



The Procurement of Sustenance in the Islamic Maghreb between Subsistence and Drought (2nd–6th c. AH / 8th–12th c. CE)

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Abstract

There is no doubt that securing and managing livelihoods is crucial for the stability of the states in the Islamic Maghreb. This can only be achieved through studying and fully utilizing economic potential, taking into account all the political and natural conditions of the targeted region. This was also the case in the lands of the Islamic West. Livelihood in the Islamic Maghreb during the early centuries of the Middle Ages depended on diverse resources such as grains, dates, and fish, with development in agriculture thanks to technologies and innovations. The efforts and conditions for achieving this varied between the common people and the wealthy. The foods consumed during times of prosperity and hardship in the society were numerous; however, drought and famine presented a different challenge in managing livelihoods.

Keywords: Livelihood – Sustenance – Islamic Maghreb – Medieval Period – Subsistence – Drought.

Introduction

The livelihood of the population in the Islamic Maghreb during the medieval period constituted a traditional economic system in which subsistence was diversified and based essentially on agriculture — such as the cultivation of grains and olives — animal husbandry, pastoralism, and trade. It was influenced by natural conditions and climatic fluctuations, interspersed with crises of drought and famine, which necessitated the management of subsistence to confront crises. The economy was for the most part subsistence-based, achieving bare sufficiency. The states in the Islamic Maghreb sought to secure food, and Islamic Jurisprudence and legislation formed a framework regulating commercial transactions and seeking to protect agricultural lands and production.

How, then, did the population procure their livelihood? And what factors influenced it and controlled access to subsistence?



1. Definition of Livelihood (*Ma'āsh*)

1.1 Lexically

It is stated in *al-Qāmūs al-Muḥīṭ* that *al-ma'āsh* derives from *al-'aysh*, which is life. "al-'aysh: life; 'āsha, ya'īshu, 'ayshan, ma'āshan, ma'īshan, ma'īshatan, 'īshatan (with kasra), and 'ayshūsha; and a'āshahu and 'ayyashahu; and food, and that by which one lives — bread; and al-ma'īsha: that by which one lives, of food and drink, and that by which life is sustained, and that in which one lives; pl.: ma'āyish; and al-ma'īsha al-ḍank: the torment of the grave... and al-muta'ayyish: one who has a provision of sustenance." (Majd al-Dīn ibn Ya'qūb, 2008, pp. 1166-1167)

The concept of *ma'āsh* also appears in *al-Ṣiḥāḥ*, where al-Jawharī states: "al-'aysh: life. A man has lived (*'āsha*) with *ma'āshan* and *ma'īshan*; each of them may serve as an infinitive or as a noun, like *ma'ābin* and *ma'ībin*, *mamālin* and *mamīlin*. And God has granted him a pleasant life. And *al-ma'īsha*, its plural is *ma'āyish*... And *al-ta'ayyush*: the assumption of the means of livelihood." (Abū Naṣr Ismā'īl ibn Ḥammād, 2009, p. 831)

1.2 Terminologically

As for the terminological definition of *ma'āsh*, Ibn Khaldūn discussed it in his *Muqaddima*, where he clearly expressed the various aspects, categories, and modes of livelihood, saying: "When a human being becomes capable of managing himself and surpasses the stage of weakness, he strives to acquire earnings in order to spend what God has given him on the procurement of his needs and necessities by repelling harm through helpers." (Abd al-Raḥmān Abū Zayd Walī al-Dīn Ibn, 2004, p. 398) And in his definition of *ma'āsh*, he says: "al-ma'āsh is an expression for the seeking of provision and the effort to obtain it; it is a noun of the form *muf'al* from *al-'aysh*." (Abd al-Raḥmān Abū Zayd Walī al-Dīn Ibn, 2004, p. 400)

Ibn al-'Awwām considered agriculture the foundation of livelihood, as stated in his book: "Whoever wishes to take up this art as a craft by which, through God's power, he may reach his livelihood and use it to support himself and the sustenance of his family and children, and finds in it his need and attains therein his will, and thereby seeks aid for the benefits of his worldly life and the interests of his hereafter, by God's granting him success — for through plantations and cultivations, by God's will, sustenance is multiplied." (Abū Zakariyyā Yaḥyā ibn Muḥammad ibn Aḥmad ibn al-'Awwām, 2012, p. 27)

The ways of procuring livelihood in the medieval period are multiple: agriculture, which relies on cultivation and plantation and the raising of animals for use or hunting; craft industry, which man innovated according to his needs; and trade, through the display and sale of goods (Ibn-Khaldūn, pp. 400-401).

2. Definition of Subsistence (*Kafāf*)

2.1 Lexically

Al-Rāzī in his *Mukhtār al-Ṣiḥāḥ* and al-Jawharī in *al-Ṣiḥāḥ* cite the root "k-f-f": "*al-kafāf*: of sustenance, means *al-qūt* (sustenance), which is that which suffices a person — that is, renders him independent." (Muḥammad ibn Abī Bakr ibn 'Abd al-Qādir, 1986, p. 1004)



It also carries the meaning of "the like and measure thereof": *al-kafāf*: the like of a thing; one says 'this is the *kafāf* of that,' meaning its like and measure. And of sustenance: that which is the measure of need, without excess or deficiency. One says: 'Would that I had just enough to get by (*kafāfan*) — neither in debt nor owed; leave me *kafāf*, suffice me and I shall suffice you.' *al-kifāf*: that which surrounds a thing... *iktāfā bi-l-shay*: he was satisfied with it and content. *Istakfāhu al-shay*: he asked him to suffice him with it. One says: 'I asked him to suffice me with the thing, and he sufficed me.' (Self-sufficiency) in economics means that the state, through its production, dispenses with importation from others. *al-kafī*: that by which sufficiency is achieved. *al-kufya*: the sustenance of sufficiency." (Shawq, 2004, p. 793)

And it appears in *al-Qāmūs al-Muḥīṭ* under the root "k-f-f": *al-kaf*: the hand, or up to the wrist; pl.: *akuff*, *kufūf*, and *kuf* (with *ḍamma*); and the plant *al-baqla al-ḥamqā*; and the blessing. In prosody, the dropping of the seventh letter if it is unvowelled... *kaffa baṣarahu* (with *fatha* or *ḍamma*): he became blind. *Kafaftuhu 'anhu*: I repelled and turned him away, like *kafaftuhu*; so *kaffa* is both intransitive and transitive. *Kafāf al-shay* (like *saḥāb*): its like. And of sustenance: that which suffices people and renders them independent, like *al-kafaf* (shortened). *Da 'nī kafāf* (like *qaṭām*), meaning: suffice me and I shall suffice you."

2.2 Terminologically

The terminological signification is essentially the same as the lexical one, meaning the measure of need. The books of *nawāzil* (legal cases) have referred to *kafāf*, where a case has been recorded clarifying the meaning. Abū 'Abd Allāh al-Zawāwī was asked "about one who owns land that does not suffice him for his livelihood — is he to be given from the alms-tax (*zakāt*)?" (Abū al-'Abbās Aḥmad ibn Yaḥyā, 1981, p. 390) This case clarified that the land does not suffice the owner for his expenses in managing his livelihood and needs. Al-Idrīsī, in his description of the city of Sirte, indicated: "Their palm trees in former times were above subsistence (*fawqa al-kafāf*) for them, and they had vines and fruits" (Abū 'Abd Allāh Muḥammad ibn Muḥammad al-Sharīf, p. 90)— that is, above their need, and their goods were abundant.

3. Waves of Famine and Drought that Struck the Lands of the Islamic Maghreb

The lands of the Islamic Maghreb were exposed to natural disasters due to climate change and fluctuation. Years of widespread famine and drought succeeded one another, the most prominent manifestations of which were the famines that occurred due to the absence of food. The latter had as its consequences the spread of diseases and epidemics, and it also contributed to the suffering of the population in their search for a source of livelihood and sustenance.

Climate fluctuation and reduced rainfall produced drought in the lands of the Islamic Maghreb across periodic intervals indicated by historical sources, which would mention the Maghreb in general or a specific region thereof.

Ibn al-Athīr, in the context of discussing what occurred in the year 89 AH, related: "Ifriqiya had suffered drought and prices had become severe therein." (Izz al-Dīn Abī al-Ḥasan 'Alī ibn Abī al-Karam Muḥammad ibn Muḥammad Abī 'Abd al-Karīm ibn 'Abd al-Wāḥid Ibn,



1987, p. 252) Drought occurred in the year 253 AH, and the famine was in the lands of the Maghreb, and it "continued from the year fifty-three to the year sixty-five." (Alī ibn Abī, p. 96) Famine intensified in the lands of the Maghreb. In the year 303 AH there was drought and famine likened to the famine that occurred in the year 260 AH, which caused the destruction of people. (Alī ibn Abī, pp. 266-267)

In the year 432 AH, "there was in Ifrīqiya severe inflation (*ghalā*) caused by the absence of rainfall, and it was called the Year of Dust, and this lasted until the year four hundred and thirty-four." In the year 381 AH there was "severe drought" that encompassed the lands of the Maghreb and al-Andalus. Al-Nāṣirī likewise related that in the year 411 AH "drought intensified in the lands of the Maghreb from Tāhart to Sijilmāsa, and destruction multiplied." (Abū al-‘Abbās Aḥmad, 1954, p. 226)

In the year 444 AH, "there was the severe hunger known as the Year of an Ounce for a Dirham" (Abd al-Wāḥid ibn ‘Idhārī, 1983, p. 255) — describing the state of suffering experienced by people in this period, to which they became habituated. In the year 498 AH, drought occurred in the lands of al-Andalus and the Maghreb and was immense; Ibn ‘Idhārī described it saying: "until people became certain of destruction." (Abd al-Wāḥid ibn ‘Idhārī, 1983, p. 45)

Drought occurred in certain cities of the Maghreb by virtue of their geographical location and climatic nature, as happened in Marrakesh in the year 534 AH: "barrenness overtook it until the earth's channels dried up and its environs became dust-coloured." It was followed in the year 568 AH, when "drought continued and rain was withheld for a period of two months." (Abd al-Wāḥid ibn ‘Idhārī, 1983, p. 126) In the year 558 AH, "drought and plague encompassed the city of Fez." (Abū al-Walīd Muḥammad ibn Aḥmad ibn Aḥmad ibn, 1987, p. 217)

Ibn ‘Idhārī describes the famine that occurred in the lands of the Maghreb during the years 614, 615, and 616 AH, as a result of drought and desiccation in these years: "And the famine of which both the departing and the resident complained, and the situation reached in the increase of prices to that which has no limit." This famine extended, due to the withholding of rain, to the year 620 AH, and people became in such want that they fed on plants to stave off their hunger. (Abū al-Faḍā’il Muḥammad ibn ‘Alī ibn Naẓīf, 1981, p. 101) In the year 624 AH there was drought: "inflation became severe in the Maghreb and al-Andalus." In the year 630 AH "hunger and plague multiplied." One of the saints mentions that when he was in Bejaia, "people were afflicted with desiccation and water became scarce." (Aḥmad ibn Aḥmad ibn ‘Abd Allāh Abū al-‘Abbās, 1979, p. 149) This saint lived in the first half of the seventh century AH. The city of Ceuta witnessed a great famine in the year 637 AH; Ibn ‘Idhārī mentions that this famine "had no like in past years."

4. Ways of Obtaining Food

The human being is by nature in need of that which sustains and nourishes him in all his states and stages, from his formation to his old age. God, glorified and exalted, created all that is in the world for man — and we infer this from many Qur’ānic verses. (Ibn-Khaldūn, p. 421)



He said: "It is He who created for you all that is in the earth; then He turned to the heaven and made them seven heavens, and He is knowing of all things." (Sūrat al-Baqara, verse 21)

Food may be obtained from domesticated animals by extracting their products that circulate among people for their benefit, such as milk from livestock and honey from bees.

Food may also be obtained through wages that come as a result of work and the cooperation and gathering of hands, by paying some what they deserve as wages for work — such as the wage of a sanitation worker in latrines, or a guard of bales of goods and storehouses of provisions .(Shihāb al-Dīn Aḥmad ibn Idrīs, 2011, p. 412) Or it may be from plants in cultivation and trees by tending to them — all of this is agriculture. The means of striving to obtain food are many, whether by acquisition, taking, wages, or payment. Among the ways of seeking food is hunting, whereby one seizes the animal and takes it whole from land and sea. Or by payment, including the alms-tax (*zakāt*), where Abū ‘Imrān affirmed the *zakāt* on dates that have not yet coloured (Abū al-Qāsim ibn Aḥmad, 2012, p. 222) nor reddened nor yellowed, but remain green while nonetheless sweetening and receiving water. He considered that delaying the payment of the *zakāt* on dates until they dry does not render the owner sinful, but it is recommended to do so (Abū al-Qāsim ibn Aḥmad, 2012, p. 218) because its payment is forthcoming and the benefit from it for life and survival is ongoing.

5. Methods of Preserving Food

The primary cause of food spoilage comes from the action of microbes, which can turn foods into toxic or unpalatable substances. As soon as plants are harvested or animals slaughtered, foods begin to decompose. Many microbes can be controlled and killed by refrigeration, drying, heating, or chemical preservatives.(Kathy, 2012, p. 59) Foodstuffs are preserved by reducing their moisture content, thereby raising the proportion of solids to a level at which most microorganisms cease activity, without harming the properties of the foodstuff — such as colour or nutritional value — as far as possible (Aḥmad Maḥmūd, 1998, p. 11). Societies relied entirely on refrigeration (chilling and freezing). They used ice to preserve fresh foods. Ice was brought from the mountains and protected from heat and sun in bags covered with wood shavings. They stored ice in underground cisterns during winter until its use in summer. Vegetables were kept fresh in pottery vessels.(Fawziyya ‘Abd al-Laṭīf, 1985, p. 22)

These processes have only a slight effect on the flavour of foods. Freezing grapes in August and baking them in pastries in January — their taste remains very similar to the fresh product, even if the texture is slightly affected. Preservation techniques were not limited to this.(Fawziyya ‘Abd al-Laṭīf, 1985, p. 59) Preservation techniques by salting, pickling, drying, and smoking are still used to create certain attractive foods; they were of particular importance for creating a reserve stock of foods in winter and early spring.(Kathy, 2012, p. 59) On this basis, vegetables and fruits are dried, with the moisture content in vegetables reaching 1–2% and in fruits reaching 11–22%, because fruits contain a high proportion of solids, which act as a preservative factor and lead to what the cells of living organisms require and halt their growth



by inhibiting enzymatic activity. The source of heat used in drying is either natural, such as the sun, or artificial.

Preservation by salting — that is, covering with a thick layer of dry salt — and by brining — that is, covering with a concentrated saline solution — halts the growth of bacteria by drawing water from the foods during the process of osmosis. (Kathy, 2012, p. 11) Traders used to preserve their vegetables in their shops by sprinkling a little salt on them. (Fawziyya 'Abd al-Laṭīf, 1985, p. 22) Smoking preserves foods by introducing chemicals, especially certain antioxidant phenols, from wood smoke into the foods. Wood smoke covers the foods with tar that kills bacteria and expels air simultaneously, thereby preventing putrefaction. Smoke may not eliminate all microbial actions, and it is usually preceded by salting or drying. Pickling is done by immersing foods in acid and pickles, to increase the acidity of foods and render them unfavourable to bacteria. (Fawziyya 'Abd al-Laṭīf, 1985, p. 22).

6. The Connection of Famine and Drought to Diseases and Epidemics

The succession of periods of famine and drought in the lands of the Islamic Maghreb had its effect on the population. Climate change led to changes in the air and nature, which affected humans, plants, and animals. Its manifestations appeared in the spread of diseases and epidemics that coincided with the occurrence of famine.

6.1 The Relationship of Famine to Diseases

The absence of rainfall and the occurrence of drought had an effect on the spread of certain diseases, especially since the rise in temperature affects bodily health. (Muḥammad, 2020, p. 75) The succession of drought cycles and the absence of sustenance changed the dietary system of the population. The poor suffered from malnutrition and diseases; they did not possess the requirements that would enable them to surmount this crisis. (Muḥammad, 2020, p. 80)

However, Ibn Khaldūn held that the spread of disease was among the wealthy, whether among the Bedouin or the settled, because they change the nature of their dietary system during periods of famine, while the poor are accustomed to hunger — they feed on plant foods. He said: "Likewise we find these ones who are steeped in comfortable living and immersed in its delights, among the Bedouin and the settled and the cities, when years of drought descend upon them and famines seize them, destruction hastens to them more than to others." (Ibn-Khaldūn, p. 104)

Among the diseases that appeared were stomach ailments, with which many were afflicted — they suffered pains in their intestines. There was also eye disease, with which the inhabitants of Sijilmāsa were afflicted. Al-Wazzān mentions: "The inhabitants of Numidia, when they repair to the land of palms, lose their teeth and their eyesight weakens." (Al-Ḥasan ibn Muḥammad, 1983, p. 82)

6.2 The Relationship of Famine to Epidemics

Famine and drought are among the most dangerous natural disasters that made the population search for a food source by which to sustain themselves. They consumed poor foods lacking the minimum conditions of health; the corpses of the starving putrefied; foul odours



spread in the air; and the change in atmosphere led to the spread of epidemics that harvested many lives.(Al-Ḥusayn, 1999, p. 50) The appearance of the epidemic coincided with the occurrence of drought or after it. Drought cycles were followed by epidemics. In the year 469 AH, "there was in Ifrīqiya a great famine and a great epidemic."(Ibn-ʿIdhārī, p. 300) As much as people perished from famine, the epidemic was greater. In the year 524 AH, there was famine and epidemic in the city of Fez. Because of the drought that occurred in the Maghreb in the year 624 AH, there was hunger and epidemic in the year 630 AH.

Corruption of the air and the occurrence of humidity due to drought had its effect in the occurrence of epidemic. This is what happened in Marrakesh in the year 634 AH: "The summer in Marrakesh was abnormal in temperament, and its air was bad due to the abundance of rainfall following the barrenness that had preceded for years. Humidity increased and the epidemic occurred."

7. The Suffering of the Population during Crises of Famine and Drought

There is no doubt that drought is among the factors that led to economic crises, whose effects included the occurrence of famines to which the population of the lands of the Maghreb was exposed, especially since drought affects in the first instance agricultural lands, which depend primarily on rainwater, in addition to the waters of rivers, springs, and wells.(Īsā ibn, 2008, p. 274) The sources of livelihood of the farmer and his means of provision linked to the land were fraught with danger whenever waves of famine and drought recurred.(Abd al-Hādī, 2008, p. 13) This was especially the case for those who leased land from large landowners in return for material compensation; they resorted to the judiciary because they were unable to fulfil their obligations. The legal opinion (*fatwā*) was in favour of the affected party: "If drought continues until it is known that the crop, even if it were safe from blight, would be destroyed by drought, then the lease is void." (Abū al-Walīd Muḥammad ibn Aḥmad ibn Aḥmad ibn, 1987, p. 1284)

Craftsmen and artisans also suffered, as most crafts related to agricultural products and their derivatives were affected. The prices of craft products were high and craftsmen and artisans could not purchase them, which was reflected negatively on the management of their livelihood and was a cause of the displacement of many families. This is evident in the text of Ibn ʿIdhārī on the famine of 632 AH in Marrakesh, where craftsmen and artisans closed their shops: "When the famine became great and sustenance was absent, there was nothing in the markets to which the name of a thing could be applied in any respect, and the shops were closed."

Traders with weak incomes also suffered as a result of the drought; they found nothing to sell of goods. Stores, shops, and markets were closed due to the absence of food. Ibn Rushd was asked about "leased shops when trade diminishes due to the weakness of people." Prices of foodstuffs also rose, which led to the inability of the population to purchase them. Inflation became coupled with famine and drought. In the year 89 AH it is reported that "Ifrīqiya had suffered drought and prices had become severe therein."



Among the most prominent manifestations of suffering from the absence of sustenance and the magnitude of famine was the occurrence of collision and conflict among people in the markets in order to seize bread. This highlights the extent of the severity of hunger according to the description of Ibn 'Idhārī: "If something of barley bread appears in the market, people crowd upon it, and they stand watching, and none reaches it except the strong who have endurance for plunging in and patience. Then the one who manages to reach it does not lack for twenty or more of the weak to gather upon him until they snatch it from him by force."

The alternation of cycles of famine and drought in the lands of the Islamic Maghreb had its effect on its population. The inhabitants of the lands of the Maghreb suffered as a result of drought due to the withholding of rain for long periods, upon which agricultural lands depend in the first instance. This threatened their food security, and the famine that led to a decline in demographic growth was a cause of the spread of epidemics and diseases.

8. The Adaptation of the Population of the Islamic Maghreb to Crises of Famine and Drought

The intensification of crises and trials upon the human being generates behaviours connected with the attempt to emerge from these crises, or they are the result of unconscious reflection merely seeking what might deliver him from these trials. Immediate reflection occurs during the crisis, while future reflection occurs after the crisis. This is what happened with the population of the lands of the Islamic Maghreb during their exposure to the phenomenon of famine and drought due to the withholding of rain, which made them adapt to this natural disaster in various ways, including:

8.1 Food Storage and Austerity in Living

The alternation of cycles of famine and drought and the resulting famine that afflicted the population of the lands of the Maghreb, and their suffering in searching for what would stave off starvation, made them store food in days of plenty, as a precaution for themselves against the spectre of hunger.

The inhabitants of Constantine were keen to dig silos (*maṭāmīr*). In every house there were two, three, or four silos hewn in rock. For this reason, wheat remained there due to its coolness and the moderation of its air. (Al-Ḥasan ibn Muḥammad, 1983, p. 351) The people of Ceuta did likewise after the famine that afflicted them in the year 637 AH, where they stored grains that remained in the silos for about seventy years. (Muḥammad, 2006, p. 162)

The persistence of grains in silos for a long period indicates the economy of the population in their consumption, especially during periods of drought.

Another legal case (*nāzila*) has been recorded concerning the leasing of a house containing silos, because the owner of the house needed to place his food in the silo. This behaviour indicates saving for fear of the occurrence of famine.

Alongside storage, the population economised in their foods and practised austerity in their living. Austerity, as described by Ibn Khaldūn, is limited to the food of barley and wheat. "The austere, in their living, are those who confine themselves to barley or maize, like the



Maṣāmida and the people of Ghumāra and the Sūs." This behaviour was a cause of the survival and resilience of the population of the lands of the Maghreb (Abd al-Hādī, 2008, p. 168) in the face of the famine that afflicted them due to famine and drought.

8.2 Food Substitutes to Stave Off Hunger and Procure a Living

In light of the periods of drought that succeeded one another in the lands of the Islamic Maghreb and which produced a particular dietary system, the population followed it in order to meet their biological needs and to sustain themselves to stave off starvation. (Abd al-Hādī, 2008, p. 8) They consumed foods other than those they were accustomed to eating, so as to benefit from them, and they introduced substitute foods.

The inhabitants of the lands of the Islamic Maghreb turned to consuming foods before their ripening — a "behaviour by which the population confronted periods of famine and drought." (Ibrāhīm al-Qādirī & 'Abd al-Hādī, 2012, p. 33) The people of Sijilmāsa used to eat the crop when it put forth its shoots, and it was considered by them a delicacy. (Muḥammad 'Abd al-Mun'im, 1984, p. 3) The books of *nawāzil* also refer to this behaviour; a case has been recorded "concerning one whom need reached and who had a green crop, so he ate some of it before it dried." Another case has been recorded speaking of the advance purchase (*salaf*) of green crops and green beans, due to the intense need of people and to stave off hunger.

The inhabitants of the lands of the Maghreb relied in their food on bread made from wheat and barley. It "was considered the cornerstone of the nutritional system in the Islamic West, as was the case in all Mediterranean societies." Due to the drought that descended upon the lands of the Maghreb, the population sought substitute foods. Al-Tādlī relates to us that when the saint Abū Ya'zā (d. 572 AH) came to Marrakesh in the year 541 AH, "he was confined in the minaret of the mosque for days, then released. He had with him discs of acorn flour, and he used to add ivy leaves to them and grind them. When he prayed the sunset prayer, he would take about half a pound of that and sustain himself with it." (Abū Ya'qūb Yūsuf ibn Yaḥyā, 1997, p. 2) They also made bread from "the plant *al-tābūdā*, which grows in cisterns and in rivers and irrigation channels, and is similar to reeds." (Ibn-'Idhārī, p. 326) There appeared in the markets what was repeatedly ground — "they ate the olive, for it was food for people, brought from the empty deserts." (Ibn-'Idhārī, p. 44) Among the plants from which bread was made was the plant *al-ṭahaf*, a thin herb characterised by red fruits, from which people made bread in days of famine.

The population cooked porridges (*'aṣā'id*) to sustain themselves. They used the blossoms of the carob tree in cooking them, and that was during the famine of the year 632 AH / 1235 CE. Whenever the famine intensified, the population sought what would stave off their starvation, to the point that they consumed animal fodder — the plant *al-shaylam*: "It resembles the crop plant; it was ground and baked and used as a basis for food and one lived on it in the locality." People were forced to buy the bitter orange (*al-nāranj*), due to its abundance, without distinguishing its taste, whether it was sour or sweet.



During the periodic famines that the Islamic Maghreb witnessed, man resorted to forests and wildernesses for gathering, collecting what would stave off starvation. They searched in the roots of plants in order to eat them. The sycamore fig (*al-jummayz*) was among the trees that Abū al-Khayr affirmed were eaten in years of famine. Their food was the utilisation of all that they could consume to stave off their hunger. The roots and leaves of plants were their refuge in that. Ibn al-Zayyāt al-Tādlī cites a text in which one of the Sufis speaks about how he prepared his food: "He would take the leaves of trees, dry them, grind them, and then sustain himself with them."

Conclusion

The lands of the Islamic Maghreb were exposed to natural disasters, the most dangerous of which was drought, which resulted from climate change and fluctuation and the withholding of rain for successive cycles. It affected in the first instance the agricultural sector upon which the economy is based. The lands of the Islamic Maghreb abound with goods whose reliance was on rainwater, which made the population search for another source for irrigating their lands and crops — from rivers and valleys whose water levels receded. Conflict and struggle over water existed in every time and place. With its interruption, food security vanished, and the search for livelihood to stave off the pangs of hunger became a preoccupation of man. Among the consequences of drought were the occurrence of famines and the spread of diseases and epidemics that increased the severity of the situation and harvested lives. However, man's determination to endure and survive made him search for new methods and ways to confront these crises. Among them was the search for a livelihood from what the earth produces. Social solidarity and mutual support also appeared among members of society, such as the sponsorship of the needy and the poor who possess nothing to meet their biological needs. The phenomenon of food storage and saving also spread.

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