A Master Planned Fareej Community

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Sharjah, UAE
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“The measure of any great civilization is in its cities, and the measure of a city's greatness is to be found in the quality of its public spaces, its parks and squares” _John Ruskin
DEDICATION

I dedicate my work to everyone who supported me.

To my parents,  
for raising me to believe that anything was possible

And to my husband,  
for making everything possible
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Executive Summary:

This project was handed to us by Abu Dhabi Urban Planning Council. It presents a site of Al Ain Civic Centre with major vacant lands and scattered development. The site was facing many issues such as, car dependency, disconnectivity, low density development, poor quality of life and lost identity. All the green and open spaces in Al Ain can’t serve this site, because of the poor connectivity among open spaces and oases in Al Ain. It was obvious that the site requires major connectivity plans and functional open spaces to revitalize the area. Introducing green fingers that connect the whole site with the surrounding was part of planned solutions as well as a requirement by the UPC. On the other hand, there is a major breakage that is represented by Al Slimi wadi. This wadi transverses the site and makes the pedestrian walkways disconnected. Connecting the two areas by a pedestrian bridge was a solution for connecting those two pieces of land. The site was considered to handle a neighborhood development that represents the traditional Emirati housing. This kind of housing was represented in Fareej form with all its required elements such as, courtyard houses, sikkas, barahas, and maidan. The project turned out to represent a master planned community. It is a residential plan that includes a number of recreational facilities as well as day-to-day amenities, all located in a proximal walking distance in the centre of the planned neighborhood. The site claims to work as zero-car neighborhood, with allocated accesses that leads to a parking space and a gold cart rental station. This neighborhood can provide a highly walkable environment for its users. The concepts of connectivity and proximity are applied while maintaining the heritage side of Al Ain.
Al Ain Revitalization Plan was requested by Abu Dhabi Urban Planning Council to suggest development for part of Al Jimi District. The main requirement was to develop a framework for a community revitalization plan. The area is transverse by a major natural feature represented by Al Slimi Wadi. The project area is surrounded by four main arterial roads; Hamdan bin Mohamed Street, Shakhbot Bin Sultan Street, and 124 Street.

The vision of UPC upon this project is to enhance the historical identity of Al Ain through revitalizing the traditional Emirati Fareej and neighborhood, while connecting the city through greenways called (green fingers).
Figure 2.2: Existing Figure-Ground
Studying demographic data around the site gives us an indication for who are planning for.

**DEMOGRAPHICS**

- **Citizenship:**
  - 89% Non-citizens
  - 11% Citizens

- **Martial Status:**
  - 57% Married/Families
  - 40% Bachelor
  - 3% Widowed & Divorced

- **Median Annual Rent:**
  - 94% Below AED40,000
  - 6% Above AED40,000

Figure 2.3: Demographics
Figure 2.4: Existing Land Use
Al Ain is a city that is affected widely by the bio-physical conditions. Its location and identity show clearly the variety of natural elements Al Ain accommodates. Al Ain city is located at a meeting point of three different topographies (between Jabil Hafeet, the nurturing oases and the majestic desert), landscapes and ecosystems, made it very rich with wild life diversity, especially in the Oasis, Mountains, and Wadi beds. (Jebel Hafeet contains 95% of the biodiversity of the Eastern Region)

Al Ain is famous of being a garden city, an Oasis in the desert, and a shelter for the region’s biodiversity and ecological system. It includes: virgin inhabitants, large cultivated farms, small patches of garden and open spaces, Wadi, etc. However, the green spaces available in Al Ain are scattered and not serving the users well. Connecting these open spaces to make them accessible for users is the key to revitalizing them.

Figure 3.1: Average Walking Time to an Open Space
Al Ain is famous for its character as a “Garden in the Desert”. The current plan of Al Ain is to seek and enhance this feature. Open spaces should be treated in the micro level in relation to the environmental qualities that tend to be treated in the macro level. There is a wadi that transverse the site under study. This wadi is called Al Slimi Wadi and is works as a main feature in the site area. This wadi runs through Al Ain and it is dried out most of the year. An initiative of creating a green finger to run along the wadi can work towards a macro level of major green connection throughout AL Ain.

There are four main kinds of public open spaces that should be treated together in a coherent network:

- Parks
- Cultural landscapes
- Natural landscapes
- Agricultural landscapes

In this project, a model of connecting the micro level of environmental features with the macro level of landscape is presented with different functions of open space. Al Ain got 234 ha of developed parks, serving a population of nearly 340,000 people. For every 1,000 residents, there is 0.69 ha of parks. Of the city’s total land area 1.7% of the city is public open space (Plan Al Ain 2030). There are four main types of open spaces within the city which are:

1. Parks: landscaped or recreational.
2. Cultural landscapes
3. Natural landscapes: oasis

Creating new accessible green spaces in dense cities can be a challenge. Accessible green space is the key component towards a livable city. Accessible green space is considered to be that which is located close to residents’ homes, easy to walk to, physically accessible, safe to use, and provides well maintained facilities (Definition by Public Health England). This makes it clear the need to satisfy multiple levels of integration through users, their transportation facilities and their daily amenities. The need to provide open space for more people, or the concept of increasing the area of green space per inhabitant, can create a major difference in users’ quality of life.
**Heritage/Culture**

Due to the cultural uniqueness of Al-Ain it was inducted into the UNESCO World Heritage List. The inclusion was due to unique cultural sites, historical importance of Jebel Hafit, Hili cultural landscape, BidaaBint Saud, the Oases areas and the Falaj system. This registration took place at the 35th session of the UNESCO World Heritage Committee, held June 2011.

The main vision of Plan Al Ain 2030 is to serve the family, as it work as the smallest unit in the community. The fareej concept of Families living together is the aim of AL Ain 2030 to make it true for residential areas.

**Attractions and activities** Upon the conducted site visits and further site analysis, it was noticed that there is a huge gap between what the city offers the site under study and what families living in the site should be provided. The uniqueness of the site makes distributing the facilities and day-to-day activities challenging. Focusing on how to provide such amenities with proximal distances within the site will increase the chances of users to walk and enjoy their trips.

![Figure 3.3: Attractions within the city](image-url)
Figure 3.4: Proposed proximal amenities within a neighborhood and/or urban district
Opportunities and Constrains

The site offers a number of opportunities for an urban planner to consider, however, many constrains appear to be spread all over the site.

Figure 3.5: Opportunities and constrains
One of the major aims of Plan Al Ain 2030 is to accommodate the demand for Emirati housing into the future with respect to the environmental and social considerations, as well as accessibility to transport and amenities.

**Fareej Community:**

In the manual “Plan Al Ain 2030”, it was mentioned several times the focus of Al Ain city on the family unit, and the provision that should be given to families who live in Al Ain. Based on this fact, and the clear vision of Al Ain 2030 to keep Al Ain as a calm destination, a project that focuses on the highest level of comfort should be conducted. This model should take into consideration the traditional style of neighbourhood in the UAE, as Al Ain 2030 is looking forward into applying it. Fareej is considered as the smallest unit of the Emirati community. It is defined as a group of homes large enough to accommodate an extended Emirite family clustered around a courtyard or park (Plan Al Ain 2030). Narrow shaded “sikka” (walking paths) allow pedestrians to move easily and safely from one courtyard to the next.
Green Fingers:

On the other hand, the concept of “Green Fingers” was introduced in Plan Al Ain 2030 as well. Green fingers are a connective tissue of planted pedestrian byways that emanate out from the oasis, carrying its theme through the city. They link parks, courtyards and public outdoor spaces into a continuous network of shaded pedestrian paths through the city, enhancing Al Ain’s garden city character. Green fingers run east-west along the wadi banks. (Plan Al Ain 2030).

It is understood from Plan Al Ain 2030 that the main focus should be given to families. Providing for families and designing for them was the main aim throughout this project. Taking into consideration the cultural, traditional constrains, connecting those families to the surrounding world while providing for them public facilities within a walking distance.

Figure 4.2: Fareej 240 m x 240 m, as suggested in Plan Al Ain 2030.

Figure 4.3: Local cluster 270 m x 270 m, as suggested in Plan Al Ain 2030.
Central Place Theory:

More planning principles and concepts should be taken into consideration for designing such a neighbourhood model. Looking through the literature, there is one theory that suggests a sustainable urban form. The Central Place Theory which was created by the geographer Walter Christaller, who argued that settlements simply functioned as 'central places' providing services to surrounding areas. This theory was discussed in details by Hildebrand Frey in his book “Designing the City: towards a more sustainable urban form”. A sustainable urban form was suggested along with all its concepts that can work as an alternative for typical city forms towards more livable sustainable community.

In his book, he argued the impact of access to public transport and to local services and facilities by walking and cycling for the pattern of development clusters. A hierarchy of provision centres are located in the nodes and linkages of different capacities should be serving them. He argued that city models with a more rigid geometry are less suitable and the polycentric net with its random geometry and transport grid is more suitable for application.

Concepts of accessibility, proximity and functional mix:

Public transport stops should accordingly be provided within walking distance of housing and workplaces.
A modular city structure, a city composed of small urban “cells” or “proximity units” which have pedestrian scale and provide good access to public transport stops within walking distance. The ‘cells’ themselves need to be linked with each other by public transport lines to provide choice of amenities and nobilities.

The basis for the micro-structure of the city is the interrelationship of people, transport and amenities. Urban cells which provide local services and facilities within walking distance are inevitably small not only in size but also in population; they can’t therefore afford to provide for anything other than day-to-day-needs. Provision beyond that scale has to be catered for by centres of a higher order at the heart of larger spatial units. These are linked by each other by a public transport system of higher order, for instance light rail transit (LRT).

The micro –structure of the city is expected to be hierarchical with regard to both the
development of clusters (from fareej to neighborhood, each with appropriate centre of provision) and the transport systems (from bus to LRT with appropriate nodes of transport intersections at the centres of the respective special units).

The maximum distance between one’s front door and a transport stop is the length of a path one can walk in 10 minutes, about 600 m distance between the edge of a neighborhood and its central area and transport node seems to be a generally accepted measure. The catchment area has a size of about 110-120 ha of built up area. With an average gross population density of say 60 persons per hectare (pph), such an area would accommodate about 7,000 persons.

The Fareej is the smallest ‘building block” of which the city is made up. Catchment areas for schools, youth clubs, post offices and grocers are not limited to the neighborhood in which they are located but overlap with other neighborhoods.

Amenities and activities:
Analyzing the surrounding activities and existing amenities and recreational facilities, leads us to plan what is needed in the site and what should be accessible from the site to the city. There are variety of things to enjoy and activities to serve the city, however, there is either a problem in the connection between that particular activity and our site, or the distance is too long that another similar activity should be provided. On the other hand, some day-to-day needs should occur in a proximal distance within each neighborhood. Such amenities should be provided within a walking distance from user’s home. All such day-to-day amenities can be located in one place in the central node of each neighborhood.

Building up a city from neighborhood units therefore generates a rigid structure which doesn’t coincide with the social systems in an open society.

This is odd with structure of traditional neighborhood but very close to the very old traditional Arabian neighborhood.

Howard’s idea of city growth by multiplication of units rather than extension.

Clusters of Fareej forming neighborhoods
Limit the use of car within urban areas
The neighborhood core would be linked with the Fareej centres by public transport, say buses with stops every 300 m or so. Travel distances would be in the region of 1,300 – 1,450 m and travel from the edge to the centre of the district would take about 5 minutes; the core area may have a radius of 150 m and an area of about 7 ha.
Approach:

A neighborhood will be treated as a continuous organism where each node is closely related to the others. The interconnection between the nodes can leave room for nature to flow through them.

Nature can flow around and into each block in the neighborhood through continuous linear parks, associated to bike and pedestrian paths.

Figure 4.5: Conceptual diagrams
Applying such modifications to the normal fareej structure can lead to a new sustainable form where users are enjoying the green walkways wherever they walk, and these walkways can work as a leading path for them as well. The nodes appear to be in the centre of each form. This centre will a pocket park to serve each block it is located in. These nodes shall be connected together through a road/walkway, so the destination will be clear once users leave their home.

Moving on to the real model, the form we have is broken down to accommodate the level of interconnection among other fareej and to provide the maximum green space surrounding the fareej. This green linear park is located at the perimeter of each fareej. The fareej is divided by four main shared spaces. These shared spaces can accommodate green fingers, golf paths, pedestrian walkways and bicycle baths. Another smaller and tighter level of pedestrian occur at sikkas. Sikkas are the smallest level of pedestrian walkways that occur among villas and lead the users toward the outer environment of this system. The green fingers aim to connect the green spaces in Al Ain, however, the connection here is done through micro level.
Conceptual plan:
The interconnectivity between the multiple fareej creates an ecosystem neighborhood that interacts strongly with its surrounding as well as its core, the Family Hub.

The Family Hub will work as central element that provides the daily needs of users within the neighborhood catchment area.

Figure 4.8: Conceptual plan
The existing urban form of the site under study is scattered and dispersed. Some development occurs on the site, however, this kind of development of undefined form. There is an obvious waste of space and sense of lost. This results in unpleasing space to live or work in. The super blocks that exist in the site should be broken down into smaller blocks each of an average length of 120m before a user can turn around. Those blocks should define both sides of the road. Roads should be defined by the blocks while respecting the surrounding development. Public open spaces should have a unified form as well, and should occur in consistent with the surrounding blocks. Whenever there is an existing open space, an open space should be developed in the site with respect to the existing one and adjacent to it.

In the proposed urban form, the plan looks much densified with uniformed blocks. The development occurs to look more compact in comparison with the existing. The high density residential villas appear to have a very unique form with open spaces that are well connected. The form that is applied in the areas of fareej are following the central space form. The form allows the designed to place a node in the centre of each form. This node is indicated with white color in the map to represent the role of it with is an open space for people of the fareej to gather. It is obvious from the proposed plan that this node is connected to each of the blocks of the same fareej and to the surrounding blocks. One of the important spaces is the one that occurs in each fareej towards the central area that is called in this project “The Family Hub”.

The typologies of the blocks that occur on the perimeter of the site are very systematic and well responding to the surrounding. These blocks are of a different use, they are mixed use G+4 developments.
Figure 5.3: Block Structure
Analysing the surrounding activities and existing amenities and recreational facilities, leads us to plan what is needed in the site and what should be accessible from the site to the city. Some day-to-day needs should occur in a proximal distance within each neighbourhood and within a walking distance from a user’s home. The land use distribution within the site follows the Central Place Theory, a modular city structure that is composed of small urban “cells” or “proximity units” which have pedestrian scale and provide good access to public transport stops within walking distance.
Figure 6.1: Proposed Land use plan
The Fareej Community proposed in this project is a zero-car community. Roads within the site under study are all considered to work as shared spaces. This means they should accommodate pedestrian, cyclists, golf carts, etc. Users should be able to get to any destination within the site easily by foot, bicycle or a golf cart. There is another level of pedestrian walkways that occur between the residential units, it is called sikka. Sikkas are a traditional Emirati element in the fareej form that occurred in the historical spaces in the city. On the other hand, there are public transit connections that serve the site as well. A proposed tram by plan Al Ain 2030s connected to the site under study through two bus lines.

Figure 7.1: Diagramatic connections with Al Ain 2030
Figure 7.2: Public Transport Network
Figure 7.3: Vehicular street & non-motorised network
Key cross sections:

1 - Plaza Shared Space Path

2 - Shared Space / Green Finger

3 - Sikka Section

Figure 7.4: Street Cross Sections
OPEN / PUBLIC SPACE:

One of the major issues found in the site under study was the vacant lands with undefined function. Another issue was found in Al Ain city in general was the disconnected open spaces. These two factors were acting behind the concept of open spaces in this project. Suggesting well treated open spaces that are well connected together is one solution. Some of these open spaces will work as green fingers. This concept was suggested by the UPC. Green fingers are planted pedestrian byways to connect the oasis out into city. The type of connection that should be happening here can be applied in a micro level. Privacy for the neighborhood will define another level of green connections. These green fingers can work for another function within the neighborhood. They can connect the different pocket parks (barahas) in each fareej. They can also work as a connection between a baraha and a maidan (plaza). A green edge surrounding each fareej can work as further recreational facility for people to enjoy while heading to their destinations. Engaging such level of green space in the site can enhance the quality of life within the neighborhood. Other types of open spaces occur in the proposed open space plan. These open spaces varies between public and semi-public. The smallest gathering space available in the site is the pocket park. The plaza is bigger in size and can serve the whole area of neighborhood. A sports open space that is located on the north of the wadi can serve the whole neighborhood as well. This can function as a main space for users to enjoy playing football, basketball, and other outdoor sports. A jogging track and a bicycle lane of unobstructed linear path is available in the new plan of revitalizing the wadi. A plaza that is located in the centre of the neighborhood within the family hub can work as a very important gathering centre. A well-treated open space is the key to plan for better communities.
Figure 8.1: Proposed Open Space Plan
Figure 8.2: Section through the developed wadi
Figure 8.3: Plaza – Birdseye view

Figure 8.4: Wadi development – Birdseye view
Figure 8.5: Pocket Park view

Figure 8.6: Sikka view
The proposed master plan of the project represents a master planned Fareej Community. The residential neighborhood with its traditional Emirati fareej form is spread among the site. The fareej form is adjusted to serve the life style of users nowadays. The central space is obviously serving the whole neighborhood with proximal distances to all the amenities and public facilities. The available recreational and functional open spaces are available everywhere around the site. Bike paths and pedestrian walkways are also connected all over the site. All roads work as shared spaces with access limited for golf carts only. There will be a distinguished difference in the appearance of the previously undeveloped area and the proposed master plan.
Figure 9.2: Birdseye view

- Family Hub
- Grocery
- Clinic
- Primary School
- Community Centre
- Nursery
- Mosque
- Wadi development
- Sports Zone
- G+4 mixed use buildings
- Pocket Park
- Plaza - Maidan
- Typical Sikka
REFERENCES:


