

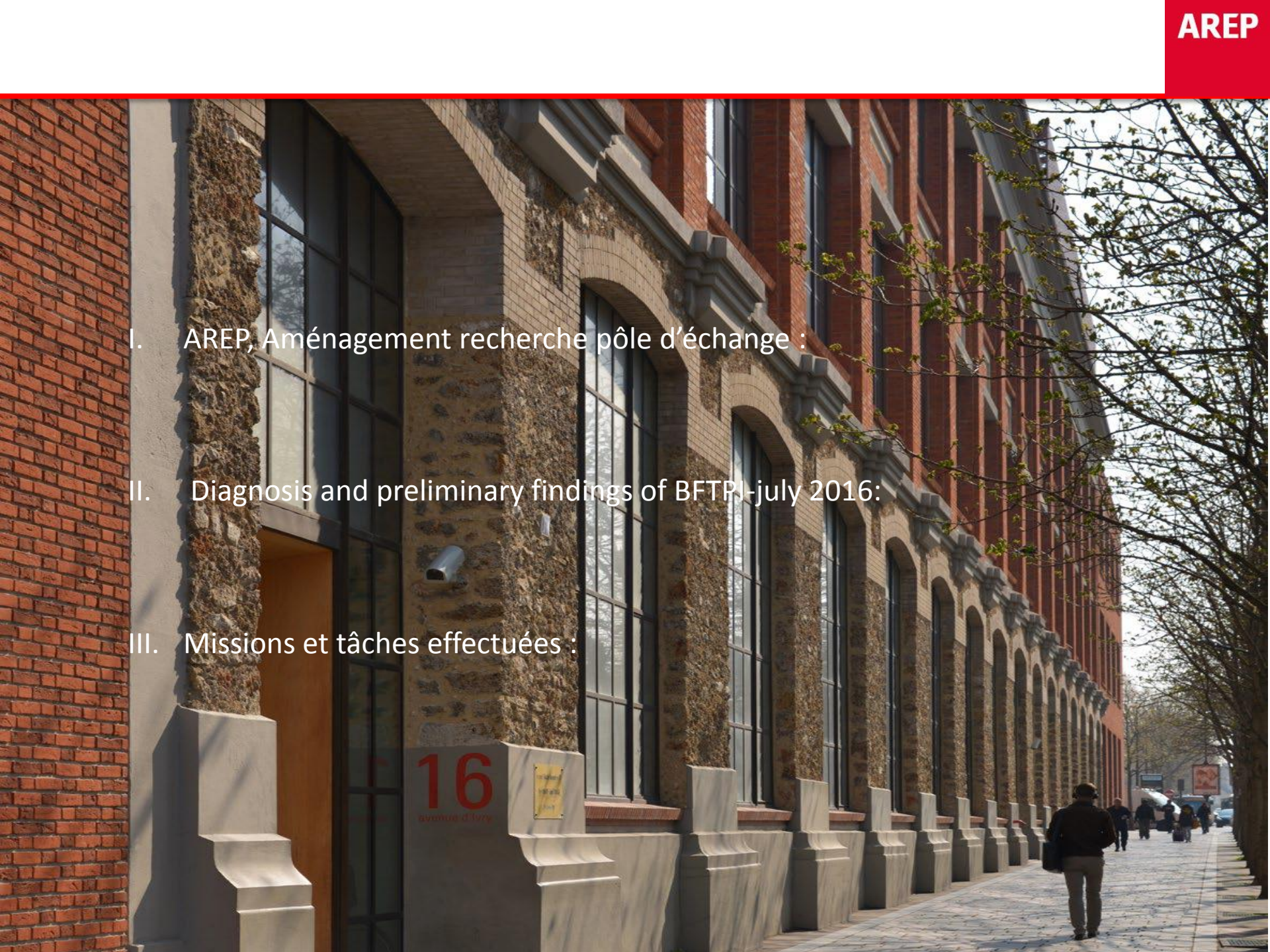


# Participation au diagnostic d'un projet d'aménagement AU BAHRAIN - BFTPI

Par Hajar MAFTOUH  
encadré par Eric THOMAS / Charles-Antoine DEPARDON





- 
- I. AREP, Aménagement recherche pôle d'échange :
- II. Diagnosis and preliminary findings of BFTPJ-july 2016:
- III. Missions et tâches effectuées :

# I. AREP, Aménagement recherche pôle d'échange:

## ☐ AREP filiale de Gares & connexions



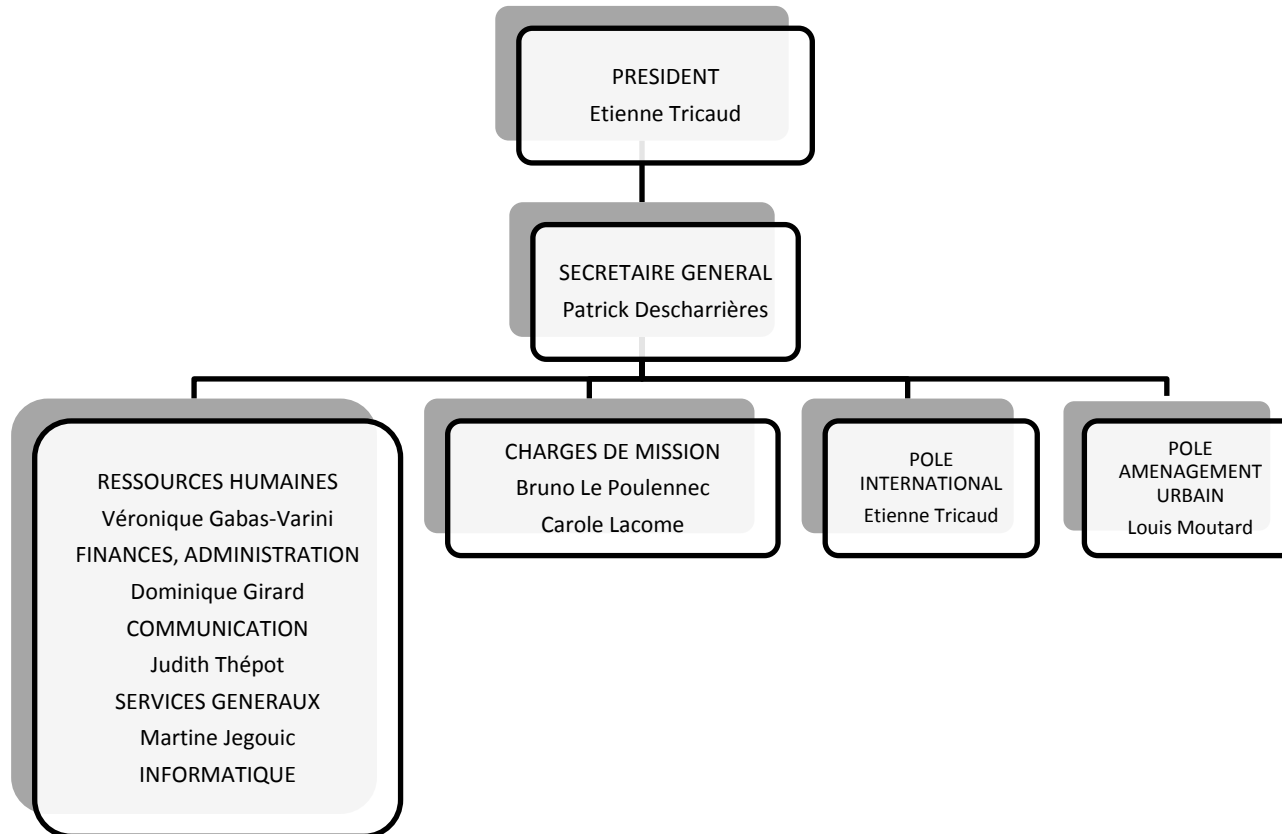
## ☐ Organisation du Groupe

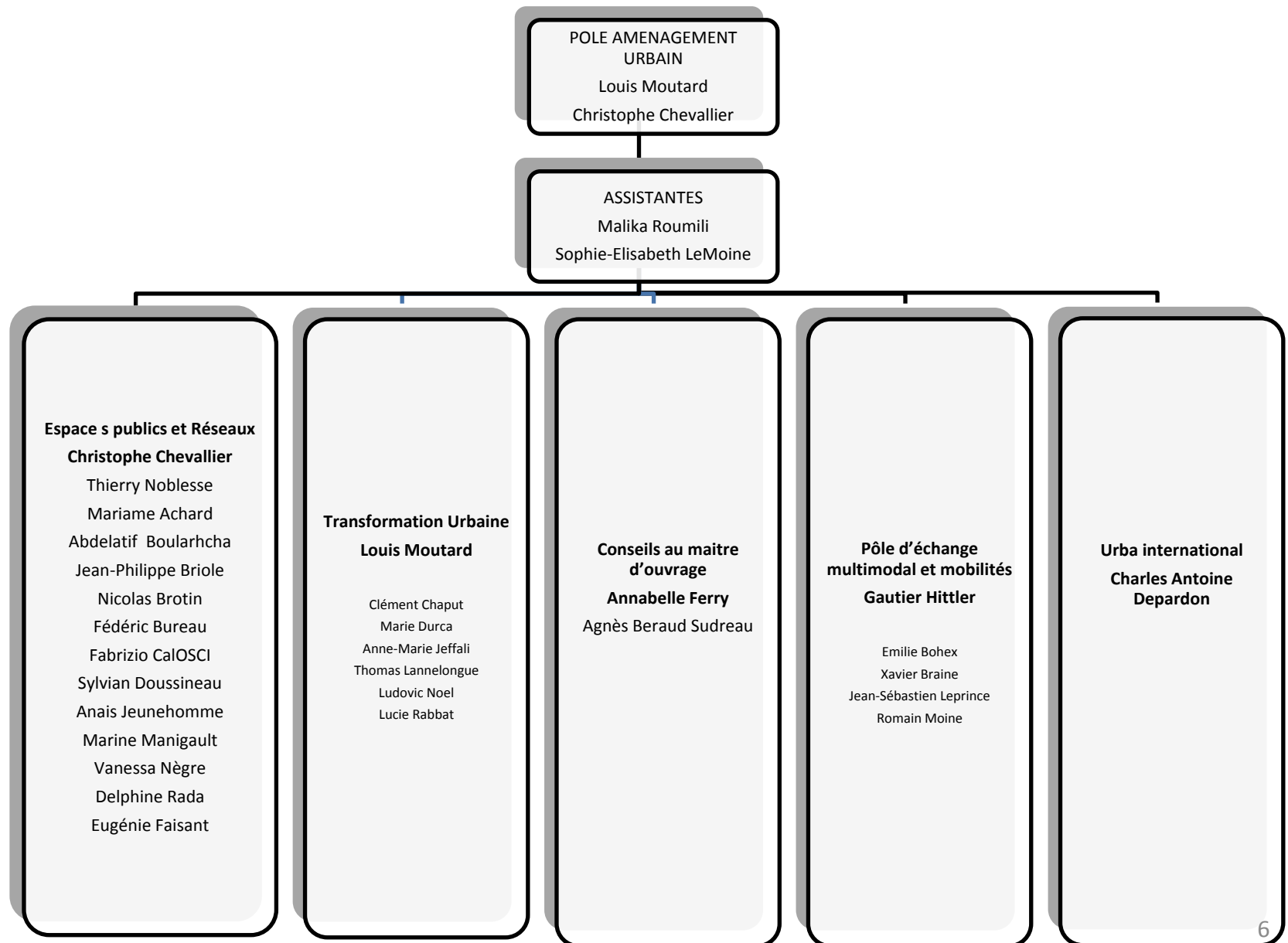






## ❑ Organisation du pôle aménagement:





## II. Diagnosis and preliminary findings of BFTPI-july 2016

DIAGNOSIS AND PRELIMINARY FINDINGS  
DRAFT FINAL PRESENTATION – JULY 2016

**B F T P I**

Bahrain French Town Planning Initiative



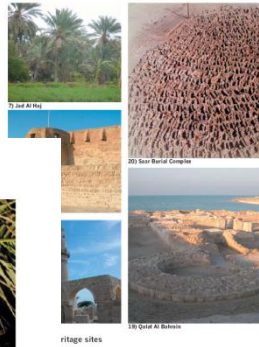


# III. Les tâches et missions effectuées :

## 1. Synthèse des documents :

### Archaeology and Heritage

Bahrain contains an assemblage of cultural heritage assets of which any country could be proud. Many of the features are as big, monumental and impressive as some iconic international sites. The archaeological remains and monuments are testaments to the nation's origins as a cultured and artistic civilization and its historic importance as a strategic trading point in the Gulf. In addition to the UNESCO World Heritage Site of Qal'at al-Bahrain, the island is home to many other sites of great importance.



### Agricultural Strategy

Productive agricultural lands extend from the western edge of Manama to the west coast of Bahrain at Budaiya, and from the north coast of Bahrain south to Zallaq village, primarily in coastal areas. This area has a very special and unique character, and can be seen as the "Garden District" of Bahrain. Productive agricultural land protects sensitive areas, acts as a buffer, forms a boundary, and creates open space.



### Encourage Organic Growth of Villages, Towns, and Cities

Bahrain is undergoing a rapid process of suburbanization. City dwellers are moving from mixed-use urban environments to larger homes in single-use residential neighbourhoods. As a result, new settlements, and many existing ones, rely exclusively on the automobile for access and transportation. This results in heavy traffic loads on the street system with few commercial or community services within walking distance of residential neighbourhoods.

- Neighbourhood Centres:** Create centres with public services, such as mosques and schools around open spaces, parks or major pedestrian streets. Provide new housing to complement existing villages by following traditional growth patterns with vehicular housing and infill in villages within 500 meters of historic centres.
- Commercial Corridors:** Commercial corridors, or boulevards, should run along main streets or special places. In large districts, these commercial corridors define the boundaries of residential neighbourhoods. Commercial corridors arise and thrive when adjacent to residential areas to promote walking and daily usage.
- Organic Street Patterns:** Irregular street patterns create short-view corridors similar to a series of mirrors. This

Country of 1,000,000 Palm Trees

### A Continuous Public Waterfront



- 2/3 Preserve Existing Agriculture may include:**
  - Community Facilities
  - Schools
  - Recreation
  - Transit Facilities

land development strategies

of cluster development and large

## SOM study analysis

### Content

The SOM study that has been transmitted to us is composed of 8 volumes describing a global, island scale development strategy. The documents date of 19 January 2007. The documents aren't referencing a territorial diagnosis; it's a list of a proposal without on field demonstration (perhaps this part of the study process hasn't been diffuse to us).

GIS files of some of the maps may be found on the common drive

### V1 « The National plan »

Composed of 5 chapters, this volume is the summary of the 10 strategies of the national development plan. Sec 1 Executive Summary / Light résumé of the mission. Sec 2 Executive Summary / more detailed sheets of the plan. Sec 3 The Governorates / Light diagnosis at a governorate scale and a summary of the SOM's proposal. Sec 4 Special study Areas / Proposal for special Areas, that trigger and field demonstrate some of the main proposal of SOM.

### North Island Communities

#### Seef area

**But de l'étude:** trouver un axe pour implanter les propositions développées dans le NPDS. Aller plus loin / mise à jour du NPDS / développer des outils et ressources pour implanter les politiques. La zone de Seef est un territoire de changement, le SAAP propose:

- Des propositions de développement et amélioration des transports
- L'utilisation des sols
- La forme urbaine
- La stratégie de transport et des infrastructures

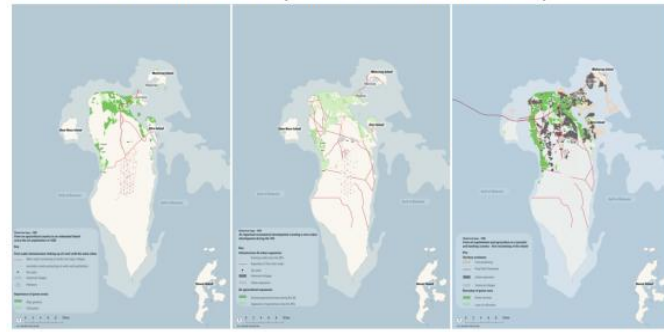
SAAP: sur 130 ha, Sud-Ouest: village traditionnel et fort classé par l'UNESCO - à l'Est, territoires de projets, développés dans le master plan - au Nord, hôtel Carlton et développement d'une future zone de (est). Le but du SAAP est de recroiser la vision du NPDS avec les orientations locales. 1- Anticiper la planification avant de sortir les projets et non planifier afin de s'adapter aux différents projets, maximiser les ressources existantes dans la planification. 2- adaptation au marché économique: création d'un cluster financier et d'affaires. 3- création d'une stratégie d'implantation: dans les transports en considérant tous les modes de déplacements, création d'une ligne BRT pour desservir les zones d'activités et services, proposer des rues qui peuvent accueillir les modes doux. 4- aspect social: vérifier l'accès pour chaque communauté à des centres sociaux. 7-5: actions sur le front de mer: création d'un front de mer sur 40 km de Jubail à Budaiya. limiter les privatisations et rendre accessible au public. 6- valorisation du patrimoine: site de Qal'at al-Bahrain à protéger. 7- apporter de la verdure au pays: traitement des espaces publics, nouveaux espaces publics, qui croise la volonté de créer de nouveaux espaces publics. Seef est situé dans une zone révisé par un plan de zonage + un plan manuel

	A	B	C	D	E	F	G	H	I	J
		Nom du dossier	Nom du fichier	langue du document	type du document	Les idées principales	Données pour le diagnostic	type de données		
1	1	handbook	GDUP staff handbook	Anglais	manual	GDUP Mission and overview GDUP Governance GDUP Management Process GDUP Directorates and Units	Comprendre l'organisation et missions de la GDUP	organisationnel		
2	2	GDUP Organizational chart	GDUP Organizational chart	Anglais	charte	Organigramme des différentes fonctions de la GDUP	organigramme GDUP	organisationnel		
3	3	CSB Organizational chart	CSB Organizational chart	Arabe Anglais	charte	Structure des directions du ministère des affaires municipales et de la planification urbaine et organigramme des fonctionnaires	Structure des directions	organisationnel		
4			soû-13	arabe	budget	Avancement des projets avec pourcentages de réalisation et remarques Rapport récapitulatif des demandes de divisions et autres réalisées et en cours	visualiser l'avancement des projets de la GDUP chaque mois	organisationnel		
5			soû-12	arabe	budget			organisationnel		
6			soû-13	arabe	budget			organisationnel		
7			janv-14	arabe	budget			organisationnel		
8			févr-14	arabe	budget			organisationnel		
9			mars-14	arabe	budget			organisationnel		
10			avr-14	arabe	budget			organisationnel		
11			mai-14	arabe	budget			organisationnel		
12			juin-14	arabe	budget			organisationnel		
13			juil-14	arabe	budget			organisationnel		
14			août-14	arabe	budget			organisationnel		
15			sept-14	arabe	budget			organisationnel		
16			oct-14	arabe	budget			organisationnel		
17			nov-14	arabe	budget			organisationnel		
18			déc-14	arabe	budget			organisationnel		
19						1. The general plan of proposed network of roads in industrial area of Alba 2. Land use plan of the industrial area of Alba 3. General Schemes for Issa gathering (residency) 4. Coast planning and hydrodynamic studies 5. transport and traffic planning 6. infrastructure planning 7. Setting up a website for urban planning	Pour comprendre les objectifs atteints par la GDUP chaque année en matière de planification urbaine	organisationnel	planification urbaine	
20						1. The implementation of the National strategic Master study 2.coasts				



### 1. Our vision of the whole territory and its evolution

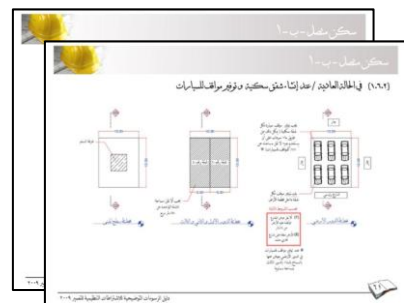
The construction of a territory: *Infrastructure led and scattered development*



1930': Infrastructure led development around oil industry      1970': urban inland growth  
End of 20th century: reclamations for infrastructures + growth of main cities: Manama and Muharraq



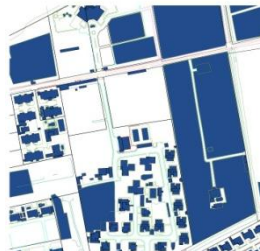
Year	Month	Day	Time	Event	Location	Duration	Attendance		Performance		Music		Guests/Performers	Notes	Rating
							Male	Female	Score	Time	Score	Time			
2023	10	25	18:00	Rock band performance	Rock band	1 hour	120	80	8.5	10:00	9.0	10:00	100	200+ guests	9.5
2023	11	05	19:00	Acoustic duo performance	Acoustic duo	1 hour	80	60	7.5	10:00	8.0	10:00	100	150+ guests	8.0
		15	20:00	Electronic DJ set	Electronic DJ	1 hour	150	100	9.0	10:00	9.5	10:00	100	250+ guests	9.0
		20	19:00	Classical orchestra performance	Classical orchestra	1 hour	100	70	8.0	10:00	8.5	10:00	100	180+ guests	8.5
2023	12	01	19:00	Pop band performance	Pop band	1 hour	130	90	8.5	10:00	9.0	10:00	100	220+ guests	8.5
2023	12	20	19:00	Jazz trio performance	Jazz trio	1 hour	70	50	7.0	10:00	7.5	10:00	100	120+ guests	7.5
2024	01	05	18:00	Rock band performance	Rock band	1 hour	110	75	8.0	10:00	8.5	10:00	100	190+ guests	8.0
		15	19:00	Acoustic duo performance	Acoustic duo	1 hour	85	65	7.5	10:00	8.0	10:00	100	160+ guests	8.0
		25	20:00	Electronic DJ set	Electronic DJ	1 hour	140	95	8.5	10:00	9.0	10:00	100	240+ guests	8.5
2024	02	05	19:00	Classical orchestra performance	Classical orchestra	1 hour	95	65	7.5	10:00	8.0	10:00	100	170+ guests	7.5
2024	02	15	20:00	Pop band performance	Pop band	1 hour	125	85	8.0	10:00	8.5	10:00	100	210+ guests	8.0
2024	02	25	19:00	Jazz trio performance	Jazz trio	1 hour	75	55	7.0	10:00	7.5	10:00	100	130+ guests	7.5
2024	03	05	18:00	Rock band performance	Rock band	1 hour	115	80	8.0	10:00	8.5	10:00	100	200+ guests	8.0
		15	19:00	Acoustic duo performance	Acoustic duo	1 hour	90	70	7.5	10:00	8.0	10:00	100	170+ guests	7.5
		25	20:00	Electronic DJ set	Electronic DJ	1 hour	145	100	8.5	10:00	9.0	10:00	100	250+ guests	8.5
2024	04	05	19:00	Classical orchestra performance	Classical orchestra	1 hour	100	70	8.0	10:00	8.5	10:00	100	190+ guests	8.0
2024	04	15	20:00	Pop band performance	Pop band	1 hour	130	90	8.5	10:00	9.0	10:00	100	230+ guests	8.5
2024	04	25	19:00	Jazz trio performance	Jazz trio	1 hour	80	60	7.0	10:00	7.5	10:00	100	140+ guests	7.5
2024	05	05	18:00	Rock band performance	Rock band	1 hour	120	85	8.0	10:00	8.5	10:00	100	210+ guests	8.0
		15	19:00	Acoustic duo performance	Acoustic duo	1 hour	95	75	7.5	10:00	8.0	10:00	100	180+ guests	7.5
		25	20:00	Electronic DJ set	Electronic DJ	1 hour	150	105	8.5	10:00	9.0	10:00	100	260+ guests	8.5
2024	06	05	19:00	Classical orchestra performance	Classical orchestra	1 hour	105	75	8.0	10:00	8.5	10:00	100	200+ guests	8.0
2024	06	15	20:00	Pop band performance	Pop band	1 hour	135	95	8.5	10:00	9.0	10:00	100	240+ guests	8.5
2024	06	25	19:00	Jazz trio performance	Jazz trio	1 hour	85	65	7.0	10:00	7.5	10:00	100	150+ guests	7.5
2024	07	05	18:00	Rock band performance	Rock band	1 hour	125	90	8.0	10:00	8.5	10:00	100	220+ guests	8.0
		15	19:00	Acoustic duo performance	Acoustic duo	1 hour	100	80	7.5	10:00	8.0	10:00	100	190+ guests	7.5
		25	20:00	Electronic DJ set	Electronic DJ	1 hour	155	110	8.5	10:00	9.0	10:00	100	270+ guests	8.5
2024	08	05	19:00	Classical orchestra performance	Classical orchestra	1 hour	110	80	8.0	10:00	8.5	10:00	100	210+ guests	8.0
2024	08	15	20:00	Pop band performance	Pop band	1 hour	138	98	8.5	10:00	9.0	10:00	100	245+ guests	8.5
2024	08	25	19:00	Jazz trio performance	Jazz trio	1 hour	88	68	7.0	10:00	7.5	10:00	100	155+ guests	7.5
Distribution by Month of Activity															
Month: January, April, May, June, July, August															
Activity: Rock band performance, Acoustic duo performance, Electronic DJ set, Classical orchestra performance, Pop band performance, Jazz trio performance															
Location: Main stage, Backstage, VIP area, Guest list, Ticket sales, Merchandise, Sponsorships, Media coverage, Social media, Fan club, Newsletter, Website, App, Podcast, YouTube channel, Instagram, Facebook, Twitter, LinkedIn, etc.															
Guests/Performers: Rock band, Acoustic duo, Electronic DJ, Classical orchestra, Pop band, Jazz trio, Guest list, Ticket sales, Merchandise, Sponsorships, Media coverage, Social media, Fan club, Newsletter, Website, App, Podcast, YouTube channel, Instagram, Facebook, Twitter, LinkedIn, etc.															
Notes: Rock band performance, Acoustic duo performance, Electronic DJ set, Classical orchestra performance, Pop band performance, Jazz trio performance															
Rating: 9.5, 8.0, 9.0, 8.5, 8.0, 7.5, 8.5, 8.0, 7.5, 8.0, 8.5, 8															

[illegible]

دليل الرسومات التوضيحية للإشارات التنظيمية للعبء ٩-١١

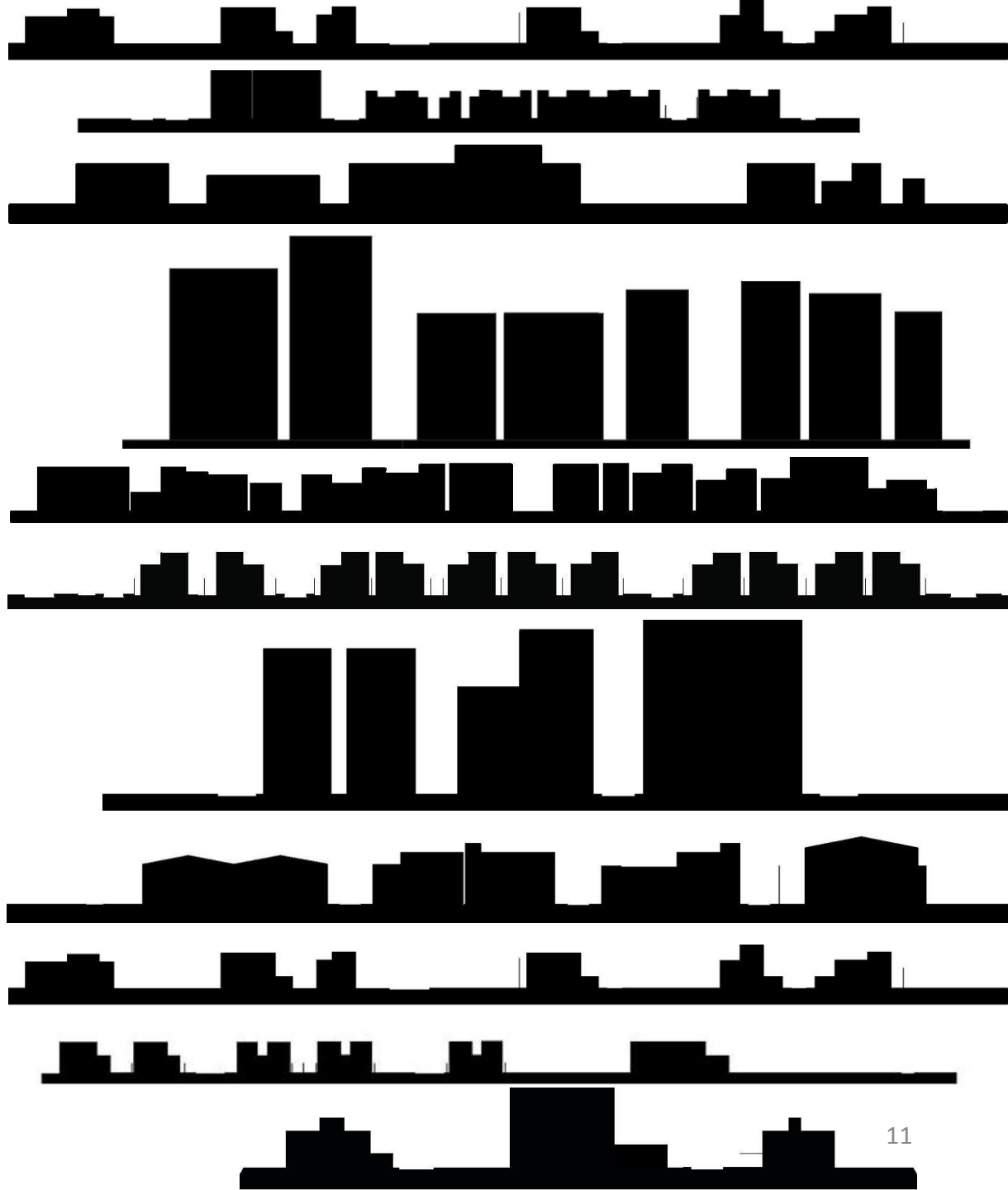


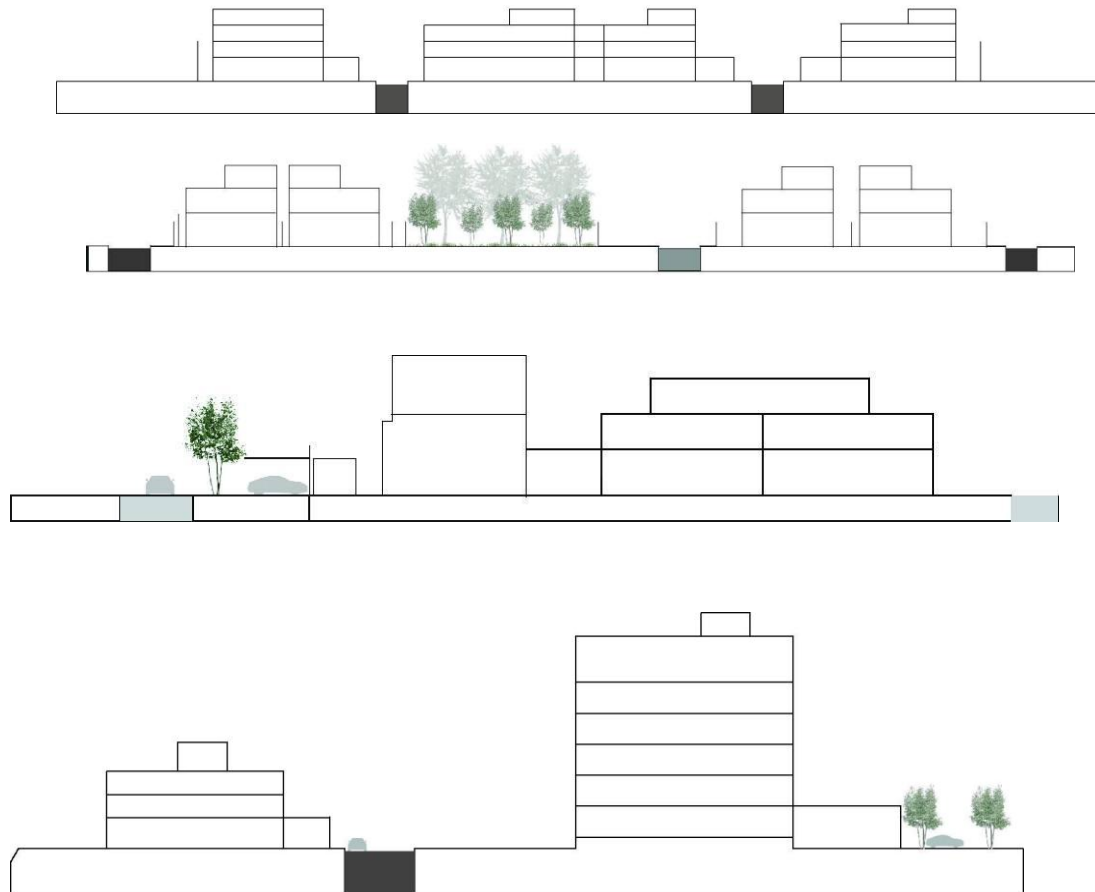
- Extraction de toutes les couches( par QGIS)





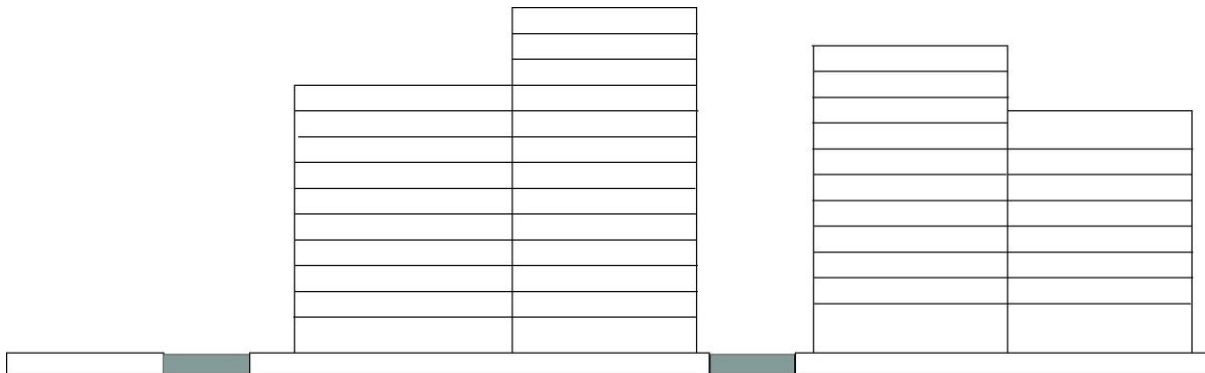
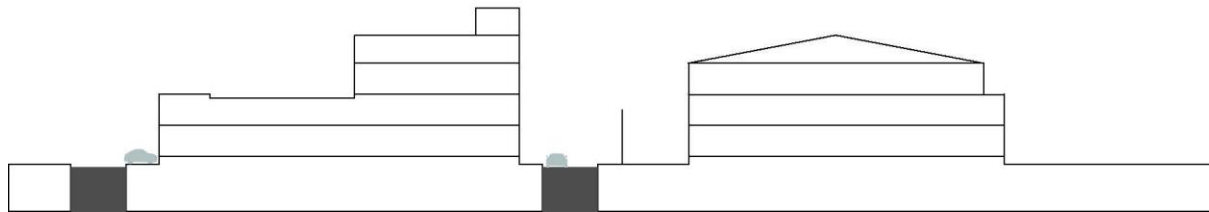
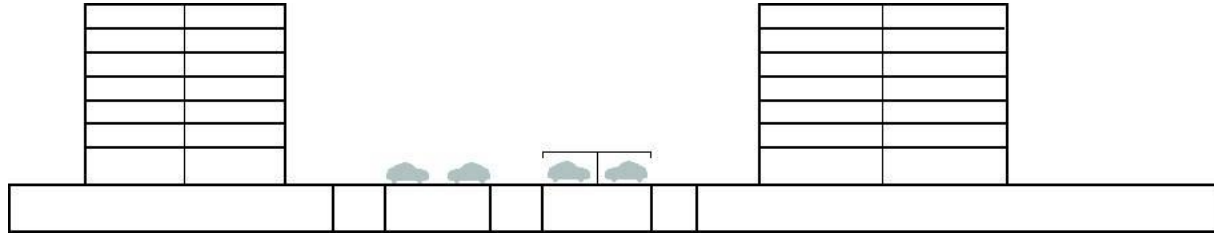
- Tracé de l'allure du bâti pour chaque site :



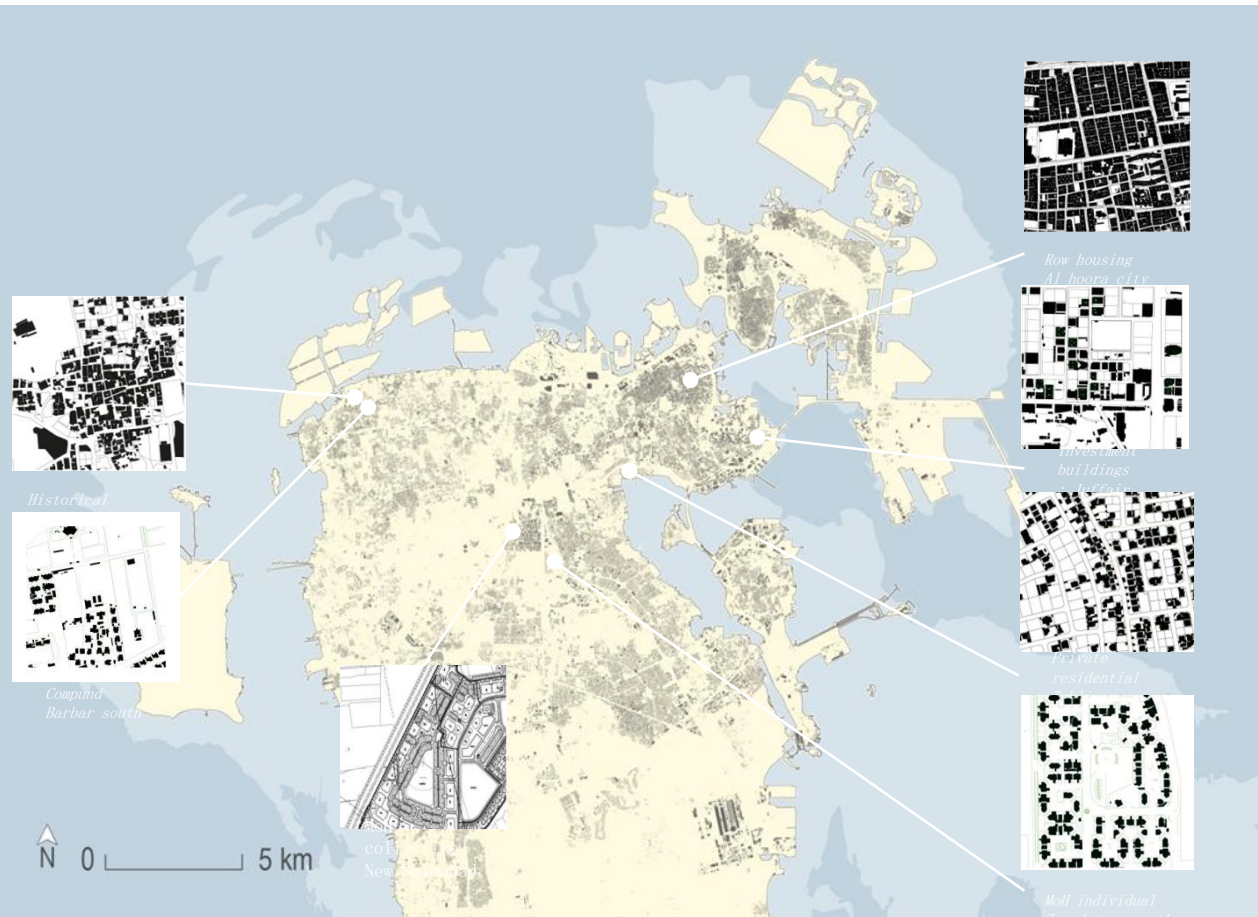


Coupes qui zoom et qui traduit plus de détails sur la hauteur du bâti et sur la largeur des routes : (par illustrator et photoshop)





## QUALITY AND DISTRIBUTION OF URBAN SETTLEMENTS



> Major part is for individual housing (MoH or other)

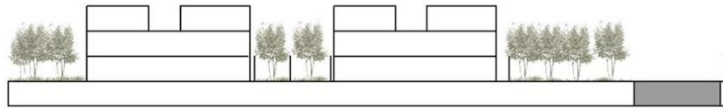
> Historical cores easy to identify but isolated by recent developments

> Recent developments are quite dense but too homogeneous eg MoH

> Apartment blocks developments do not generate quality urban environment.



QUALITY AND DISTRIBUTION  
OF URBAN SETTLEMENTS:  
COMPOUND - BARBAR SOUTH

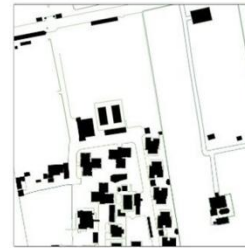


Scale : 1/2000

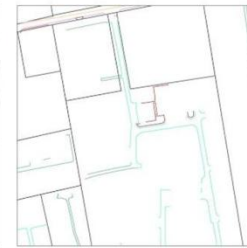


Density: 2.8 houses/ha

Scale :  
1/5000



**Buildings**

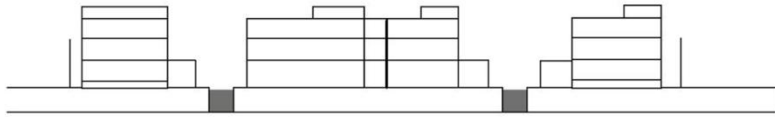


**Plots and  
roads**



**Aerial shot**

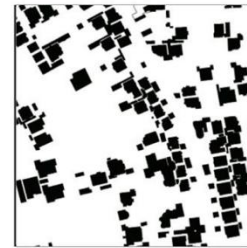




## QUALITY AND DISTRIBUTION OF URBAN SETTLEMENTS: RESIDENTIAL A AND B TUBLI

density: 9.8houses/ha

Scale : 1/2000



Buildings



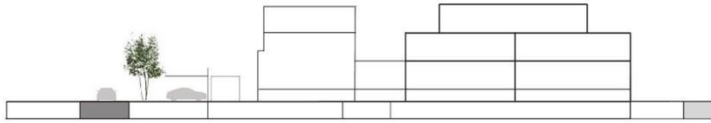
Plots and roads

Scale : 1/5000



Aerial shot



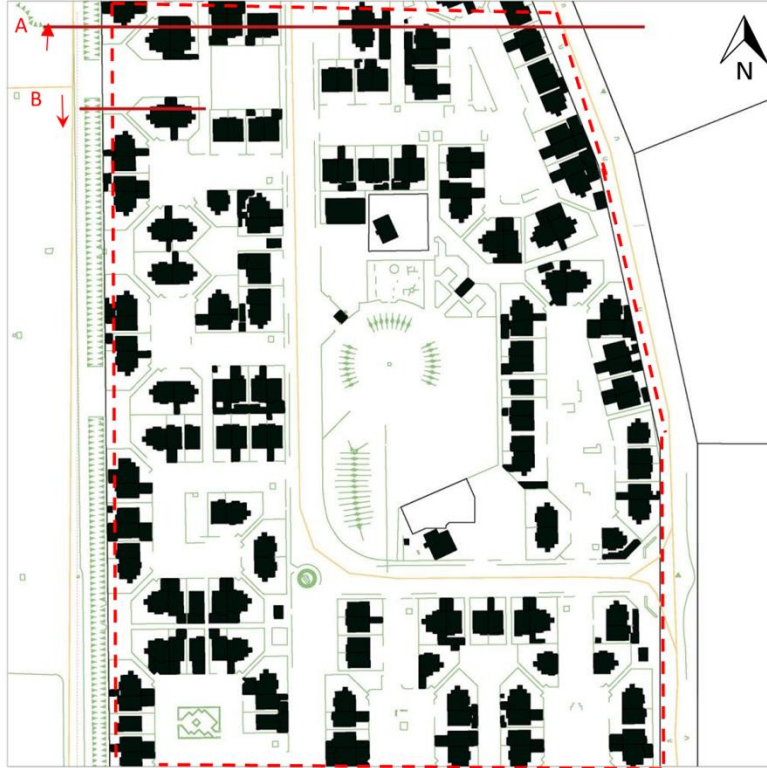


footprint:  $135\text{m}^2$

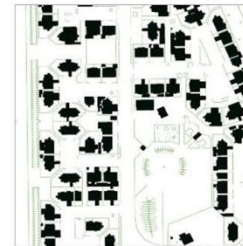
QUALITY AND DISTRIBUTION OF  
URBAN SETTLEMENTS: SOCIAL  
HOUSING /SEMI-DETACHED  
HOUSES - ZAYED TOWN NORTH  
Year of construction: Before 2004

density: 13,5 housing units/ha

Scale : 1/2000



Scale : 1/5000



Buildings



Plots and roads



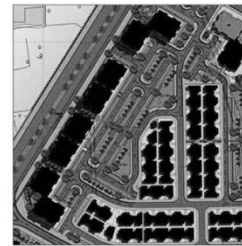
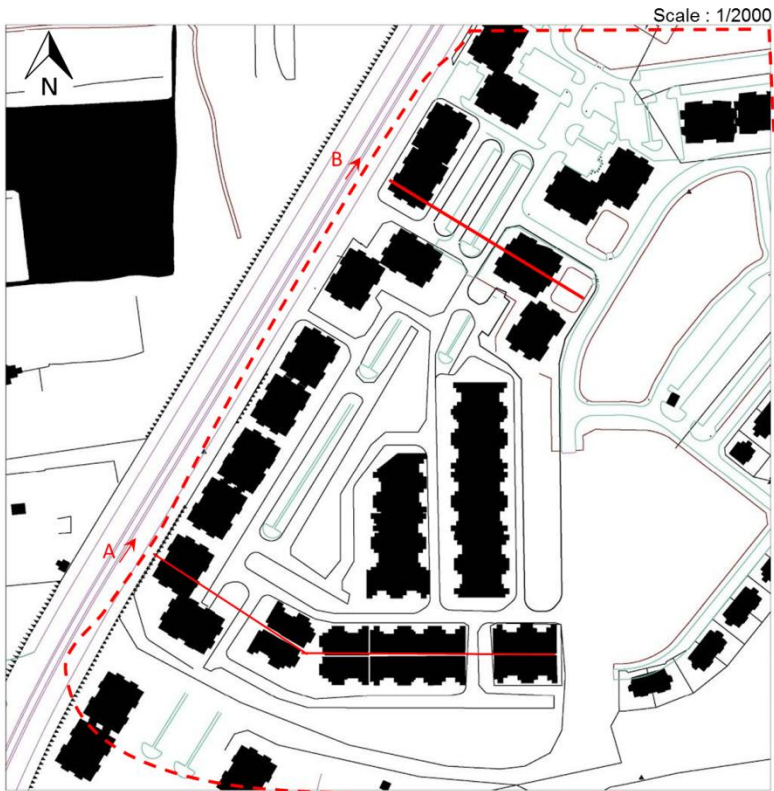
Aerial shot





# QUALITY AND DISTRIBUTION OF URBAN SETTLEMENTS: SOCIAL HOUSING / BLOCKS - NEW SALMABAD

density: 71.5houses/ha



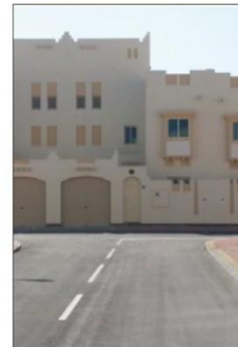
Buildings

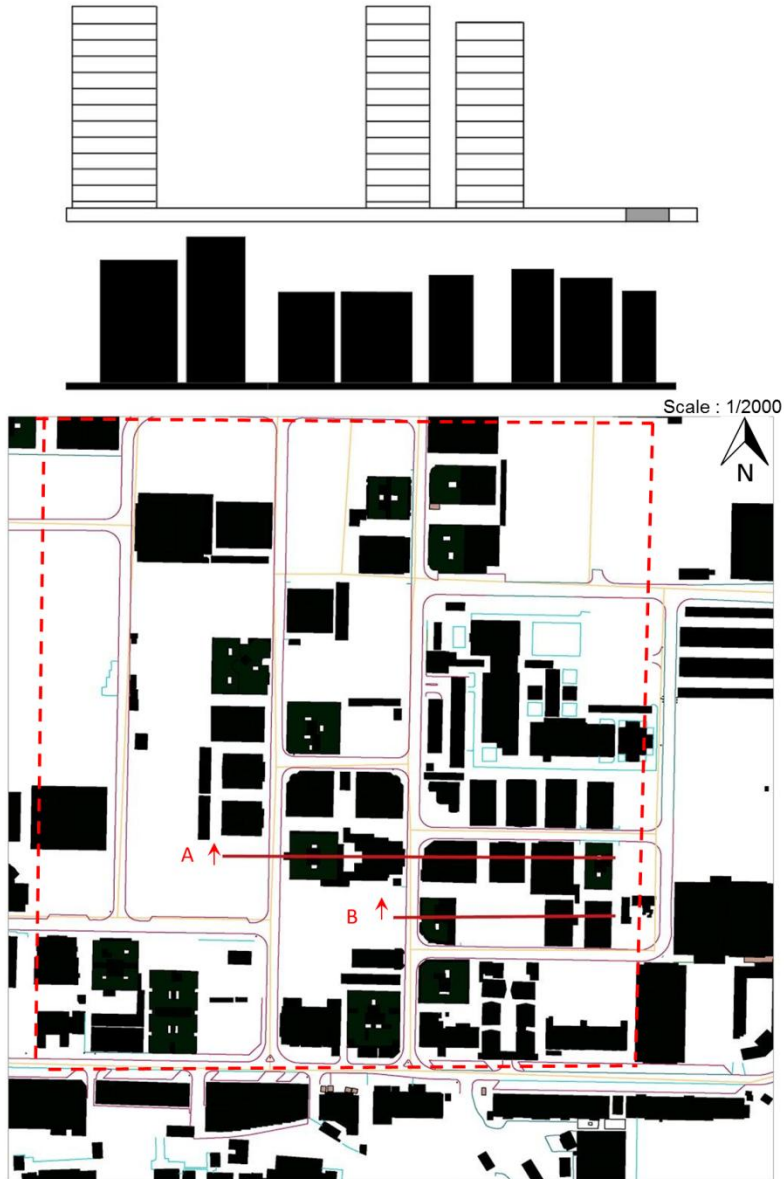


Plots and roads



Aerial shot

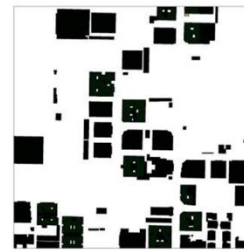




QUALITY AND DISTRIBUTION OF  
URBAN SETTLEMENTS  
ZONING TYPE : RENTAL FLATS-  
INVESTMENT BUILDING B (BB)  
EXAMPLE: JUFFAIR

Density: 168,2 houses/ha

Scale : 1/5000



Buildings



Plots and roads



Aerial shot



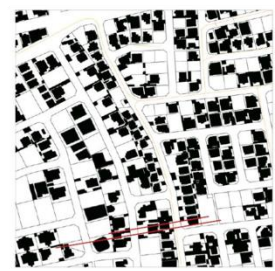
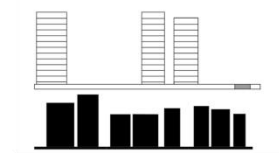
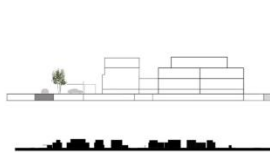
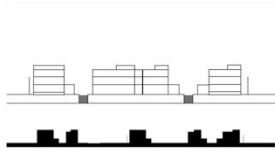
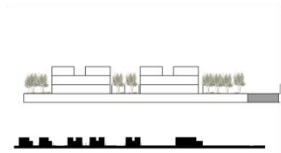
## QUALITY AND DISTRIBUTION OF URBAN SETTLEMENTS: DENSITY

**density /  
which urban form?**  
> Difference between  
built density and  
inhabitants density in  
the country

> A densely built area  
can have a quite low  
inhabited density : ex  
Tubli

> A densely inhabited  
area can present very  
good urban quality: ex  
Zayed town North

> If many vacant lots, a  
high rise area will still  
have a rather low density



12 inhab./ ha

50 inhab./ ha

70 inhab./ ha

300 inhab./ ha

Density



QUALITY AND DISTRIBUTION  
OF URBAN SETTLEMENTS:  
LOT VACANCY

53/214 lots  
Lot vacancy **25%**



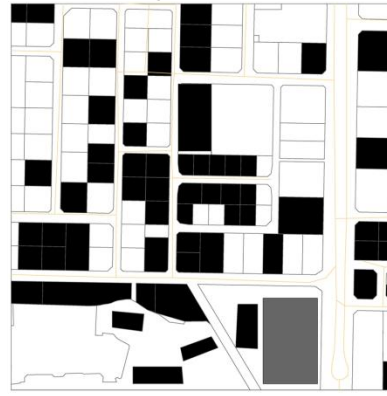
Tubli area - construction date 2000's

32/74 lots  
Lot vacancy **41%**



Diplomatic area - construction date 1980's

65/121 lots  
Lot vacancy **54%**



Juffair area - construction date 1990's

Lot vacancy

> Construction period and land use seem to have no influence on vacancy rates; should developments be better coordinated countrywide?

> Opportunity for infill development to mitigate land scarcity (in serviced and partially developed land)

QUALITY AND DISTRIBUTION  
OF URBAN SETTLEMENTS:  
AN UNFINISHED CITY

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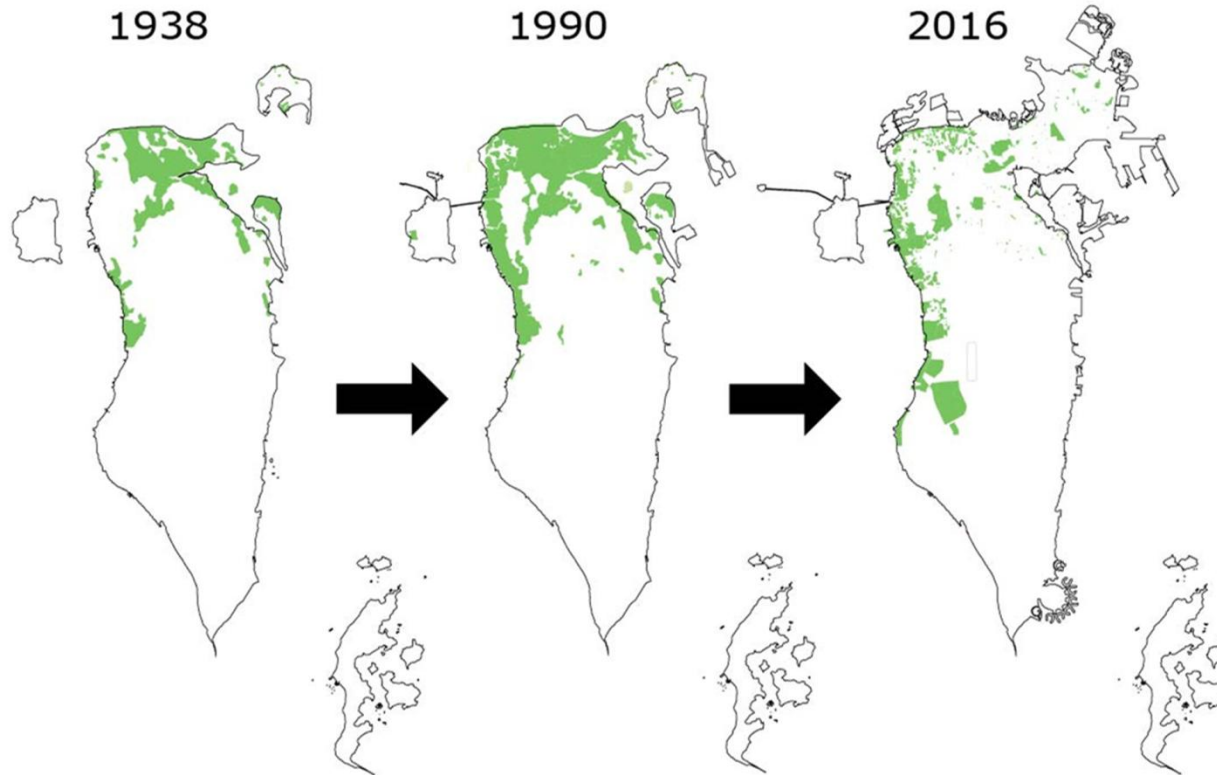




## DEVELOPMENT ASSETS: THE GREENBELT

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#### THE GREENBELT

### A moving greenbelt

> Agriculture is not static.

> In the past decades, it moved from West of Manama to the West coast.

> Retain a minimum global area, avoid breaking up.



---

## A moving greenbelt

Arabian Gulf

①

Residential area  
Compounds & villas

②

Agriculture

Main areas, &gt; 25 ha

Smaller agricultural area

③

Others

Park and green recreational

Dry or desertic vegetation

mangrove

Main summit

Umm al Na'san

Jabal al Dukhan  
134 m

Gulf of Bahrain

Hawar Islands

26 Draft - July 2016

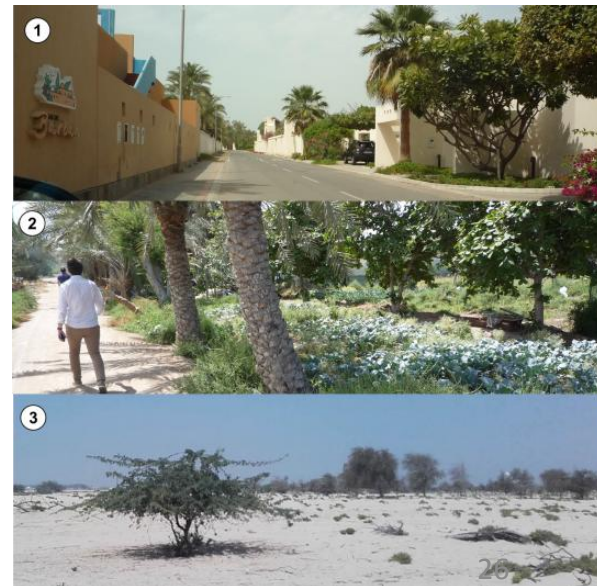
N 0 5 km

## THE GREENBELT

**What is the greenbelt made of?**

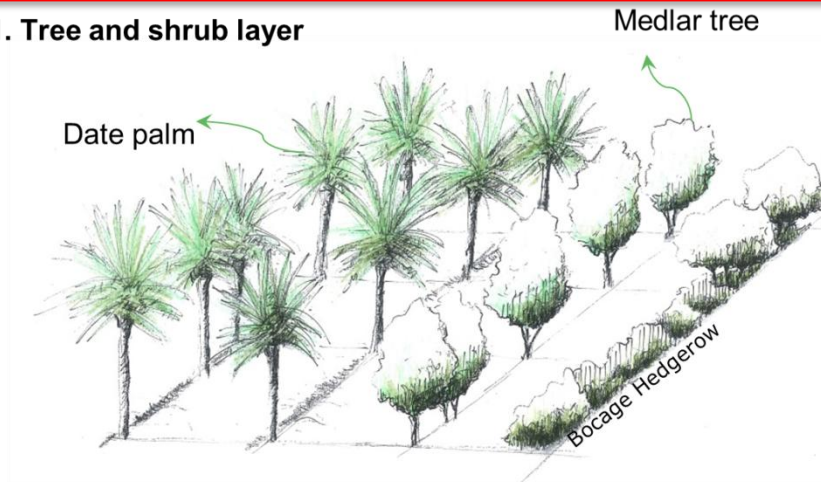
> The farming greenbelt has broken

> It includes different uses: palm groves, other crops, compounds and savana.

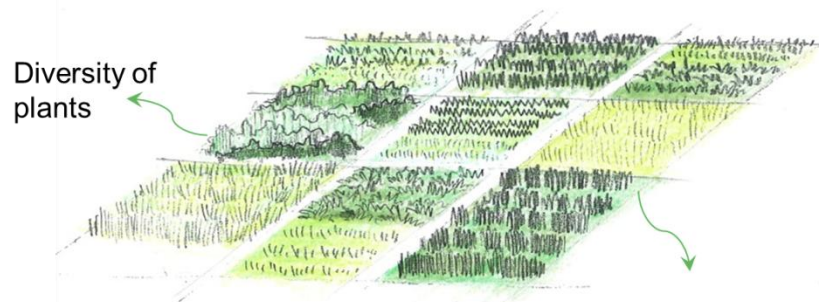




### 1. Tree and shrub layer



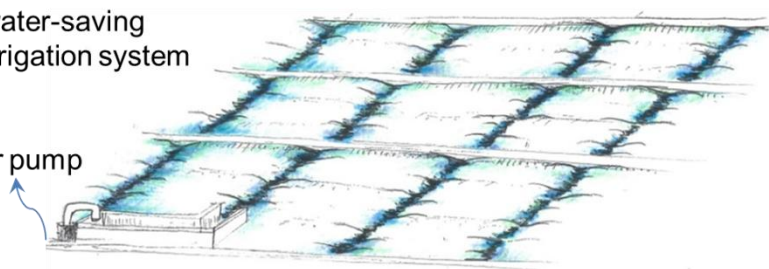
### 2. vegetable layer



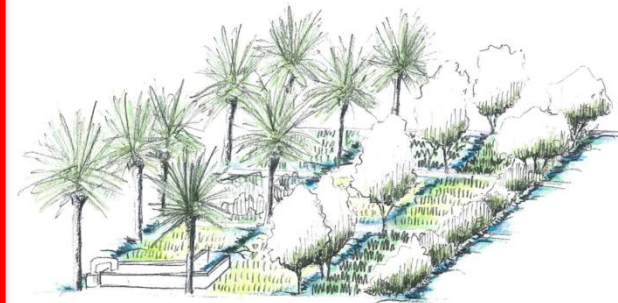
### 3. irrigation

water-saving  
irrigation system

Water pump



## THE GREENBELT





REVIEW OF ZONING  
CATEGORIES: WHAT CITY  
DOES IT MAKE?

## RHA / RHB

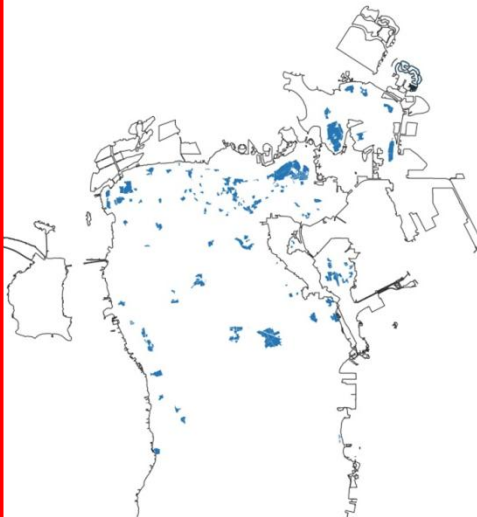
### Row housing A and B

**3.6 %**

of zoned  
lands

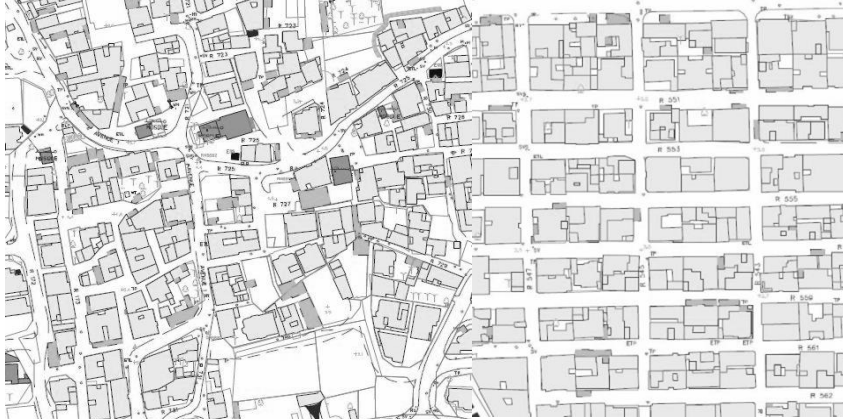
**Allowed uses:**  
residential

**Max height:** 13m  
**Building %:** 210 &  
300%



*Example in Isa Town area*





DO THE ZONING  
REGULATIONS ALLOW TO  
IMPLEMENT THE STRATEGY?

**RHA / RHB**  
Row housing A and B

**1. Few car park solutions  
in dense/historic areas.  
Do the regulations  
address this?**

**2. Core villages and row  
housing are under the  
same regulations. Do  
these rules allow to  
protect historic areas?  
(strategy 05).**

**3. Quality of urban  
facades?**

**Rules to encourage/keep  
neighborhood retail?**

**How to support  
refurbishment?**

REVIEW OF ZONING  
CATEGORIES: WHAT CITY  
DOES IT MAKE?

**RA / RB**  
Residential A&B

*Example in Tubli area*

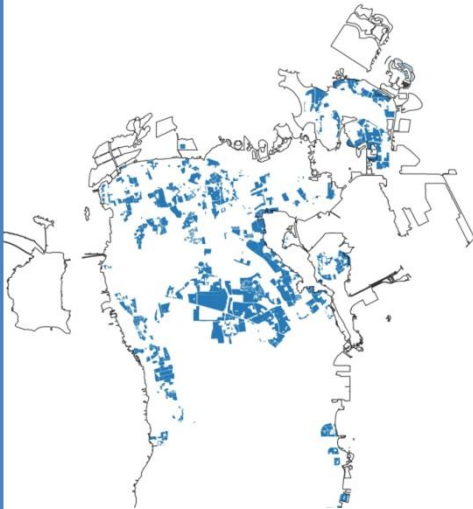
**13 %**

of zoned  
lands

**Allowed uses:**  
residential

**Max height:** 15m

**Building %:** 180%



DO THE ZONING  
REGULATIONS ALLOW TO  
IMPLEMENT THE STRATEGY?



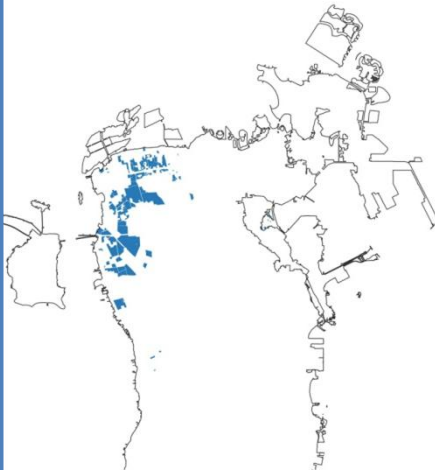


REVIEW OF ZONING  
CATEGORIES: WHAT CITY  
DOES IT MAKE?

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**3.3 %**  
of zoned  
lands

**Allowed uses:**  
residential  
**Max height:** 10m  
**Building %:** 55%



*Example in Barbar area*

DO THE ZONING  
REGULATIONS ALLOW TO  
IMPLEMENT THE STRATEGY?

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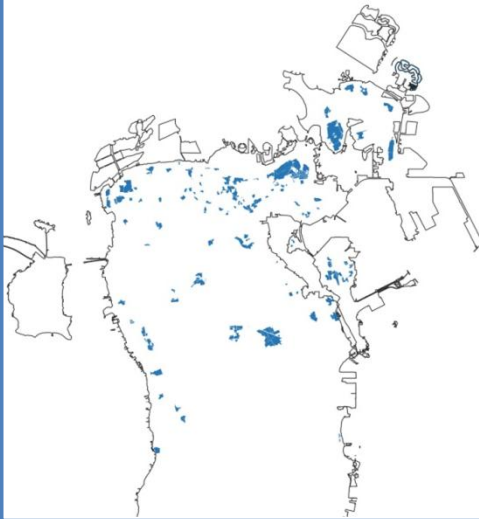


- 1. *Example: Yateem gardens*
- 2. *Example: Delmon av. in Adlyia*
- 3. *Example: British preparatory school in Saar*

REVIEW OF ZONING  
CATEGORIES: WHAT CITY  
DOES IT MAKE?

**1,1 %**  
of zoned  
lands

**Allowed uses:**  
residential,  
commercial,  
management  
**Max height:** not  
informed  
**Building %:** 1200 &  
750%



**BA / BB**  
Investment building  
A&B

*Example in Manama*



DO THE ZONING  
REGULATIONS ALLOW TO  
IMPLEMENT THE STRATEGY?

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**BA / BB**  
Investment building A&B

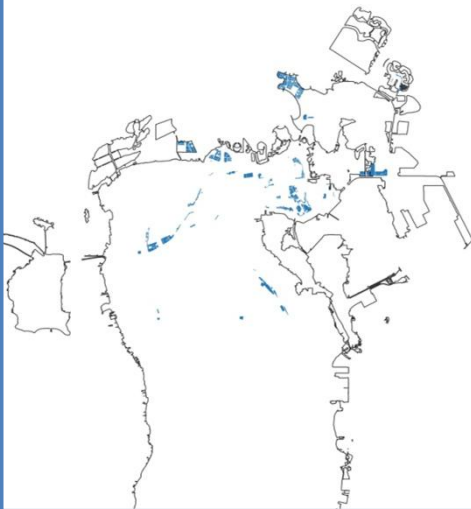


*Example in Manama*

REVIEW OF ZONING  
CATEGORIES: WHAT CITY  
DOES IT MAKE?

**1,5 %**  
of zoned  
lands

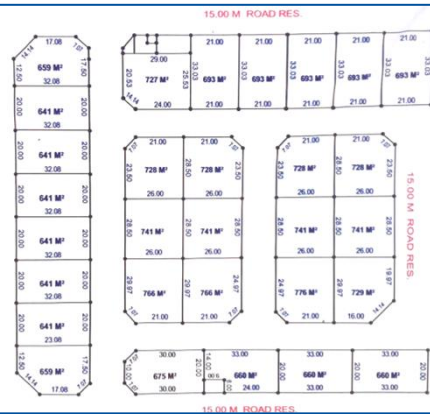
**Allowed uses:**  
residential,  
commercial,  
management  
**Max height:** not  
informed  
**Building %:** 500 &  
300%



**BC / BC**  
Investment  
building C&D

*Example in Hidd*

DO THE ZONING  
REGULATIONS ALLOW TO  
IMPLEMENT THE STRATEGY?





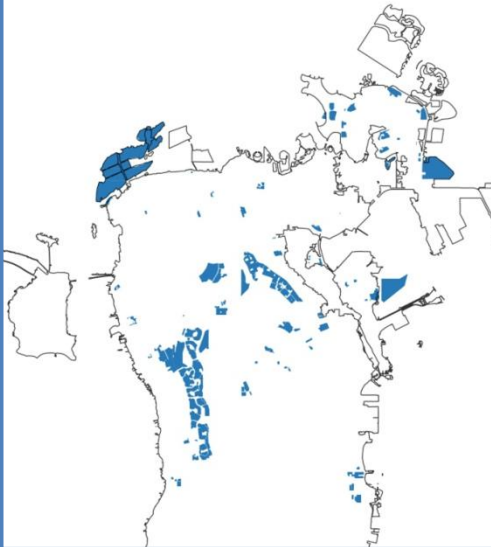
REVIEW OF ZONING  
CATEGORIES: WHAT CITY  
DOES IT MAKE?

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MOH

**7.6 %**  
of zoned  
lands

**Allowed uses:** not  
informed  
**Max height:** not  
informed  
**Building %:** not  
informed



DO THE ZONING  
REGULATIONS ALLOW TO  
IMPLEMENT THE STRATEGY?

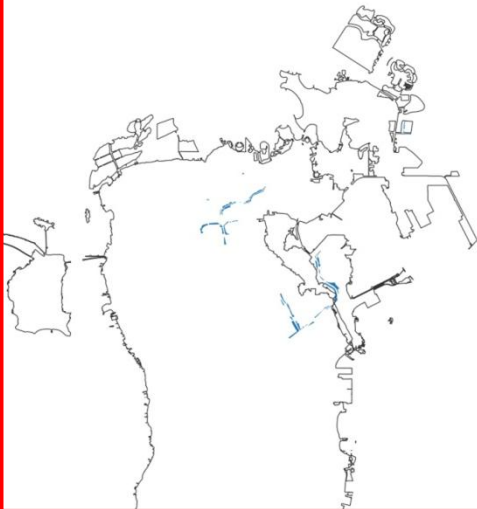
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*Example in New Salmabad*

**0.5 %**  
of zoned  
lands

**Allowed uses:**  
residential,  
commercial,  
management  
**Max height: 25m**  
**Building %:**  
300%



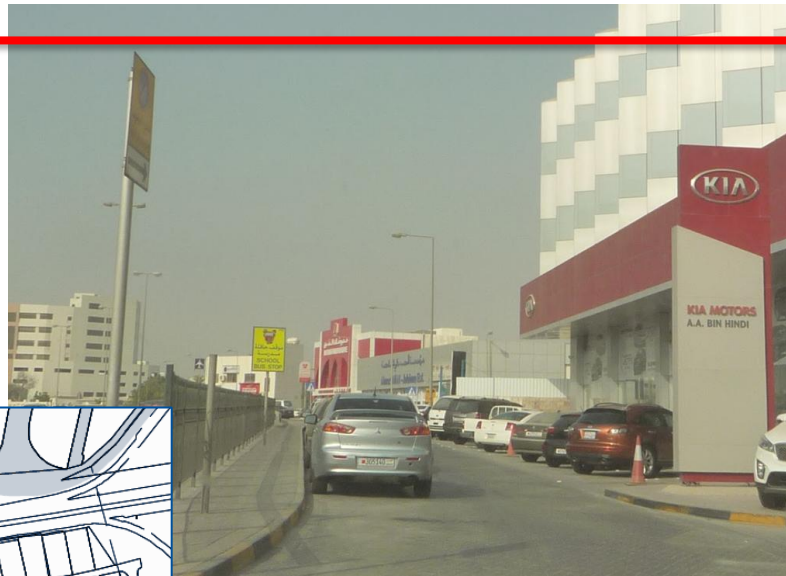
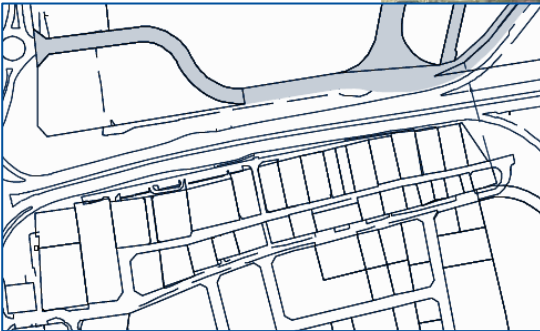
REVIEW OF ZONING  
CATEGORIES: WHAT CITY  
DOES IT MAKE?

**COM**  
Commercial  
showroom



DO THE ZONING  
REGULATIONS ALLOW TO  
IMPLEMENT THE STRATEGY?

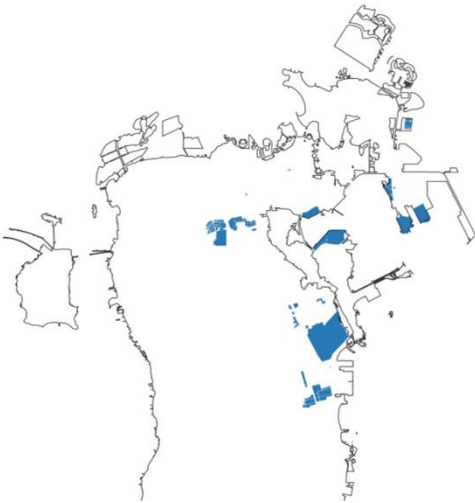
## COM Commercial showroom



REVIEW OF ZONING  
CATEGORIES: WHAT CITY  
DOES IT MAKE?

**3.7 %**  
of zoned  
lands

**Allowed uses:**  
industrial, stores,  
management,  
workers  
accommodation  
**Max height:** 24 &  
18m  
**Building %:**  
240 & 180%



**IND**  
Industrial projects,  
Light industry,  
Workshop and  
Maintenance services

DO THE ZONING  
REGULATIONS ALLOW TO  
IMPLEMENT THE STRATEGY?

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**IND**

Industrial projects, Light  
industry, Workshop and  
Maintenance services





**AL FATEH BAY**

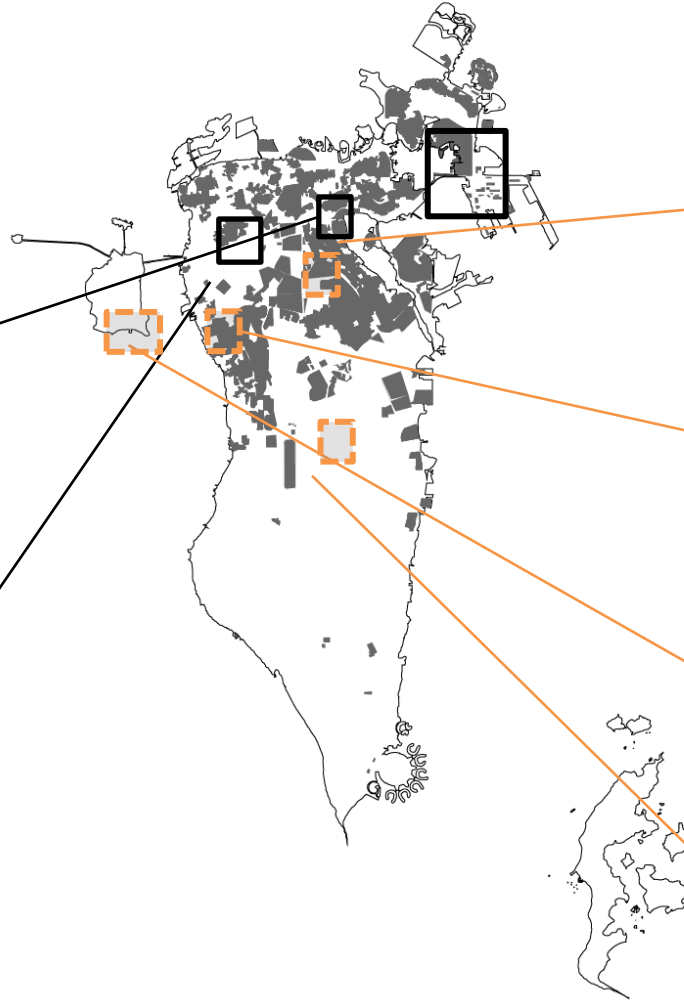
- waterfront
- public spaces
- soft mobilities
- programing
- architectural identities
- heritage

**MANAMA NORTH**

- waterfront
- public spaces
- transportation
- value through mobilities
- programing
- densification
- land management
- architectural identities
- heritage

**BARBAR**

- waterfront
- green frame
- public spaces
- programing
- densification
- proximity
- land management
- urban coherence

**OTHER PROPOSED SITES****GREEN BELT  
RESIDENTIAL PROJECT**

- green frame
- soft mobilities
- land management
- architectural identities

**GCC RAILWAY**

- soft mobilities
- programing
- proximity
- land management

**BAHRAIN GATE**

- architectural identity
- Landscape quality
- programing
- land management
- architectural identity
- Landscape quality

**RIFFA FORT**

- programing
- proximity
- land management
- architectural identities
- heritage
- urban coherence