Conceptual Development Plan for Qulaan ecotourism Model

Southern Red Sea Region

United States Agency for International Development (USAID)
Prime Contract # GS-1F-0076M
Order #263-M-00-04-00004-00
Subcontract to IRG: No.2007-000-PA

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1 INTRODUCTION

The Tourism Development Authority (TDA) has prepared an Ecotourism Development Plan for the Southern Red Sea Region. The Plan contains development standards, resource maps and development maps for ecotourism in the Southern Red Sea Region (SRSR) extends from the summits of the Eastern Desert mountains towards the Red Sea. This region consists of an enormous water catchment area that supplies water to the Red Sea. The approximate dimensions of the region include 100 kilometers on the coastal area that extends from the southern limits of the Town of Marsa Alam to Wadi Lahami.

The Wadi El Gimal Hamata Protectorate Area is an environmentally and historically important area located in the SRSR. The Protectorate is deemed important by the Egyptian government because of biological resources and marine ecosystems that are unique to the Eastern Desert and Red Sea, and because of the numerous heritage sites located within this area. Based on the diverse natural and heritage resources located within the Wadi al Gimal - Hamata region, the Government of Egypt formerly declared it as a Protectorate Area in January 2003

Two sites are identified within the Southern Red Sea Region and Wadi El Gimal Hamata Protectorate Area - Qu'laan and Sharm El Luli - as full fledged ecotourism schemes that includes all components of ecotourism such as identified attractions, destinations points, circulation network of trails and motorway access, accommodation facilities (eco-lodges), guiding and control facilities, rescue and medical services, etc. This document (the Qu'laan Ecomodel) is an effort to serve as model for decision-makers, developers and planners to evaluate and analyze ecotourism sites, compile a project brief (program) and conceptualize the most suitable development for the selected sites.

Each and every site has its own, very specific, opportunities and constraints. Successful ecotourism requires that the "uniqueness of place" is maintained and protected -- that the natural environment is not overwhelmed by man-made alterations and/or activities. The Southern Red Sea Region (SRSR), in many respects, offers a distinct challenge to achieving this delicate balance. The beautiful and serene landscapes are also harsh and hazardous at times, and ones that need very careful planning to accommodate successful ecotourism ventures.

2 SITE SELECTION

2.1. CONSIDERATIONS

To date, most tourism development along the Red Sea coast has occurred adjacent to the shoreline. Traditionally, the Egyptian Tourism Development Authority (TDA) has allocated lands within its Tourism Development Centers predominantly between a coastal setback and the main coastal road. Areas to the west of this road primarily have been used to accommodate staffing facilities and supporting physical infrastructure.

Proximity to the coast will remain important, given the need for a source of desalinated water, access to marine and shore based activities, as well as for aesthetic considerations. However, most of the terrestrial ecotourism activities will be inland, within the Eastern Desert.

Transportation of visitors inland may take many forms, including camels, 4x4 trucks and by foot, but routine delivery of supplies to an ecotourism facility such as an Ecolodge will require proximity to a main road.

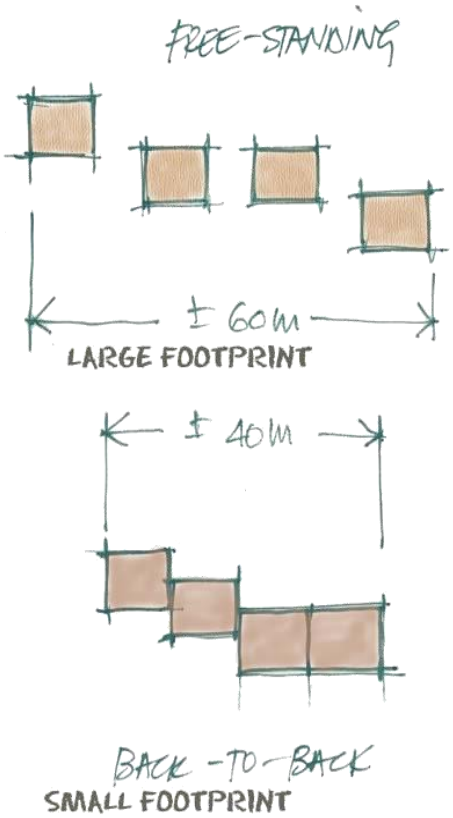
Cultural experiences often play an important role in the ecotourist experience. The proximity of local communities and their willingness to participate in tourism activities should be carefully assessed.

In selecting a development site, care should be taken to ensure that external disturbances such as noise, visual disturbances (vehicle movement and lights, man-made structures) and physical disturbance (construction and terrain alteration) are minimized and strictly controlled.

2.2. CRITERIA

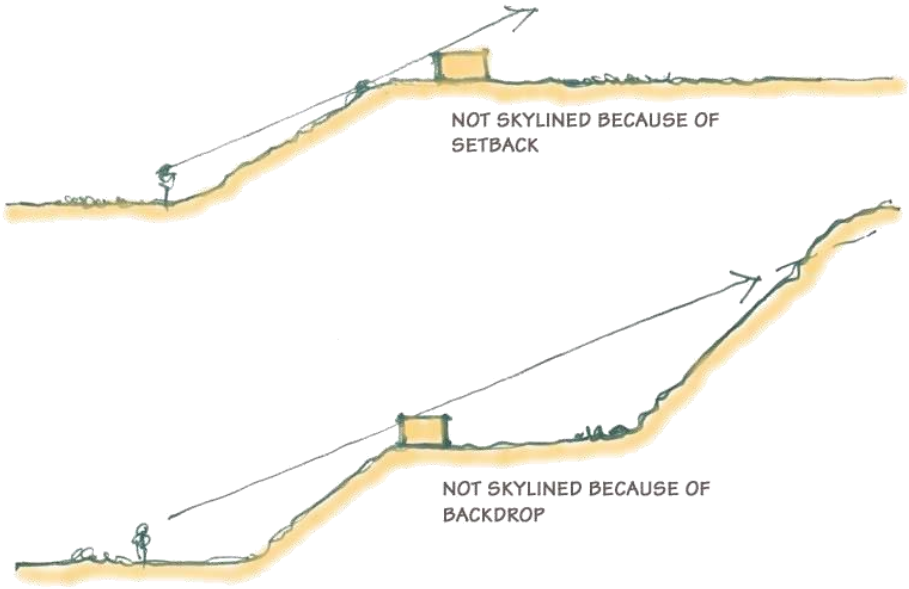
While the above criteria can be met to varying degrees, depending on the particular type of development and experience that is envisioned, the criteria themselves may be more demanding. Ecotourism standards (guidelines) should be based on these criteria in order to ensure that responsible development is undertaken within pristine natural environments.

- The impact that the development – and its supporting infrastructure – may have needs to be critically evaluated through the Environmental Impact Assessment (EIA) process. In such sensitive ecosystems, post facto "mitigating measures" are simply not sufficient to redress environmental wrongs that may have been already committed.



- By keeping the principle of "minimum impact" in mind during the site selection process, a lot of the mitigating measures can be averted. Minimum impact is critical with regard to footprint – i.e., the actual physical coverage of a building and supporting facilities. This principle is most important in

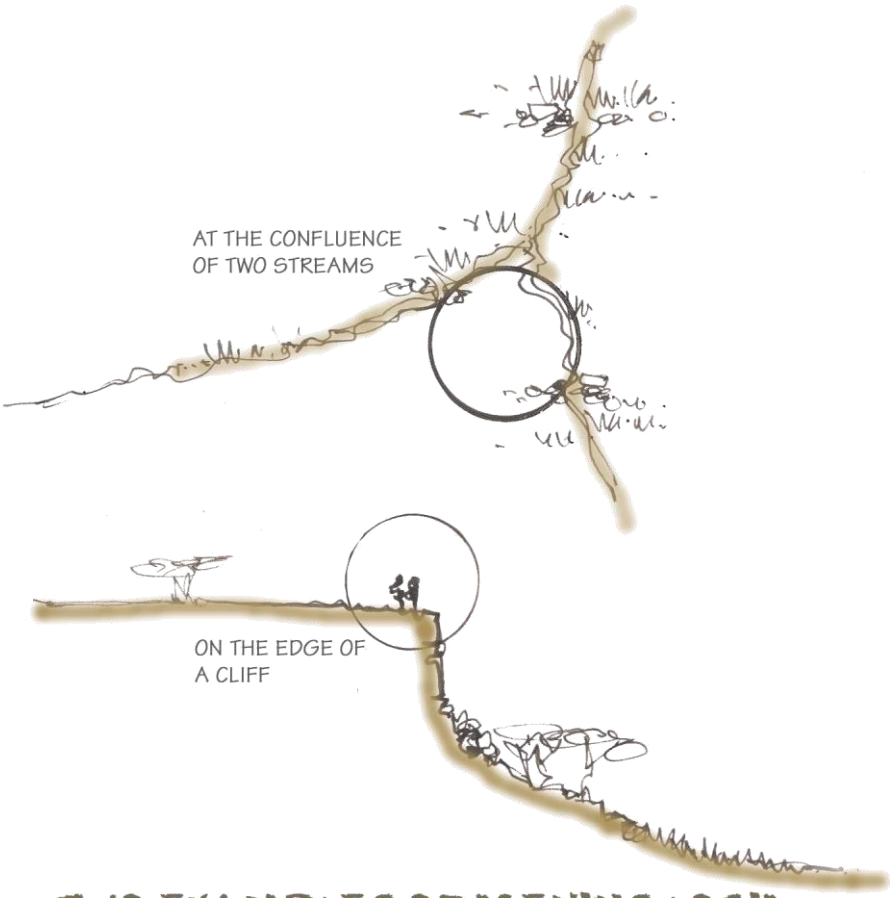
highly sensitive environments, such as wetlands or mangroves. While the desert floor should be disturbed as minimally as possible, the visual impact of a multi-story building may be equally disturbing in the visual sense, however. Certain steps can be taken to minimize this visual impact, such as siting the development in a manner that prevents “sky-lining”, or choosing building colors in harmony with hues of the surrounding countryside.



MINIMIZING VISUAL IMPACT

- **Other impacts** such as the provision of services and the impact that it will have on the environment (water and sewerage runs, roads, overhead electrical lines etc.) needs to be carefully evaluated in selecting the site.

- The site should be **“easy to develop”**. If heavy mechanical machinery is required to get pipelines into the ground, if bulldozers need to level areas for buildings to be sited (“cut and fill”) or material needs to be imported to create platforms for buildings, then the site is not easily developed. This will obviously lead to huge impacts on the environment and an unnatural feeling of how the development “sits on the site”.

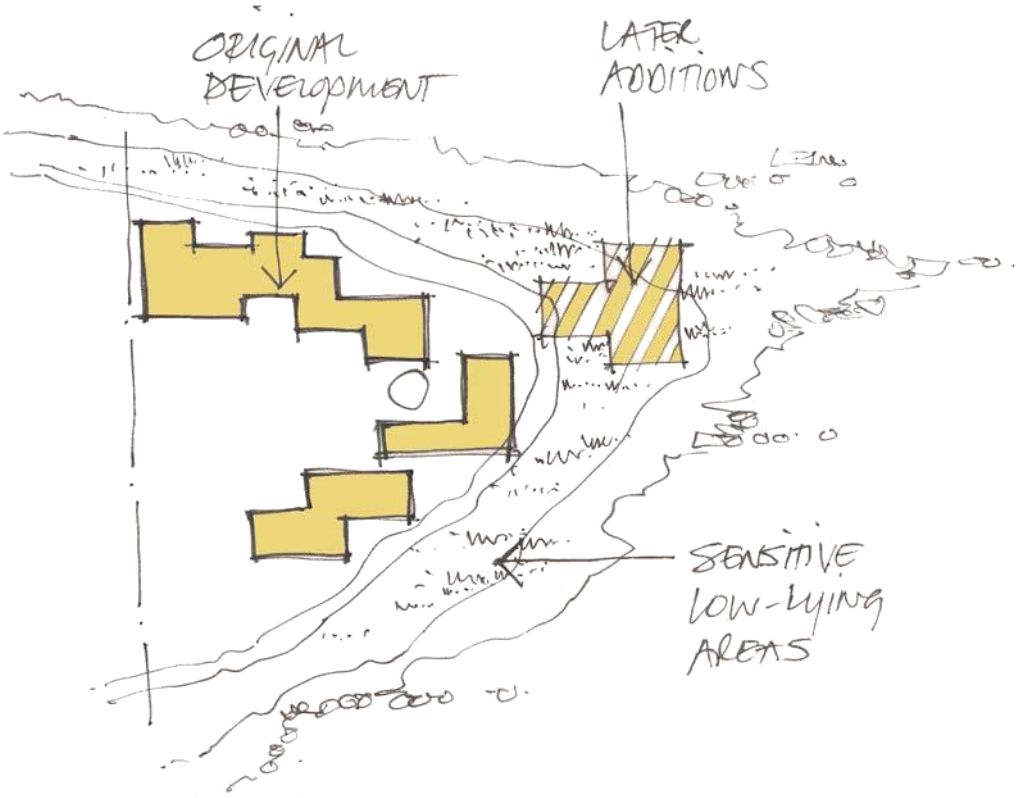


TWO EXAMPLES OF "GENIUS LOCI"

- **"Sense of place"** (genius loci) is another fairly intangible, difficult to define aspect of site selection. Only experience will assist one in evaluating the sense of place, the feeling of having arrived at the right spot. Once the development is completed, it should also "feel in place" – much the way old farmsteads or mountain retreats "feel right". Our forefathers had a natural instinct of where to build, most probably because of their understanding and respect for nature. Things like wind direction, sun angles and vegetation come into play, ensuring that the development will "feel at home".

- **Accessibility** is very important. Not only should a road to the site be easily constructed, it should have minimum impact on the environment. It also should not negatively impact on visitors when used by vehicles – approach angles (especially at night, with headlights on) noise levels etc. should be evaluated at site selection stage.

- The site should be **big enough** for the intended development. This sounds simple enough, but so often developments feel cramped or overspill onto adjacent areas not suitable for development because this criteria was not properly evaluated. Future expansion should be kept in mind during site selection.

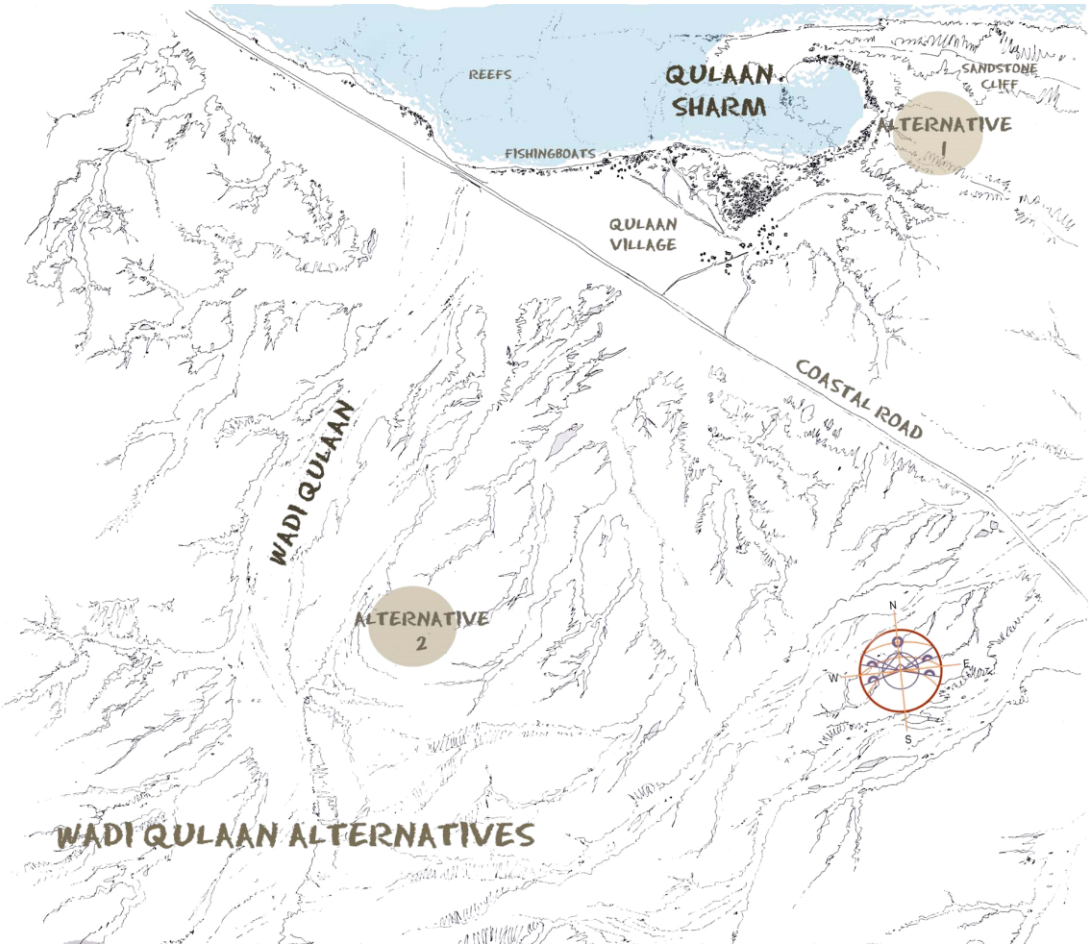


PLAN FOR FUTURE EXPANSION

- **Provision of services to** the site is very important. In choosing the correct site, one should always keep in mind that water needs to be purified/desalinated/stored, electricity needs to be generated/reticulated, air conditioners and compressors provided and sewerage treated. The site and its close environment should be able to successfully accommodate such services.

2.3. ALTERNATIVES

In the immediate area of the selected site (in the Wadi Qu'laan) two alternatives were also evaluated.



Alternative 1

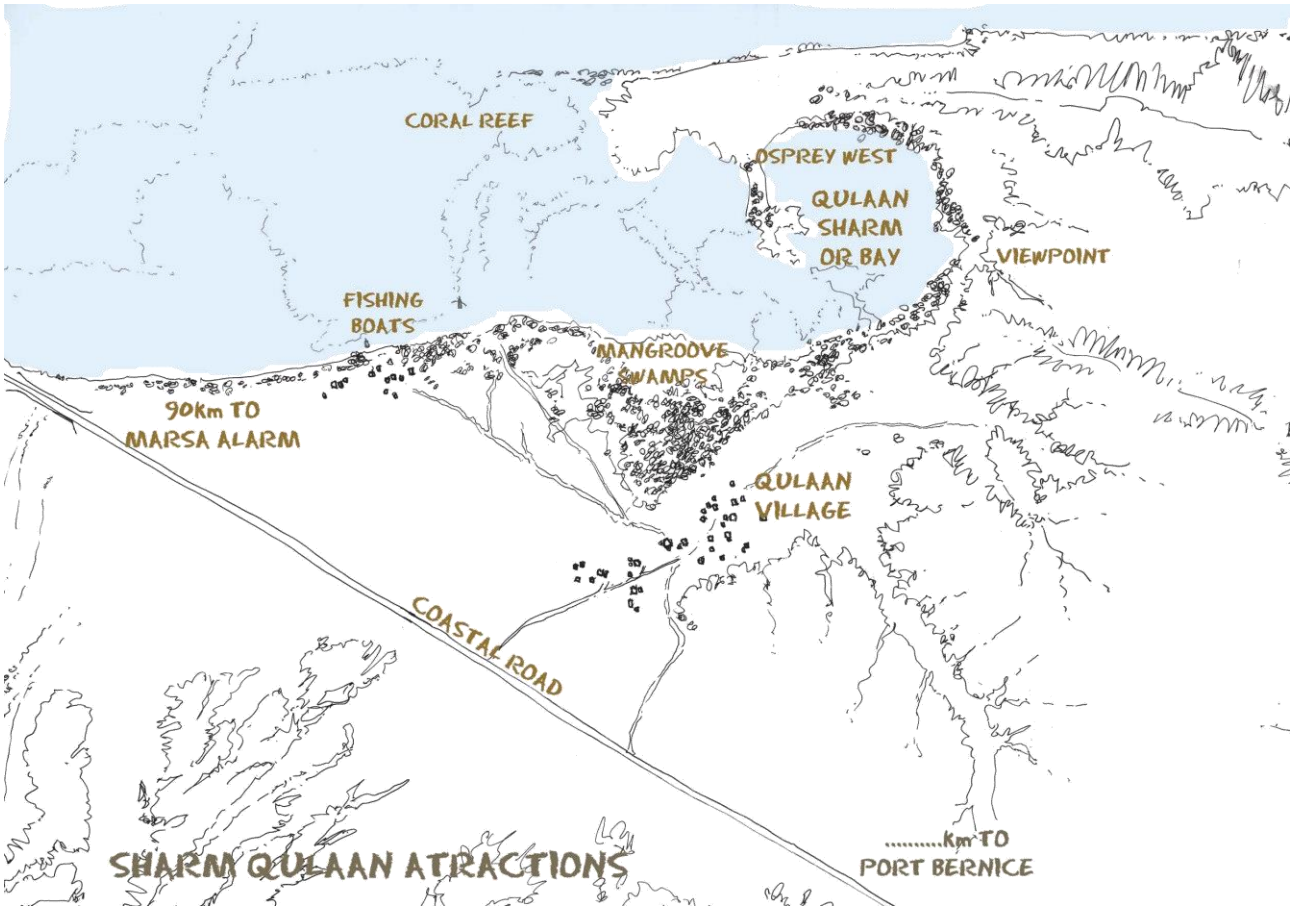
At Qu'laan, at the waters edge:

This site would seem to be the logical position to develop an ecotourism facility. It overlooks the Qu'laan Sharm (bay) with beautiful views onto the beaches, mangrove swamps and distant mountains. Due south of the actual bay a sandstone bluff offers an ideal elevated platform for development, with easy access from the coastal road and abundant seawater for desalination at one's doorstep.

VIEW FROM ALTERNATIVE

Almost the only reason for <u>not</u> selecting this site as the first ecotourism facility within the Wadi El Gimal Protectorate, is a "sense of responsibility" the project team all shared. It would be highly irresponsible to develop such a facility right on top of one of the most beautiful, diversified and unspoilt areas along the Red Sea Coast. By keeping it that way, the Qu'laan Sharm will remain:

- accessible to everyone, not become one developers' playground.
- available as an interpretive opportunity to highlight the interaction between marine, terrestrial and human environments.
- a "living harbour" by allowing the local community to fish the area undisturbed.
- an example of eco-sensitive development in that it can be showcased as "development without having to sacrifice the goose that lays the golden egg."



Alternative 2

On the foothills due south of Wadi Qu'laan, ±1,2km from the coast:

From the top of these gravelly hills, one overlooks the whole of Wadi Qu'laan, with beautiful views onto the Deep Range mountains and Gabel Hamata, as well as a long section of the coastline with the Qu'laan bay in the middle thereof. Still close enough to the sea and coastal road to be serviced easily; it has a feeling of the mountains to it.

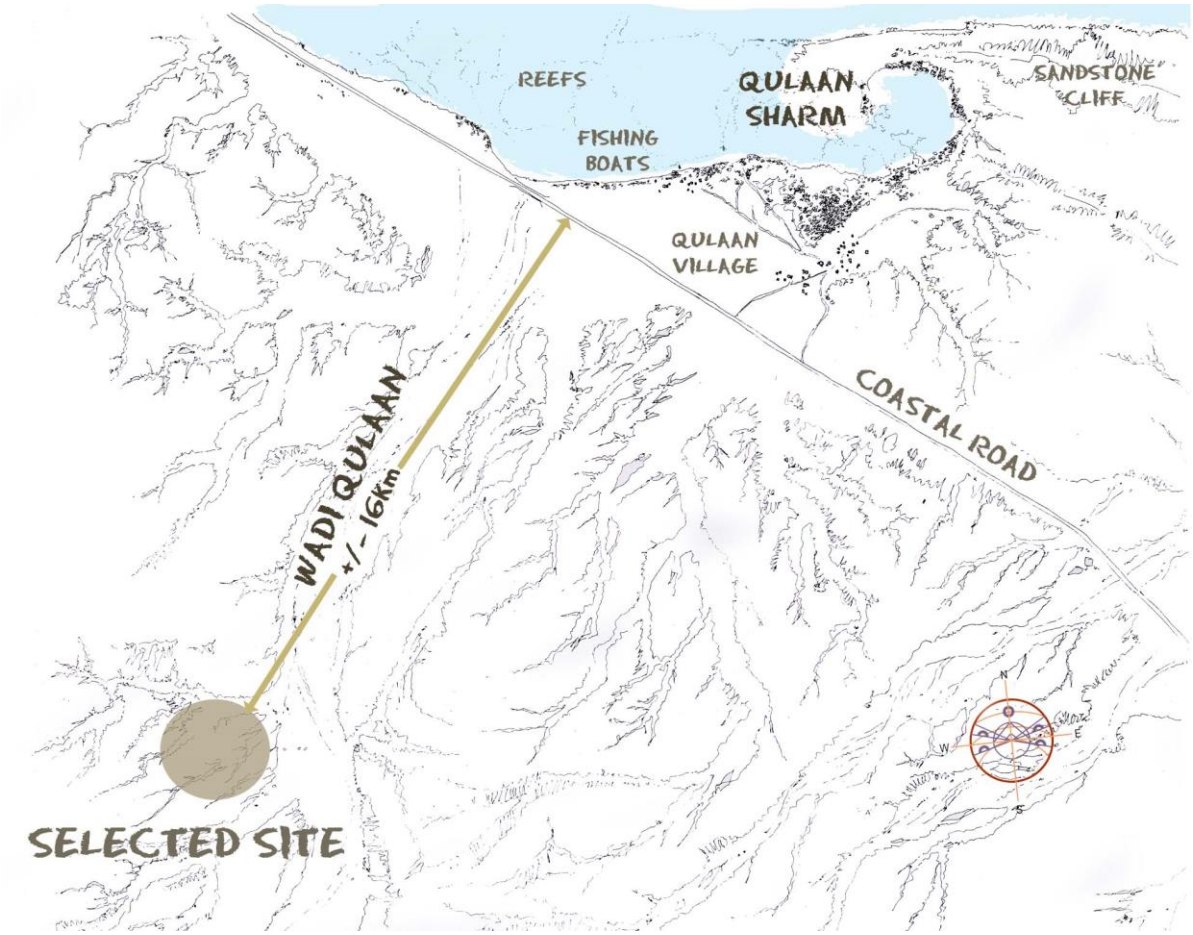
VIEW FROM ALTERNATIVE

A number of negativities convinced the team not to select this site. They are:

- The actual site for development is fairly small, steep in many places (which will make development difficult) and therefore dangerous to visitors – the hills are all covered in gravel and small stones which easily moves underfoot.
- The panoramic view also – unfortunately - exposes the visitor to many kilometres of the coastal road. Especially at nighttime, the movement of vehicles will be very disturbing.
- Being on top of the hills, the development will be visible from much of the surrounding countryside. It will also be severely skylined from the Wadi itself, which will be utilized by visitors as an entrance to the desert and mountains.
- The nature of the surface of the actual site is such that any disturbance will be seen for a long time. Being on fairly steep slopes, it will be difficult to rehabilitate and will be visible from far away. This also applies to underground service runs and roads.
- From an operational point of view, it will be costly and time consuming to operate an ecotourism facility on this site. Every visitor who wants to go anywhere will have to be driven - most probably with 4X4 vehicles - up and down the hill, causing even more visual and noise disturbance to all who live there or look upon the site.

2.4. THE SELECTED SITE

The site selected for the Qu'laan Ecomodel will be analyzed in more detail below, starting with **Off-site analysis** and followed by a detailed **On-site analysis.**



3 OFF-SITE ANALYSIS

This chapter deals with the wider context in which the site and it's potential for development is analyzed. A lot of this background will obviously be applicable to other ecotourism projects considered in future in the Wadi El Gimal Himata Protectorate.

3.1. ENVIRONMENTAL

The Eastern Desert that lies between the Nile Valley and the Red Sea is so different from the Western Desert that it seems odd to use the same word for both. The Eastern Desert is dominated by its spine of rugged mountains seamed with wadis that support one of the richest assemblages of flora and fauna on mainland Egypt. There is rainfall of less than 50mm annually, run-off from the precipitation benefits the wadis and although there are no permanent watercourses, some water is retained and appears as springs. After a rare spell of rain pools form in rock basins.

Owing to the overall extreme aridity of the Eastern Desert, plant and animal life is generally restricted to the wadis and more specifically to the wadi sides. Because rain on the mountains drains into the wadi systems it tends to do so in the form of torrential floods. These floods not only carry with them rocks, sometimes very large ones, but also any vegetation in its path. Because of this, the main wadi channels are usually devoid of plant life and vegetation becomes established on the wadi banks above flood level. The exception is that in the lower reaches of wadis where they spread out and are less steep, any flood that has occurred higher up will have lost its force and what water remains can sometime sink into the ground sufficiently to support vegetation for years to come.

In the wadi bottoms the Horned Viper, *Cerastes cerastes*, is common. The latter has a more evil reputation than it really deserves for it is a fairly sluggish snake and will often bite as a means of defence with out delivering any venom. The endangered Nubian Ibex, *Capra nubiana*, is king of the mountains but must descend to a wadi water source at least once ever 24 hours to drink. In the wadis

Rüppell's Sand Fox, *Vulpes rueppelli*, is a common carnivore and the Caracal, *Caracal caracal*, is als found. The Caracal, in common with most large felines, is under severe pressure.

RÜPPELLS' SAND FOX

NUBIAN IBEX

As shown in the photos, taken with permission from the publication "Egypt's Wilderness and the Quest for Conservation" by Gabriel Mikhail, the Eastern Desert has a lot to offer. It also is an extremely fragile environment that needs to be entered and utilized carefully. Standards and guidelines for ecotourism activities in such areas will be drafted as part of this program, and should be put into effect by all tourism operators into these areas. Tourism product developers should also be aware of their responsibility towards the environment in selecting appropriate sites for development and compiling programs/briefs for development that is suited towards the environment in general and the selected site in particular. Obviously, the actual implementation of the development calls for restraint and should be guided by an approved Environmental Impact Assessment (EIA) and Environmental Management Plan (EMP).

The selected site and development concept will:

- limit physical impact, being on flat ground which can easily be excavated and rehabilitated;
- limit visual impact, especially from the coastal road and the main flow of the Wadi which will take visitors to the desert and mountains;
- utilize existing drainage lines (dry river beds) to take service runs and roads to the site;
- utilize grey water (and treated wastewater) to enhance the flora in between and adjacent to the development, thereby creating viable habitats for animal and bird life to frequent; and

- not sacrifice “one of it’s kind” type environments but utilize a sterile, often-found gravel plain above the bed of the Wadi Qu’laan.

3.2. HISTORICAL & CULTURAL

The ancient history of Egypt reveals an advanced culture that made significant contributions to the creation of civilization. For thousands of years the SRSR played at least two vital roles in the creation of that important world history.

- First, it was the primary trade route between the Indian Ocean Basin, Asia, Africa, and the empires of the Mediterranean Sea.
- Second, its extraordinary minerals and gemstones provided an abundance of wealth to ancient empires.

An integral part of this remarkable history has been the culture of the indigenous tribes that have inhabited this region for more than four thousand years.

Where trade across the desert had formerly been sporadic, moving haltingly from oasis to oasis, it was now possible to take a camel caravan on a two-month journey directly across the Sahara. Trade and contact between the Mediterranean world and sub-Saharan West Africa flourished. Major traded commodities included horses, weapons, and textiles from the Mediterranean; gold, slaves, and animal products from West Africa; and salt mined from dried-up prehistoric lakes in the central Sahara. At least four major caravan routes served as the method for conveying goods and communicating information between Red Sea ports, such as Nakari and Berenice, and ancient cities such as Thebes along the Nile River. Perhaps the most distinctive caravan route was the legendary Elephant Route of the Ptolemies. This route crosses the Deep Range within Wadi al Gimal and then proceeds to the largest fortress trading centre located along the route. All of the ancient caravan routes provide evidence of the economic significance of the region during ancient times.

The country was rich in a wide variety of minerals, which the people learned to exploit early. They mined gold and copper and established a metalworking industry that produced jewelry, vessels, statues, weapons, and tools, among other objects.

Large towns with several hundred people were constructed to mine, smelt and process vast quantities of gold and emeralds, and the other minerals.

In the southern part of the Eastern Desert live a Hamitic people whose origins are lost in the mists of time. These people are the Bisharin who speak a unique language called Beja. The Bisharin share their territory with a group of people of Arab origin called the Rashida, who travel from the Sudan with their camels. Further north the tribes are Bedouin Arabs who have migrated over the centuries from the Arabian Peninsula. The Ababda are of African descent. They have developed a way of life that suits them and the barren landscape in which they live. The Ababda have a strong conservation ethic with individual families taking responsibility for conserving the resources of specified areas.

TYPICAL ABABDA VILLAGE

Conservation, therefore, was traditionally a matter of maintaining the fauna and flora in order to maintain their way of life. It are not so much what they do, but what they do not do. Instead of cutting down living trees to obtain fodder, the branches are shaken so that the leaves, on which the goats and sheep feed, fall to the ground. Cutting trees for charcoal is also frowned upon. Hunting wild animals is generally limited to the number of animals needed for food. Harvesting plants for food, fuel or medicine is also more or less regulated. The pastoral nomad knows only to well that if his flocks overgraze an area, there will be fewer plants the next time there is rain.

Ecotourism relies heavily on the environment, its history and the people that live there. Without pre-empting the **design concept** (see 6.1) it can be mentioned here that the site will be developed in such a way that the history, culture and traditions of this area will be clearly reflected, thereby constantly reminding visitors of the uniqueness of their destination. Obviously, the ecotourism activities offered will include guided trips to the historical and cultural sites that are found in the area. As such, the selected site is well positioned and lends itself to 4X4 excursions, camel trips and hiking trails.

3.3. ARCHITECTURAL

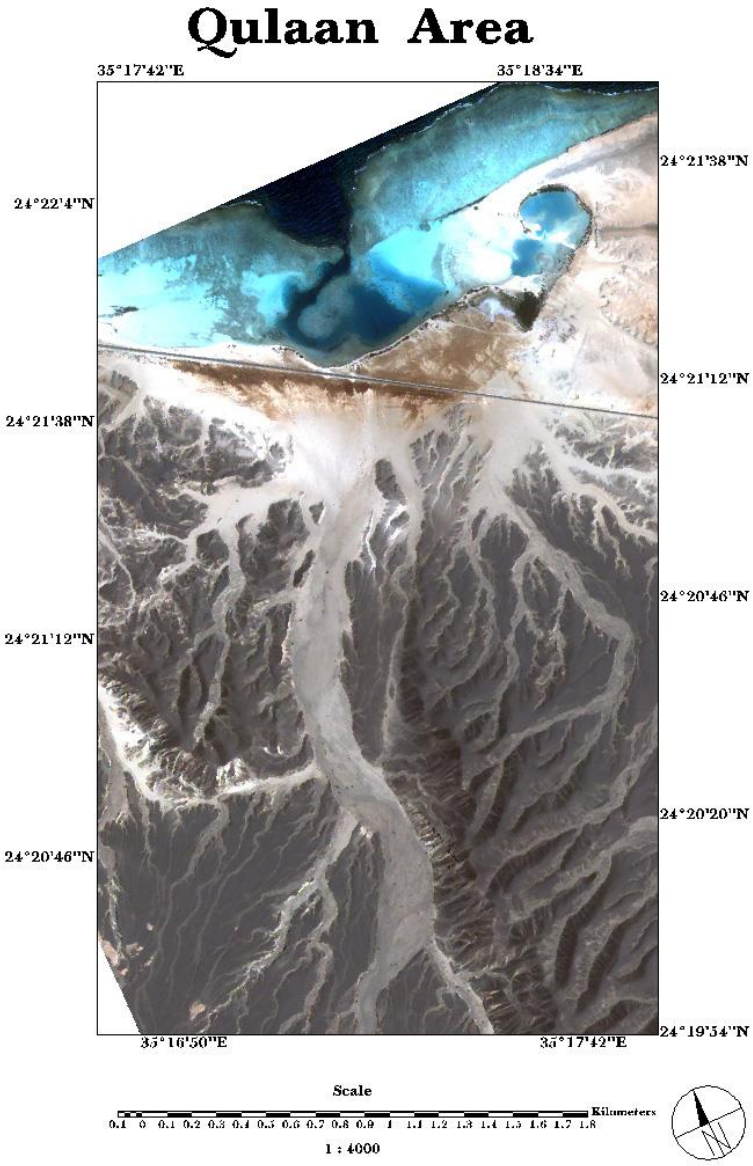
In tourism, having a Unique Selling Point or USP is admirable and will ensure a vibrant tourism industry. The tourism product should be diversified to draw other visitors, people not necessarily so interested in antiquities, but also in culture, the environment etc. This leads to the architectural character the proposed Qu'laan Ecomodel should posses. The idea is to move away from the monumental architecture of the Pharaohs to the domestic architecture of the local communities found in this area.

STREET SCENE IN QUSEIR, REA SEA COAST

4 ON-SITE ANALYSIS

4.1. SITE DESCRIPTION

The site was selected taking into consideration numerous factors, described elsewhere. For the purposes of this study, the site was not surveyed and therefore the actual shape, size and contour lines might be different to that indicated here.



SATELITE IMAGE: WADI QU'LAAN

The site topography is based on satellite photography. TDA has access to the latest technology to manipulate, interpret and enhance this information, allowing planners to incorporate all relevant information in taking decisions. Natural features such as soils, geomorphology, vegetation etc. are illustrated on different layers of the Geographical Information System (GIS) and together inform all planning.

The site is one of many gravel plains found in the Wadi Qu'laan. As mentioned previously, torrential floods tend to wash away everything in the main wadi channels. This also led to the formation of interesting drainage lines or cuts into the gravel plains. A gentle slope on the site occurs, but almost no other level differences.

VIEW TOWARDS THE MOUNTAINS

The site offers beautiful views onto the mountains, especially at sunset. On the north-eastern side of the site, weathered sandstone cliffs makes for an interesting variation in the browns and greys of the rocks, which is lit up by the late afternoon sun.

SANDSTONE CLIFFS (MID-DAY)

The site, being elevated approximately 6 meters above the wadi floor, has lovely views over the wadi onto the nearby mountains and – distantly – the sea. *Acacia tortilllis raddiana* trees are dotted on the wadi floor, some quite close to the edge of the gravel plain.

4.2. PHYSICAL & VISUAL ANALYSIS

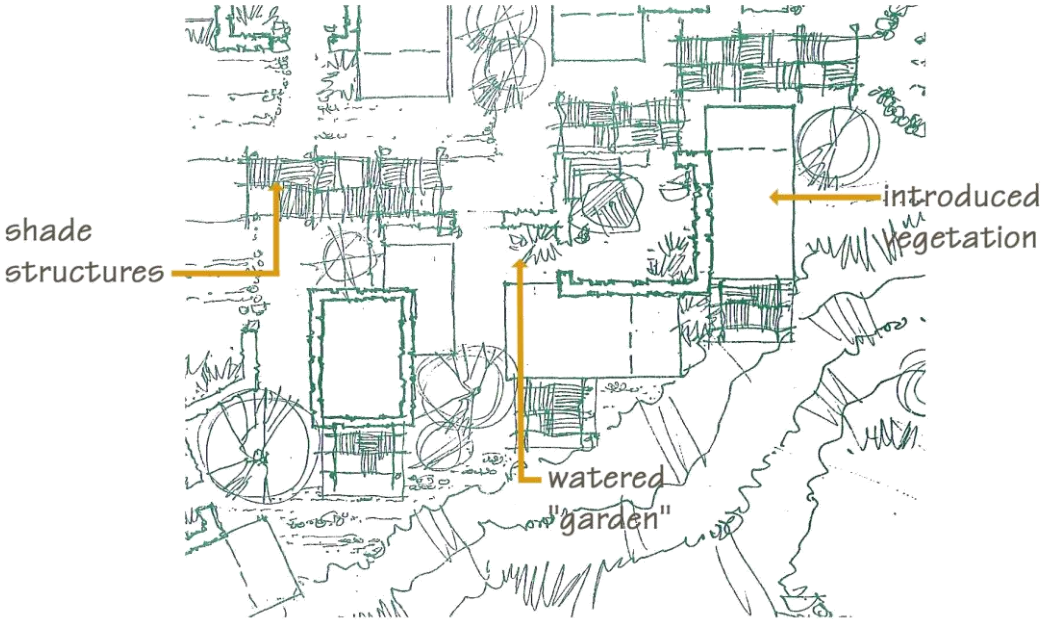
- Climate

  Important climatical aspects that will influence the proposed development are:

  - Temperature

    For most of the year, the area is exposed to intense sunlight and during certain seasons, intense heat. During May to October temperatures can range between 35°C and 55°C in the Deep Range, slightly lower along the coastal plains due to constant winds from the north. The temperature of rocks exposed to the sun often reach as high as 77°C and all moisture dries instantly.

    Obviously, any built environment needs to take this into account. Buildings will have to have a high insulation value and preferably not retain the heat which it gives back to you at nighttime. Areas surrounding buildings should be designed in such a way that vegetation and water can be introduced, not only to reduce ambient temperature but also to raise humidity levels.



- Rain

  Very low rainfall occurs over the Eastern Desert, producing a climatic condition called hyper aridity. On average, rainfall occurs only once every five to seven years, totalling 46 million cubic meters of water for the Wadi El Gimal, one of the bigger catchments areas along the coast.

  As such, no special provisions need to be made for rainfall. Roofs can have low or no slope and be only superficially waterproofed. Stormwater can be handled on the surface, as long as proper precautions are made on steep slopes for erosion control.

  Obviously, any vegetation contemplated for developments will have to be provided with irrigation. A system whereby grey water (water from basins and showers) are utilized by means of storage tanks and then pumped to trees and shrubs is contemplated for this project.

- Wind

  The prevailing winds are from the north-west and north-east and blows throughout the year. These winds can be problematic if too strong, and windshields need to be provided in areas where outdoor living is contemplated. However, because of the heat the wind is mostly welcomed. Cross-ventilation, especially in bedrooms, should be planned for, to gain maximum benefit from its' cooling effects.

- Sun

  Very little cloud cover is experienced, which calls for the utilization of the suns' rays. Solar power is commonly used for lighting and low-load electrical appliances. In most instances though, diesel-generated electricity is required to meet large loads such as desalination plants, air conditioners and fridge/freeze facilities that cannot be economically run by solar power. The high cost of solar installations to supplement diesel-generated electricity should be weighed against environmental considerations and lower operational costs.

In this project it is proposed to provide bedrooms with solar power installations, while diesel-generated electricity will take care of the public areas, staff and desalination plant.

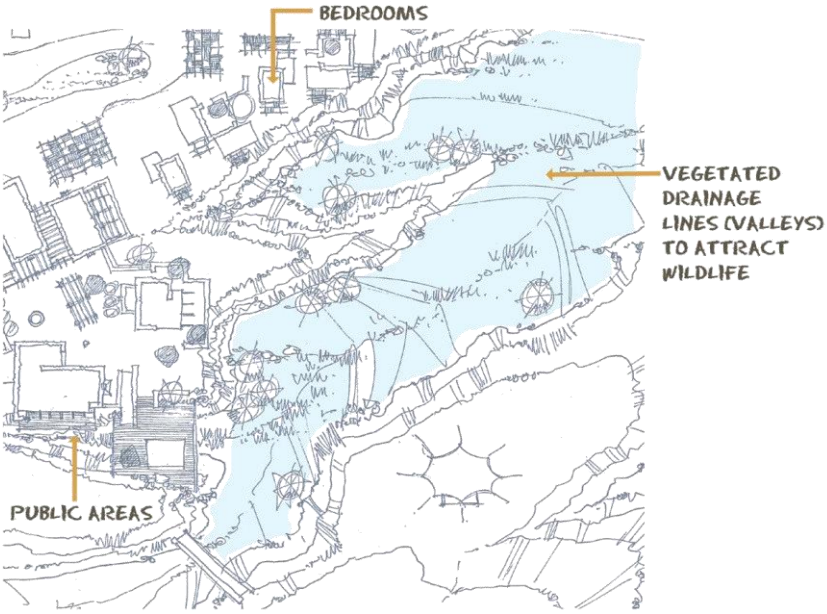
SOLAR PANEL ON TENTED LODGE

- Vegetation

  On the actual site to be developed, there is absolutely no vegetation. The surrounding wadis and drainage lines have limited ground cover and a few trees (*Acacia tortillis raddiana).*

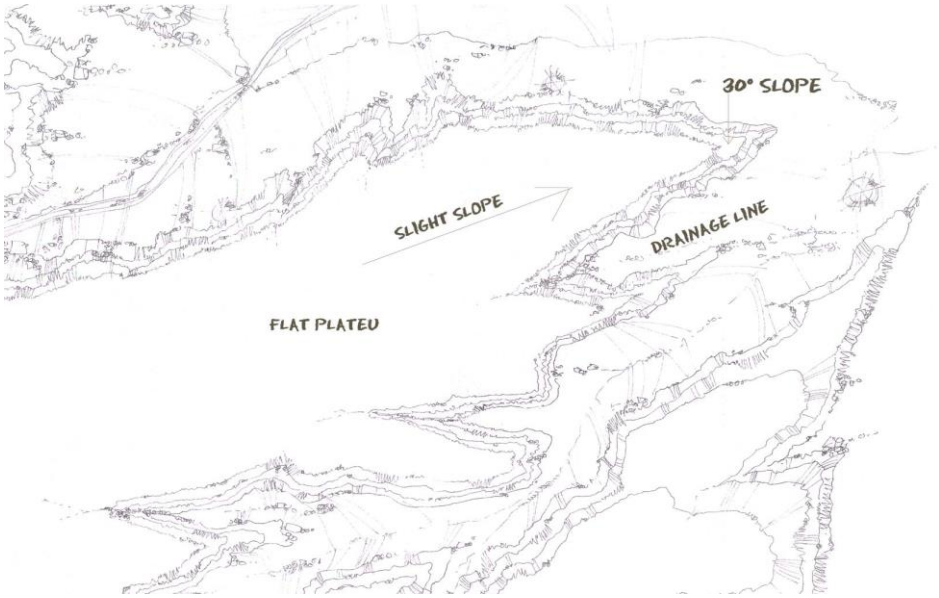
VIEW OF WADI

The proposed development will rely on introduced endemic plants to soften the landscape and contribute towards a more liveable environment. At the same time, some of the drainage line in the vicinity of the public areas will be vegetated to attract wild life.



- Physical features

  As can be gathered from the contour sketch of the site, the terrain is level, with a slight slope toward the east and steep gradients (in excess of 30° in places) down towards the wadi floor.



These features informed the design of the proposed lodge, in that bedrooms and public areas are to be located on the edge of the plateau, viewing onto the wadi floors and distant mountains. Services to site and the entrance road will be located in drainage lines to limit environmental damage to the steep slopes of the site.

- Access

  A proper road (suitable for delivery vehicles and sedan cars) will have to be provided from the coastal road to the site. As mentioned above, the road will be taken up one of the drainage lines to minimize impact. Access to the desert and mountains will be via 4X4 tracks.

  Each bedroom will have a patio with a view, and because the units are all to be located on the edge of the plateau, privacy will be guaranteed in that no one can walk past youR unit's patio.

  Since bedrooms will have different view, depending on their placement and orientation, guests could have different experiences on repeat visits.

4.3. SITE ORDER

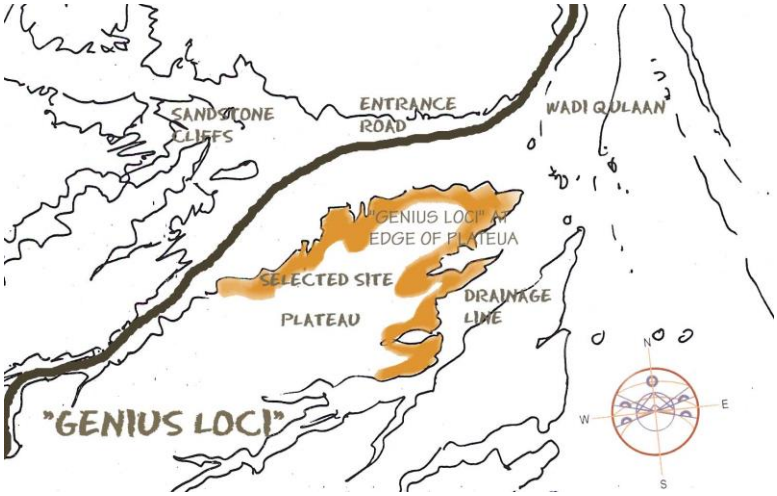
The "site order" refers to the experience one has when walking the site. The topography of the site, its' vegetation, views and rock formations, all contribute to "what the site tells you". The site order will, if all the factors contribute towards an enjoyable experience, tell you whether the site is worthwhile developing, how to zone it and where the focus of the site is. One needs to get the feeling that you have arrived at your destination and that this is where you want to spend the night.

- **"Genius loci"** The sense or "feeling of the place" is difficult to describe and could feel different to different people. The word "genius loci" (derived from the Latin "genius =spirit", " loci = place", explains it the best. Each site has a place or area where one most feels at home, where you feel you want to spend some time. This feeling comes about because of the views on offer, a beautiful tree or grouping of trees, rock formations or atmosphere.

  In the case of the selected site, there is no particular spot that has more of an appeal than any other – due to the total lack of vegetation, topographical

changes or rock outcroppings. Even the different views on offer do not influence one unduly, except maybe the view towards the sea, because it is in such stark contrast with the rest of the environment.

However, the “sense of place” is to be found all along the edge of the plateau – once one arrives on the top of the plateau, that is where you want to go!



This very strong pull towards the edge informed the decision to place bedrooms and public areas there - it is only there that you feel at home and ”able to rest”.

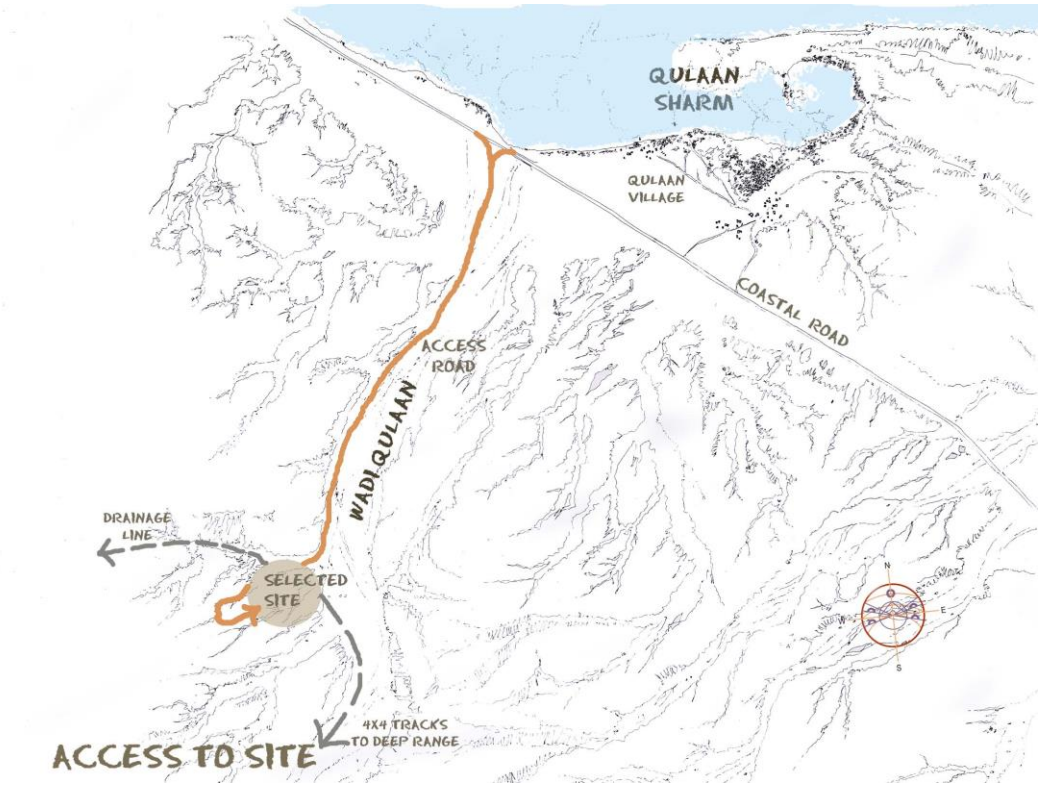
- **Proposed zoning**

As a final step in analyzing the site, a preliminary zoning should be done. In a similar fashion to land use zoning, where soils, vegetation, hydrology and other factors determine the optimum land use, site zoning is determined by all the factors discussed above.

- Entrance and access road

  A suitable point on the coastal road needs to be identified and discussed with the relevant authorities. From there, the access road will wind its way along the western side of the Wadi Qu’laan to the small wadi or drainage line that demarcates the northern side of the site. The reason for positioning the road along the western side of the wadi Qu’laan is because, from there, the actual site and proposed development will be hidden from view until the last

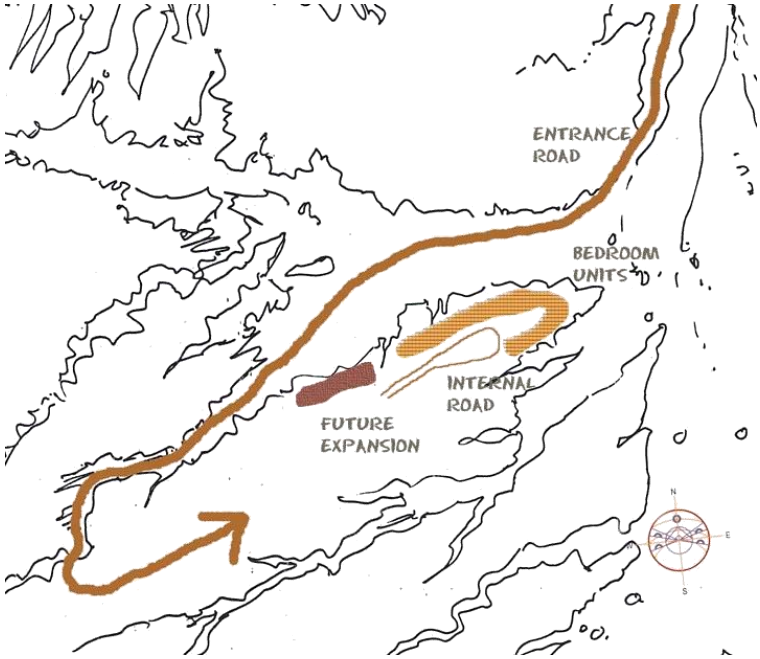
moment. From there, it will follow the drainage line which allows a gradual, unobtrusive rise to the top of the gravel plain.



The actual development is therefore approached from the back, which is good because the privacy of guests on their patios is not disturbed.

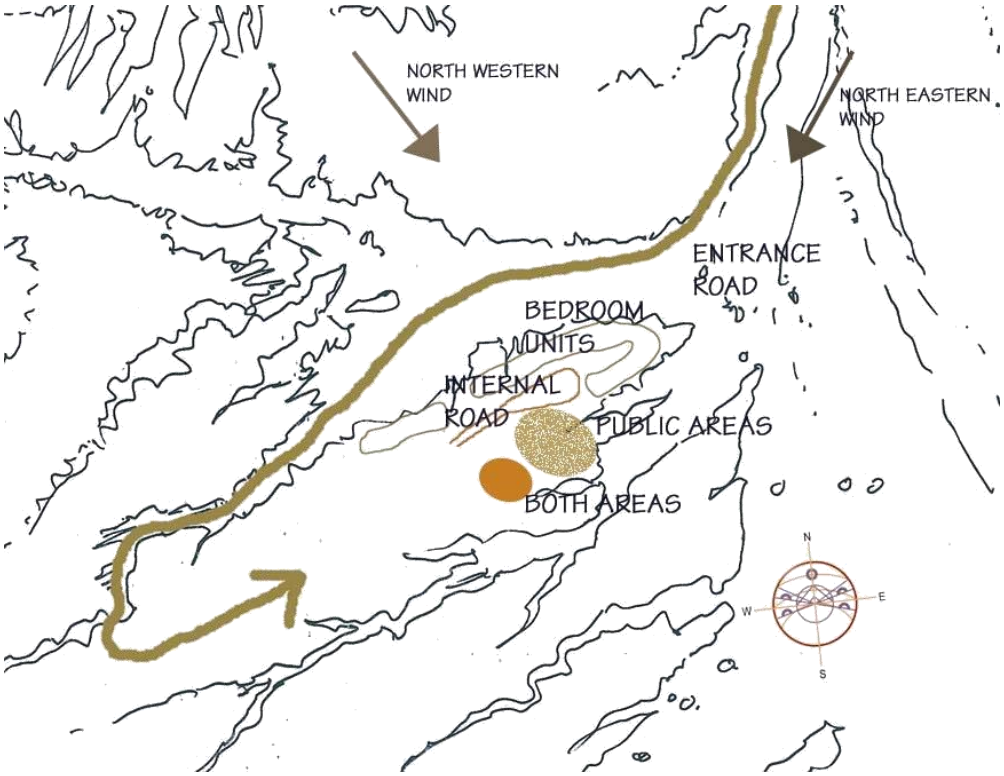
- Bedroom units

As mentioned earlier, bedrooms will be placed on the edge of the plateau. To lessen the footprint (impact), units are grouped (some will be back-to-back units) which creates courtyards between them that can be landscaped (see 4.2 “vegetation”). Future expansion is allowed for and can be accommodated by the zoning.



- Public area

  Should be easily accessible to all guests staying in the development and readily identified and accessed upon arrival at the lodge. It should be located in such a way that the back-of-house (BoH) areas (kitchen, stores, refuse areas) are directly accessible by delivery trucks (so that these vehicles do not disturb guests). Also the predominant wind directions should be considered to ensure that noise, smell and smoke from these areas do not blow across to bedrooms or public areas.

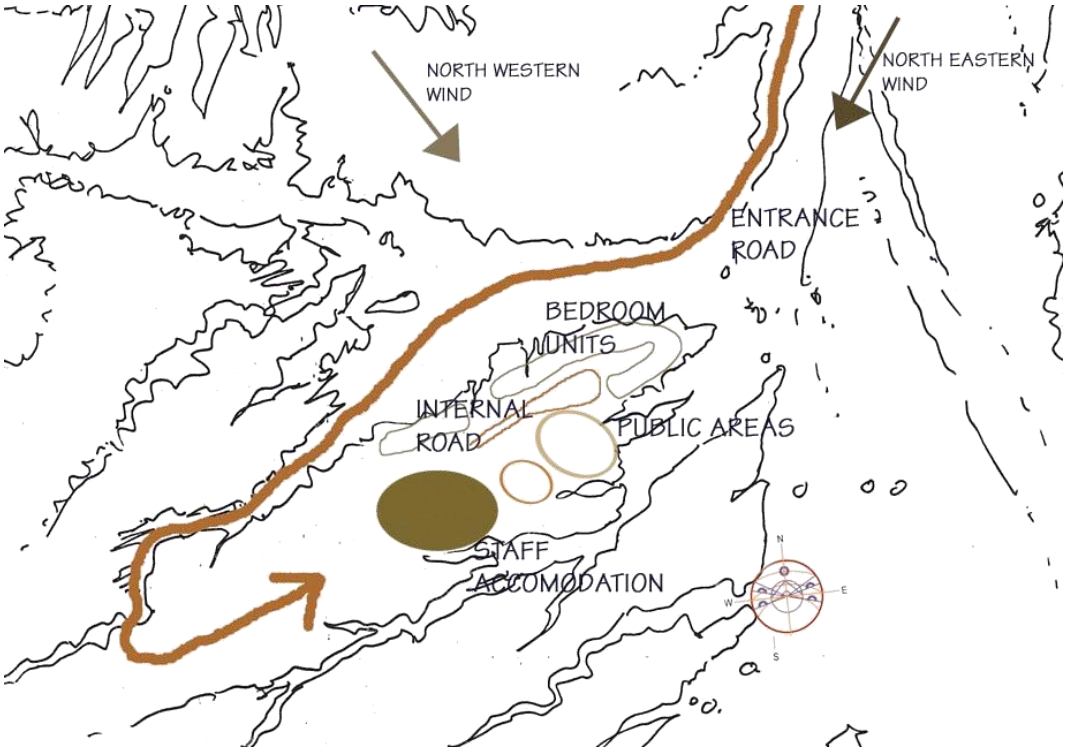


- Staff accommodation

  Staff could be classified into two categories: on-site staff – those that need to be on site permanently (or for long hours of each day) and off-site staff – people that spend a normal working day at the facility and therefore could be bussed in daily.

  Ecotourism facilities such as the Qu'laan Ecomodel preferably should not accommodate too many staff on site, due to the disturbance they might cause, the additional buildings that visually detract from the environment and obviously, higher development costs. However, being far away from the closest town or village (not including the local community – see 5: Program) most staff will have to be accommodated on site.

  Site zoning should be informed by things such as after-hours noise, private staff vehicles and their visitors, proximity to staff during facilities, normally supplied by the main kitchen etc.


NORTH WESTERN
WIND
NORTH EASTERN
WIND
ENTRANCE
ROAD
BEDROOM
UNITS
INTERNAL
ROAD
PUBLIC AREAS
STAFF
ACCOMODATION
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S

5 PROGRAM PLAN:

5.1. TOURISM PRODUCT

The Red Sea Cost offers, to date, a very limited spread of tourism products. Almost without exception, these resorts – big or small, upmarket or rustic – offer visitors the marine environment.

KAHRAMANA RESORT, MARSA ALAM

Sailing, kayaking, snorkelling, sunbathing and scuba diving keep them occupied during day-time; shopping and different dining experiences at night time.

With the recent proclamation of the Wadi El Gimal Hamata Protectorate Area, the southern region of the Red Sea coast has gained a new status. It has opened up a

huge piece of the desert, stretching all the way to the mountain range that defines the western boundary of the Arabian Desert. Numerous wadis criss-cross the area, allowing visitors to experience this extremely arid region and its natural attractions.

It also offers visitors the opportunity to see ancient town sites, fortresses, sentry posts, tombs and temples, and mines.

For the first time, a viable alternative to the resort-type tourism product is possible – ecotourism. This is because the ecotourist is seeking a completely different experience, not available till now.

The local community in the Qu'laan Ecomodel consist of a fishing village close to the Qu'laan Sharm.

The village currently has 16 houses and a community center with a total population of 50 people from the Ababda tribe. There is also a general store for fishing equipment. Houses are mostly made of recycled material scavenged from the beach. They are fixed and reinforced with pieces of recycled tin cans or purchased corrugated zinc. They are seated on shallow foundations made of two by two inch beams. Sitting and/or sleeping rooms are kept separate from the kitchen. There is a small courtyard to keep poultry and do the laundry. Larger animals such as goats are kept in separate shacks.

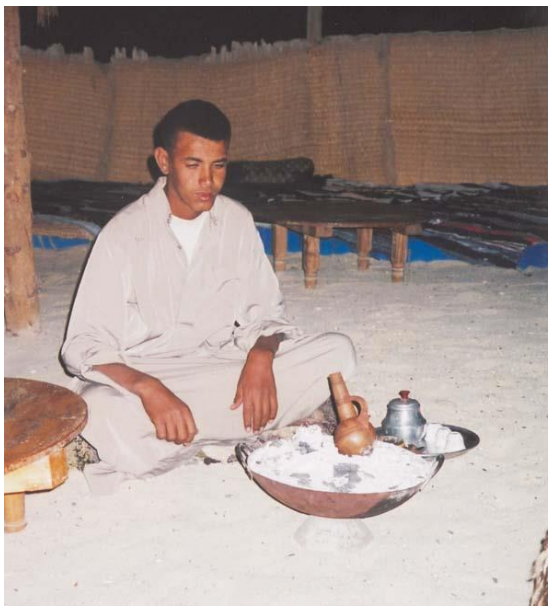
In the past, the people of Qu'laan combined season fishing and small scale herding to maintain their livelihood. Work opportunities in Abu Ghosun mines provided some of them with a steady employment. Over the last decade, environmental parameters and regional economic development have substantially affected the way they manage their local resources. Some of the elderly women indicated they used to weave kilims, primarily for family use and exceptionally for sale in the market. As the demand decreased, they abandoned this activity.

Due to their size and informal status, Qu'laan does not have any of the basic services such as health care or education. The nearest facilities are 16 kilimters away in Hamata. The nearest hospital is in El Quseir, 160 kilomters away.

Electricity is not available, however, a generator will be installed in 2004. The Local Council delivers desalinated water for domestic purposes every two weeks for free. It is stored in tanks and community use. The residents indicated that the water is hardly drinkable. They purchase potable water weekly from the Nile at a cost of LE 15. Sanitation facilities and solid waste collection are not available. Waste effluent is relatively small. It is disposed directly into the ground. Solid waste is piling upon on the southern edge of the community, the wind blows it into the mangroves and the adjacent desert.

Traditionally, the Bedouins are not fond of working in hotels or resorts. They often don't have a high level of education, don't speak a different language than Arabic

and are “people-shy’. However, the coming of ecotourism offers a huge opportunity to them in that ecotourist activities such as hiking, camel-riding, horse-back excursions and 4X4 desert trips all require their skills. So also, does storytelling, traditional cooking and crafts and skills in fishing.



The Qu’laan Ababdas were all very exited about the possibility of an ecotourist facility close by, and would be more than happy to offer their skills. The problems they currently experience could all be alleviated or solved by the development of such a facility: since a desalination plant will have to be provided, the investor/developer should consider a bigger facility to cater for the communities’ water needs at the same time.

By being employed close by, the people will not have to seek employment afar, thereby strengthening family ties. Obviously, better income will provide food on the table and, in time, better houses to live in.

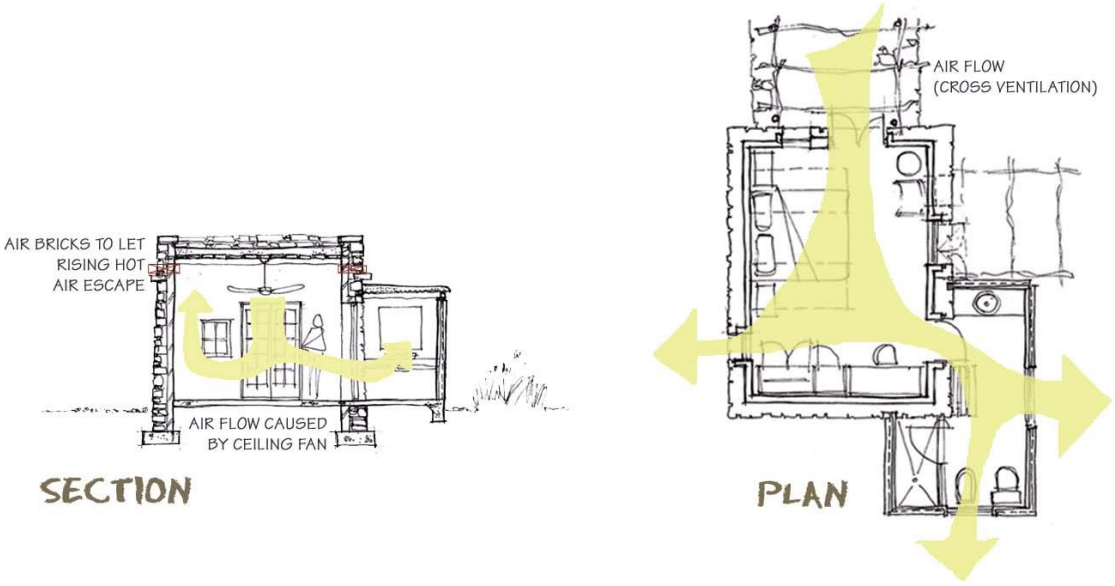
5.2. DESIGN OBJECTIVES

- Climate

  Of utmost importance is to solve the problems posed by the high temperatures and aridity of the desert. The selected site offers no shelter at all – it’s complete barrenness will require human intervention to make it hospitable to humans.

The design challenge lies in how to achieve this without clashing with nature. To address these issues, the following measures will be taken:

- Construction methods and materials will provide high insulation values
- Air movement, (which in hot, dry environments helps a lot) will be provided by means of well-designed cross ventilation in all spaces, while ceiling fans and roof extractors will be provided in bedrooms and water coolers (not air-conditioners) in public spaces.



- Outside spaces will be landscaped to cool ambient temperatures.

- Environment

Ecotourism facilities should strive to have minimum impact on the environment, should blend with the surroundings and “not look man-made”. While clever design and the use of local materials and building methods will go a long way in achieving the first two objectives, the “human intervention in nature” – aspect is more difficult to solve. In the desert, one cannot hide man-made structures – on the selected site, even more so - because of the topography and total lack of vegetation.

By introducing elements of ancient architecture (referred to in the concept as “Roman ruins”) the visitor will believe that this development was not on a pristine piece of land - that somebody else, ages ago, desecrated the land.

The developer only added to what mankind left behind and is therefore not the guilty party! Furthermore, the landscaping of the development and adjacent areas are important.

By introducing more vegetation – preferably endemic, at least indigenous – the environment can actually benefit by human intervention. Indigenous plants not only have the best chance of survival in these harsh conditions, it also supports other life forms like insects, reptiles, birds and animals found in the area.

MEDICINAL ALOE

BARREL CACTUS

CAPE PLUMBAGO

Utilizing the grey water and treated wastewater of the development, drip irrigation will sustain trees, shrubs and ground cover. The proposed landscaping will be done in the courtyards between buildings but also in the drainage lines in front of the public areas, allowing guests to observe wildlife from the decks and patios.

- Community involvement
  Because one of the cornerstones of the Qu'laan Ecomodel is the involvement of the local fisherman community, it should be one of the design objectives to reflect that.

By designing the facilities in such a way that visitors almost feel they are staying in a local village, their experience will be enhanced. It will also add authenticity to the activities offered by the operator thereof, making the role of local guides more relevant and integrating the total ecotourism experience offered. The **"Design concept and philosophy" (6.1)** will clearly reflect how this objective is met.

- Natural material and local skills.
  Natural materials found in the area is limited to stone (in abundance!) sand and gravel, and timber (acacias).

The use of the latter is not ecologically defendable, since this resource has been severely depleted by ancient civilizations who made charcoal required for mining activities. Local building skills are also not in abundance. The Romans, two thousand years ago, built beautiful structures out of local, natural (not shaped) stone – the design will reflect that skill.

The simple structures the nomadic people erect are mostly to protect them and their livestock from the sun and the wind. They utilize mostly natural materials for this, although modern material such as plastic sheeting is also put to good use.

The Qu'laan Ecomodel's design will utilize these shelters extensively.

5.3. PROPOSED PROGRAM OF SPACES

Ecotourism facilities are mostly smaller than traditional tourism products. There are good reasons for this:

1) They are located mostly in natural environments, smaller facilities have less impact on their surroundings.

2) They are very often far from resources such as water, electricity and nearby staff are limited or non-existent. The bigger the development, the more resources will be required.

3) The interpretative nature of activities offered by ecotourism facilities are better carried across to guests in smaller groups.

- Bedrooms

  The Qu'laan Ecomodel, therefore, will be a 30-room facility. The intention is to phase the development by only providing 20 rooms initially and (pending occupancy levels justifying it), later adding the balance of rooms.

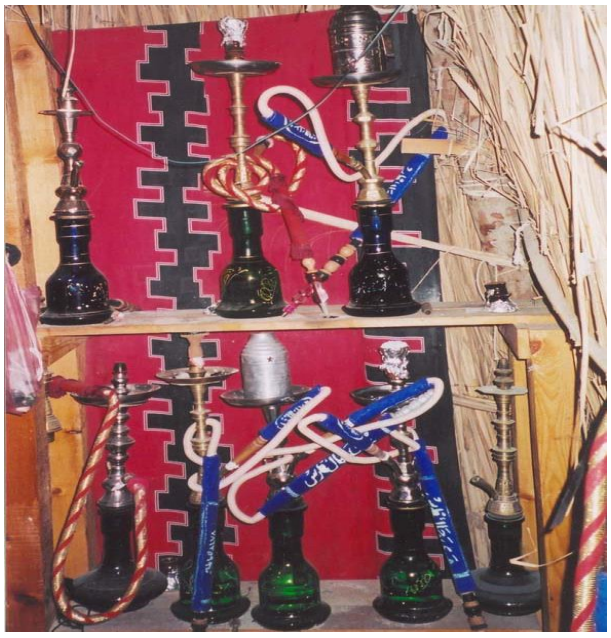
  Bedrooms will all be en-suite, some will have bidets or baths, but most only with a basin, toilet and shower (showers use less water than baths). In the actual bedroom, cupboards, luggage rack and an easy chair will be provided. A ceiling fan and roof extractor (rotating sphere driven by the rising hot air) will be installed. Plan area of total unit to be approximate = 45 m^2

  A shaded patio, overlooking the wadi floor with views onto the distant mountains, sea or sandstone cliffs will be accessed through double glass doors.

- Public areas

  The following public areas will be provided:

  - Reception, supported by two administrative offices (300 m²)
  - Public toilets, also catering for disabled people (40 m²)
  - Lounge or reading room, with outside shaded patio (13 m²)
  - Bar, placed strategically to offer the best views onto the sea and the nearby vegetated drainage lines (130 m²)
  - Dining room, to accommodate 60-70 people (guests plus guides). A buffet-style “display kitchen”, linked to the main kitchen, will be provided (225 m²)
  - Community craft market, housed in traditional Bedouin tents and Ababda shacks, where locally produced crafts and curios will be sold (150 m²)
  - A Bedouin “sundowner tent” where local coffee, tea and drinks will be served and sisha pipes will be available (100 m²)



- Back of House areas

- Kitchen with link fitted out as coffee station. Storage of food will be done in bulk and day stores, and in walk-in cold and freezer rooms. Refuse and swill to be kept in a separate coldroom (180 m²).
- Staff facilities, close to the main kitchen, to consist of dining room and male/female change rooms (70 m²).
- An entrance gate, to control access and monitor deliveries, visitors, and the departure and arrival of different groups partaking in nature- based activities and excursions (25 m²).
- Staff accommodation, similar in style and character as the rest of the development. The number will depend on the staff that needs to be accommodated on site (typically 30 m² per staff member).

- Services

  The design and detail of services infrastructure falls outside the scope of this report, but obviously will consist of:

  - Desalination plant (located ± 400m from the sea, out of sight from the entrance road and lodge)
  - Electricity generating plant, housed in a noise-damping container, to provide electricity for the public area, BoH areas and staff only. Bedrooms will be serviced with solar-generated 12V systems.

  - Sewerage treatment plant, most probably septic tanks with a reed bed system (covered) and separation of grey water, to be used for irrigation.
  - Solid waste to be separated, recycled where possible and carted off site.

6 DEVELOPMENT CONCEPT & MASTER PLAN:

6.1. DESIGN CONCEPT & PHILOSOPHY

The actual design of the ecotourist facility draws together a magnitude of information. As can be gathered from the afore-going chapters, the site analysis (off-site and on-site analysis) will have a huge impact on the design. Things like topography, vegetation and views directly impacts on the design, while climate, availability of natural materials, and local traditions indirectly affect the planning.

The design concept should also achieve the **design objectives** (see 5.2 above) and provide the required spaces as set out in the **program** (5.3). Important as they are, solving these technical matters will not produce a design. Design is a creative act that no formula, set of guidelines or relevant examples will deliver. Consequently, the design concept is probably the most difficult part of developing an ecotourist facility. A wrong concept will harm the total tourism product, while a weak concept will not provide the operator with a competitive edge. The right concept will not only meet all the technical demands, but will also provide the development with that most important thing in tourism – a USP. All successful developments have a Unique Selling Point, which attracts visitors and ensures repeat business.

The **design philosophy** will greatly assist the designer in arriving at the right concept. For the Qu'laan Ecomodel, the philosophy comes in the form of a story – a story that could almost be true.

Visualize the Eastern Desert two thousand years ago. It most probably looked very much the way it does today, except that there were more acacias growing in the wadis. Maybe the annual rainfall was higher, allowing traders, miners and livestock owners' easier access into the Deep Range. The Romans, having recently invaded

Egypt, are strengthening their foothold into the areas containing mineral wealth such as the southern part of the Eastern Desert. They are putting up sentry posts, water storage tanks and fortresses to allow their legionaries to control access to these areas. Roman miners have settled at Wadi Sakit and Wadi Nuqrus, where they mine emeralds and precious metals. At the mouth of the Wadi Qu'laan, they built a fairly extensive settlement, to accommodate legionaries that patrol inland. The Sharm Qu'laan offered good fishing and swimming and offered an easily-found landmark along the coast.

The buildings they put up had dry-stacked stone walls, rough-hewn timber post – and - beams with thick planks covered by a mud layer as roofs.

The site they chose always had cooling breezes from the sea, and a commanding position on the gravel plains overlooking the wadi floor.

Two thousand years later, Qu'laan still has human settlement – this time though, they are Ababda bedouins, living in a fishing village close to the mangrove swamps. The recently proclaimed "Ecotourism" Park, the Wadi El Gimal Hamata Protected Area, is getting a lot of attention from investors and developers, keen to enter this new tourism market. One of them approaches the Qu'laan Community, proposing a joint venture development to them. He will provide funding and expertise, they must come up with an idea for an ecotourism development.

After many deliberations, they propose the following to their joint venture partner: they selected a site at the mouth of the Wadi Qu'laan, close by their village. The site has a rich history to it, having been developed by the Romans two thousand years ago. Quite a few of the stone buildings remain, some with timber and clay

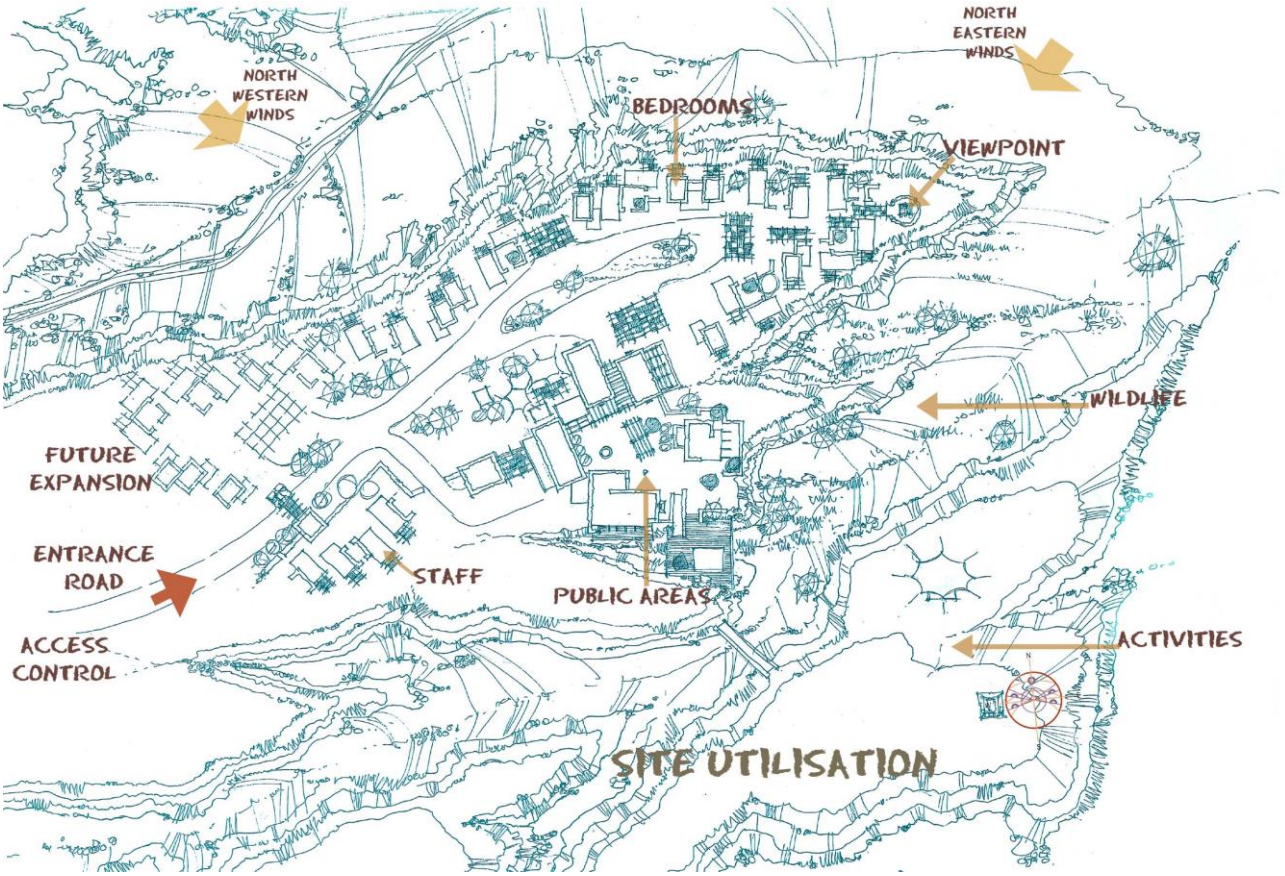
roofs still intact. Their idea is to retain the Roman ruins, and between these structures, erect modern buildings, similar in character to their village. That way, every visitor to the lodge would almost feel that he or she is visiting the village.

Obviously, the community will be actively involved in the operational side of the ecotourism development. They will guide marine excursions on their fishing boats, sell locally caught fish to the visitors, and maybe even reintroduce a handicraft industry of weaving.

6.2. SITE UTILIZATION

Site utilization is a fairly logical conclusion reached by considering all the different aspects discussed under the **"4.2. ON-SITE ANALYSIS".** "Genius loci" and the proposed zoning leads one to a broad solution as to where what should be placed on the site. These decisions should be tested against the other technical issues such as prevailing wind directions, access routes, views etc.

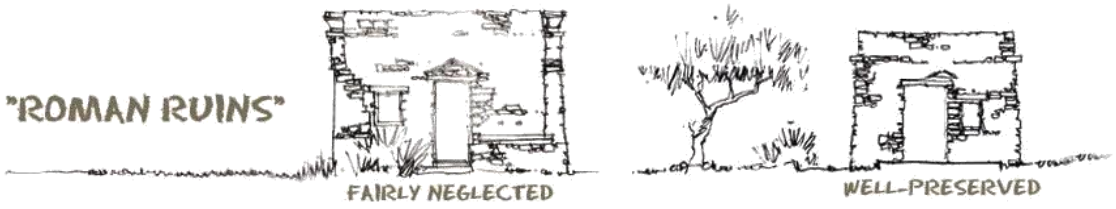
No formulae exists that assists one to weigh certain factors more heavily than others – each site has its' own challenge in this regard. The overriding need that needs to be satisfied, taking due cognisance of all the technical issues, is marrying these diverse factors in such a way that the design philosophy "comes together" and a successful design concept/solution can result. **"6.3. Design Development"** will concentrate on the actual buildings and their creation; here we look at where the end products will be placed on site.



6.3. CONCEPT DEVELOPMENT

"6.1. Design Concept & Philosophy" tells a story that – quite possibly – can come true. This story is relevant because it pulls together all the diverse requirements of the environmental, historical and cultural contexts and delivers an authentic ecotourism experience. At the same time, it stands up to technical demands with regard to local materials and skills, thermal requirements, zoning and site utilization.

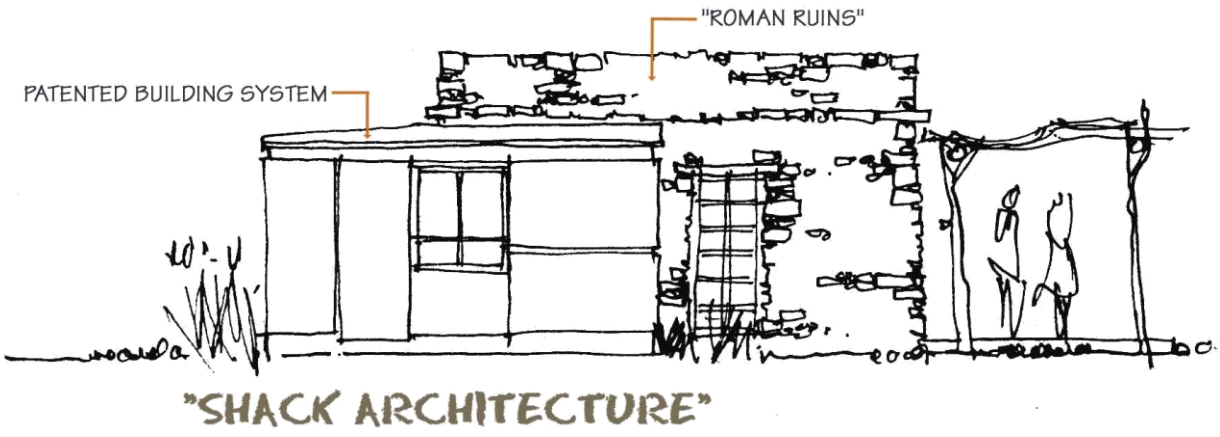
Like most good ideas, the design concept should be simple. "Existing" stone buildings, in different stages of neglect (referred to as "Roman Ruins") are utilized as core elements of the design.



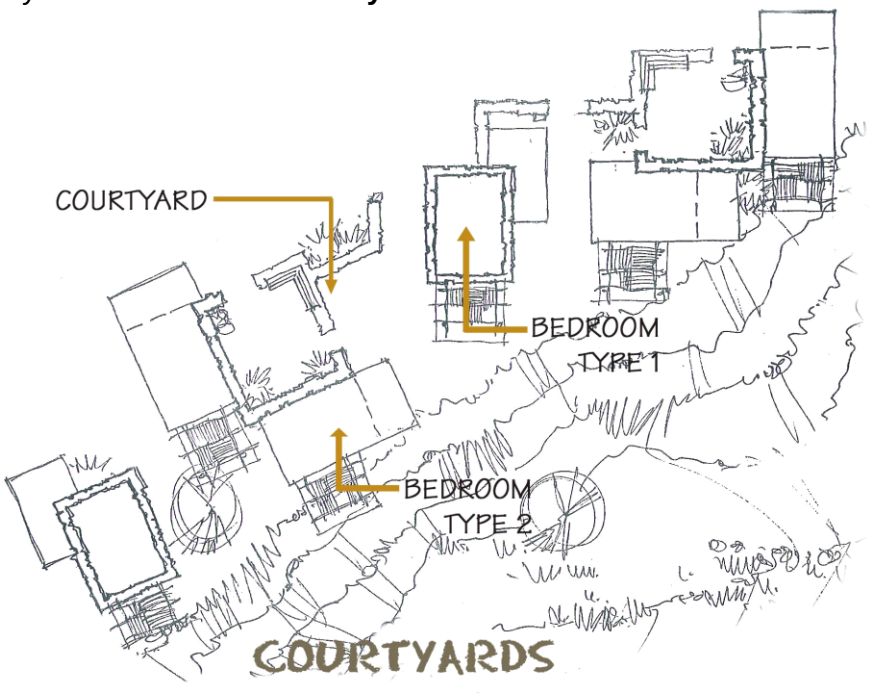
Onto these structures, left the way they are found, are added functional modern buildings, utilizing a patented low-cost high-insulation building system.

SPACEFRAME BUILDING SYSTEM

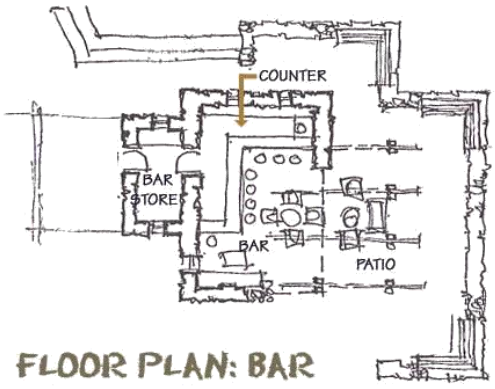
The character required of this system is of “Shack Architecture” – it should reflect the nomadic nature of the local Qu’laan Community.

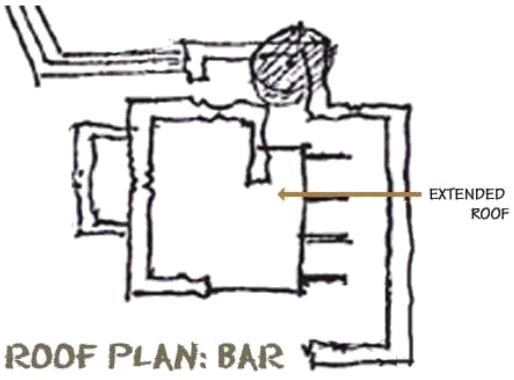


The design philosophy – or storyboard – calls for the rehabilitation of the old Roman settlement to provide bedrooms, bathrooms, public areas and staff accommodation. For the purpose of this study, only two typical bed/bathroom combinations are illustrated- obviously, others can be developed should the need arise (see 7.4 and 7.7). By varying the way in which these typical units are linked to each other, a rich diversity of different – sized **courtyards** are obtained.

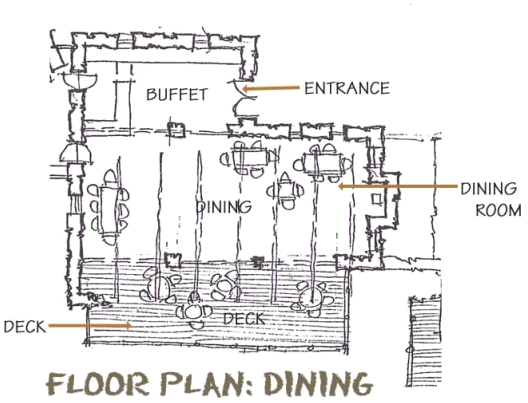


Bigger "ruins" are required for the public areas. Due to the limitations most probably experienced by the builders of these ancient structures, the size of this type of building would have been limited. In order to solve the problem of **bigger spaces** such as a **public bar**, the new roof provided actually extends beyond the walls of the "ruin". Stack-away glass doors can be installed to close of the core of the building, while sufficient covered area is provided by the bigger roof.

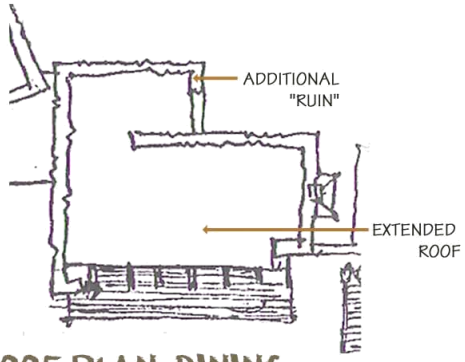




Even **larger areas** such as a dining room (to seat up to 70 people, an area of ± 100m² is required) calls for another solution. Not only does the roof extend beyond the walls of the old “ruins”, an additional “ruin” is overlayed on the plan of the first. Different wall heights visually breaks the building up as two different structures, although the new roof unites them into one space.

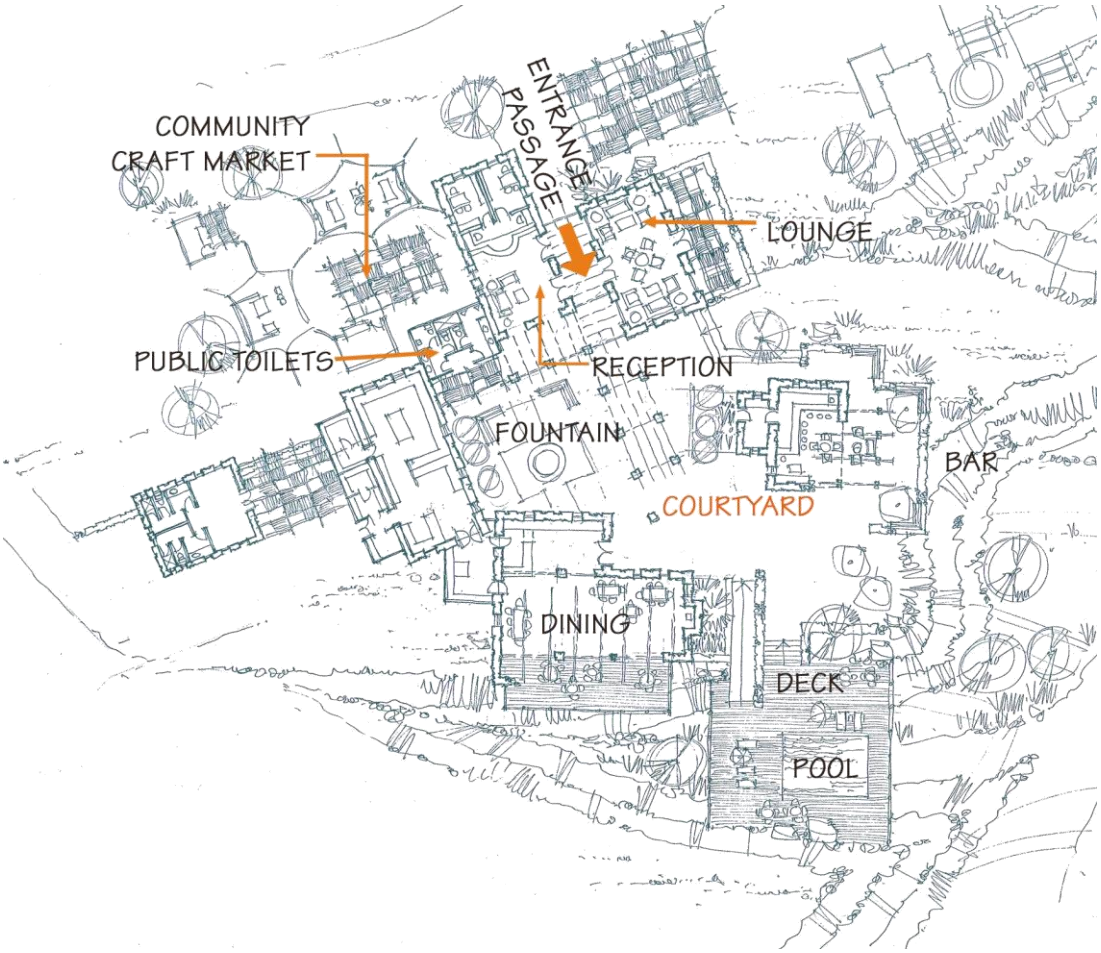


FLOOR PLAN: DINING



ROOF PLAN: DINING

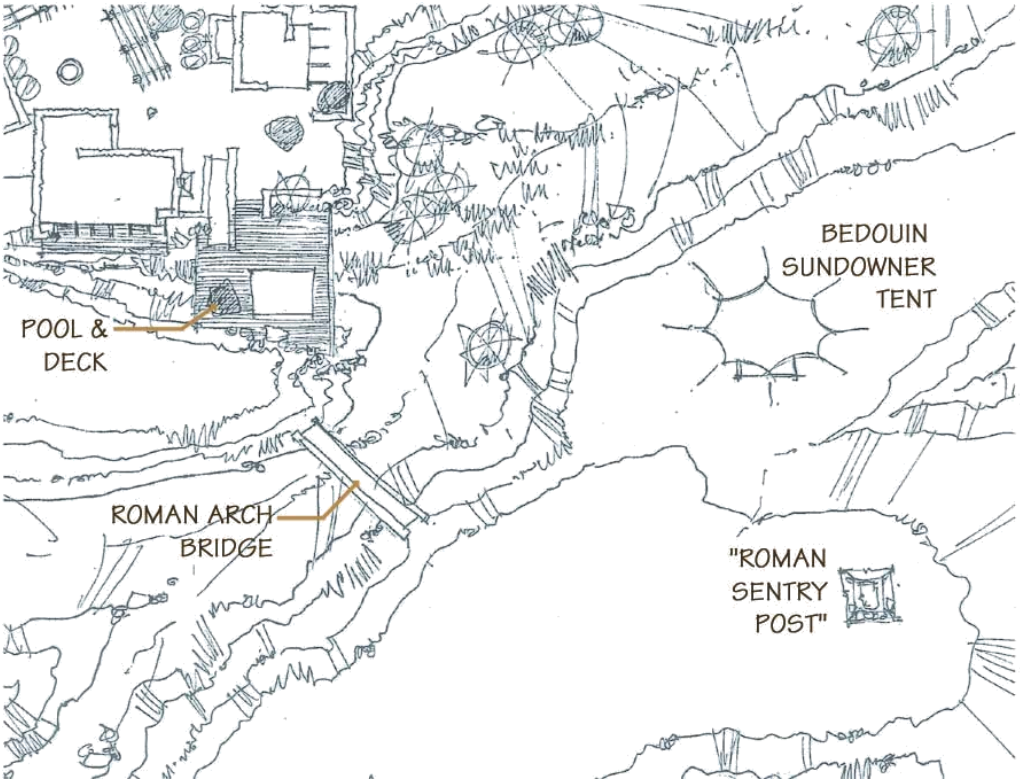
The **positioning** of the different public areas need to be carefully considered. A shaded passage leads visitors into a courtyard, around which all the public areas are placed. The passage opens up to the reception, which is the first activity that any visitor normally visits. Directly adjacent, are the public toilets (also very much in demand, especially after a long drive!). The toilets are not placed obstrusively close to the bar, lounge or dining room, whose occupants also require access (more discreet access, so to say).



Also leading off the reception, and easily accessible to outside vehicle traffic, is the community craft market.

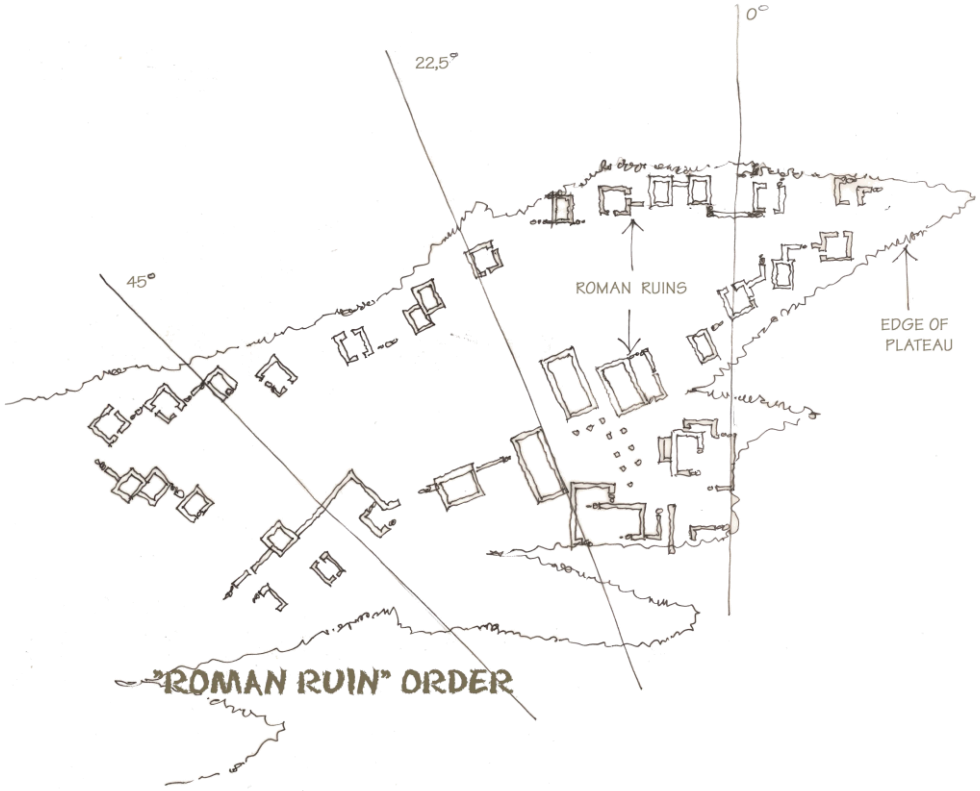
The courtyard will be landscaped, partly covered with a pergola, and have a fountain and benches for people to relax and listen to the noise of falling water.

A swimming pool sunken into one of the natural drainage lines, is surrounded by a deck. The visual image is that of a lightweight element spanning across the chasm. Access is thus gained to the other activities (a Bedouin-style “sundowner tent” and a Roman sentry post, from where an overview of the development will be provided).



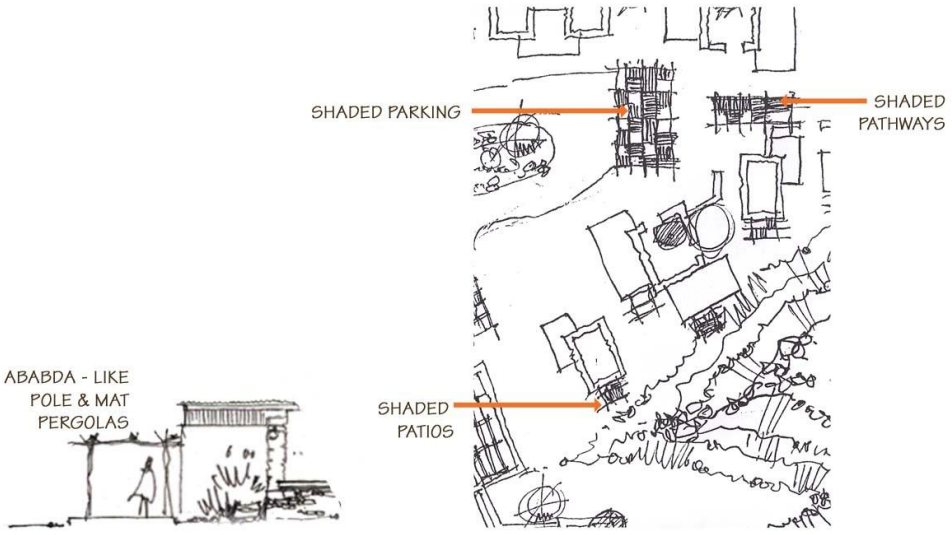
The ad-hoc additions to “existing ruins” could end up confusing guests. As it is, the Romans of old were a pretty organized lot – they had townplanners and architects that worked on grid lines, focus points, piazza’s etc. Unfortunately, this settlement is now (2000 years later) in a semi-derelict state and the order of old streets and piazza’s are not that clear any more. Added to that, the brightly contrasting local “Shack Architecture” further distracts visitors.

However, there is an order to the placement of the original “ruins” that one will pick up if you were to fly over the development. This order is to be found in the orientation of the buildings, informed by the shape of the plateau on which they are placed.



Lastly, one of the design **objectives** (see 5.2) is to utilize local materials and skills. As mentioned both are fairly restricted (except for the rocks and sand, of course!) A very strong element, found in both the Bishari and the local Ababda tribes, is the "shade structure". This is constructed out of tree trunks with the "wishbones" or branches supporting poles or beams that carry the roof.

Due to the shortage of trees, the Acacia traditionally used by the Bedouins won't be an option – other non – indigenous trees (possibly invasive alien species?) need to be sourced for this purpose. Woven Henna mats, also not manufactured locally, will be draped over these frames to provide shade. The natural shape of these shade structures will soften the otherwise harsh environment, apart from linking buildings together and creating livable outside spaces.



6.4. MACRO LEVEL PLANNING

Part of the masterplan should deal with the macro level, an area of 4 square kilometres around the development. Although no detail planning will be done in this report; the following activities and places of interest will be available to visitors:

- Qu'laan community

  Obviously the local community will be very much a part of the ecotourism experience offered to guests. Not only can they guide visitors in the near shore areas, take them fishing or snorkelling - they can also tell them interesting stories about the area and it's history.

  At present, the community have something resembling a guesthouse in the village. The proposed development should also include the establishment of a proper guesthouse, where visitors to the lodge could stay one night for a real village experience! A Community Hall, where groups of visitors to the village (who go fishing or diving) can be welcomed and entertained should also be considered.

- Day visitor facilities

  Already, the Qu'laan Sharm is well visited. The lush mangrove forest, beautiful blue waters of the bay and birdlife in the area is very popular. In future, with greater numbers of day visitors (and of course lodge guests) are expected,

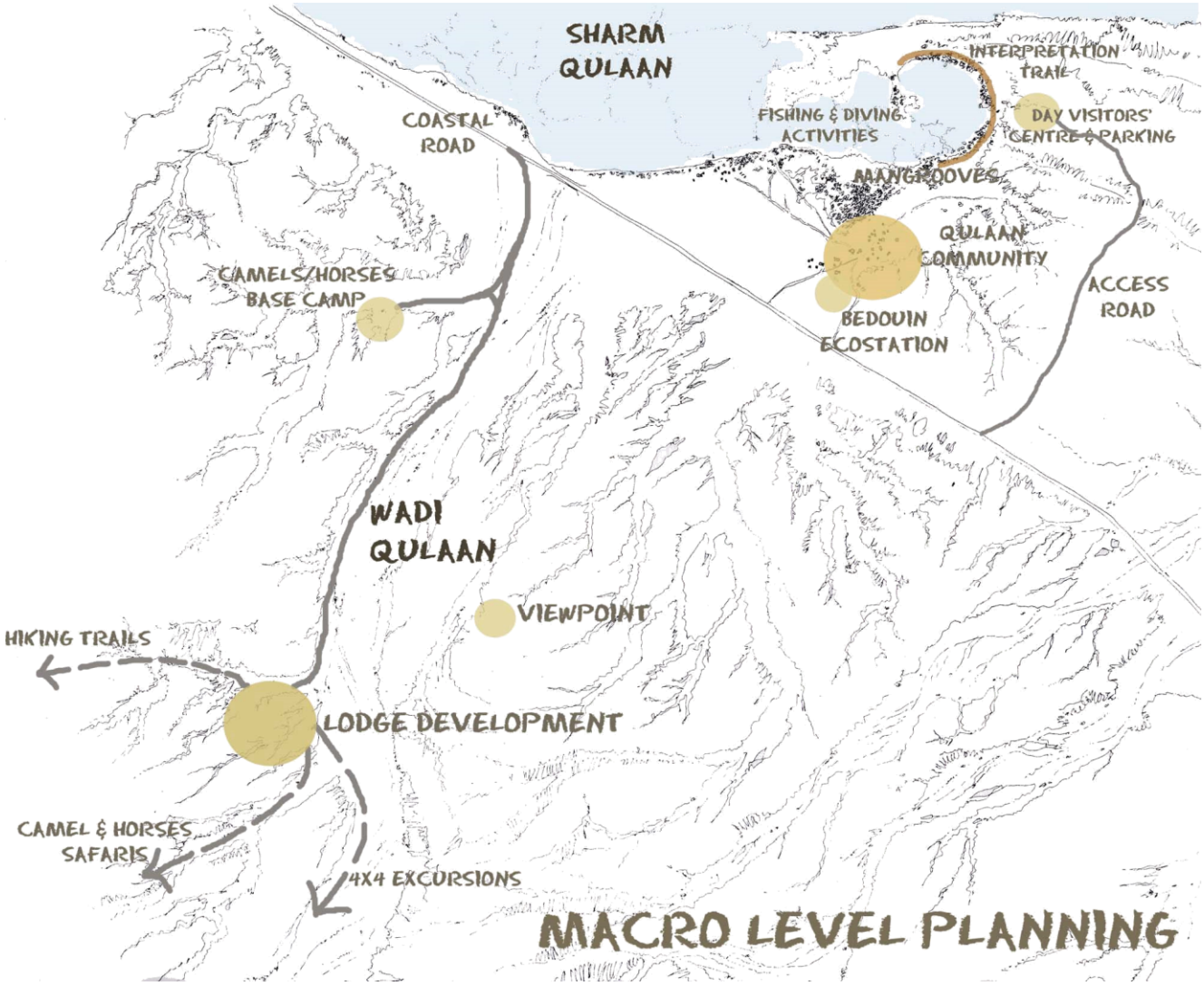
some proper facilities will have to be provided, for instance a proper access road, coach and car parking, toilet facilities, picnic facilities etc.

- Interpretation centre
  The bluff overlooking the bay (on the southern side) and the point encircling the bay is ideal for an interpretation facility or trail. It would be a great pity if formal structures are erected, though – the same sense of responsibility showed by not building an ecolodge here, should prevent development that impacts negatively on the environment.

- Bedouin "Ecostation"
  The skills possessed by the local guides, fishermen could be made available to the wider public. Such a facility should be easily accessible from the coastal road, possibly between the Qu'laan village and the road. Traditional meals, dances and story telling could be offered, apart from the conducted activities listed above.

- Inland activities
  Guided 4X4, camel and horseback excursions will be conducted from the lodge. These activities could be run, in part, by nearby Bedouin communities of Hamata or Abu Guson. Pending the requirements, the infra-structure needed for these operations could be provided in the close vicinity of the lodge, but well out of sight.

- Satellite camp(s)
  These excursions need not be limited to day trips. Mobile overnight facilities such as traditional Bedouin tents can offer guests a truly unique experience. Semi-permanent or even permanent satellite camps, with limited facilities (dry toilets, change rooms, bow tents or lightweight cabins) could be developed within EEAA land and let to different ecotourism operators.


SHARM
QULAAN
INTERPRETATION
TRAIL
COASTAL
ROAD
FISHING & DIVING
ACTIVITIES
DAY VISITORS'
CENTRE & PARKING
MANGROOVES
QULAAN
COMMUNITY
CAMELS/HORSES
BASE CAMP
ACCESS
ROAD
BEDOUIN
ECOSTATION
WADI
QULAAN
VIEWPOINT
HIKING TRAILS
LODGE DEVELOPMENT
CAMEL & HORSES
SAFARIS
4X4 EXCURSIONS
MACRO LEVEL PLANNING