

Current situation of Yemeni coffee :

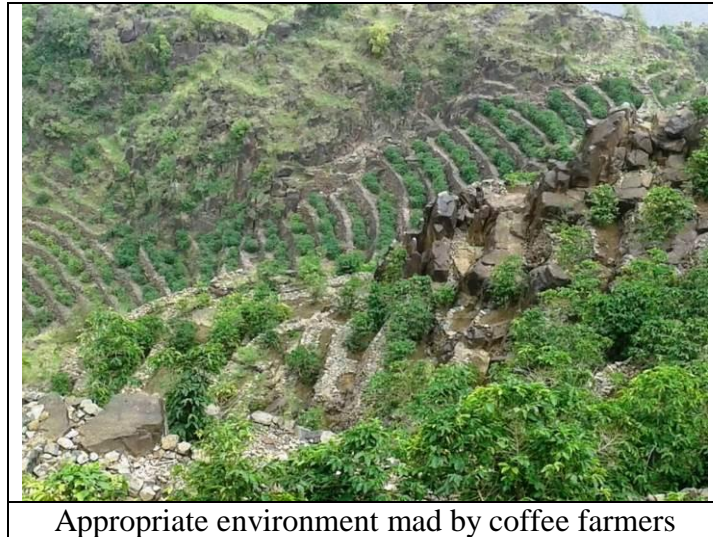
The agricultural area currently allocated to coffee in Yemen is estimated at 34,497 hectares, and approximately one million people work in this field from its cultivation to its export. Yemen's production of coffee during the past few years reached 19 thousand Metric Tons.

Yemeni coffee grows mainly at an altitude between 1000 to 2400 meters above sea level. It is grown in valleys sloped down the western, central, southern highlands and mountainous terrace and especially in the mountain chains which overlook Tehama plain. The crop density of the area where coffee grows is between 900 to 1000 trees per hectare. The production per hectare is between 300 to 600 kilograms. These areas represent 40 % of the area of plantation in the country.



Warm and wet climate along with the availability of sufficient water is the best environment for coffee plantation. Yemenis have realized that the best types of coffee are planted in this environment. They discovered that this environment is found only in the most difficult agricultural areas in Yemen. This environment is very difficult to be used for agriculture purposes because it is highly risky. However, the Yemeni farmer is very creative because he has the ability to use these lands by constructing the open terraces at an altitude of 2400 meters . Fields of coffee look like hanging gardens.

The Yemeni farmer is able to secure an appropriate environment to grow coffee plants. He uses very skilled methods to take care of the soil especially when he cares the coffee seedlings. He makes a deep enough hole to put the seedling inside and cover it with a tight fence of stones. He also plants forest trees such as cordia tree to provide wet climate. This tree is also a good source of wood and protects coffee trees from the severe cold weather. In addition, the farmer provides sufficient water and care until the plants grow to such a level which enables the trees sustain environmental and biological stresses.



The Economic and Social Importance of Yemeni Coffee :

Thousands of Yemeni families depend on the coffee crop to develop their incomes, where nearly a million people work in this field from its cultivation to its export. As for coffee production, the amount of its production increased at the end of the year 2006 AD according to official statistics to 17292 tons, and despite all the barriers surrounding the production and trade of Yemeni coffee, it can be considered the main commodity that Yemen exports to the world after oil, and Yemeni coffee is currently exported to the Gulf countries and Saudi Arabia, to Japan , the United States Canada, Russia, France, Italy, Germany, Turkey and India.

The economy of our country is depended upon the income, which received from coffee production as Yemen was the first country which exports coffee to the world. Yemeni coffee was very famous and it was known as Mocha Coffee which is attributed to the Port of Mocha where it was exported through. Coffee tree has become a symbol for our country and it has been printed on our national bank notes. Many factors, however, make farmers search for alternatives because the price of coffee gets lower and then the area of plantation and production have also decreased.

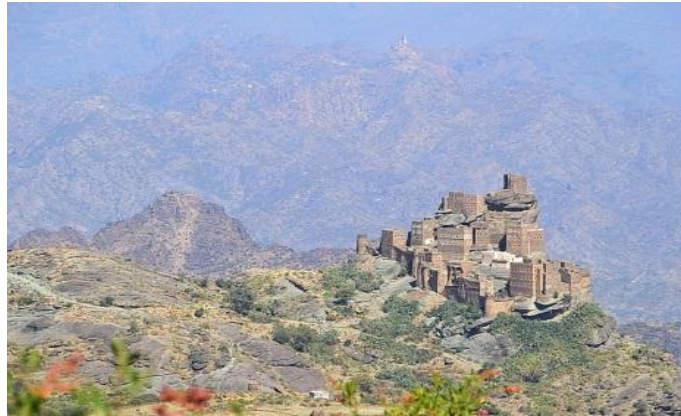
Coffee crop, nevertheless, is considered a strategic crop and one of the main sources of the national income and for many families it is the main source of their income as well, especially in the last ten years.

The demand for specialty coffee in the United States, Germany and Japan continues to grow, providing a great opportunity for Yemeni coffee to regain its stake in those countries.

The Nature and Features of Yemeni Coffee in general :

When Yemeni coffee is mentioned, it directly makes one envisage the most beautiful natural picture of the areas of producing coffee. Visitors to these areas feel spiritually

elevated because of the wonderful nature, fascinating sceneries, fresh air, traditional buildings and the most amazing picture of those high mountains embracing clouds in such an imaginary wonderful picture.



Village of coffee farmers

It is remarkable that many people wonder why the best quality of coffee is just found in those areas. Coffee is considered one of the reasons for this distinction. It is the reason behind farmers' insistence to keep this vital diversity and it is the reason which enables them to cope up with difficulties of being far from the city and the scarcity of many facilities.

The Most Important Area of the Production of Yemeni Coffee :

Yemeni coffee cultivation is widespread in most governorates and the most famous areas of its cultivation are: Bani Matar, Yafa, Haraz, the internal and external Heima, Bura, Bani Hammad, Amran , Mahweet , Anis , Hajjah , Saada and others, and it consists of different shapes and sizes and several names and types, in relation to the areas that are grown in it, and the most common types of Yemeni coffee are: Al-Matari, Al-Yafei, Al-Haymy, Al-Harazi or Al-Ismaili, Al-Hajri Al-Mahwati Al-Burai, Al-Hammadi, Al-Rimi, Al-Wasabi, Al-Anisi, Al-Adaini, Al-Sabri and Al-Saadi.

Coffee is produced in 17 of the 21 Yemeni governorates, benefiting more than one million people, and coffee cultivation covers approximately 35,000 hectares.

khawlani coffee is a high quality coffee and is a unique product which is sold inside and outside the country. It is an important component of any coffee blend to enhance its quality and cost. Therefore, we have preferred to talk about it in this article to be the first type of coffee from pearl of Tehama.

On the high mountains top which embrace those rainy clouds you find arms of the original Yemeni coffee. These agricultural areas are the most difficult places to live in or reach without the help of the distinguished farmers who inherit the traditional skills in growing the Yemeni coffee.



Fields of Yemen and water harvesting

Every farmer at Saada Governorate has a unique but strenuous story of struggle. However, coffee plantation has an important role in helping farmers cope with such difficulties in those remote areas. This is a common factor among all the stories of the farmers in this area. It could be possible that all sources of income might stop, the economic crises could happen, climate changes affect the plantation, etc.

In such circumstance, farmers in these areas might stop planting all types of crops except the Yemeni coffee because coffee for them is not only one major necessity for them but also its connection with the social relationships and tradition.

These poor farmers are proud that they produce the best coffee in the world. In addition, many know that there are sophisticated people, scholars, geniuses, etc. who often need a cup of coffee from Yemen to invent new technologies which serves and develop human life at large. Those great farmers consider themselves partners in such development directly or indirectly.



Kind-hearted Farmers of Mocca Yemeni Coffee

We have chosen to talk about coffee production at Saada (khawlani Coffee) and Sanaa (Matari coffee) and we will describe the way coffee is produced in the most important areas of producing the two types. Every area has its unique way. For example, Khawlan Bani Amer Districts in Saada governorate, agricultural communities live

there where the best qualities of coffee is planted. These families have inherited planting this product since ages. They try their best to save coffee trees through applying some of the old practices of plantation without the interference of any chemicals.

All the components of this vital diversity surrounding coffee farms are proofs of the greatness, intelligence and strength of the Yemeni farmer who is able to create a suitable environment for coffee production despite the challenging circumstances. They have dug basins in the hard rocks to collect water when rain becomes scarce and they have grown forest trees around the fields to give more shade when temperature changes. They have paved roads in difficult places to make them reach those fields easily and they have taken care of animals which help them reach those places in spite of scarcity of fodder. They practice many activities to support their families in that hard environments.

The innate nature of the Yemeni farmer, his generosity, co-operation and his forgiveness help him challenge all these circumstances. The farmers' society is creative and loving one. The farmers' traditional legacy; their songs, sayings, proverbs, poetry, etc., which are presented during many agricultural and social activities reflect their love for each other and their pure nature.

Profile of Yemeni Coffee:

Mocca Mattari Coffee is grown in many areas in Sana'a which are situated on mountain highlands. It is considered the best type of coffee and the most balanced type in Yemen.

Matari Coffee is the best quality type of coffee which are exported abroad.

Among the first exporters to different countries is the merchant, Ali Heba Muslot (My Late father) He is considered the oldest exporter of coffee as is show in the oldest manuscript in Ministry of Agriculture in Yemen (no. 16)



Muslot's family is known for their unique means for exporting coffee which make their customers continue dealing with them until date. Muslot's family pays regular

visits to the areas of production; they offer interest free loans for farmers to ensure the success of their production and to get the best varieties of coffee.

International agencies working in the development of Yemeni coffee :

GTZ Organization - Yemen

There is a great German interest in Yemeni coffee, as the friendly Germany represented by the GIZ organization tried to support the field of Yemeni coffee in an attempt to restore Yemen to its historical position for the coffee crop, as a project funded by GIZ was implemented during the period of 2007 - 2009 and was one of the most important. The outputs of this project are the publication of a book on Yemeni coffee called "Coffee in Yemen" A practical Guide.

While this support is still valid by the German organization, a new project on its way to implementation by this organization will start this year 2020. With this growing interest from the German government, it seems that Yemeni coffee will regain its past glories that it had before Decline until it almost disappear from the global markets.

Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH has been operating in Yemen on behalf of the German Federal Ministry for Economic Cooperation and Development (BMZ) since 1969. It opened its office in Sana'a in 1983. Currently 129 national employees are working in the country (as of 12/31/2018). In order to provide quick and flexible support in times of civil war and insecurity, GIZ is developing Business Continuity Management in this country with high interest. GIZ and its partners designed their development goals and strategies to meet the basic needs of the Yemeni people in the context of a major humanitarian crisis. The current priorities are:

Water: drinking water and sanitation, capacity development of local water facilities, basic education: providing training for teachers and administrators, developing schools, psychological and social support for students, as well as interest in developing economic crops of relative value.

In addition, the GIZ has been mandated by BMZ to enhance food security and support for the displaced and host communities. Health, economic development, employment, governance and peace building are other areas of activity. Poverty reduction, human rights and gender equality are incorporated into GIZ projects and programs in Yemen.

The role of the pearl of Tehama and its contribution to the development of the Coffee crop:

Pearl Tehama is among the few national companies that have established a system to pay some differentiation criteria when collecting coffee from agricultural societies or from productive farmers such as quality, amount of moisture, and absolute density, which allows it to pay price differences directly to producers. Pearl Tehama works

hard with these entities to continuously apply value chains throughout the value chain in order to realize the benefits of premium prices for the benefit of small producers.

The pearl of Tehama was among the national companies demanding to prevent the import of foreign coffee into Yemen so that the local production that deteriorated during the past three centuries and the production of Yemen decreased from 60 thousand tons in the seventeenth century until it reached now to 21 thousand tons has responded to the Yemeni Ministry of Agriculture and Irrigation For these claims, and it banned the import of coffee from abroad, as it issued a Republican Decree in the month of November 2019, stopping the import of any green beans for outside coffee.

Pearl Tehama is proud to pay incentives to farmers and coffee producers in the purchasing areas to encourage best practices and re-establish the Yemeni coffee industry.

Pearl Tehama has done a very hard work in establishing farmers' groups in several regions, because of its great optimism in the future and the growing production of the coffee crop and the increased demand for it from abroad, especially when caring about the value chains of high-quality Yemeni coffee products.

Khulani Mocha coffee :

Source of coffee and its geographical area:

Khulani coffee is produced from the Khulan Amer district - Saada governorate, and it is grown on mountain terraces and valleys (mostly) at an altitude of 1400 - 2500 meters above sea level.

Cultivated variety:

100 % Arabica coffee,

Varieties:

Audaini (mostly), Dawaery and Tuffahi.

Method of production:

sun-dried coffee in the sun on rooftops and in modern dryers.

Characteristics of Khulani:

Khulani Coffee is one of the most famous species, and it is produced from the nurseries of Khulan Bani Amer in Saada followed by Al-Udaini due to the height of its trees (4 meters), as well as Dawaeri, which is one of the best species, because its fruits are larger and its types are many, and they are: Tuffahi, Matary, al-Hammadi, Al-Himi, Al-Burai and Al-Harazi.

The farmers of Khulani coffee type when they are collected at the same time to ensure better quality and flavor of the fruit and isolate the fallen ones so that they do not affect the quality because they are usually saturated with moisture, stressing the need to dry the crop appropriately after removing the crusts.

Area of production of Khulani Coffee :

Al-Khulani coffee is grown in 6 districts of Sa'ada governorate that are concentrated in the western mountainous section of the governorate (Saqin, Haidan, Joma'ah Razih, Munabbeh, Ghamer) of high-quality varieties with a wonderful and distinct taste and cultivated in valleys and mountain terraces of the western foothills in the governorate.

Quality of Khulani coffee :

the quality of Khulani coffee is due to the summer and winter harvest seasons, especially what is produced in the winter where it is characterized by high quality, and that the coffee varieties have a major role in the quality of the product due to the qualitative and formal differences of the green bean produced and the experience of farmers in the agriculture operations associated with production as well as the impact of the environment, climate and operations Harvest and post-harvest have a role in determining the size, shape and color of beans and their strength as well as the method of preserving coffee before and during export or internal marketing.

These factors have effects on the appearance of grains, the quality of coffee, and its quality.

Coffee production areas :

The production of the six districts in which coffee is grown in Sa'adah governorate is estimated at about 3500 tons annually, through approximately 502000 coffee trees.

The Directorate has the number of trees producing tons / year

Sr	Directorate	No. of coffee trees	Production ton/year
1	Saqien Directorate	250000	1500
2	Haydan District	157000	900
3	Ghamer Directorate	50000	500
4	Razih District	20000	250
5	Munabbeh Directorate	15000	250
6	Magz directorate	10000	100

	Total	502000	3500
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Farmer initiatives :

Within the framework of civil initiatives to improve and develop coffee production and marketing, the Khulani Coffee Society for Agricultural Development was formed, which is one of the modern established agricultural societies that are trying hard to push the level of coffee production and improve the reality of marketing.

The Secretary-General of the Association says about that, explaining: Through our follow-up to the problems of coffee and the difficulties it faces in production and marketing, it negatively affects the cultivation of coffee in the lands of Khulan Bani Amer, Juma'ah, Razah, and Ghamr.

The idea of establishing the association aims to create an ambitious environment that contributes to improving, developing and expanding coffee cultivation and contributes to improving the level of production and encouraging official and popular initiatives for the integration of coffee production and marketing

The association's management believes that the prospects for the future of Khulani coffee cultivation are broad and promising, as evidenced by the response we received from businessmen, producers and workers in the field of coffee cultivation to attend the establishment a of the association. The association through these members will form productive groups and increase coffee sales and exports.

We also see that the most appropriate access to coffee producers is through harnessing awareness activities and guidance through the media and through conducting awareness-raising field campaigns to direct farmers to pay attention to coffee cultivation and highlighting its economic status and importance, providing aid and support to farmers and solving their problems so that they can enhance the level of production and expand the range of cultivated land Coffee

The Secretary-General of the Khulani Coffee Association added that the most important goals of the association are to increase and improve coffee production and cultivation through the use of modern agricultural methods, raise the level of agricultural awareness among farmers.

As well as maintaining the stability of the prices of Khulani coffee, through coordination with importers and the search for external markets to market coffee crop, in addition to organizing the process of marketing, canning and exporting coffee in a correct and orderly manner, benefiting the association and the coffee producing regions.

Besides contributing to the development and expansion of coffee cultivation through the projects and contributions that the society will provide such as providing nurseries

that produce seedlings of authentic Khulani coffee inlaid, fast and with a more crop, contributing to the reclamation of neglected lands and their replanting, provision of modern irrigation networks and coordination with official and unofficial bodies to build water barriers, reservoirs and ponds in particular to support the cultivation of coffee and the preparation of studies and research on the cultivation of coffee and benefit from it.

Matari Coffee :-

Area of growing :

Matari - Sayhee Coffee comes from a slightly sloped deep intermountain valley in the traditional coffee growing area of Bani matar. The elevation of the Al- Sayh (the micro lot of coffee named after) valley is between 1500-1700 m.a.s.l. Subtropical climate conditions prevail in the area with spring and summer rainfall average of 300 mm and dry fall and winter. This location coffee is of a favorable quality due to the availability of supplementary irrigation from a permanent upper valley spring. Thus, enabling farmers to control flowering time and avoiding water stress during bean development.

Farming system of Sayh valley :

Farmers of the area are mostly dependent in agriculture production to sustain their living. Very few of the have other none agricultural related source of income. Farmers grow annual crops such as sorghum, maize, alfa alfa, cowpea, beans, and pearl millet. Coffee crop is the dominated perennial crop in addition to single trees of mangoes, guavas, casmiro mostly for household use. As it is the case with other coffee growing areas in Yemen qat is accompanying coffee here also fortunately with no apparent competition between the two. Animal husbandry (cows, sheep, and goats) is part of almost every household as a source of income and nutrition in addition to animal manure.

Coffee cultivation has been expanding and farmers are paying more attention to the crop due to the increase of coffee prices. Most importantly, farmers' enthusiasm to acquire and develop new method for improving productivity of their trees and quality of produce were clearly observed during the Pearl of Tehama technical training season and inspection visits to the area. This farmers' eagerness convinced us in the Pearl of Tehama to urging farmers of the area to establish coffee producers associations (PA). This association would empowering their ability of marketing, better management of their water stream and rain flood networks and bringing attention to their suffering in order to attract material and technical support for some construction works from relevant agricultural supporting entities. The Pearl of Tehama is currently assisting coffee farmers in improving the quality, yield and revenues of their plantations. Farmers are trained on pruning of coffee and other appropriate cultural practices that overcome production constraints such as natural

pest and disease control and correction of mineral deficiencies and water conservation. In the picking season, farmers will be trained on selective red coffee cherry picking, and on appropriate coffee drying and storing that increases quality of coffee, decrease losses and increase revenues.

Farms and farmers of the valley selected for coffee collection :

Pearl of Tehama established farmer's based collection and traceability network for collection and inspection of the Matari - Sayhee Coffee exported to many customers from 5 sub-village farms owned by 45 farmers of the area. Each sub-village (called Mahlah) farm owned and managed by 3-18 households with holdings sizes ranging between 200-1000 trees mostly fragmented in various sizes of terraces from a few as 10 to as many as a 100 trees/plot.

Economic importance of coffee cultivation for farmers household :

The income of coffee is an important and major part of family income, where coffee is a cash crop. To increase the share of coffee farmer from the final price of coffee, the Pearl of Tehama collects the coffee directory from the farmers in their localities'. Thus, saving costs of intermediaries and transportation. And most importantly guarantee the originality of coffee. This will enhance farmers' ability to meet their needs, pay more attention to coffee crop, and support coffee competitiveness over Qat.

Crop Management:

Intensive and experienced care is provided to the plants. One can see three generation taking care of coffee plants at the same time, grandparents, sons and grandsons working in a family farm that could be considered a continuous part of community and family oriented technology transfer and development a tradition that the Pearl of Tehama is keen to sustain and improve.

Preparing the Ground and a Bed for the Tree

Soil which surrounds trees is to be turned to improve ventilation. Manure fertilization is added and weeding is done during this process.

Seedling Choice :

Many farmers choose seeds from the best trees which are adaptable, distinguished and having many good qualities. Farmers have traditional knowledge of propagating the seedlings which is a difficult process and the percentage of the success of this process is not more than 60% in better conditions. On the other hand, the Ministry of Agriculture and Irrigation takes care of many nurseries which provides seedlings for the farmers.

After completing one year, the seedlings are moved to fields prepared for them. In every hectare, the number of seedling is between 500 to 1000 seedlings.

Taking care of Trees:

Farmers do many processes which ensure the strength, health and production of trees. Coffee tree need takes from six to eight years before producing complete crops. Pruning should be done continuously after production in order for the tree not to exceed 3.7 meter. Pest control is done manually or by using some skills such as spraying natural materials or smoking.

Post-Harvest Procedures:

Crop Picking

Picking coffee crop in Yemen is not done at a time as it is done in other countries. It is done manually and on daily basis. When the crop is completely red and ripe, the farmers pick them. Therefore, this process continues for two to three months.

Drying:

Rooftop and raised bed sun draying (natural) for the ripe crop.

This way of drying gives the Yemeni nice flavour and special colour better than coffee produced in other countries which use the artificial drying. Coffee loses its quality, smell and taste. They purify the good, and then they dry it for two weeks in the sun.

Sometimes drying process is done using modern technology. The first two days are for sorting the ripe red crop. The less red is classified second grade. Daily checking up for the level of wetness is done until it reaches the required level of dryness. Coffee then stored at a certain temperature and a certain level of humidity if the marker price is not appropriate. If it is appropriate, then dry crops are sold or delivered to the merchants.

Hulling and Preparation for Exportation :

After coffee reaches the appropriate level of dryness, merchants hull and clean and sort it manually. If it is for exporting, many merchants mechanically hull then prepare it. It is worth mentioning that Pearl of Tehama, for many years in its work with customers, depends on manpower in preparing coffee for exportation. More than 800 laborer work in this profession that benefit their poor families.

Mocha Blend 85 and Mocha Blend 84 :-

Modality work in the production of coffee blends

Through the feedback of cupping results which gathered by Tehama Pearl from various international Green Coffee Importers companies to which samples were sent for testing, Pearl of Tehama has assisted international Yemeni specialists of coffee cupping to make distinct blends for Pearl of Tehama.

We have benefited from the results of cupping for the various pioneering varieties. Mixtures were made, and combine the best excellent qualities that are distinguished by the various varieties and have already succeeded in making many blends that excel some types in the flavors and the quality after very big attempts to reach the best proportions that achieve those flavors in one Blend.