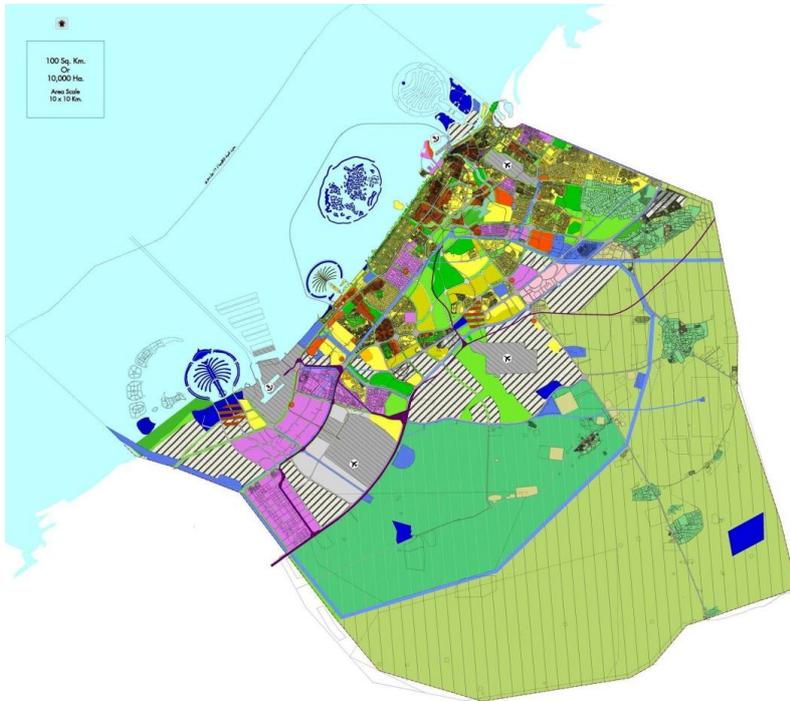


DUBAI 2020 URBAN MASTERPLAN

A Smart Approach to Sustainable & Competent Urban Planning/ for 2020 & beyond



Entry Submission to the 2012 ISOCARP Awards For Excellence

*This Submission is compiled and prepared by:
Roxy Binno/ Expert Planning & Urban Design, Dubai Municipality*

Nominee: Dubai Municipality, Planning Department
Nominator: Roxy Binno / ISOCARP Applicant Member



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1. Summary





Dubai today



Summary

Dubai emerged during the last decade as modern metropolitan area with diverse and wide range of complex aspects. Since 1950, Dubai's hybrid population grew about 100 times, while its urban fabric extended 400 times approximately. Dubai's growth is economically driven, but its spatial urban development is design led so far.

The Dubai 2020 Plan provides a flexible strategy to guide Dubai's urban development to 2020 and beyond. It is based on background analysis and synthesis relevant to prevailing environmental aspects and urbanization contexts including the historic thresholds of urban development, and also responds to the impacts of the global economic downturn since 2008.

The Plan seeks to build upon and express the Vision of Dubai's leadership; and adopts a sustainable and competitive approach to achieve a city of excellence. It includes a number of goals and objectives to support its recommended innovative strategies for spatial planning and development. The Plan also aims at promoting innovative tools suitable to Dubai's unique contexts that facilitate implementation including governance and legislative framework.



Dubai 1950



2. Description of the Project

(9 pages including maps, images, etc)

Note:

The preparation of the Plan included 4 reports with more than 1000 page including text, tables, maps, images, and diagrams. A summary report of 225 pages, powerpoint presentation (60 slides), and 8 sheets public display are available and can be forwarded to ISOCARP where required.



Forward

Dubai is historically influenced by sea trade, and follows the visions of its successive Rulers. The visions are so far well shared and supported by the locals and elites. It seems that Dubai's leadership had acquainted itself with the knowledge of the opportunities waiting for the city within its region, and learned how to be competent globally with all the ups and downs. It took tolerance, and challenging efforts to brand the city and mark it on the world map.

The rapid development of modern Dubai became well known on the world map as a city of free zones and iconic mega projects covering large urban territories, and some mega projects were initially intended to accommodate more than 1.0 million inhabitants. The mega projects constitute cities within a city with specialized themes and functions such as Academic City, Medical City, etc; and include front end residential areas and compounds, and activity hubs; etc. The Free Zones include the whole spectrum of manufacturing, trading and services and cover the markets of all the Middle East, the Asian sub-continent, Africa, ex-Soviet Union, and East Europe.

The Plan follows the vision of His Highness Shaikh Mohammed Bin Rashid Al Maktoum the Ruler of Dubai for promoting a modern Arab city and vibrant regional gateway to the world.

For the first time, Spatial planning of Dubai covered the Emirate divers territories including the sea territory within the 12 nautical miles, the existing urban fabric and committed urban land, and the desert non-urban territories excluding Hatta Province.

The Executive Council of Dubai Government (TEC) has adopted the Urban Spatial Structure Plan including the basic strategic directions and objectives of the Plan (Decision No 22/2011).

The TEC has also adopted the principle of establishing a 'Supreme Urban Planning Council' (SUPC- as initially proposed in Option 2, Phase-4). The TEC shall coordinate with the relevant parties regarding the establishment of the SUPC and define its appropriate tasks and duties, and the related legislative and statutory framework that streamline the Emirate's urban and environmental planning process in a competitive approach (Decision No 23/2011).

Scope, Aims & Objectives

Key to the Plan was defining a preferred spatial growth and form that respond to the Emirate needs to 2020, while enabling immediate possibilities for public and private investment to achieve sustainable and competent growth to beyond 2020 where required.

The Plan aims at promoting vibrant and competent city, flexible and responsive landuse, and quality built environment taking into account the principles of sustainability.

The objectives of the Plan are to:

- identify the urbanization parameters,
- facilitate a competitive and sustainable spatial planning, and

- continue promoting responsive planning system to streamline and guide the planning process and future spatial urbanization.

The Plan took into account the impact of the global economic downturn in 2008; and considered wide range of issues related to the geographic context, the natural and built environments, socio-economic dimensions, cultural aspects, mobility and accessibility, infrastructure, and economic competency.

The Demographic & Socio-Economic Dimensions

While the Dubai 2020 Plan focuses on spatial development within the Emirate of Dubai, many of the important drivers of future growth may be discerned within Dubai's broader global, regional and national contexts. Consideration of these contexts has informed the analysis of Dubai's economic and demographic prospects.

During the last decade, Dubai relied on business activities. In 2005, revenue from oil and gas accounted for less than 6% of the emirate's revenues. For example, contributions to Dubai's GDP in 2005 were:

- 25% from aviation related services;
- 22.6 from real estate investment and construction; and
- Over 40% from trade and finance services.

However, due to the economic downturn in 2008, the Dubai Statistics Centre estimates that the Dubai's economy contracted by -2.4% in 2009 and that it grew by 2.3 % in 2010. Since then, Dubai government revitalized its economic trends including putting less reliance on the construction and real estate sector.

In order to establish a broad and robust basis for projecting future growth, the Dubai 2020 Plan has applied an indicative target for overall employment growth of 3.5% per annum up to 2020. Within this indicative target, assumed rates of growth for individual industry sectors have been applied and tested for their implications on future land use and infrastructure needs.

Given the complexity of Dubai hybrid population composition (about 9% national, 91% expatriate and laborers, and visitors and tourist as estimated in 2010), and the uncertainty of many economic and demographic indicators at the emirate level, the spatial structure plan considered measures that provide flexibility to accommodate a range of potential growth outcomes.

The Dubai Statistic Centre (DSC) estimates that Dubai's population was 1.905 million at year end 2010. In order to test a wide range of possible population and employment growth outcomes, three growth scenarios were developed. These were defined as "High", "Medium" and "Low" growth scenarios depending on the relative scale of growth projected by each. The growth scenarios were based on a set of basic forecasting parameters that reflected known policy and economic trends with significant potential to shape the size and mix of Dubai's future population.

The high growth scenario reflects government indicative population growth of 5% per annum (2010-2015) and 7% per annum (2015-2020).

The medium growth scenario reflects economic growth, and considered the 'dependency factors' which is described as the estimated ratio of dependents to each employee/worker within each of Dubai's industry sectors.

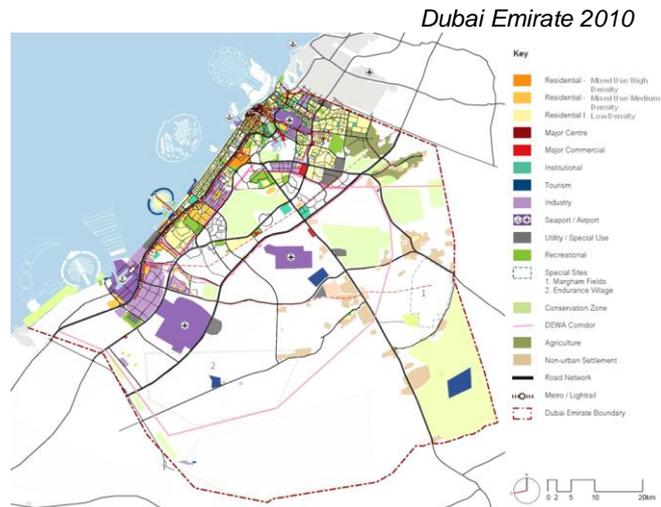
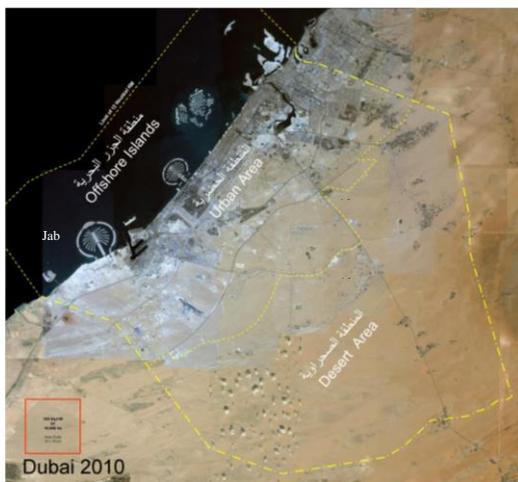
The Low Growth Scenario assumes that the proportion of Emirati citizens within the total population will remain constant at 9.1%. This parameter is an assumed response to ongoing deliberation at the Federal level regarding mitigating the decline of the ration of Emirati citizens within the community in the long term. This adopts a nominal growth rate of 2.0% per annum that represent the assumed natural population growth for Dubai nationals to 2020.

	2010 Population	2020 Population	Parameters
Low Growth Scenario	1,905,000	2,322,200	<ul style="list-style-type: none"> Preserves the current National population ratio at 9.1% of the total population. Population growth for both Nationals and Expatriates of 2% per annum.
Medium Growth Scenario	1,905,000	2,817,800	<ul style="list-style-type: none"> GDP growth estimates are applied for individual industry sectors, guided by an overall GDP growth indicator of 5% per annum up to 2020. Overall employment growth of 3.5% per annum up to 2020.
High Growth Scenario	1,905,000	3,410,000	<ul style="list-style-type: none"> Annual population growth of 5% for 2010-2015 and 7% for 2015-2020 (based on the direction of TEC).

Growth scenarios

Moreover, Dubai business and tourist visitors may add 1.0 million daily. Strong promotion of tourism will continue to be a prominent element of Dubai’s economic development up to 2020. Continued growth in tourist and visitor numbers will constitute major implications for future land use demands and associated requirements for services and infrastructure.

Urbanization Context



Dubai Emirate extends on land and sea. The Emirate main land (excluding Hatta Province) covers 3978 Sq.Km , of which 20% approximately covered by the existing urban fabric and projects under construction (generally located west of the outer by-pass road). The undeveloped land (which was committed before 2008 for mega projects) covers also 20% approximately of the Emirate main land area.

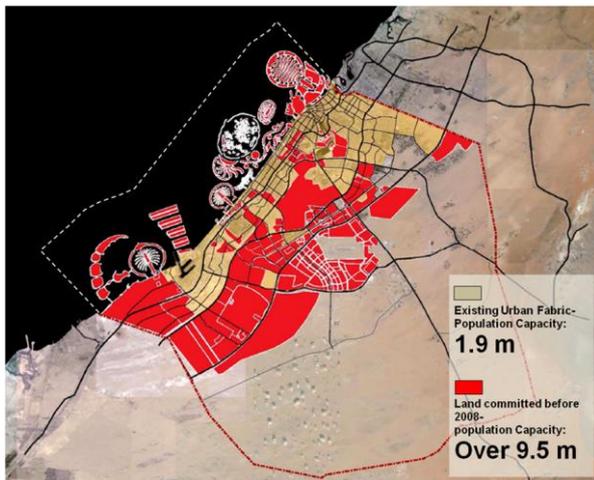
The sea territory within 12 nautical miles covers 1450 sq.km approximately. By 2008, approximately 23% of this territory was subject to dredging and reclamation as

offshore man-made islands. These islands as at 2010 are partially developed and urbanized.

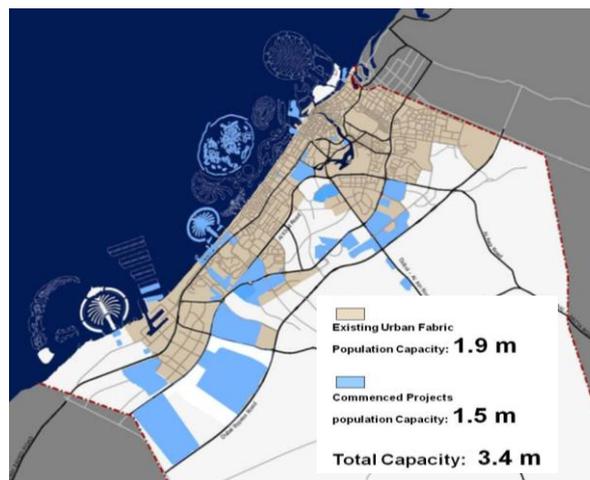
Considering the mega projects (as it was committed before 2008), the ultimate carrying capacity of these development projects is estimated to be around 9.5 million inhabitants. This capacity excludes Dubai's existing residential population of 1.91 million inhabitants. These projects are not intended to response to the nationals (local) natural population growth, but to attract foreign investment.

Many project master plans have been prepared within a fundamentally different market context to that which prevails in 2010. It is unlikely that many of these projects will be needed in the form in which they have been planned and designed.

After the global economic slowdown, Dubai government economic trends tend to rely less on the construction and real estate sector. Since 2008, Dubai government has deferred or stalled several property development projects. Many stalled projects are located well beyond Dubai's existing urban limits. But some already commenced projects are considered as ongoing projects and have a combined ultimate population capacity of 1.4 million residents. Outside of these project areas and within Dubai's established urban area, there is also significant spare capacity to accommodate new population and industry sector growth.



Committed land before 2008 for mega projects



ongoing projects

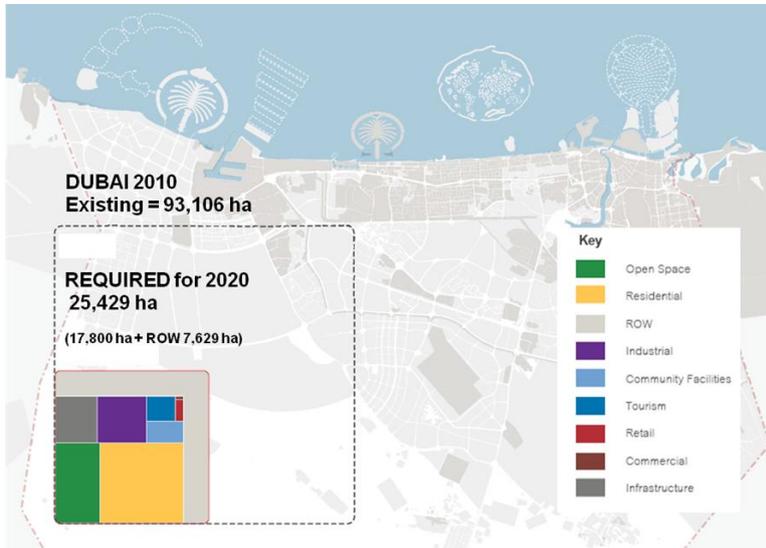
Prioritization of Mega Projects

As a general principle, the facilitation of continued development within the ongoing projects is desired where this will be consistent with commercial demand and where it will contribute to Dubai's wider economic, social and environmental objectives. An important consideration in this regard is the relative extent to which individual projects are able, in a cost-effective and sustainable way, to support the continued provision of those additional services, housing and facilities that will be required to meet Dubai's projected social and economic needs up to 2020.

Required Landuses

Responding to the growth scenarios, required landuses were estimated to achieve a balance of housing, employment and services within neighborhood, districts and

metropolitan sectors; optimize the efficiency of travel patterns within the urban area; protect conservation and open spaces and to ensure activities are able to be distributed in locations where they will most effectively meet the needs of each community.



Landuse per type required for medium growth scenario

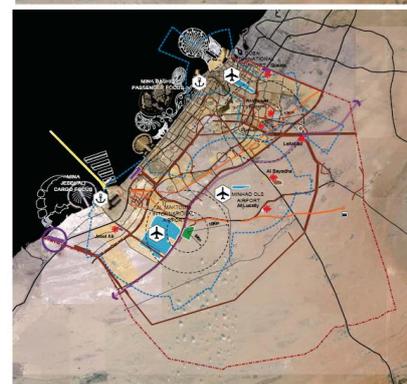
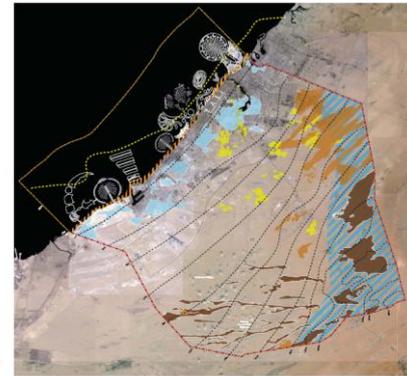
Constraints and Opportunities

The spatial constraints and opportunities for urban development were considered covering: land use; economic hubs; mobility and access; housing; community facilities; open space; natural environment aspects; aviation restrictions; noise, air and water quality; and infrastructure provisions.

Conservation areas



Natural environment mapping



Infrastructure & Mobility networks

Aviation restrictions



Characters of urbanization areas (Metropolitan, Off-shore islands, non-urban areas)



Urbanization Parameters

**Area-1
Offshore Islands**
Sensitive environmental man-made islands for resorts development and tourism

**Area-2
Metropolitan Area**

Area 1 and 2 cover:
- Existing urban fabric
- on-going mega projects
- on-hold or deferred mega projects (recommended to be developed beyond 2020 where required).

**Area-3
Non-Urban Area**
desert land including landuses for:
- equestrian and camel traditional sport activities and related uses
- resorts
- conservation areas,
- utilities,
- non-urban settlements,
- special uses.

**Area-4
Non-Urban Area**
Desert land including landuses for:
- conservation areas
- resorts,
- gas extraction area,
- aquifer zone
- farming settlements,
- utilities
- special uses.

Urbanization Parameters for 2020

Urbanization Parameters

The urbanization parameters are determined by the environmental and physical limitations and opportunities, and the social and economical trends for urban growth in Dubai. Considering the opportunities and constraints for future growth, four broad areas were identified reflecting distinct environmental and landscape qualities, urban settlement characteristics and land use functions; and each area entails distinct development and land use management implications. These comprise:

- Area 1: Offshore Urban Sensitive Area
- Area 2: Urban Metropolitan Area
- Area 3: Non-Urban Area
- Area 4: Non-Urban Area



Urban Metropolitan Growth Scenarios

The Metropolitan growth to 2020 defined alongside the Outer Bypass Road. Three scenarios for alternative urban growth concepts were considered and assessed including:

- Option 1- Suburban Expansion
- Option 2- Satellite Settlements
- Option 3- Compact City

While responding to common challenges and environmental conditions, each option entails distinct implications for future infrastructure provision, transportation and the distribution of new urban land uses. An evaluation carried out, and the “Compact City” was identified as a preferred option to guide the spatial structure plan.

Option 1- Suburban Expansion



Option 2- Compact City



Option 3- Compact City



Growth options within the Urban Metropolitan Area

Strategic Directions/ The Spatial Structure Plan 2020 & beyond

Reflecting the vision for Dubai and the challenges and opportunities for urban growth, a number of broad strategic directions were defined. The strategic directions for 2020 reflect a multi-dimensional approach to guiding Dubai’s continued development over the next ten years as a sustainable and competitive city. The Plan and the strategies may be reviewed periodically and/ or amended anytime where required as directed by Dubai Government.

The strategic directions concerned with various aspects including:

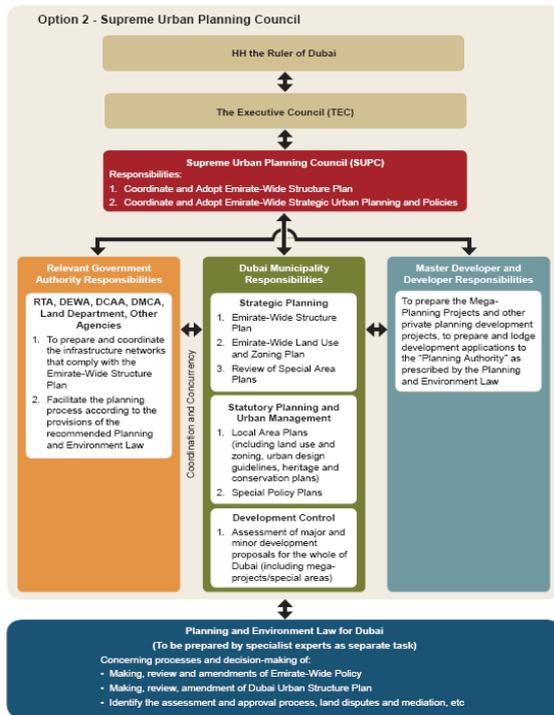
1. Protect and facilitate economic opportunities;
2. Provide flexibility for growth;
4. Consolidate development projects;
5. Conserve natural systems;
6. Facilitate social needs;
7. Optimize infrastructure and services;
8. Broaden connectivity, accessibility and movement; and
10. promote a sustainable open space system.

The Structure Plan encompasses divers components where each reinforcing the others as part of an integrated and holistic system. These include: the natural systems, waterways and open space, economic infrastructure, the Urban form, the communities, activity centers, mobility and utility networks, and special areas.



1. Strategic planning
2. Statutory Planning & Urban Management
3. Development Assessment and Control

The Recommended option seeks to reinforce the prominence of urban planning within Dubai's governance by establishing an executive-level body to be known as the Supreme Urban Planning Council (SUPC), specifically dedicated to the administration and coordination of planning activities.



A number of supporting mechanisms were identified to ensure the successful implementation of the recommended Planning and governance system. This includes:

- **Initiate & Prepare Planning and Environment Law/ Act:** The Law is a necessary tool in order to facilitate and clarify the planning process, plan making, and to provide guidance on the activities and outputs of the system.
- **Prepare Emirate-Wide Urban & Environmental Management Plan (or subsequent phase 5 of Dubai 2020):** This should support the Structure Plan and focuses on land use, zoning, place making, and development parameters in more details.

Benchmarks

The Plan has also established a set of benchmarks. These represent the means by which the Vision will be performed and interpreted, and are sensitive to change and review. During the organized workshops a total of 42 indicative benchmarks have identified and collated in 5 themed groups:

- Theme 1- Competitiveness
- Theme 2- City Structure
- Theme 3- Sustainability
- Theme 4- Social Sustainability
- Theme 5- City Culture



3. Referring to Selection Criteria



Stakeholders & steering committee, 2010

Note:

The preparation of the Plan included 4 reports with more than 1000 page including text, tables, maps, images, and diagrams. A summary report of 225 pages, powerpoint presentation (60 slides), and 8 sheets public display are available and can be forwarded to ISOCARP where required.



Content:

The Plan constitute an integrative planning approach bridging different planning and policy aspects. It was carried out in 4 phases as follows:

- Phase-1: Scanning, analysis, and Synthesis fo the Existing Situation.
- Phase-2: Perspective of Development & Urbanization (forecasting future Urban growth, and prepare Urban Development Program).
- Phase-3: Spatial Structure Plan (Emirate wide Spatial Strategic Planning).
- Phase-4: Legislative Implementation Tools (Planning system and governance).

The Plan recommended further essential tasks to be prepared (to complement the implementation of Dubai 2020 Masterplan) including:

- A Planning and Environment Law to complement Phase-4 (to streamline and guide the urban planning and development process); and
- A subsequent Phase-5 related to Urban & Environmental Management (a Statutory Planning phase to facilitate the implementation of Phases 3).

The Plan encompasses comprehensive issues, aspects, and challanges relevant to urbanization, spatial development, and the environment including:

- Set out the vision, aims and objectives; and approach to planning.
- Dubai bold contexts and historic background up to 2010.
- Demographic & Socio- Economic Dimensions considering the hybrid cultural context and livability, and sustaining vibrant economy and competency.
- Environmental aspects and impacts.
- Identifying Urbanization Parameters.
- Set out a responsive Strategic/ Urban Structure Framework (covering landuse, mobility networks, activity centres, the built form, open spaces, housing, community facilities, utility networks,)
- Promote a responsive goverance and legislative framework.
- Promot landuse responsiveness and flexibility.
- Define a set of Benchmarks to 2020 relevant to: Competitiveness, city structure, sustainability, social sustainability, city culture.

Process:

Preparation of the 'The Dubai 2020 Urban Masterplan' was carried out during the period July 2010 – July 2011. It was carried out in four phases by the 'Dubai Urban Planning Steering Committee' in conjunction with the consultant AECOM Middle East LTD (and sub-consultants including the University of Milan). The Steering Committee was established in 2010 by the Infrastructure and Environment Committee under The Executive Council of Dubai Government.

The Dubai Urban Planning Steering Committee included members from Dubai Municipality (DM), Roads and Traffic Authority (RTA), Dubai Electricity and Water Authority (DEWA), Dubai Civil Aviation Authority (DCAA), Dubai Maritime City Authority (DMCA), and Dubai Land Department. The professional staff of these parties has actively made substantial professional contributions to the preparation of the Dubai 2020 Plan.

The contributions of the following stakeholders and parties in the preparation of the Plan are also acknowledged:

- The Dubai Master Developers (national property development Companies- Emaar, Nakheel, etc);
- Relevant departments and agencies of Dubai government.
- Dubai Municipality Departments (Planning, Environment, Horticulture & Parks, Sewerage & Irrigation, and Solid Waste Management);
- The Dubai Government Statistics Team as established by Dubai Municipality in 2010; and
- The Project coordination team from the Planning Research Section, Dubai Municipality who was responsible for the daily management, administration, monitoring, and technical coordination of the consultant and the Project under the directions of the Steering Committee Head.

Innovation:

Beside the urban areas, the Plan for the first time covers the desert regional areas and the offshore territory within 12 nautical miles. The innovative approach of the Plan is reflected in the strategic directions for defining urbanization parameters, and the spatial planning that promote integrated landuse and mobility and facilitate competent urban form, livability, connectivity, sustainability and economic competitiveness.

The Plan innovativeness is reflected in the way that was done. In summary it tends to:

- rationalize the urban carrying capacity and reconsolidate the landuse to 2020 and beyond including prioritizing the mega projects development;
- capitalize development around the available infrastructure networks; and confine urban metropolitan development to prevent urban sprawl including limiting the development of man-made offshore islands;
- support the economic base by promoting and preserving appropriate connectivity and landuse for the free zones, and the unique activity hubs and centers that constitute the backbone for long term sustainable economic development (tourism, trade, retail, business and finance);
- support socio-cultural aspects by facilitating appropriate housing for all including housing for nationals, and consider polices and measures for more affordable rental housing and accommodation;
- promote integrated landuse and mobility solutions that mitigate traffic congestion and improve mobility. It focuses on and adopts the principles of Transit Oriented Development (TOD);
- identify and establish urbanization parameters that aims at the protection of the sensitive parts of the desert land, coastal areas, and the shallow sea bed;
- identify infill and revitalization areas as future projects; and
- promote the legislative framework (planning system and governance) as a tool that supports the planning process and implementation with consideration to Dubai's unique contexts.