the large neighbouring island to the west of Hormuz, some ideas of the dimensions of the supplies needed. He notes about the Portuguese times that cattle, wheat, barley, millet, and above all water were shipped from Qeshm to Hormuz. He talks about a deliverance of 380,000 litres<sup>27</sup> per day for which one needed according to Willem Floor the impressive number of 300 boats<sup>28</sup>.

In all available literature there is little evidence on the relations between the world trade centre of Hormuz and its southern hinterland, Musandam. This is surprising as both are not only situated closely to one another (see Fig. 6), but also fast and easily to be reached. A swift *batil*, a common wooden rowing

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26 Carls, 1999

27 Potts, 2011: 101f, where he discusses the water issue. It is not reported whether this water comes from wells or rain-water cisterns. The authors here suspect the latter. An example may illustrate this even more: an average-sized, normally filled cistern measuring 10x20x5 m (as was the case in Musandam) has a capacity of about 1000 m<sup>3</sup>. With a daily water consumption of 380 m<sup>3</sup>, around 140 cisterns of the above dimensions would be necessary to cover the annual requirement. Barbosa, 1912: 97, also clearly refers to the city's water imports: "Even the water comes from outside, from the main and from the neighbouring isles for their drinking in certain small boats which they call *teradas*, as I have said before. And all the open places are constantly full of all this food and wood (which also they bring from outside) in great abundance, and everything is sold by weight at fixed rates." Also: Teixeira, 1902: 165 about the cisterns in Hormuz: "There is no fresh water, but rainwater caught and stored in many cisterns, which are of great relief to the poor in summer". We assume that the demand for water was so high, that just only rainwater collected from run-off and saved in the cisterns was not sufficient and that imported water was stored here too. See also Silva Figueira, 1903: 267 who writes that all water comes from cisterns, without mentioning how it gets there, whether by ship transport or by run-off rain.

28 Floor, 2016: 121: quotes for July 1547 a certain captain Manuel de Lima, who "...further pointed out that the 300 *teradas*, which brought water and food supplies to Hormuz every day .."

boat (Fig. 7)<sup>29</sup>, needed in the 1970s 13 to 15 hours to travel between Kumzar and Larak. And from here some five to eight hours to Hormuz (rowing and additionally setting sails to the boat)<sup>30</sup>. Indeed, not a very long distance to cover. - The *batil* with its pear-shaped design - traditionally built in Kumzar<sup>31</sup> in the north of Musandam - was adapted to the special conditions of the waters around Musandam and in the Strait of Hormuz, especially to the short and high waves<sup>32</sup>. We cannot say anything in detail about the boats used several hundred years ago<sup>33</sup> but the *batil* of the 1970s may be quite suitable for a realistic approximation.

Other examples - not from the very past but from the 1970s and now 50 years ago - show the still astonishing relations across the Strait of Hormuz<sup>34</sup>:

it was not uncommon to go by boat (*batil* and later diesel-powered *lanj*) from Khasab to Qeshm on Fridays to pray in the mosque there,

families migrated seasonally between the isle of Larak (Iran) and Qada (Musandam/Sultanate of Oman) every summer for the date harvest by *batil* and since end of the 1970s by *lanj* (until 1983 to then settle permanently in Qada), family ties and also trade could be reported for Kumzar and Larak<sup>35</sup> as well as a common language<sup>36</sup>.

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29 More on *batil* and other boats in Musandam in the 1970s, with pictures: Zimmermann and Goldfuß, 2023: 100-112

30 Wolfgang Zimmermann, field notes 1977-1979

31 Rowing boat building in Kumzar came to an end in the late 1970s (Wolfgang Zimmermann, field notes 1977-79, 1981-83)

32 For technical details of the recent *batil* see Weismann et.al., 2014 and Vosmer, 1997

33 Personal communication with Dr. Norbert Weismann

34 Wolfgang Zimmermann, field notes 1977-1979, 1981-83 and Zimmermann and Goldfuß, 2023. The spectacular trading relations by speedboats between the Iranian side and Khasab as observed in the 2010s and 2020s will only be mentioned

35 See also Lorimer, 1908: 1086, people of Kumzar buying salt on Larak

36 Anonby/Yousefian, 2011



Figure 6: *Musandam/Sultanate of Oman in the Strait of Hormuz*



Which historical documents can we get to bolster our argument? In the first place these are sources of the well documented Portuguese times in Hormuz mentioning larger costal settlements in Musandam such as Kumzar, Lima, Khasab, Dibba<sup>37</sup> and also Julfar<sup>38</sup> (now UAE). Lima was a constant resting place, supply station for potable water with a fort<sup>39</sup>. Fidelity and William Lancaster even report a *darb*

*al-khail*<sup>40</sup>, from the mountains to Lima on the coast. We translate this as a *donkey trail* with reference to donkey breeding in the mountains as late as the 1970s<sup>41</sup>. - Dibba<sup>42</sup> was described as a place of trade, which had a garrison, where the Portuguese got military support from the mountains. A town map was drawn because of its position on the route between Hormuz and Muscat showing settlements, date gardens and a larger fort (see Fig. 8 and 9)<sup>43</sup>.

<sup>37</sup> Craesbeeck, 1647: 40 and 163-166; also: Teixeira, 1902: 159. Cardi, 1975: 27, mentions Portuguese maps with locations from Musandam: Khasab, Lima and even Sibi at the eastern end of the Khawr Shimm. Beatrice de Cardi, doyen of the Southwest-Asian archaeology, indicates fortresses from Portuguese times on Jazirat Um Al Ghanam and on the opposite promontory Sifat Maqlab, and reports about shreds of Chinese porcelain and coins from Hormuz in various places in Musandam (Cardi, 1975: 28,30ff)

<sup>38</sup> For archaeology and medieval history of Julfar see Carter/ Zhao/Lane/Velde, 2020: 21-22

<sup>39</sup> Craesbeeck, 1647: 164

<sup>40</sup> Lancaster and Lancaster, 2011: 385

<sup>41</sup> Wolfgang Zimmermann field notes 1977-1979

<sup>42</sup> We use the exonym name of Dibba for the ancient place of today's adjacent settlements Daba Al Bayaah (Sultanate of Oman) and Dibba Hisn (UAE)

<sup>43</sup> The place name Mocombi probably stands for Karsha, north of Daba Al Bayaah, inhabited in the 1970s by the Maqamiyeen (Sg.: Maqami), the tribal name being adopted as the place name. Doba stands for Daba or even Dibba and Dubo is equivalent to Doob, either a place north of Dibba Hisn or another place of the same name between Dibba Hisn and Dibba Fujairah

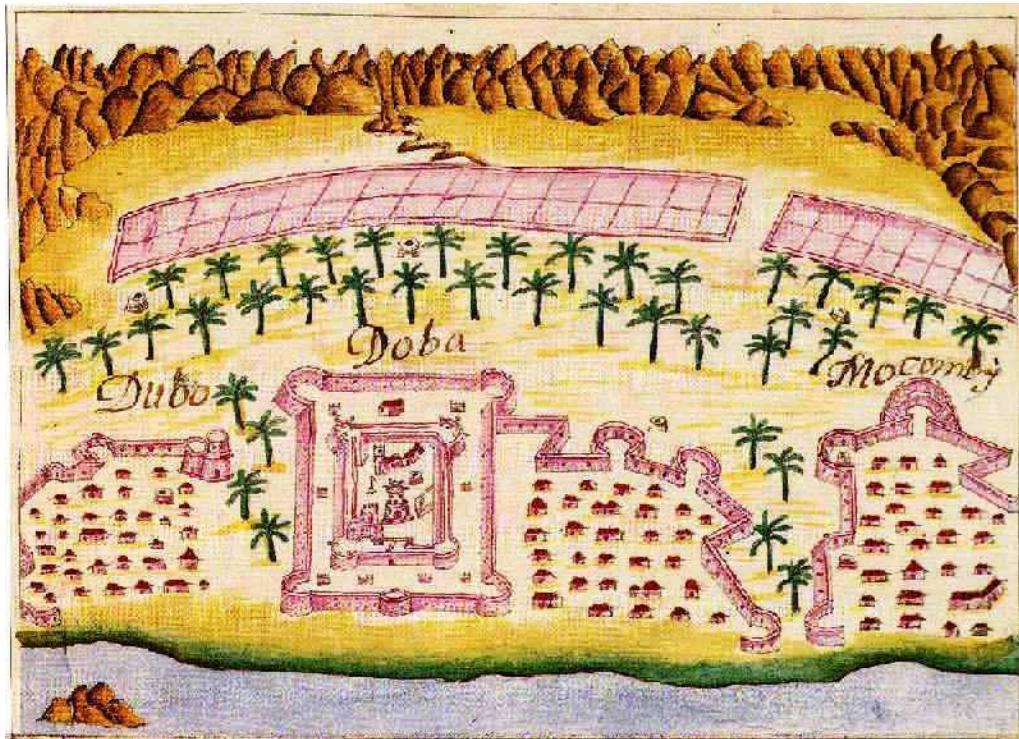


Figure 8: *Dibba around 1610* (Source: Godinho de Erédia, Manuel 1620. *Lyvro de Plantaforma das Fortalezas da Índia* - Wikimedia commons

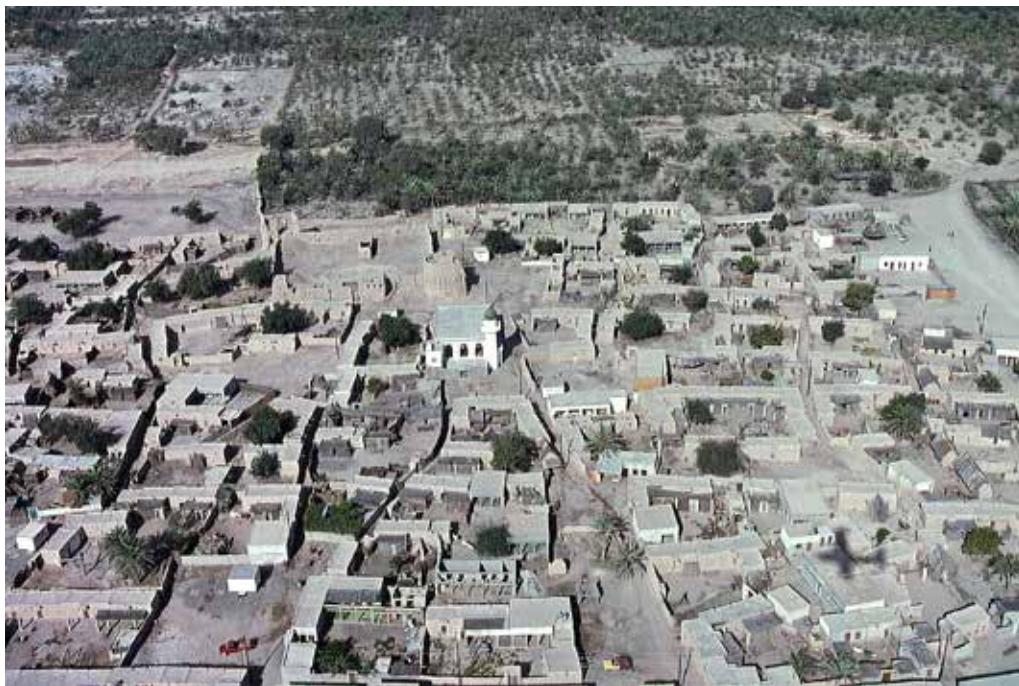


Figure 9: *Aerial view of Doba Al Bayyah in 1977 with ruins of the old castle and adjoining date gardens*1 © Dr. Wolfgang Zimmermann

1 A narrow footpath separates the quarters of Nisyah (left) with the old castle and the new mosque from Hail (right)

In the 1970s the gardens of Dibba Hisn and Daba Al Bayaah as well as of Khasab had each a size of 120 respectively 70 ha (see Fig. 9) and produced besides dates also vegetables<sup>44</sup>. Their city markets served as places to provide the mountain hamlets with goods but also to trade products from these high up areas like grain, straw, honey, but also animals (goats, donkeys).

We assume that a factor was present in Dibba and in Khasab, if not even a factory, a trading establishment that organized trade and controlled the production of goods. Fidelity and William Lancaster quote in their study sources proving the prosperity of the region by showing the tax revenues of various cities including Khasab for the period around 1541/3<sup>45</sup>.

Khasab was situated as today at the heart of a large bay sheltered from storms, currents and high waves. A huge fortress by the sea (see Fig. 10)<sup>46</sup> is still to be found. A circular tower of uncertain origin is erected in its centre<sup>47</sup>. A fascinating remark on Khasab is given by the Portuguese general Ruy Freyre de Andrada when he visited this settlement around 1620/21. He referred to it as *Caçapo* proving the continuity of the name of Khasab (at least from then to the present). We thereby also get the confirmation of the strategic importance and military value of this naturally favourable location. Ruy Freyre de Andrada outlines are reproduced in the book of the Paulo Craesbeeck (Craesbeeck, 1647: 165):

*„... they sailed for Caçapo, a place they found depopulated, the fortress defenceless, and the people withdrawn into the mountains. The general thought it would be very useful to fortify this place, because it was situated on a beautiful bay, sheltered from all winds, twelve miles from Hormuz, from where it would be easy to wage war not only against Hormuz*

<sup>44</sup> See the cartographic maps in: Zimmermann and Goldfuß, 2023 on Khasab (p. 46) and Dibba (p. 55) and Fig. 8 in this text

<sup>45</sup> Lancaster and Lancaster, 2011: 388/9 cite here Aubin, 1973: 219 for the tax receipts 1541/3 alongside Khasab with 12 Lacs, Julfar 45, Qalhat 30, Khor Fakkan 25. However, this information could not be found in Aubin.

<sup>46</sup> Even in the 1970s the fort served as residence and office of the wali. Today is renovated and used as a museum

<sup>47</sup> The then qadi Ahmed Ibrahim al-Kemali attributed it to the Portuguese (Wolfgang Zimmermann field notes 1977-1979)

*but against the whole of Persia.“<sup>48</sup>*

The use of water resources was always vital. At the end of the valley, southeast of Khasab, in Al Khaldiyyah (for location see Fig. 6) is a large rainwater cistern of Portuguese origin (Fig. 11)<sup>49</sup>. We believe that it provided the garrison and ships with potable water of high drinking quality in large quantities. The transport of the water barrels was organized by camels or donkeys, both of which were still numerous here in the 1970s. The wells of the oasis served mainly to irrigate the gardens.

© Dr. Wolfgang Zimmermann

Musandam’s east coast as a whole certainly played a role in terms of water supply for the vessels sailing southwards from Hormuz, via Dibba and Khawr Fakkan to Muscat and coming from the south before entering Hormuz. For example, in Khawr Shabus and in the Khawr Al Hablayn were old cisterns situated close to the seashore but far away of any village that collected run-off water from the respective water harvesting areas (same procedure as of the run-off irrigation system described below). These cisterns were in the 1970s still in use by families of Al Hablayn, Shabus and Balad. When asked about their origin, people always responded that the water reservoirs were very old and Portuguese. Also, the well in Kumzar was used as a supply source by passing ships<sup>50</sup>.

From the research on Hormuz done by Jean Aubin<sup>51</sup> we know that not all settlements of regional importance were mentioned in the existing sources if they were not directly related

<sup>48</sup> Translated by the authors from the original Portuguese text:  
„... passarão a Caçapo lugar, que acharão despouado, a fortaleza desemparada, & a gente acolhida para a serra. Achou o Geral q seria de grande effeyto fortificarse aquella praça por ficar em húa bahia muyto fermosa abrigada de todos os ventos, em distancia de doze legoas de Ormuz, & que dalli se podia fazer muyta guerra não só a Ormuz, mas a toda a Persia.“ (Craesbeeck, 1647: 165)

<sup>49</sup> Information of the former wali of Khasab Sayyid Majid bin Taimur Al Sa’id, cousin of the then Sultan Qaboos, and the then qadi Ahmed Ibrahim al-Kemali (Wolfgang Zimmermann, field notes 1977-79). The cistern could be explored and photographed in 1977 before it was finally built over.

<sup>50</sup> Information from Shaikh Mohammad Hassan al-Zarafi al-Kumzari (Wolfgang Zimmermann, field notes 1977-1979); about the well in Kumzar see also footnote 55

<sup>51</sup> Aubin, 1973: 164 ff and Aubin, 1988: 431; also: Aubin, 1953



Figure 10: *Musandam, aerial view of the great fort on the seashore of Khasab (1978)* © Dr. Wolfgang Zimmermann

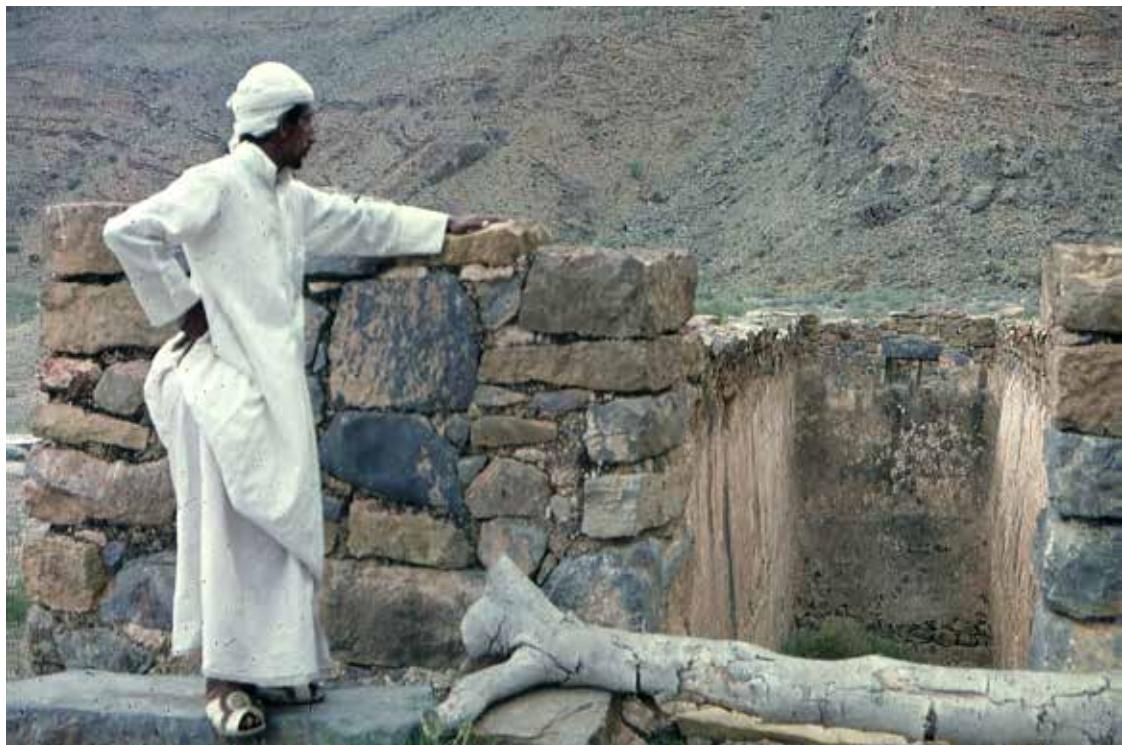


Figure 11: *Musandam, the “Portuguese” cistern (birkah) of Al Khaldiyyah (1977)*

to the international trade and activities, themselves. He discerns two different kinds of markets and ports in the surroundings of Hormuz: *bandar* or *bangsār* and *sīf*. The former - being commercial centres - were called by large ships, sold imported goods<sup>52</sup> in the region and local merchants organized transit trade from here. The latter ones were *depots* or *entrepôts de la douane* collecting grain and other local goods. *bangsār/bandar* used to be mentioned in the sources, whereas *sīf* generally not. As for Musandam, Lima and Kumzar may have been *sīf*, Dibba and Khasab were *bangsār*.

But Kumzar was certainly more than just only a *sīf*. It must have been a place of great importance and value for Hormuz and the Portuguese. A unique and 400 years old description of the relations between Kumzar and its people to Hormuz can be found in the book of the Portuguese typographer with Flemish ancestry Paulo Craesbeeck we just mentioned for Khasab. Craesbeeck describes presumably for 1620/21 - quite close to the end of the Portuguese dominion - military excursions of Ruy Freyre de Andrada, *General do Mar de Ormuz e costa da Pérsia e Arábia*. He comments on the military and economic value of Khasab and highlights the role and importance of Kumzar<sup>53</sup> and its inhabitants. Paulo Craesbeeck writes (Craesbeeck, 1647: 165): „,the general sailed along the coast, and rounding Cape Mosandão, he arrived at Camusa, where he was well received by the inhabitants of the town, because all the inhabitants of their town had been sailors of our rowing fleets of Hormuz, and these were people with whom no attempt to betray us had ever been made. Here the galleys provisioned themselves ....“<sup>54</sup>.

52 Like rice, butterfat, cotton products, tea, sugar, spices and even iron

53 Craesbeeck, 1647. Khasab is written *Caçapo* and Kumzar Camusa (page 164) and Camuça (page 40)

54 Translated by the authors from the original Portuguese text, Craesbeeck, 1647: 164f: „... se foy o geral correndo a Costa, & dobrando o Cabo de Mosandão chegou a Camusa, aonde foy bem recebido dos naturaes da Cidade, por quanto todos os moradores della forão marinheyros das nossas armadas de remo em Ormuz & foy gente, em quẽ senão achou nunca intento de treyçāo contra nos. Aqui se prouerão e refresco asgaleotas, ...“ - We would like to thank Professor Dr. Jürgen Lang for the correct reproduction of the 370-year-old Portuguese text and it's translation into German

In particular interesting and supporting our assumptions are four facts mentioned by Craesbeeck about Kumzar and its people:

firstly, Craesbeeck reports that the *Kumazirah* were well known workers in Hormuz and all were working in the rowing fleet, confirming the need of experienced work force from Kumzar,

secondly, Craesbeeck highlights that the *Kumazirah* were friendly and loyal which proves the good relationship between Kumzar and the Portuguese of Hormuz,

thirdly, Craesbeeck calls Kumzar a *Cidade*, a city or a town referring to the structural relevance of this place<sup>55</sup>. – And, if we look back just only for 50 years to the 1970s: Kumzar was quite a populous, thriving settlement of 1860 inhabitants<sup>56</sup> who earned their living mostly from fishing but also from trade and boat building for the entire province. In the nearby coastal mountains and on the surrounding islands lived families cultivating grain (see Fig. 15), keeping goats as well as doing fishing,

fourthly, Craesbeeck writes that the Portuguese provisioned in Kumzar their ships with goods and most probably sweet water from the high yielding well<sup>57</sup>. This shows that there was sufficient supply of goods and water to be sold. A constant source of good income.

Indeed, Kumzar being so close and just only a rowing boat ride of 18 to 23 hours away had an active relationship with Hormuz and must have benefitted and prospered during the four hundred years of Hormuz's heyday.

During our fieldwork in Musandam in the 1970s, in particular people from Kumzar still explained to an astonishing extent the origin of many relics with the presence of the Portuguese in Hormuz and in

55 Peter Rowland - who worked as Chief Engineer for the Musandam Development Committee in Oman in the mid-1980s - mentions a factor for Kumzar (Rowland, 2017: 2)

56 Zimmermann, 1981a: 130; by far the third biggest settlement in Musandam in the 1970s

57 The well was used until 1978 when it was replaced by a water desalination plant. In the stories of the Kumazirah, it was repeatedly reported that passing ships were supplied with water. The grooves in the edge of the well prove that it was used far beyond local needs.

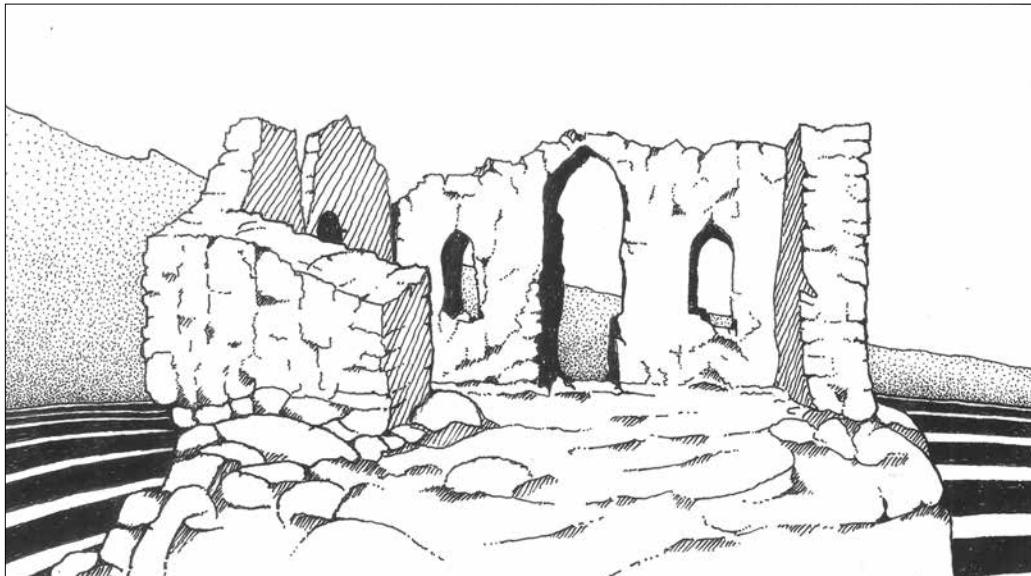


Figure 12: *Musandam, the old ruins above Kumzar, lately used as a mosque (sketch by F. Scholz)*.

the region<sup>58</sup> i.e. the various ruins of the deserted settlement of Tēla‘u in the coastal mountains southwest of Kumzar and on the so-called Jabal al-Qasr (with Telau and Tasmī)<sup>59</sup>, as well as the relics on Jazirat Musandam, which indicate fortifications<sup>60</sup>. One interesting question remains: Were the ruins (see Fig. 12) on the slope above Kumzar’s school centre a former Portuguese building before it was

made a mosque by the venerated imam Mohammed Saleh al-Muntefiqi?

Oral communications back in the 1970s revealed that leading Kumzari families related their ancestry to princely lineages of Hormuz. We found this quite remarkable in relation to the special relations between Hormuz and Kumzar even before the Portuguese period. We would also like to mention, that the Dhahuriyin, a smaller tribe, proudly told some stories saying that the princes of Hormuz gave them property rights of agricultural land in the mountains for grain production<sup>61</sup>. A particular interesting story of the collective memory of the *Kumazirah* refers to Hormuz: with the overthrow and collapse of the Portuguese dominion in Hormuz also the loyalty of the *Kumazirah* came to an end as they claimed that they had taken an old city gate of Hormuz to Musandam after the defeat of the Portuguese, the destruction and pillage of the city and that they inserted it into the structure of their refuge in Khasab<sup>62</sup>. Jean Aubin confirms this pillage of Hormuz by indicating the role of indigenous

58 In particular information from Shaikh Mohammad Hassan al-Zarafi al-Kumzari (Wolfgang Zimmermann, field notes 1977-79)

59 For the topographical location of these places see Fig. 13

60 A complex of ruined remains on this Omani island is related by the people to the Portuguese which could be within the realm of possibility. Campos, 2008 and Potts, 2013, who also refer to a Portuguese castle on Larak. Aubin, 1953: 123, says generally: "Sur les rives iranienne et arabe du Golfe dans toute sa longueur des poste fortifiés, de même que sur tout le front mer de de l'Oman, où Qalhāt, extrême point sud-ouest...". The importance of these Arab possessions for Hormuz describes Schwarz, 1914: 543: „Wichtig war für Hormuz in diesen Kämpfen der Besitz an der Küste Ostarabiens, er sicherte ihm eine doppelte Kontrolle über den Handelsverkehr. Wie Hormuz von diesem Besitz abhing, zeigte sich bei einem Zwiste in der regierenden Familie, als der aus Hormuz vertriebene Herrscher in Kalhāt sich festsetzte und von dort nicht nur den Handel, sondern auch die Verpflegung von Hormuz empfindlich störte. Sobald beide Besitzungen wieder in einer Hand vereint waren, „ermäßigte sich der Preis der Lebensmittel“ in Hormuz; bis dahin waren sie „unzureichend und teuer“ gewesen.“

61 Wolfgang Zimmermann, field notes 1977-1979

62 Information from Shaikh Mohammad Hassan al-Zarafi al-Kumzari (Wolfgang Zimmermann, field notes 1977-1979). Because of our extensive visual documents of the 1970s we were often asked today whether we could give evidence to that story which regrettably is not possible as one author didn't see it then in the 1970s.

people, “les déprédateurs des indigènes ont aboli les traces de l’Ormus” (Aubin, 1973: 83). This narrative on the pillage of Hormuz with an involvement of the *Kumazirah* reflects a further

close relationship with Hormuz in the past. It was told over many generations until it was almost lost in the tides of the tremendous modernisation of the peninsula starting in the 1970s.

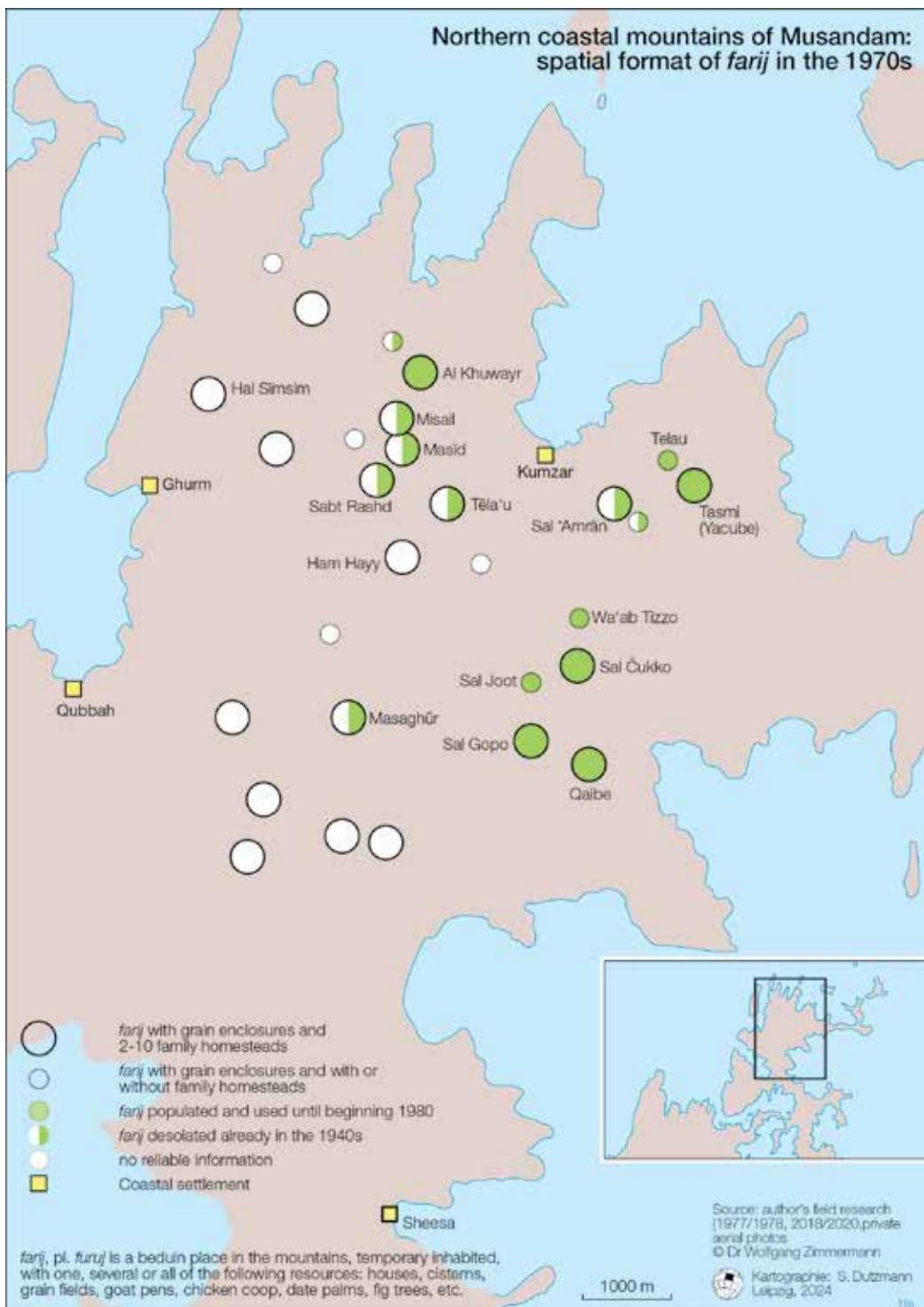


Figure 13: Northern coastal mountains of Musandam: spatial format of farij in the 1970s

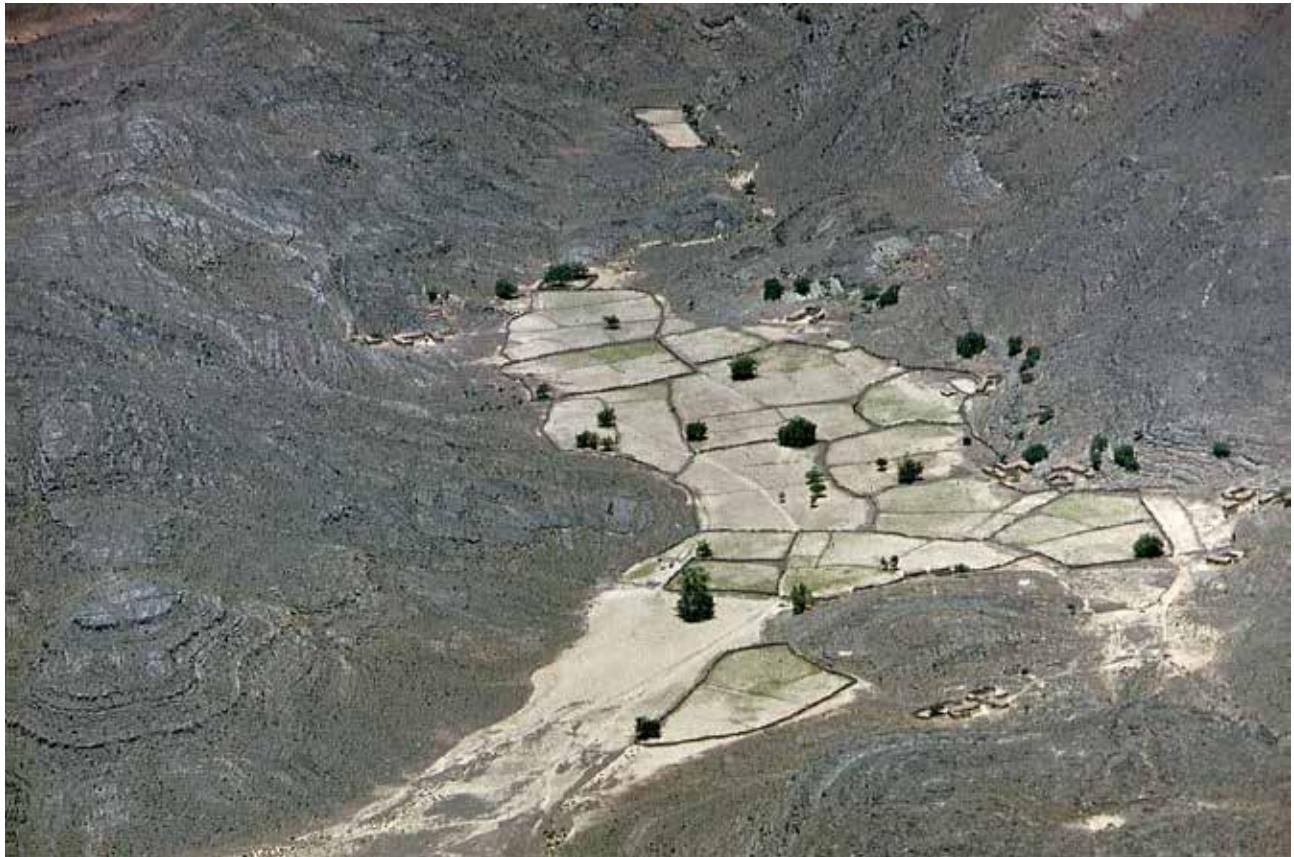


Figure 14: *Musandam, aerial view of the hamlet Sal Čukko with grain enclosures (northern coastal mountains) in summer 1978* (© Dr. Wolfgang Zimmermann)

Not only Kumzar itself but certainly the whole northern region was involved in the relationship by producing and certainly also delivering grain, honey, fish, goats, donkeys and rowing boats (see above). And, above all, northern Musandam must have provided sufficient labour force available and various transportation services for the busy commercial hub. Figure 13 gives an overview of the quite dense settlement area of northern Musandam still in the 1970s with Kumzar in its centre. Figure 14 shows just as an example the panorama of the agricultural area of Sal Čukko with beduin family farmsteads grouped around the grain fields<sup>63</sup>. During a field reconnaissance at the Jazirat Musandam in 1978, one author discovered and mapped a farmstead that had been deserted for about 40 years (Fig. 15).

<sup>63</sup> The cartographic map of Sal Čukko and surrounding places of the 1970s will be published in "Zimmermann, Wolfgang and Goldfuß, Gabriele. *Musandam. Places and People. A Historic-Geographical Atlas of an Omani Province in the 1970s*"

Jean Aubin stated with regard to Pedro Teixeira and to Abd al-Razzaq Samarqandi that the dominion of Hormuz extended around 170 kilometres inland and he added: "*Le rayonnement d'Ormuz s'étendait beaucoup plus loin que les territoires placés sous son contrôle effectif.*" (Aubin, 1953: 124). In our opinion, this relates not only to the Persian mainland and Qeshm but also to the south, to Musandam, laying at a distance of only 80 km (see Fig. 6). Based on this and all the above-mentioned findings Musandam must have been, according to our hypothesis, for almost 400 years a vital part of the southern economic hinterland of Hormuz especially in its heyday between the 14<sup>th</sup> and the 17<sup>th</sup> century. Musandam could not be compared to the importance of the much more closely situated and bigger northern Persian hinterland<sup>64</sup>. Nevertheless, for Musandam the flourishing global centre of

<sup>64</sup> i.e. the island of Qeshm or the oases around Minab and Bandar Abbas

trade and its always-growing demand must have constituted an attractive and “hungry” market for labour force, agricultural products, especially grain, for transport and logistical services as well as for boats. This demand induced in the whole region

and likewise in Musandam an economic boom and a population growth. People immigrated to the region, new settlements were built, and agricultural production especially the cultivation of grain was enlarged.

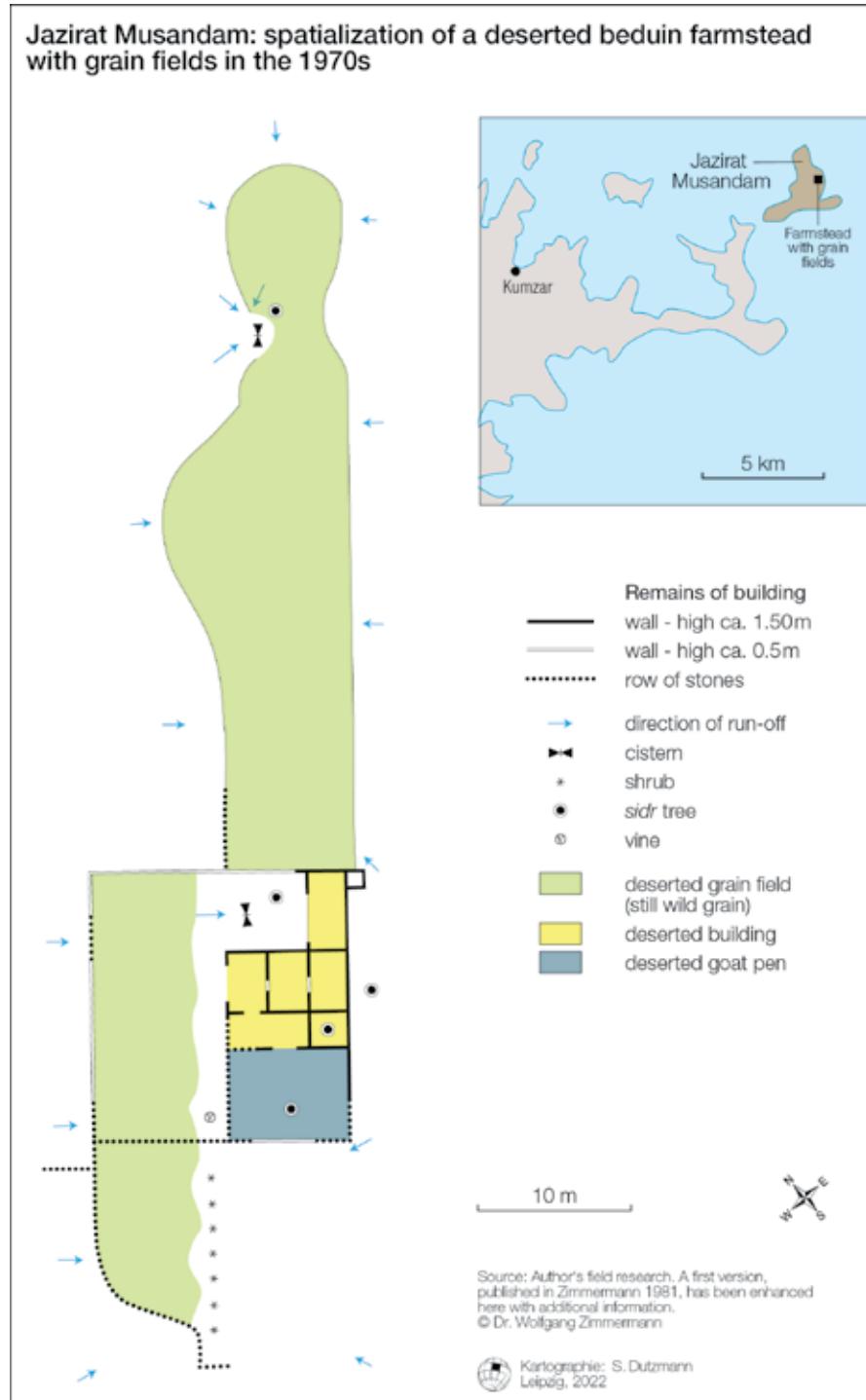


Figure 15: *Jazirat Musandam: spatialization of a deserted beduin farmstead with grain fields in the 1970s*

Our assumptions on Musandam are in accordance with the arguments of Derek Kennet based on the archaeological findings and results at the northern coast of Ras al-Khaimah who thereby states a “*Hormuzi economic boom*” and a “*dramatic increase in the level of rural activity*” (Kennet, 2002: 160 f). Therefore, we suppose that throughout Musandam, but especially in its northern part two synchronous developments must have taken place because of this enormous external demand. We can state two features still to be seen in the 1970s and in relics even today: the already existing small mountain settlements expanded their grain production, which are laid out as terraces or enclosures, and a large number of new small mountain hamlets with grain fields emerged.

#### Grain cultivation and a unique storage culture in Musandam: a geographical retrospective

We have repeatedly emphasised grain cultivation in Musandam and exports to Hormuz. An unbelievable early observation of this cultivation practice was made 500 years ago. Duarte Barbosa describes in his travelogue - for the time just before 1519 - cultivated landscapes in Musandam, between Dibba and Julfar, “.. *steep rocky hills, which - in spite of the inhospitable environment - were terraced and cultivated by the skill of the local inhabitants ..*” (quoted from Piacentini Fiorani, 2000: 179)<sup>65</sup>. Our Figure 16 from the 1970s precisely shows what Duarte Barbosa has noticed so many years before: high mountain grain terraces. This picture gives an example of what was visible reality and could be seen in many places.

In this following third chapter we would like to illustrate grain cultivation in Musandam in the 1970s - which was only abandoned in the mid-1980s as part of modern development - in order to bolster our arguments<sup>66</sup>. Our intention is to draw a picture of what the agricultural situation and practice might have been like between the 14<sup>th</sup> and the 17<sup>th</sup> century

<sup>65</sup> Piacentini Fiorani quotes Duarte Barbosa from an edition of Ramusio. Williamson, 1973: 67, Footnote 42, refers to the different editions or translations of Duarte Barbosa

<sup>66</sup> Wolfgang Zimmermann researched and analysed the grain cultivation in the mountains of Musandam; see his field notes 1977-79 and 1981-83 and his publications Zimmermann, 1981a, Zimmermann, 1981b und Zimmermann and Goldfuß, 2023 on grain gardening: 113 – 120

or at least to try to underline possible traditional production and schemes still to be found in the 1970s.

The mountain grain enclosures in Musandam are known as *wa’ab* (pl. *wa’ūb*). Most families practised their fieldwork in a horticulture way with intensive care and management and consequently generated a significant profit over and above personal requirements. In the arid and mountainous environment most of all these *wa’ūb* were deliberately designed and constructed, often landscaped as terraces (Fig. 18 and 19). Their set up was complex. The substructure for each field consisted of different layers of earth several meters thick, which also served as an underground water reservoir. The earth was gathered – even from far away – and applied. The upper soil horizon was constantly enriched with goat manure. Most plots were fenced in by a high stone wall covered with thorny branches (Fig. 17).

All fields were irrigated because the winter rainfall alone<sup>67</sup>, mostly short heavy showers, often thunderstorms, were not enough for rain-fed agriculture. The method used is called run-off irrigation (*sayl*, pl. *suyul*) and is a widespread technique in the arid regions of the world. For a number of fields, one or more water harvesting areas were selected to collect rainwater. These areas -- approximately 15 to 30 times larger than respective fields to be serviced -- have been cleared of rocks and debris to allow an easy and efficient drainage. Stone barriers or contour ditches collected and channelled the run-off. The water flows into the fields through small holes in the surrounding walls, where it spread.

Own calculations based on formulas of research and scientific trials in the Negev Desert<sup>68</sup> prove the validity of grain cultivation with sufficient quantities of irrigation water even under arid climatic conditions. The Musandam run-off irrigation system was examined using i.e. the example of grain encloses on the Yamit inner mountain high plateau (Fig. 20). For the said field complex, the ratio of run-off collection area to field area was approximately 17:1. With a suspected amount of a rainfall of 100 mm on this entire area, and under the

<sup>67</sup> in the 1970s an average of only 150 mm/a

<sup>68</sup> Evenari, Shanan and Tadmor, 1971: 95 ff

justified assumption that 40% of the run-off flows onto the field, this means a rainfall height of 680 mm directly on it the field. A very good harvest was

possible. The water catchment and collection areas were constantly worked on in order to guarantee optimal water yield.



Figure 16: *Musandam, grain terraces on the steep slope area of Bani Murrah region (in 1977, east of Jabal Harim)*  
© Dr. Wolfgang Zimmermann



Figure 17: *Musandam, a grain enclosure with protecting wall on the Yamit inner mountain high plateau in 1978 with one of the authors* © Dr. Wolfgang Zimmermann



Figure 18: *Musandam, the mountain hamlet Wahid, Jabal Ghomit (1.100 m HNH) with grain enclosures in 1978* © Dr. Wolfgang Zimmermann



Figure 19: *Musandam, grain fields near Ras Hafaf in January 1978 (250 m NHN) just after sowing and with fresh grown wheat* (© Dr. Wolfgang Zimmermann)

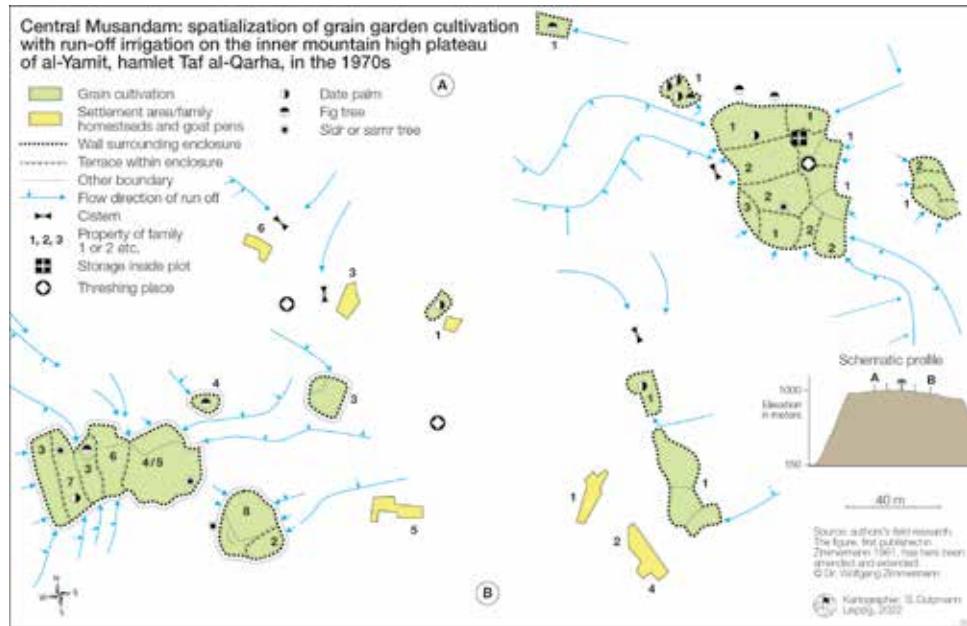


Figure 20: *Central Musandam: spatialization of grain garden cultivation with run-off irrigation on the inner mountain high plateau of al-Yamit, hamlet Taf al-Qarha, in the 1970s*

This confirmed people's stories about the yield at that time which however varied according to the intensity and effort involved. With a clear focus on grain production, an unbelievably high yield of up to 1:100 can be taken for granted. These numbers came up again and again, as well as slightly lower yields of 1:60 and 1:80. We think that's all credible. However, the high yields first require good soil and then intensive care, sufficient irrigation (with always cleared water harvesting areas) and above all fertilization with goat manure. The informants in many regions independently repeated these statements. For less effort and or with little rainfall, 1:20 to 1:30 were mentioned. Still a high number compared to European medieval yields of 1:4 or 1:10 on very favourable soils (Zimmermann and Goldfuß, 2023: 115 ff) <sup>69</sup>.

As late as the 1970's there were many families making two harvests a year. That was possible when

after the winter rains (December and January) also spring rains (*matar saifi*) fell in March/April. With generally higher rainfall in the medieval days, we can assume regularly two harvests and subsequent double yields, owing grain fields not only in one, but in several places in the mountains. These differed both in microclimatic conditions and in altitude with some advantages: first, there was a high probability that at least one area but often more fields would receive rain. Second, the work, especially sowing, weeding, harvesting (at the different altitudes) could be staggered over time, and thus more fields could be worked on and good and high yields could be achieved.

The results of our field research show that even in the 1970s enough surplus could be produced for export. This clearly proves that in the Middle Ages - when rainfall was significantly higher - if we follow Daniel Pott's justified thesis for nearby Qeshm<sup>70</sup> - there was an export-orientated grain production in Musandam that was geared supposedly towards the demand from Hormuz.

<sup>69</sup> Lancaster and Lancaster, 2011: 137-190 report with several examples similar figures. Their book focusses "life before oil in Ras al-Khaimah (UAE) and some neighbouring regions" including Musandam and field work was done at the end of the 1990s, twenty years later than our first research in the 1970s and again twenty years before our second and re-visiting field work in the middle of the 2010s. All gave us an interesting perspective. In addition, we were able to visit the two authors in the summer 2019 for a week of intensive discussions and exchange of experiences in Hoy on the Orkneys.

<sup>70</sup> Daniel Pott's considers with regard to the water supply of Hormuz from Qeshm, "Today, the capacity to deliver ... 385,000 litres per day seems extraordinary. If true, then it is hard to avoid the conclusion that precipitation levels must have been much greater in the late medieval and early modern era than they have been in recent decades" (Pott, 2011: 102)

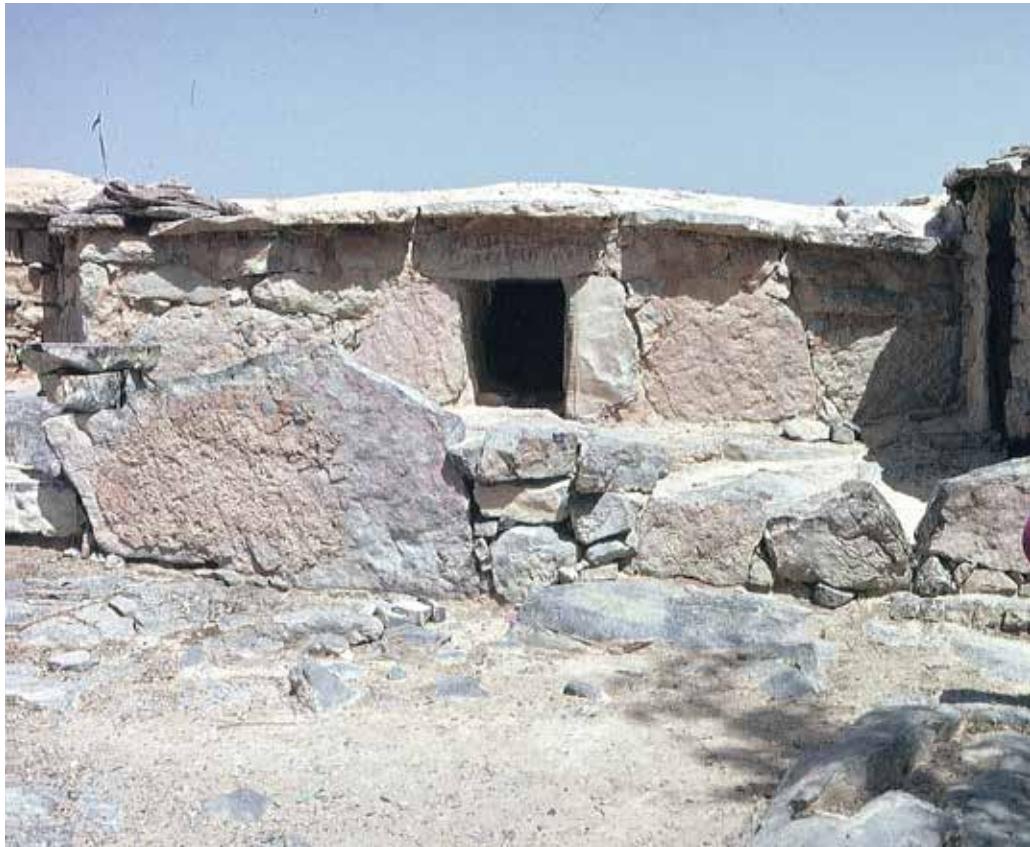


Figure 21: *Musandam, bait al-qaf on al-Yamit in 1978* (© Dr. Wolfgang Zimmermann)

To protect the yield, even to hoard it up to marketable amount, a very special grain storage house, the *bait al-qaf* was developed and built (Figures 21 and 22). Its features are striking:

built into the earth that only the one-metre high and extreme thick outer walls of megalithic stones are visible, an extremely small door opening, mighty cornerstones protecting the edges of the roof huge clay jars, which were permanently installed in the only interior room; some could hold up to 240 kg (60 *man*) grain.

There were simple and roughly built houses and then true masterpieces. The latter were simply beautiful to look at, aesthetically finely built and lovingly designed, with plastered outer walls and small, long entrance hallway designed by mighty stone blocks. This is followed by a mighty wooden door whose locking mechanisms were operated by the '*alaq*', a large curved metal ring acting as an opener. - The more simply designed *bait al-qaf* featured less large megalithic front and door stones,

thinner outer walls and thus shorter entrances. The stones were only roughly hewn. The effort required to build and move the stones must have been enormous. Just as difficult must have been the transport of the earthenware grain storage containers in this mountainous landscape. Larger receptacles weighed between 30 and 50 kilos. Not an easy transport, but this suggests that the clay was delivered and the jars were made on site. - The *bait al-qaf* was unique to Musandam, and they show the cardinal importance of grain production and storage in the mountains (Zimmermann and Goldfuß, 2023: on grain gardening: 113 – 120 and on *bait al-qaf*: 148 – 155<sup>71</sup>).

<sup>71</sup> The *bait al-qaf* was first mentioned by Thomas, 1929: 80 (however, not visited) but first examined by Wolfgang Zimmermann in the 1970s. See his field notes 1977-1979 and publications: Zimmermann, 1981a, 107 - 110; and Zimmermann and Goldfuß, 2023: 148 – 155). Further and more detailed results on *bait al-qaf* will be published in a forthcoming article, Zimmermann, Wolfgang and Goldfuß, Gabriele. *Bait al-qaf* - the age-old storage culture of the beduins of the mountains of Musandam.



Figure 22: *Musandam, the interior of a bait al qafl with large storage media, Jabal Sij* (© Dr. Wolfgang Zimmermann)

### Excursus: *Jabal Sij*

During our research in Musandam in the 1970s, we noticed in the mountains below Jabal Ra'an al-Harim an area of significant agricultural tradition: the local beduins called it then *Jabal Sij*<sup>72</sup>. Its core area is a shallow alluvial depression of about 54 ha at 1100 m ASL (see Fig. 23, and 25). At that time, it could only be reached on foot or by donkey via a mountain path (between 'Ain al-Sij and Jabal Ghomit<sup>73</sup>). We cannot say since when there has been grain cultivation. But with reference to our above thesis of Musandam's strong economic development due to the demand from Hormuz, we assume - and at the same time we encourage future research - that at that time grain cultivation gained a new importance here beyond domestic demand. In any case, the history of *Jabal Sij* as a cultivation area goes back far into the past of the peninsula.

(© Dr. Wolfgang Zimmermann)

In the 1970s members of almost every Musandam tribe owned property in Jabal Sij.

<sup>72</sup> See detailed: Zimmermann and Goldfuß, 2023: 71-76

<sup>73</sup> Now called Jabal Khanzur

These were not only mountain families, but also, for example, merchants from Khasab or families from the coast<sup>74</sup>. At that time there were also two small mosques on the plateau and another on the Jabal Ra'an al-Harim, which underlines the old importance of this area. - With the winter rains, the land in the depression was flooded, especially from north to south, by the outflowing waters of Wadi Lakhab. The height difference in the fertile basin was around two to three meters over a length of around 1.2 kilometers. Before cultivation, the property boundaries of the parcels were checked according to the traditional rights and, if necessary, re-marked. Year after year, the local Bedouin residents precisely controlled the division of the depression using the landmarks positioned on the surrounding slopes. The workers to till the fields came from the surrounding hamlets. They acted here on their own property or worked as laborers with income rights on someone else's property. Seasonal workers from Khasab and from the region's coastal villages were common practice.

<sup>74</sup> From QaShabosda (Harat, Dhabarain, and Wambarak) and Harf



Figure 23: *Musandam, aerial view of the fertile basin of Jabal Sij from south to north.*



Figure 24: *Central Musandam, aerial view of the fertile basin of Jabal Sij in 1978; the subdivision of the fields is clearly recognizable* (© Dr. Wolfgang Zimmermann)



Figure 25: *Central Musandam: spatialization of a multitude of deserted grain fields in the fertile basin of Jabal Sij in the 1970s*

The grain cultivation in the fertile basin was given up in the 1940s and 50s after long-lasting droughts, which went well beyond the “usual” level and previous experiences. A number of families from the surrounding hamlets reoriented themselves and left Jabal Sij. During our research in winter/spring 1977/8, the area was green after previous rains and blooming Irises dominated.

At that time, it was only used as pasture for goats and donkeys. Several herds, each with about 80 animals, were observed. There were no markings of the plots by walls or stones. The individual fields were not recognizable as such on the ground. Only on the aerial or oblique photos, the traditional divisions and boundaries were still very clearly visible (see Fig. 24).

## Resume

We have presented the importance of Hormuz over the long period of four hundred years as a world trade centre and populous city to derive its great importance as an “economic motor” for the entire region. For its southern hinterland, today’s Omani Musandam, we have given both indicators and reasonable assumptions to explain an economic

boom and prosperity mainly based on grain production and on provision of labour force.

In the Figure 26 we summarized some of our explanations and the supply structures of Hormuz and especially between its southern hinterland Musandam between the 14<sup>th</sup> and 17<sup>th</sup> century. This figure strongly confirms the importance of Musandam for Hormuz.

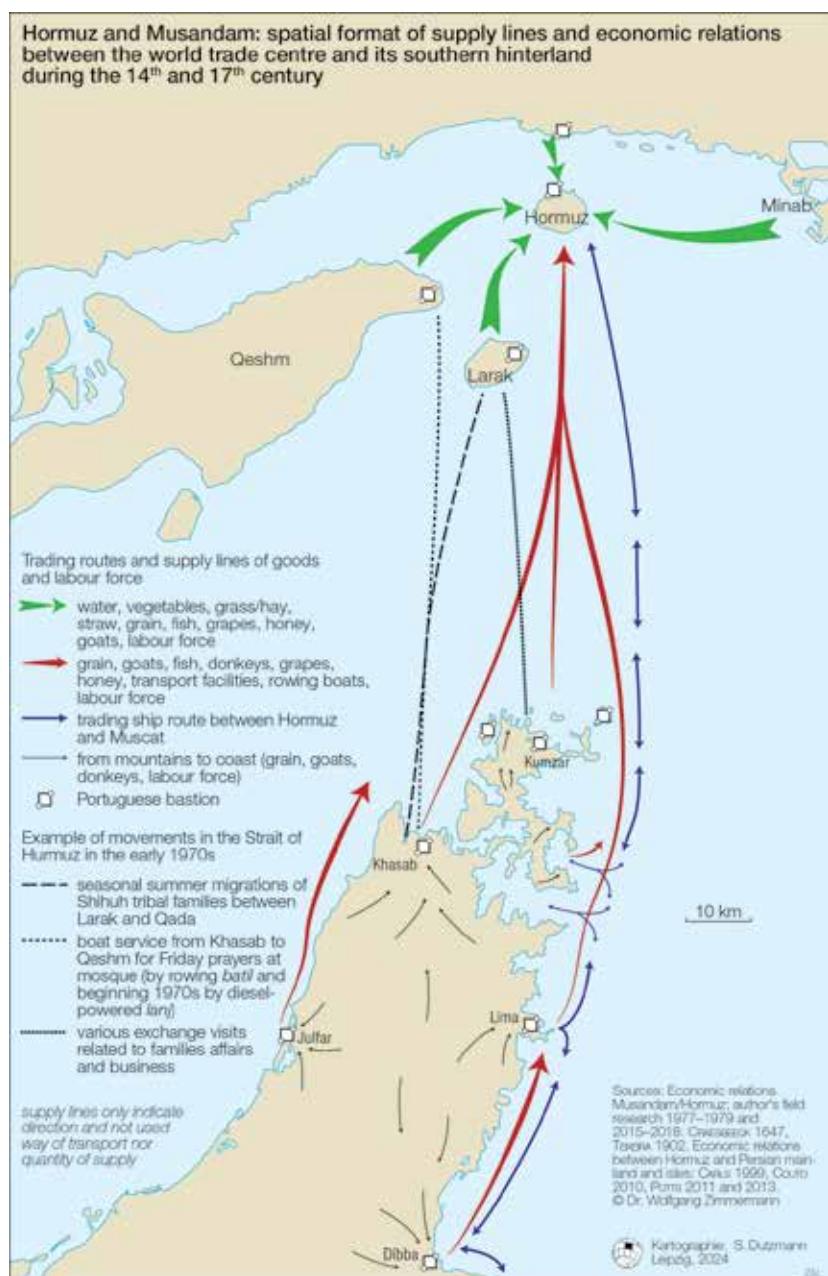


Figure 26: Hormuz and Musandam: spatial format of supply lines and economic relations between the world trade centre and its southern hinterland during the 15th and 17th century

The spatial results of the economic demand from Hormuz were at least twofold. First, the expansion of existing grain cultivation sites. Second: a growth of the population and eventually also the immigration of people with the subsequent foundation of new small mountain hamlets with grain enclosures plus a number of new coastal villages. Next to agricultural products such as grain, straw or dried fish, work force for Hormuz was important. These included longshoremen, sailors, rowers and soldiers, boat builders<sup>75</sup> and navigators (here from Kumzar). Supposedly, most of this workforce lived and had their families permanently in Musandam but worked on Hormuz. In addition, there were workers who came on short notice to Hormuz, mainly outside the peak of agricultural activities, for a shorter period, to work there in the port. Aubin, 1973: 151 mentions seasonal workers in Hormuz. Probably they lived in those palm fond houses, 'arish<sup>76</sup>', which he attributed to the poorer segments of the Hormuzi inhabitants.

By the end of the Portuguese dominance, due to the destruction and pillage of the city, the global importance of Hormuz vanished. And Musandam lost the market for its produce and labour force. Many families may have moved away, others oriented themselves differently. We assume that seasonal migration of many mountain dwelling families as practised in the 1970s developed as one measure of re-orientation after the fall of Hormuz. Until the middle 1980s, there was still flourishing grain cultivation in the mountains of Musandam and the traditional use of the *bait al-qaf*. Nevertheless, further research must clarify what effects the decline of the world economic trade centre had on Musandam.

It is crucial at this point to also stimulate further scientific research on the historical importance and role of Musandam. In particular, more archaeological research in Musandam would be necessary in order to salvage invaluable cultural heritage before further infrastructure measures are carried out. We strongly suggest this in particular in the Kumzar as well as in the Khasab region and on the east coast before the

<sup>75</sup> The various repairs of merchant ships around 1520/1 and the necessary personnel are described by Aubin, 1988: 419 ff

<sup>76</sup> Zimmermann and Goldfuß, 2023: 41, 56 and 141 – 148 write detailed with pictures from the 1970s on 'arish

envisaged constructions of an international airport and other significant infrastructure modernisations<sup>77</sup> take place.

Most certainly Musandam should no longer be considered a periphery, but a dynamic region related both to the Strait of Hormuz region and the Arabian Peninsula and Oman. And, Musandam apart from its importance and role in history is unique in its features.

Musandam has shown its potentials and development opportunities in its past in general and in particular in its relations with Hormuz. The Omani government under Sultan Haithem has recognised this in combination with Musandam's strategic position and has now sent out a clear signal with his visit in early 2024. While Musandam was a hinterland for Hormuz and received decisive impetus for development from the commercial metropolis, Khasab is now set to renew its strategic position and economic potentials.

## BIBLIOGRAPHY

Anonby, E. and Yousefian, P. (2011) *Adaptive multilinguals. A survey of language on Larak Island*, Uppsala: Uppsala University Press (Acta Universitatis Upsaliensis. Studia Iranica Upsaliensia 16)

Aubin, J. (1953) "Les princes d'Ormuz du XIIIe au XVe siècle", *Journal Asiatique*, Vol. 241, pp. 77-137

Aubin, J. (1973) "Le royaume d'Ormuz au début du XVIe siècle". In: Aubin, J. (ed.): *Mare Luso-Indicum. Études et documents sur l' histoire de l'Océan Indien et des pays riverains à l'époque de la domination portugaise*, Vol. 2, pp. 77-179 and pp. 183-237 with annexed documents (les documents Arabes, Persans et Turcs de la Torre do Tombo), Genf: Librairie Droz

Aubin, J. (1988) "Un voyage de Goa à Ormuz en 1520", *Modern Asian Studies*, Vol. 22, pp. 417-432

Barbosa, D. (1918) *The book of Duarte Barbosa. An account of the countries bordering the Indian Ocean and their inhabitants, written by Duarte Barbosa and completed about the year 1518*. Translated from the Portuguese text, first published in 1812 A.D. by the Royal Academy of Sciences at Lisbon, in Vol. II of its collection of documents regarding the history and

<sup>77</sup> Personal communication from the chairman of the Omani Historical Society, Sayyid Nuh bin Mohammad Albusaidi

geography of the nations beyond the seas, and edited and annotated by Mansel Longworth Dames. Issued by the Hakluyt Society. London: Bedford Press

Cardi, B. de (1975) "Archaeological survey in northern Oman, 1972", *East and West*, Vol. 25, pp. 9-75 (with sections by C. Vita-Finzi and A. Coles)

Campos, J. (2008) "Some notes on Portuguese military architecture in the Persian Gulf: Hormuz, Keshm and Larak". In: Couto, D. and Loureiro, R. M. (eds): Revisiting Hormuz: Portuguese interactions in the Persian Gulf region in the early modern period, pp. 149-162, Calouste Gulbenkian Foundation, Wiesbaden: Harrassowitz

Carls, Hans-Georg Siegfried (1999) *Das hochmittelalterliche Seefernhandelszentrum Hormoz*. Würzburg (Dissertation)

Carter, R. A., Zhao, B., Lane, K., Velde, C. (2020) "The rise and ruin of a medieval port town: A reconsideration of the development of Julfar", *Arabian Archaeology and Epigraphy*, Vol 31, pp. 501–523. Retrieved 12 August 2022 from <https://doi.org/10.1111/aae.12162>

Couto, D. (2010) "Hormuz under the Portuguese protectorate: Some notes on the maritime economic nets to India (Early 16<sup>th</sup> Century)". In: Kauz, R. (ed.): *Aspects of the maritime silk road: From the Persian Gulf to the East China Sea*, pp. 43-60, Wiesbaden: Harrassowitz

Craesbeeck, P. (1647) *Commentarios do grande capitam Ruy Freyre de Andrade: em que se relatam suas proezas do anno de 1619 em q partio deste Reyno por geral do mar de Ormuz, & costa da Persia, & Arabia até sua morte*. Tirados de humas relaçoes & papeis verdadeiros por industria de Paulo Craesbeeck. Lisboa

Evenari, M., Shanan, L., Tadmor, N. (1971) *The Negev. The challenge of a desert*. Cambridge: Harvard University Press

Floor, W. (2016) "Omani-Portuguese Maritime Activities (1500–1650 CE)", In: al-Salimi, A. and Stables, E. (eds.) *Maritime history. Studies on Ibadism and Oman*, Vol. 9, pp. 115-135, Hildesheim: Olms

Jost, Alexander (2008) *Hoher Besuch im Land des Himmelsplatzes. Die Fahrten der Ming-Flotte in die Arabische Welt 1413 – 1433*. Tübingen (Magisterarbeit)

Kauz, R. and Ptak, R. (2001) "Hormuz in Yuan and Ming sources", *Bulletin de l'École française d'Extrême-Orient*, Vol. 88, pp. 27-75

Kennet, D. (2002) "The development of northern Ras al-Kaimah and the 14th-century Hormuzi economic boom in the lower Gulf", *Proceedings of the Seminar for Arabian Studies*, Vol. 32, pp. 151-164

Lancaster, W. and Lancaster, F. (2011) Honour is in contentment: Life before oil in Ras al-Kaimah (UAE) and some neighbouring regions. *Studien zur Geschichte und Kultur des islamischen Orients. Beihefte zur Zeitschrift "Der Islam"*. Berlin: de Gruyter

Lin, M. and Zhang, R. (2015) "Zheng He's voyages to Hormuz: the archaeological evidence", *Antiquity*, Vol. 89, pp. 417-432

Lorimer, J. G. (1908) *Gazetteer of the Persian Gulf, 'Omān and Central Arabia*. Vol. 2 B. Geographical and Statistical. Calcutta: Superintendent Government Printing (Reprint 1970)

Loureiro, Rui M. (2015) "The Portuguese in Hormuz and the trade in Chinese porcelain", *Bulletin of Portuguese - Japanese Studies*, Vol. 1, pp. 5-26

Ma Huan/Mills, J.V.G (1970) "Ying-Yai Sheng-Lan, 'the overall survey of the ocean's shores' (1433)", translated from the Chinese text, edited by Feng Ch'eng-Chun, with introduction, notes and appendices by J.G.V. Mills. Published for the Hakluyt Society. Cambridge: University Press

Milton, J. (2005) *Paradise lost*. Edited with an introduction by David Scott Kastan. Indianapolis: Hackett Publishing Comp

Park, H. (2012) *Mapping the Chinese and Islamic worlds. Cross-cultural exchange in pre-modern Asia*. Cambridge: University Press

Piacentini Fiorani, V. (2000) "Harmuz and the 'Umānī and Arabian world (fifteenth century)", *Proceedings of the Seminar for Arabian Studies*, Vol. 30. Papers from the thirty-third meeting of the Seminar for Arabian Studies held in London, 15-17 July 1999, pp. 177-188

Potts, D T. (2011) "The Portuguese in Qeshm", in: Matthee, R. and Flores, J. (eds): *Portugal, the Persian Gulf and Safavid Persia*. Acta Iranica 52, pp. 99-118,

Leuven: Peeters

Potts, Daniel T. (2013) "Larak", *Encyclopaedia Iranica*. Retrieved 20 March 2022 from <https://iranicaonline.org/articles/larak-island>

Ptak, R. (2019) "Selected problems concerning the "Zheng He Map": questions without answers", *Journal of Asian History*, Vol. 53, pp. 179-214

Rowland, P. (2001) *The city and the sea – Hormuz*. Paper presented at the multidisciplinary conference, the city and the sea, held 5./6. October 2001 at the Institute of Historical Research, University of London. Retrieved 10 February 2019 from <https://www.peterbrowland.uk>

Rowland, P. (2017) *Essays on Hormuz*. Retrieved 10 February 2019 from <https://www.peterbrowland.uk>

Scholz, F. (2023) "Oman – 'Forschungsparadies' für deutsche Wissenschaftler\*innen. Dank und Erinnerung an HH Sayyid Tarik bin Taimur Al Sa'id", in: Zimmermann, W. and Goldfuß, G. *Magisches Musandam – Omans ferner Norden*, pp. 202-206, Hildesheim: Olms

Schwarz, P. (1914) "Hurmuz", *Zeitschrift der Deutschen Morgenländischen Gesellschaft*, Vol. 68, pp. 531-543

Schweizer, G. (1972) *Bandar 'Abbās und Hormoz. Schicksal und Zukunft einer iranischen Hafenstadt am Persischen Golf*. Beihefte zum Tübinger Atlas des Vorderen Orients. Reihe B (Geisteswissenschaften) Nr. 2. Wiesbaden: Dr. Ludwig Reichert

Silva Figueroa, G. de (1903) Comentarios de Don García de Silva y Figueroa de la embajada que de parte del Rey de España Don Felipe III hizo al Rey Xa Abas de Persia. Los publica la Sociedad de Bibliófilos Españoles. Tomo primero. Madrid

Stübe, R. (1912) "Zu Geschichte des Hafens von Hormuz", Dähnhardt, Oskar (ed): *Xenia Nicolaitana, Festschrift zur Feier des vierhundertjährigen Bestehens der Nikolaischule in Leipzig*, pp. 177-196, Leipzig: B.G. Teubner

Stübe, R. (1927) "Hormuz", *Enzyklopädie des Islam*, Band 2, pp. 345-347, Leipzig: Otto Harrassowitz

Teixeira, P. (1902) *The travels of Pedro Teixeira with its kings of Hormuz and abstracts from his kings of Persia*. Translated and annotated by William F. Sinclair. London: Printed for the Hakluyt Society

Thomas, B. (1929) "The Musandam Peninsula and its people the Shihuh", *Journal of Central Asian Studies*, Vol. 16, pp. 71-86

Vosmer, T. (1997) "Indigenous fishing craft of Oman", *The International Journal of Nautical Archaeology*, Vol. 26, pp. 217-235

Weismann, N. et al. (2014) "The Battil and Zaruqa of Musandam, Oman", *The International Journal of Nautical Archaeology*, Vol. 43, pp. 1-23

Williamson, A. (1973) "Hurmuz and the trade of the Gulf in the 14<sup>th</sup> and 15<sup>th</sup> centuries A.D.", *Proceedings of the Seminar for Arabian Studies*, Vol. 3, pp. 52-68

Zimmermann, W. (1981a). *Tradition und Integration mobiler Lebensformgruppen. Eine empirische Studie über Beduinen und Fischer in Musandam/Sultanat Oman*. Göttingen (Dissertation)

Zimmermann, W. (1981b) "Die Beduinen von Musandam im Sultanat Oman. Gemeinschaft und Wirtschaft einer traditionellen Lebensformgruppe im Wandel". In: Scholz, F. (ed.). *Beduinen im Zeichen des Erdöls. Studien zur Entwicklung im beduinischen Lebensraum Südost-Arabien*. Beihefte zum Tübinger Atlas des Vorderen Orients, Reihe B, Nr. 45, pp. 55-100, Wiesbaden: Dr. Ludwig Reichert Verlag

Zimmermann, W. (2017) *Spatial arrangements of nomadic actors and their variation under global conditions. Results of empirical research in Musandam/Sultanate of Oman in the mid-1970s and today*. Paper presented at the second annual conference of the Sonderforschungsbereich 1199 of the University of Leipzig, 29.09. – 01.10.2017

Zimmermann, W. and Goldfuß, G. (2023) *Magisches Musandam – Omans ferner Norden*. Hildesheim: Olms

Zimmermann, W. and Goldfuß, G. (in preparation). *Bait al-qafūl - the age-old storage culture of the beduins of the mountains of Musandam*.

Zimmermann, W. and Goldfuß, G. (in preparation). *Sirg - the unique traditional summerhouses of the Kumazirah in the oasis of Khasab*.

Zimmermann, W. and Goldfuß, G. (in preparation). *Musandam. Places and People. A Historic - Geographical Atlas of an Omani Province in the 1970s*

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