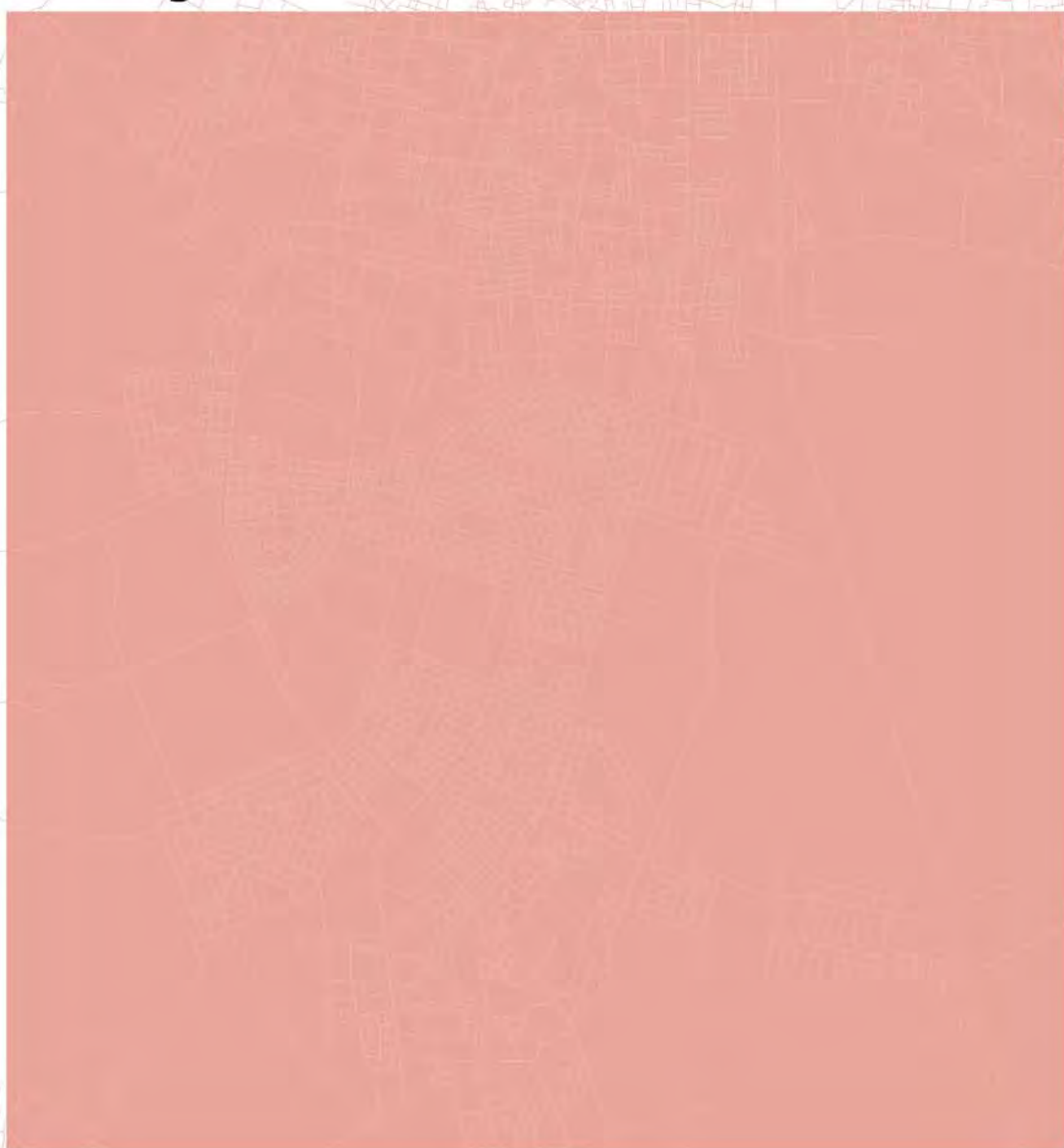


SKAKA

City Profile



Future Saudi Cities Programme
City Profiles Series: **Skaka**

© 2019. Ministry of Municipal and Rural Affairs King Fahd
National Library Cataloging-in-publication Data

Ministry of Municipal and Rural Affairs
Skaka City Profile. / Ministry of Municipal and Rural Affairs
Riyadh, 2019
..p ; ..cm

ISBN: 978-603-8279-28-1

1-Southern region (Saudi Arabia)- Description and travel

2- City planning- Skakah

I-Title

309.2625314 dc 1440/8321

L.D. no. 1440/8321

ISBN: 978-603-8279-28-1

© 2019. Ministry of Municipal and Rural Affairs and United
Nations Human Settlements Programme
All rights reserved.

Ministry of Municipal and Rural Affairs
P.O. Box : 935 - King Fahd, Riyadh, 11136
Tel: 00966114569999
www.momra.gov.sa

United Nations Human Settlements Programme
(UN-Habitat)
P.O. Box 30030, 00100 Nairobi GPO KENYA
Tel: 254-020-7623120 (Central Office)
www.unhabitat.org



وزارة الشؤون
البلدية و القروية
Ministry of Municipal & Rural Affairs

مستقبل المدن السعودية
FUTURE SAUDI CITIES



UN HABITAT
FOR A BETTER URBAN FUTURE

Disclaimer

The designations employed and the presentation of the material in this publication do not imply the expression of any opinion whatsoever on the part of the Secretariat of the United Nations concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. Views expressed in this publication do not necessarily reflect those of the Ministry of Municipal and Rural Affairs, the United Nations Human Settlements Programme, the United Nations or its Member States.

Excerpts may be reproduced without authorisation, on condition that the source is indicated. ACKNOWLEDGEMENTS

City Profiles Series Editors:

Herman Pienaar
Salvatore Fundarò
Costanza La Mantia

Contributing Authors:

Luis Angel Del Llano Gilio (urban planning & design)
Pinar Caglin (content editor)
Dennis Mwawati (regional planning)
Anne Klen-Amin (legal & governance)
Samuel Njuguna (legal & governance)
Dr. Emad Qurunflah (legal & governance)
Giuseppe Tesoriere (economy & finance)
Elizabeth Glass (economy & finance)
Mario Tavera (GIS)
Solomon Karani (GIS)

Layout Design:

Hai Anh Nguyen

Cover Page:

UN-Habitat

The Future Saudi Cities Programme is a jointly implemented project managed by the Deputyship of Town Planning of the Ministry of Municipality and Rural Affairs of the Government of the Kingdom of Saudi Arabia and the United Nations Human Settlements Programme (UN-Habitat).

For UN-Habitat:

Mr. Robert Lewis-Lettington
Mr. Ayman El-Hefnawi
Ms. Manka Bajaj

SKAKA

سكاكا



FUTURE SAUDI CITIES PROGRAMME

CITY PROFILE



Contents

1 INTRODUCTION	9
1.1 <i>About the Future Saudi Cities Programme</i>	10
1.2 <i>Saudi initiatives for sustainable urban development.....</i>	10
1.3 <i>Objectives of the City Profile Report.....</i>	10
1.3.1 <i>Scope of the city profile</i>	10
1.3.2 <i>Objectives of the city profile.....</i>	10
1.4 <i>City Profile Methodology.....</i>	12
1.4.1 <i>Evidence based input approach.....</i>	12
1.4.2 <i>The reviews.....</i>	13
1.4.3 <i>The City Prosperity Index assessment report.....</i>	13
1.4.4 <i>The GIS spatial analysis.....</i>	13
2 NATIONAL AND REGIONAL SPATIAL CONTEXT	15
2.1.1 <i>Historical background</i>	16
2.1.2 <i>Geography and location.....</i>	16
2.1.3 <i>Demographic background.....</i>	16
2.1.4 <i>Socio-economic background</i>	16
2.1.5 <i>National Connectivity.....</i>	18
2.2 <i>Regional Development Patterns and Dynamics.....</i>	20
2.2.1 <i>Regional organisation.....</i>	20
2.2.2 <i>Regional structure and resources.....</i>	21
3 GOVERNANCE AND FINANCIAL FRAMEWORK.....	29
3.1 <i>Skaka’s Legal and Institutional Context.....</i>	30
3.2 <i>Planning Instruments and Procedures</i>	32
3.2.1 <i>Hierarchy of plans - Skaka.....</i>	32

3.2.2 Regional and Sub-regional Plan for Al Jouf Region	32
3.2.3 The Skaka Plan.....	32
3.2.4 The Skaka Urban Growth and Development Protection Boundaries	36
3.2.5 Land Subdivision Plans	40
3.3 The Institutional Context	41
3.3.1 Urban institutions in KSA	41
3.3.2 Regional context: Al Jouf Region	41
3.3.3 Local context: Skaka.....	42
3.3.4 Legal and institutional implications for Skaka	42
3.4 Financial Context.....	44
3.4.1 Financial system	44
3.4.2 Municipal revenue.....	45
3.4.3 Financing municipal operating costs	45
3.4.4 Capital financing for municipal development.....	45
4 THE CURRENT CITY.....	49
4.1 Urbanisation Patterns	50
4.1.1 The city's development patterns	50
4.1.2 Administrative boundaries.....	54
4.1.3 Urban density.....	56
4.1.4 Land use	58
4.1.5 Vacant land.....	62
4.2 Structuring Elements	64
4.2.1 Major infrastructure and economic nodes	64
4.2.2 Natural and topographic elements	66
4.2.3 Informal settlements	70

4.2.4 Movement and accessibility.....72

4.2.5 The Skaka Plan.....76

4.3 Urban Density Scenarios.....78

5 STRATEGIC DIAGNOSIS 81

5.1 Identifying and Defining Main Strategic Issues.....82

5.1.1 Unbalanced growth and development patterns.....82

5.1.2 Monofunctional and polarised development.....82

5.1.3 Socio-ecological and economic imbalance.....82

5.2 Analysing Skaka’s Three Issues in Depth84

5.2.1 Skaka’s unbalanced growth and development patterns.....84

5.2.2 Skaka’s monofunctional and polarised development86

5.2.3 Socio-ecological and economic imbalance in Skaka88

6 THE FUTURE CITY 91

6.1 Strategic Responses.....92

6.1.1 The Compact City.....92

6.1.2 The Inclusive City.....92

6.1.3 The Resilient City.....92

6.2 Appropriate Models for Skaka’s Urban Development94

6.2.1 The Compact City: Consolidating and densifying development in Skaka94

6.2.2 The Inclusive City: Rebalancing access to services and opportunities in Skaka.....96

6.2.3 The Resilient City: Rebalancing98

6.3 An Action Plan for Skaka..... 100

6.3.1 From strategy to action	100
6.4 Three Systemic Actions for Structural Change.....	102
6.4.1 Action 1: Establish a central spine for public transport system	102
6.4.2 Action 2: Implement strategic densification and create new centres	104
6.4.3 Action 3: Establish a strong socio- ecological system including heritage.....	106
7.1 Spatial Recommendations	110
7.1.1 A strategic view of the Al Jouf Region	110
7.1.2 Toward Skaka, a Sustainable	112
7.2 Institutional and Legal Recommendations.....	114
7.3 Financial Recommendations	116
8 ANNEX	119
8.1 Picture Credits.....	120
8.2 List of Figures.....	121
8.3 Notes and References.....	122

INTRODUCTION



2.1 About the Future Saudi Cities Programme

The Future Saudi Cities Programme is a joint programme developed by the Saudi Ministry of Municipal and Rural Affairs (MoMRA) and UN-Habitat, implemented in close cooperation with the municipalities of 17 major Saudi cities. The cities have been selected based on their different population sizes, geographic distribution, and a range of criteria based on capacities and economic potential to create a more balanced regional development among the cities of Saudi Arabia. The chosen cities include Riyadh, Makkah, Jeddah, Taif, Madinah, Tabuk, Dammam, Qatif, Al-Ahsa, Abha, Najran, Jazan, Hael, Arar, Al Baha, Buraidah, and Skaka.

After undertaking city-level reviews in the 17 cities, five cities were chosen as a representative cross-section, for in-depth analysis. The city-level reviews considered the linkages between urban and territorial planning by examining the city within the relational context of its sub-region and exploring specific issues at the neighbourhood level. These reviews, when referenced with City Prosperity Index reports and validation processes in the Rapid Planning Studio workshops, were used to extrapolate strong, evidence-based conclusions that relate to the planning system as a whole.

Applied research, with a strong focus on action-oriented conclusions, was used to collect evidence to diagnose the strengths and weaknesses of the planning system and local planning practices in each city. The methodology utilised design tests and demonstration projects as avenues to apply and analyse potential solutions, before concluding on policy recommendations.

UN-Habitat's three-pronged approach considers spatial planning in relation to legal and institutional frameworks, in addition to financial mechanisms. In this way, success criteria for the sustainable implementation of a spatial plan should include flexible but enforceable rules and regulations, in addition to a financing strategy and projections.

As a pragmatic explication of this approach, three local demonstration projects, representing essential elements of a strengthened and improved planning system, have been developed. These were elaborated to include schematic designs and feasibility studies, that can later be transformed into implementation plans. Such implementation plans are projected to be undertaken by MoMRA, in collaboration with other partners in the Kingdom. In order to facilitate this process, a joint "FSCP Urban Lab" was created as a vehicle to strengthen endogenous capacities and to develop tailored tools, and instruments. The Lab, composed of international expertise from the planning, legal and economy branches of UN-Habitat Nairobi office, has been working with Saudi-based staff in the UN-Habitat Riyadh office (selected by MoMRA), to enhance knowledge exchange and to apply a learning-by-doing method to the programme.

As such, all 17 cities have been simultaneously engaged in a capacity-building strategy that included foundational learning, and 'on the job' training, culminating in Saudi-specific advanced training. This training was based on the planning-system conclusions and recommendations, that the FSCP produced. Thus, the Urban Lab functions as a tool to generate evidence whilst additionally strengthening capacities through a process of learning-by-doing.

2.2 Saudi initiatives for sustainable urban development

The Saudi Government, along with the respective Ministries, and in line with a larger country-wide transformation process, has made several efforts aimed at the sustainable development of its growing cities. These contributions vary from plans at the national level, like the National Spatial Strategy (NSS), to strategies and plans at the regional level, cutting across various sectors towards realising Vision 2030. The FSCP recognises these efforts as positive, supporting Vision 2030 goals to realise a sustainable urban environment for the Kingdom of Saudi Arabia. The FSCP acknowledges and builds upon the current tools, plans, and strategies as part of a comprehensive assessment and suggests variations and improvements where appropriate.

2.3 Objectives of the City Profile Report

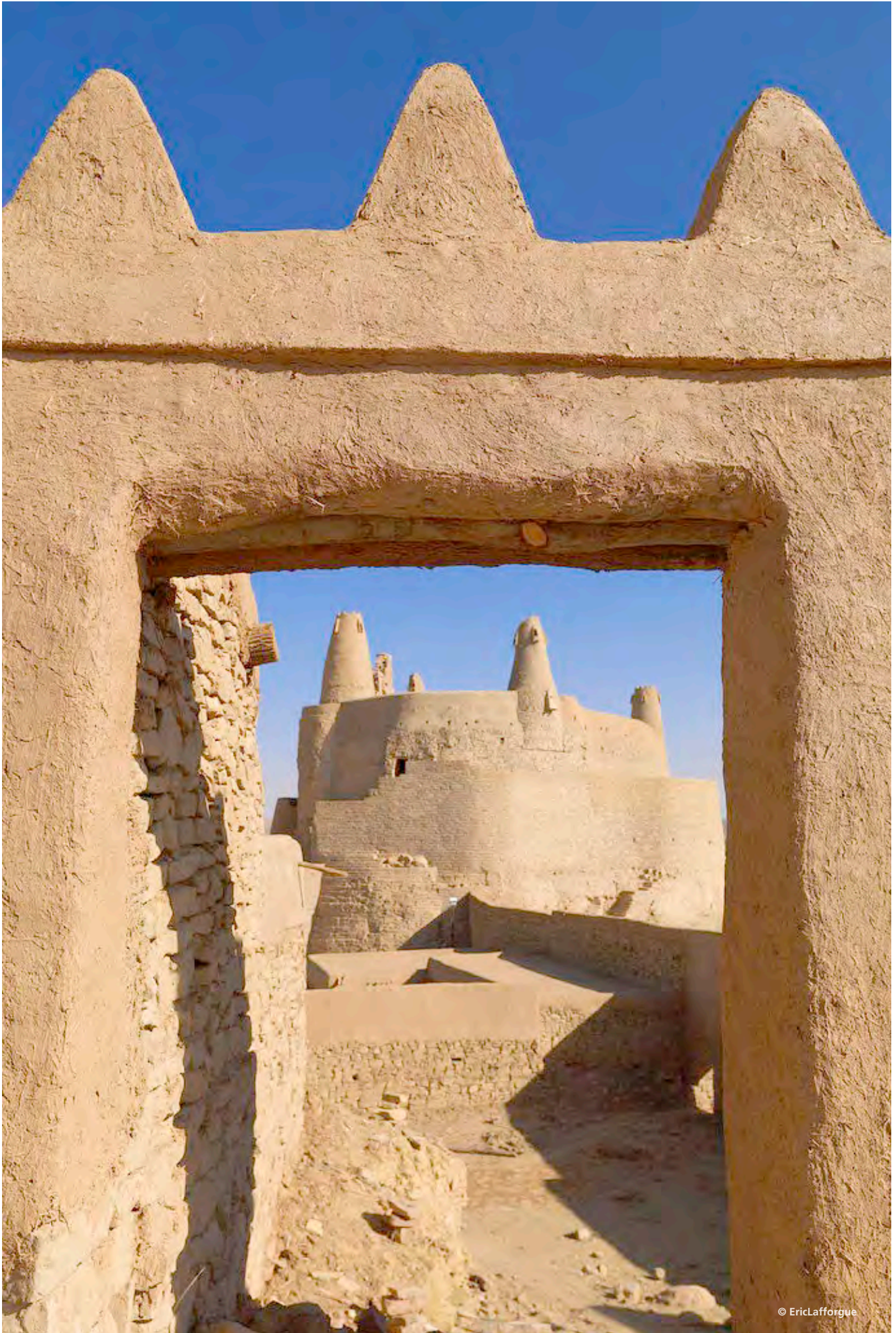
2.3.1 Scope of the city profile

The city-profile combines MoMRA's new strategy, with a review of existing studies, plans, and strategic documents, such as the review of the Kingdom of Saudi Arabia (KSA) National Spatial Strategy (NSS) to identify and address the root causes of problematic conditions outlined in the preliminary findings. The report acknowledged low uptake of the NSS by regions, utilities and ministries, as a key weakness. The issue of horizontal (sectors) and vertical (scales) integration is thus a key challenge that the FSCP aims to address going forward.

Policy recommendations for improving urban planning frameworks and practice shall be structured through a multi-scalar lens, considering the city as a continuum in the urban fabric, that should grow from the neighbourhood to the wider city-region, whilst influenced by dynamics and regulations at the national and supranational levels. This ensures that policy recommendations for these cities do not operate in isolation from the city's envisioned role in the administrative region and the national system of cities.

2.3.2 Objectives of the city profile

The City Profile Report brings together diagnostic urban analysis and aligns that analysis with the UN-Habitat sustainable development framework and the Saudi Vision



© EricLafforgue

Heritage sites in Al Jouf

2030. It performs as a thinking tool that constitutes together an assessment tool and guidance for the current and future planning of the city, whilst defining a clear strategy for sustainable development.

The definition of an ad-hoc strategy is rooted in an evidence-based approach to the issues, building upon both primary and secondary data collection and analysis. The profile, as well as the Programme as a whole, uses the data collected by the City Prosperity Initiative (CPI), to identify significant trends and challenges at the city level. This evidence is then combined with reviews of existing planning documents, and cross-referenced with multi-scalar GIS spatial analysis, to define the above-mentioned ad-hoc strategy.

2.4 City Profile Methodology

2.4.1 Evidence based input approach

The evidence-based planning approach creates a deeper understanding of the spatial dynamics of the urban area, by combining and comparing urban datasets such as demographics, density, land use, natural features, and accessibility analysis.

The evidence (data) is reflected in the form of indicators that can be compared with best practice standards and benchmarks

for sustainable urban development. Not only does this provide a clear perspective on the main developmental issues, but it also quantifies the projected effect of future development proposals on the indicators applied in the analysis.

The programme recognises that the methodology, on which policy recommendations guiding improvements and adjustments in the planning system are based, needs to be evidence-based. For this purpose, different methods were integrated to first provide the necessary body of evidence on which to build an understanding, and full assessment of issues before making recommendations for the respective cities. The elements constituting the evidence-based approach are primarily constituted of the followings:

- Reviews of existing policy documents and plans;
- CPI index;
- GIS spatial analysis.

All of these elements are utilised in a cross-scalar diagnostic methodology that incorporates quantitative and qualitative evidence. The method used to generate evidence-based policy recommendations, which develops capacities and engages stakeholders in all 17 cities, provides conclusions derived from both top-down and bottom-up approaches, cross-cutting all scales of planning.



The Mayor of Skaka at the UN-Habitat workshop

By analysing how the structures of spatial, socio-environmental and economic issues interact at different scales of influence, the diagnostic methodology moves from the national to the neighbourhood scale, tracking the interdependencies within the city's physical development patterns, and seeking to decrypt the reasons behind them.

2.4.2 The reviews

Several reviews of existing policy documents and plans were undertaken with the purpose of a) extracting information useful to the understanding of the context, and the city itself, and b) assessing their contents based on three criteria: content relevance, process integration, and effectiveness. The reviews focused on assessing the:

- National Spatial Strategy;
- Al Jouf Regional Plan;
- Skaka Sub-regional Plan;
- Skaka Structural Plan;
- Skaka Local Plan.

2.4.3 The City Prosperity Index assessment report

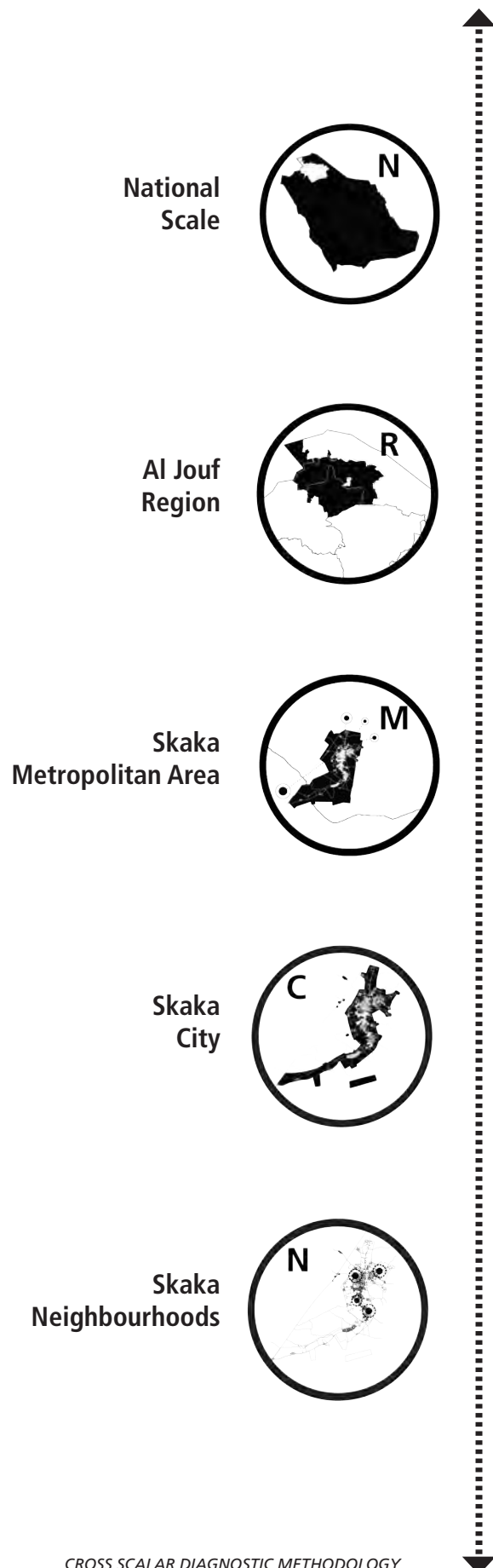
The City Prosperity Index is made up of six dimensions that serve to define targets and goals that can support the formulation of evidence-based policies. These include the definition of city-visions and long-term plans that are both ambitious and measurable. The six dimensions are:

- Productivity;
- Infrastructure;
- Quality of life;
- Equity and inclusion;
- Environmental sustainability;
- Governance and legislation.

These dimensions have been assumed as guiding principles in the spatial assessment of Skaka. There are ten detailed spatial indicators at the FSCP city profile level that link into the 72 flexible indicators of the CPI assessment.

2.4.4 The GIS spatial analysis

The spatial reflection of the above indicators highlights detailed patterns of development and the interactions and dynamics associated with movement, densities, and land use within the urban system. This process enables a dynamic understanding of the physical expressions of weaknesses and strengths in the urban system and the main issues to be addressed. The effect of proposals for future development can also be assessed by use of the same indicators.



NATIONAL AND REGIONAL SPATIAL CONTEXT

2





3.1 The Region’s Role in the Kingdom of Saudi Arabia

3.1.1 Historical background

The Al Jouf Region is distinguished as an area of rich civilization with great cultural and archaeological heritage, where visitors can discover historical diversity of different periods of time and the prehistory eluding to signs of stability in the region. The advantage enjoyed by Al Jouf Region is its location, situated at the entrance of the Al Sarhan Valley, as well as serving as a gate to the Arabian Peninsula when coming from Iraq and Syria. This has made the region an important partner in the trade movement, which flourished before the introduction of Islam. Also, the Al Jouf Region is present in the history of the Assyrian cities as there exist written texts in detail mentioning its history, dating back to the eighth and seventh centuries BC.

3.1.2 Geography and location

Skaka City is located at the Northern tip of the Greater Nafud Desert, spreading over an area of approximately 100 square kilometres. The city is located 980 kilometres North of Riyadh and 1,286 kilometres North of Jeddah. The city of Skaka has a desert climate, and there is either very little or virtually no rainfall during the year. Most precipitation falls in April, with an average of 13mm. The average annual temperature is about 22.6 °C. During winter, the lowest temperature is about

15 °C, and the highest in summer is about 40 °C. The city is located 566 metres (1,857 ft.) above sea level.

3.1.3 Demographic background

According to the estimation of the Central Department of Statistics and Information, the total population in the Al Jouf Region is about 495,000 inhabitants, which accounts for 1.6% of the Kingdom’s total population, which was 30.8 million people in 2014. The Skaka Governorate hosts the city of Skaka, which has a population of 282,150 inhabitants, corresponding to about 57% of the total population of the Al Jouf Region, whereas the city of Skaka had a population of approximately 190,000 inhabitants in 2017. The number of Saudi population in Skaka is about 70% of the total city population, while the number of persons per household is 5.5.¹

3.1.4 Socio-economic background

The city of Skaka is famous for its hand-woven carpet industry. The city of Doumat Al Jandal, which is located about 20 kilometres to the West of Skaka, has numerous orchards and agricultural fields, which are surrounded by high mountainous

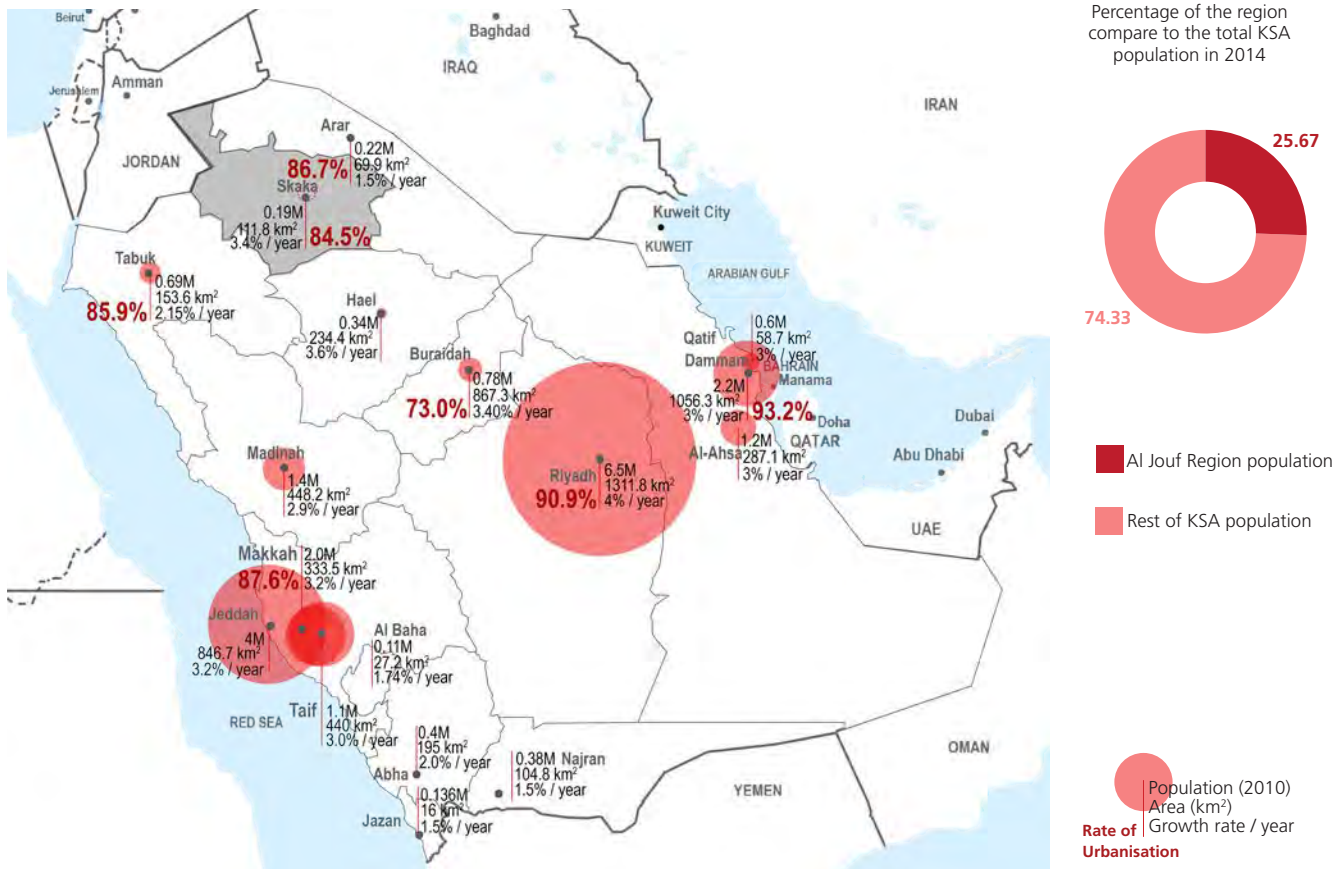


Fig. 1. Population distribution, growth rate and urban areas within the Kingdom of Saudi Arabia

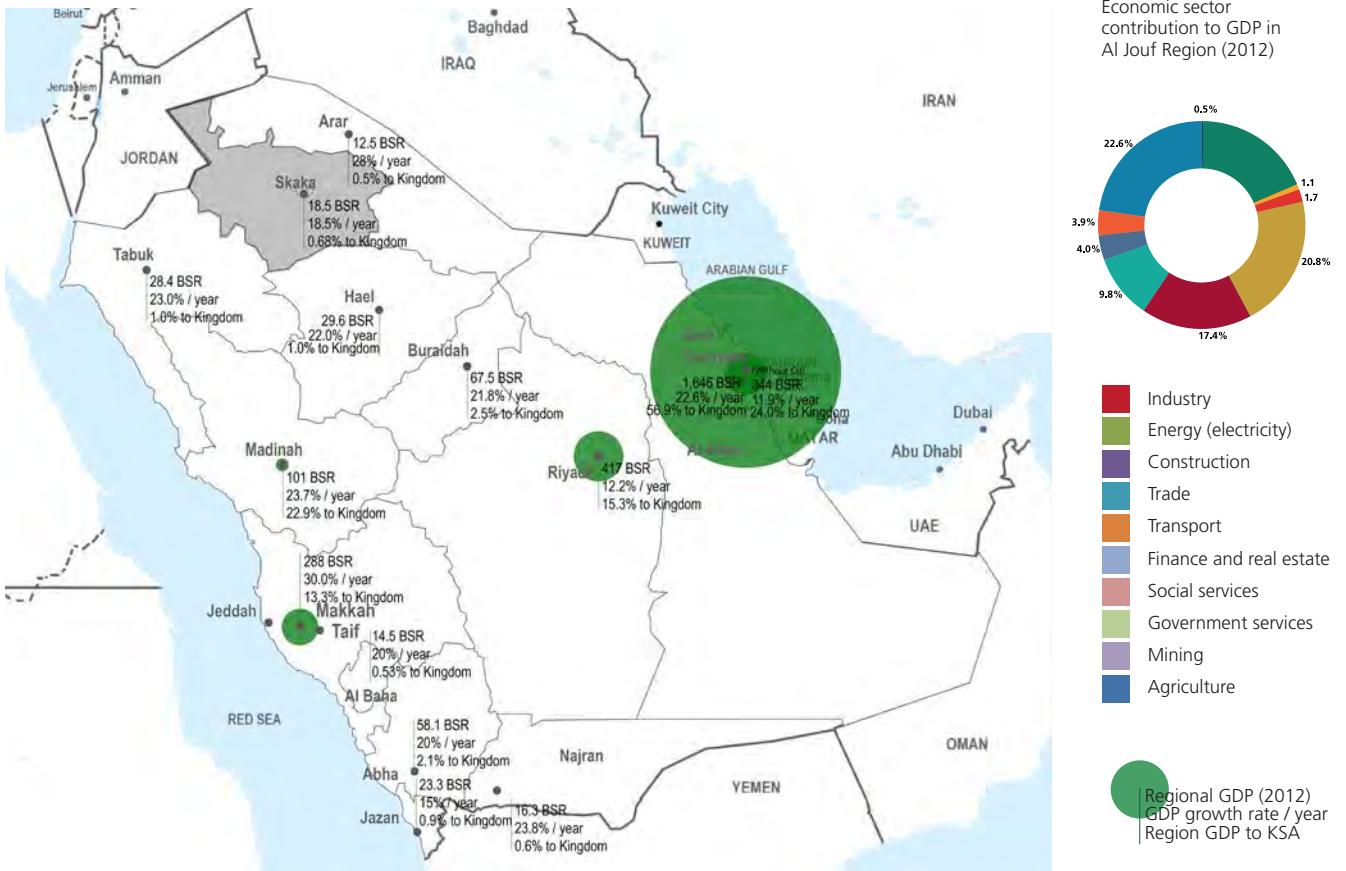


Fig. 2. Regional Gross Domestic Product and economic sector contribution

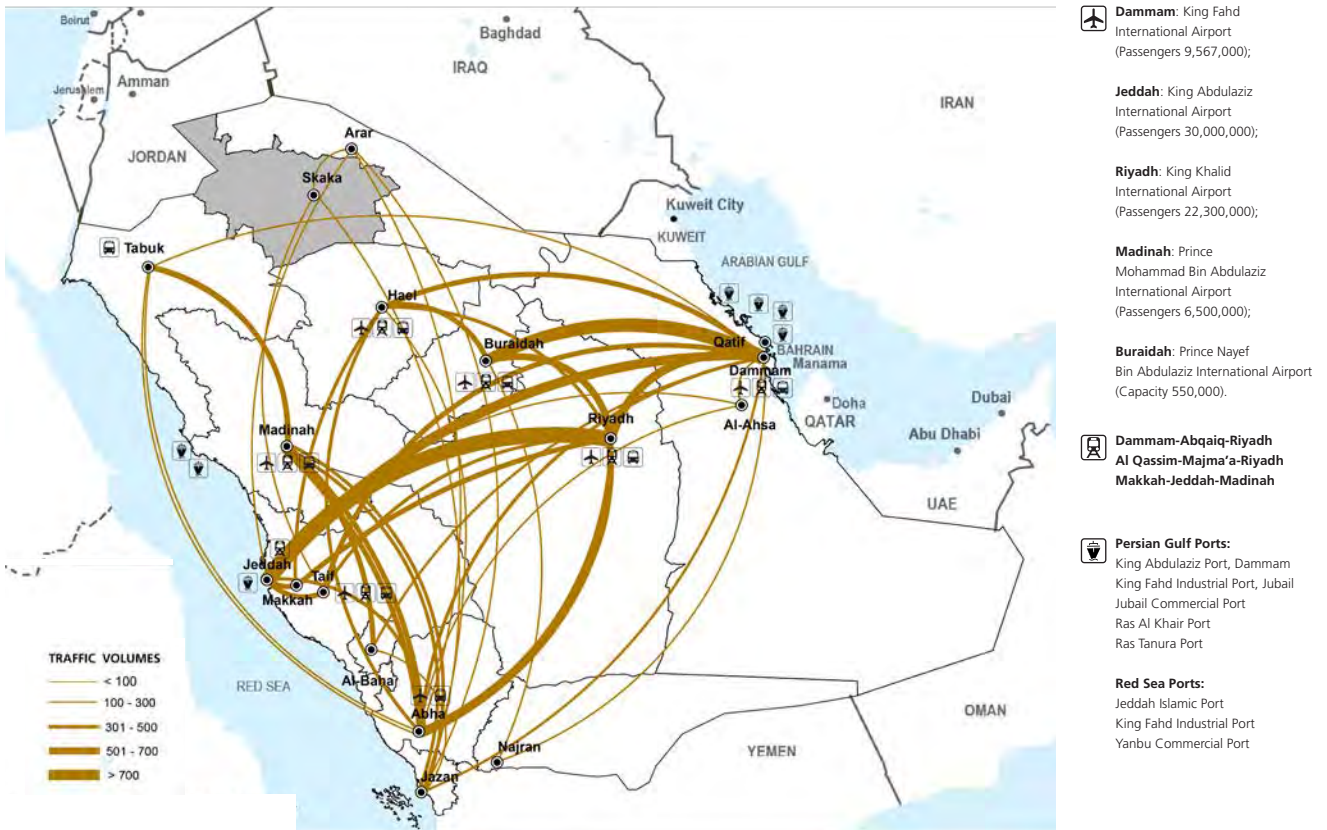


Fig. 3. Transport connectivity between Saudi cities



slopes. Doumat Al Jandal is also famous for the manufacturing of swords, daggers, and carpets. The Al Jouf Region produces large amounts of wheat and grows around 230,000 dates trees. Skaka is the trading hub of all the produce in the region.

Gross Domestic Product

The total GDP of the Al Jouf Region amounted to 18.5 billion riyals in 2012, representing 0.7% of the total GDP of the Kingdom and 1.3% of the GDP of the Kingdom without the crude oil and gas. The average annual growth rate of the region's GDP increased to about 18% during the period from 2009 to 2012. Due to the increase in the value of GDP of the Al Jouf Region, the average annual growth rate during the period from 2009 to 2012 amounted to 18%.² The building and construction sector ranks first in terms of contribution of the industrial sectors in the region with 20.8%, followed by the agriculture sector with 18.1%, trade sector by 17.4%, transport, storage, and communications with 9.8% and the real estate and financial service sector at 4.0%.³

3.1.5 National Connectivity

In addition, the Al Jouf Region is located at the intersection of the international movements from the East to the West and from the North to the South. The axis of Arar-Skaka-Tabuk-Daba is an international axis linking the land movement between the Arabian Gulf and North Africa, which connects the Arabian Gulf and the Kingdom of the Levant through Jordan and Syria. Equally, the Al Haditha port is the largest

land port in the Kingdom. This spatial importance provides a comparative advantage for the region in trade exchange and free trade zones that can be developed in the region.

Air transport

In the Al Jouf Region, there are two regional airports; one in the city of Skaka and the other in Al Qurayyat. The two airports serve the geographical scope of the region by transporting passengers and goods and links the region at the national level. The number of passengers using the two airports in 2011 and 2012 amounted to 448,000 and 476,000 passengers respectively, accounting for slightly more than 1% and of the total air traffic of passengers in the Kingdom, which on the two years mentioned above amounted to 33.6 and 38.5 million passengers respectively. The quantities of goods transported via air through the two airports in 2011 and 2012 amounted to 900,000 or about 0.2% of the total air cargo traffic in Saudi Arabia, which was around 536,000 and 465,000 tonnes during the two years mentioned above. The movement of air transport in the Al Jouf Region is considered to be one of the most important and fundamental pillars on which the present and future economic development projects will rely on.⁴

Railways Transport

Recently, the railway service has been introduced in the Al Jouf Region by the launch of the operation of the new railway line (North-South Line), which composed of two main lines. The first line begins from Riyadh and extends to the Northwest



Local agricultural practices in Skaka



© blogunik.com

Restored heritage site at the city centre of Skaka



towards Al Haditha, near the Jordanian border, passing through Al Qasim, Hael, and Al Jouf Regions. The second line starts from the middle point of Riyadh – Al Haditha line to Al Zubayrah towards the North, passing through the bauxite ore locations at Al Zubayrah, to the treatment and exportation facilities in Ras Al Khair Industrial City at the shores of the Arabian Gulf. The project includes the construction of various branch lines.

One of the branch lines will begin from the main line of Al Haditha–Riyadh to the Al Jalamid Region towards the Northwest side of the Kingdom to serve the phosphate plants in this area. Another branch will be constructed to serve the agricultural area of Al Basita in the Al Jouf Region. An alternative branch line will begin from the main line, which links Al Zubayrah and Ras Al Khair to serve the bauxite mines in the Al Zubayrah Region, in addition to another branch line to serve Al Jubail Industrial Area on the shores of the Arabian Gulf. The total length of the (North – South Line) is estimated to be about 2,400 kilometres, in addition to the lines extending to the storage areas, yards, maintenance points, stations, and administrative facilities.

The total cost of the railway line is estimated to be more than 12 billion Riyals. There will be six stations for passengers transport at the North – South Line, distributed along the route, which are King Khaled International Airport station in Riyadh, Almojamaa, Al Qassim, Hael, Al Jouf, and Al Haditha stations. The operation of the industrial section of the project started

in the last quarter of 2011. This section is aimed to transport minerals from Hazm Al Jalamid and Al Zubayrah mines to the treatment plants in Ras Al Khair, North of Al Jubail City. The line is composed of nine stations for goods transportation distributed along the route covering Riyadh, Sedair, Al Qasim, Hael, Al Jouf, Al Basita, Ras Al Khair, Al Jubail, and Al Haditha. The line will also be used for transportation of phosphate and bauxite ores from the Northern and central parts of the Kingdom to the treatment and mining facilities in Industrial Ras-Al-Khair at the Arab Gulf.⁵

3.2 Regional Development Patterns and Dynamics

3.2.1 Regional organisation

Administrative Boundaries

The Al Jouf Region is located in the Northern part of Saudi Arabia. The region is surrounded by Northern Borders Region, in the North, and from the South, by Hael and Tabuk Regions, and by Jordan, from the West. The area of the Al Jouf Region is about 70,000 square kilometres, which corresponds to 3.1% of the total area of the Kingdom. The region is divided administratively into the Principality of Region and three governorates: Skaka, Al Qurayyat, and Daumat Al Jandal.

According to the estimation of the Central Department of Statistics and Information, the total population in the Al Jouf Region is 495,000. The Saudi population in the region is

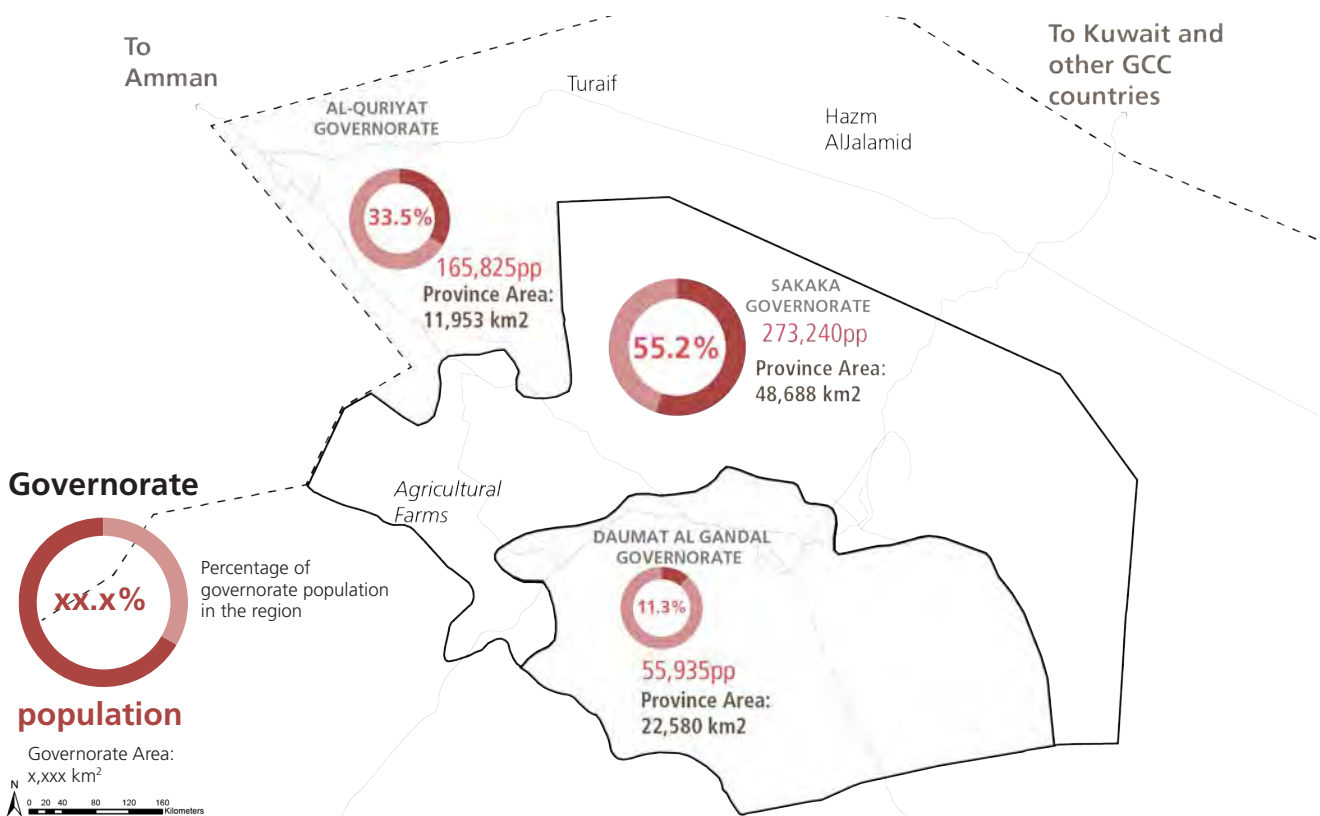


Fig. 4. Population distribution in the governorates according to 2010 census



3.2.2 Regional structure and resources

estimated to be 386,000 people against 109,000 non-Saudis. The Skaka Governorate has the majority of the population in the region, hitting 55.2% of the total, followed by the governorate of Al Qurayyat with 33.5%, and Dumat Al Jandal with 11.3%. Skaka City, which is the largest city in the Al Jouf Region (100 square kilometres), is the administrative capital and home to the headquarters of the Emirate of Al Jouf. It includes the seat of the Governor, the local council, and branches of various governmental departments. The city and the entire Al Jouf Region is Saudi Arabia's Northern gateway, linking Syria and Iraq to the Arabian Peninsula.

Development Corridors

The NSS designates Skaka as a National Growth Centre, while Doumat Al Jandal and Al Qurayyat as regional growth centres. There is a strong synergy between Skaka and neighbouring national growth centre Arar, as this corridor is one of the pillars of economic development in the Al Jouf Region. The Al Jouf Region hosts the highway connecting Kuwait and other GCC countries to the other Arab States located in the North of the Kingdom, including Iraq, Jordan, Syria, Lebanon, and Palestine. A significant portion of trade movement between the Kingdom and each of these countries passes through this region, in addition to the pilgrims and travellers coming from them. Furthermore, there is a strong connection to the South towards Tabuk, as well as the agricultural farms South and West of Skaka City. In the Northwest, the dry port of Al Haditha is located and considered one of the biggest in the Kingdom.

Movement Infrastructure

Skaka City is well-connected to other urban centres by highways, as well as air transportation by the Al Jouf Domestic Airport 30 kilometres South, and the Al Qurayyat Regional Airport 360 kilometres Northwest.

The total length of paved roads, controlled by the municipalities in the Al Jouf Region is around 2,900 kilometres, accounting for 3.2% of the total roads in the Kingdom. These are controlled by the Ministry of Municipal and Rural Affairs, which stretched to more than 91,000 kilometres at the end of 2012. The length of highways, dual, and single roads are controlled by the Ministry of Transport in the region and is 724 kilometres long, which constitutes less than 5% of the total length of the roads in the Kingdom, which amounted to 16,000 kilometres at the end of 2012. The region is currently witnessing new projects and expansions in the road network, in addition to the roads linking the region with other regions. There are several roads under construction in the Al Jouf Region, such as the execution of the crossings of the regional road with Skaka - Dumat Al Jandal, and the crossing of the triangle of Abu Agram.

The area is also linked to a regional railway line, where the station is located halfway between the cities of Skaka and Doumat Al Jandal. The railway line is 1,250 kilometres long and starts from Al Qurayyat and passes through Al Jouf, Hael, and Al Qasim Regions and terminates in Riyadh, with extensions to Hazm Al Jalamid to haul phosphate, and to Al

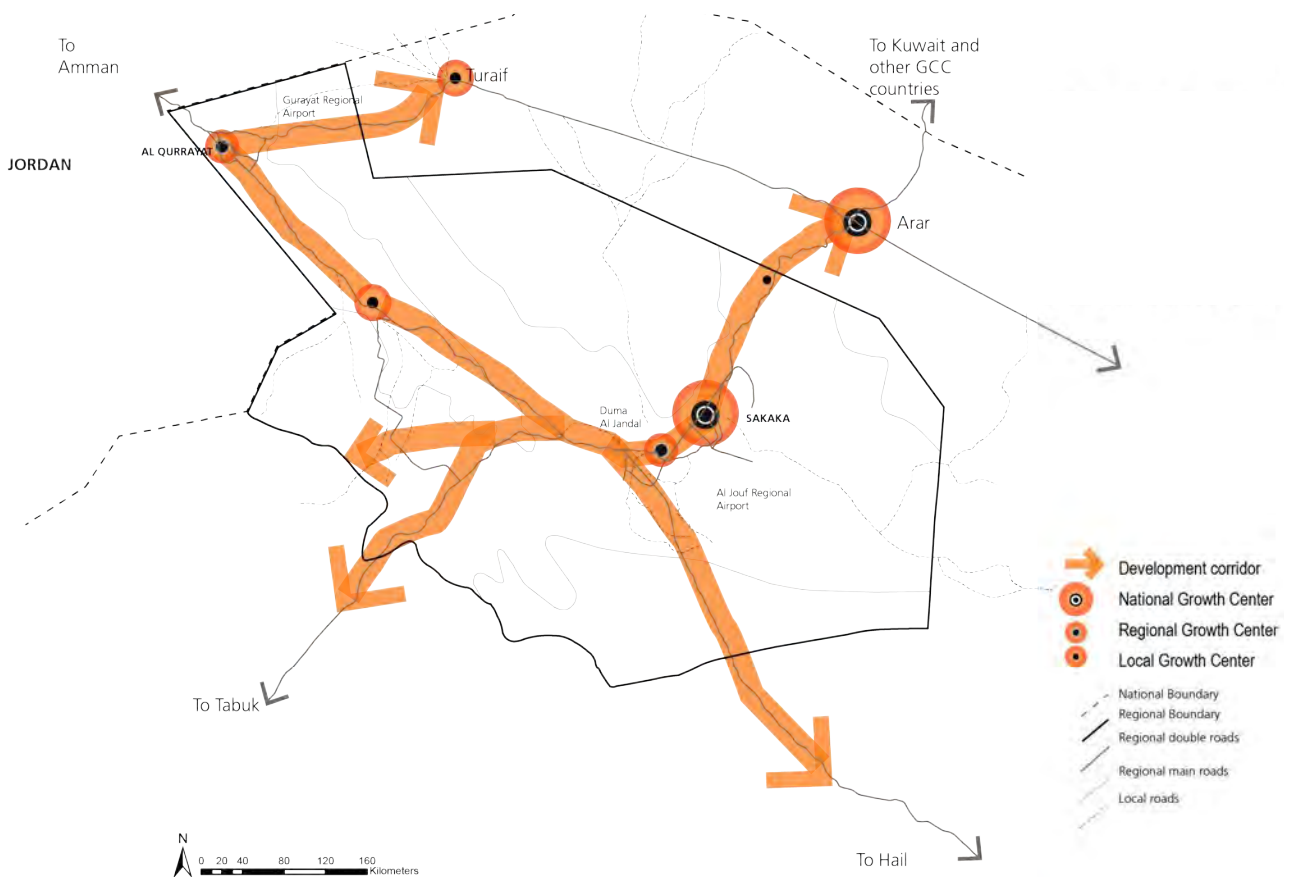


Fig. 5. Development corridors according to the Regional Plan for Al Jouf Region by the Amanah



Zubayrah to haul bauxite. It will also travel to Ras Al Zour on the Gulf where a major port will be constructed to export these and other mineral ores.

Environmental and Topographic Elements

The geospatial analysis shows a large area of the region, especially to the South of Skaka that is covered by water-bearing aquifers, and that is key in maintaining the agricultural activities in the region. This is an area with comparative advantage that could be optimised to boost the region’s economic viability. The agricultural project of the company (JADCO) is located at Busaita –Wadi Alsarhan– Al Jouf Region in the Northern part of Saudi Arabia. The total area of the project is 60,000 hectares of fertile soil, abundant underground water reservoirs, and favourable climatic conditions, which suit the cultivation of almost all crops, such as wheat, barley, maize, fodder crops, potatoes, onion, fruits, and olive orchards.

Mining and the quarrying sector in the Al Jouf Region are considered to be one of the most promising economic activities, which contributes to the exploitation of resources and natural wealth in the region and secures the needs of other industrial sectors, such as industry, building, construction, and others. Some companies and establishments are operating in the Al Jouf Region in the exploitation of raw materials, such as sand silica in Doumat Al Jandal. There are also other raw materials, such as eliti clay in Al A’gariya and the high purity dolomite in the Al Jouf Region, as well as limestone, rock salt, gas, dolomite, silica, and basalt.

Economic Resources

The cornerstone of the economy in the region is agriculture, fed by extensive underground water resources, which specialised in dates and olives. Al Jouf Region contributes 5,000 tonnes of olive oil and 2,700 tonnes of table olive to the global olive market. The Al Jouf area is characterised by rich touristic features that allow it to have a distinguished position on the domestic tourism map in Saudi Arabia. There are four main economic sectors in the Al Jouf Region, as described below.

Agriculture

Agriculture is one of the most important economic sectors, affecting many segments of society in the region. It has significant advantages, including water quality and availability, the existence of arable soil, and proper climate for cultivation of a variety of crops, especially in the area of Busaitah.

In 2011, the total crop area in the region amounted to 96,000 hectares, representing about 12.2% of the total crop area in the Kingdom, which accounts for 788 million hectares in the same year. Furthermore, there are a large number of specialised agricultural projects in the region, including the projects of the Al Jouf Agricultural Development Company, Nadeq Company, and Al-Rajhi Company for Agricultural Works.

In addition, the region is characterised by its large pastoral areas, and highly experienced camel and sheep breeders. It can be seen that there is a decline in the region’s production of wheat and barley to an annual average of about 14% and

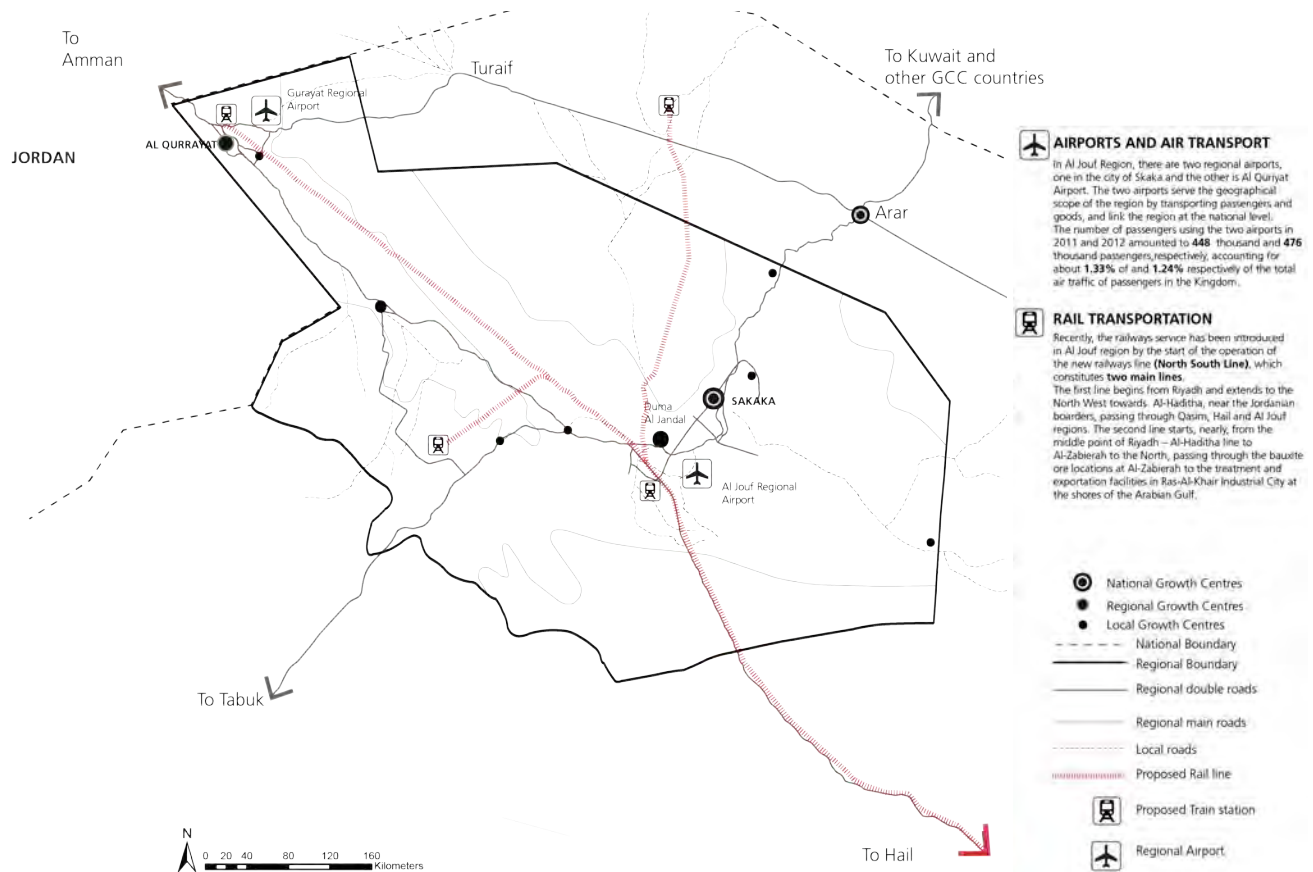
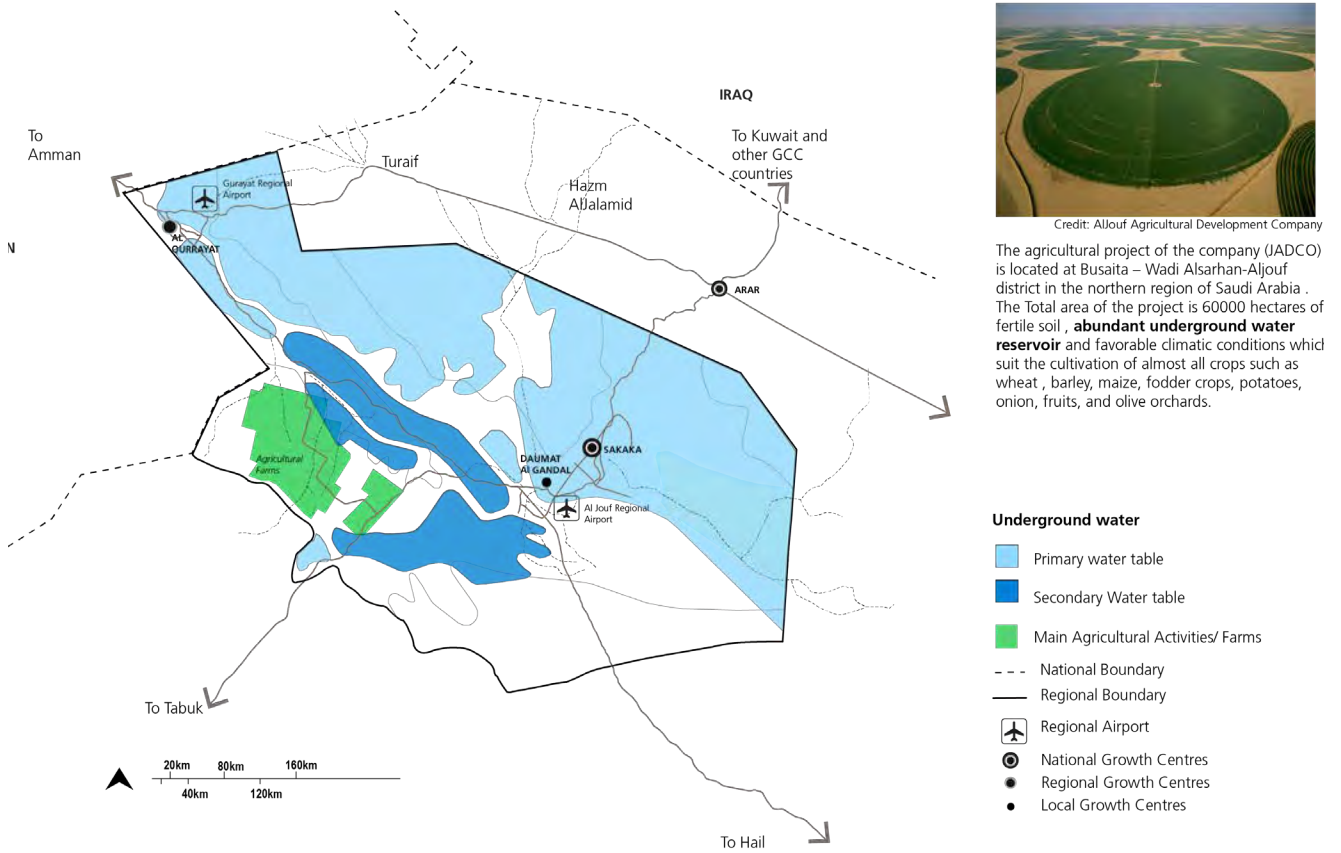


Fig. 6. Movement infrastructure



The agricultural project of the company (JADCO) is located at Busaita – Wadi Alsarhan-Aljouf district in the northern region of Saudi Arabia . The Total area of the project is 60000 hectares of fertile soil , **abundant underground water reservoir** and favorable climatic conditions which suit the cultivation of almost all crops such as wheat , barley, maize, fodder crops, potatoes, onion, fruits, and olive orchards.

Fig. 7. Blue and green regional network

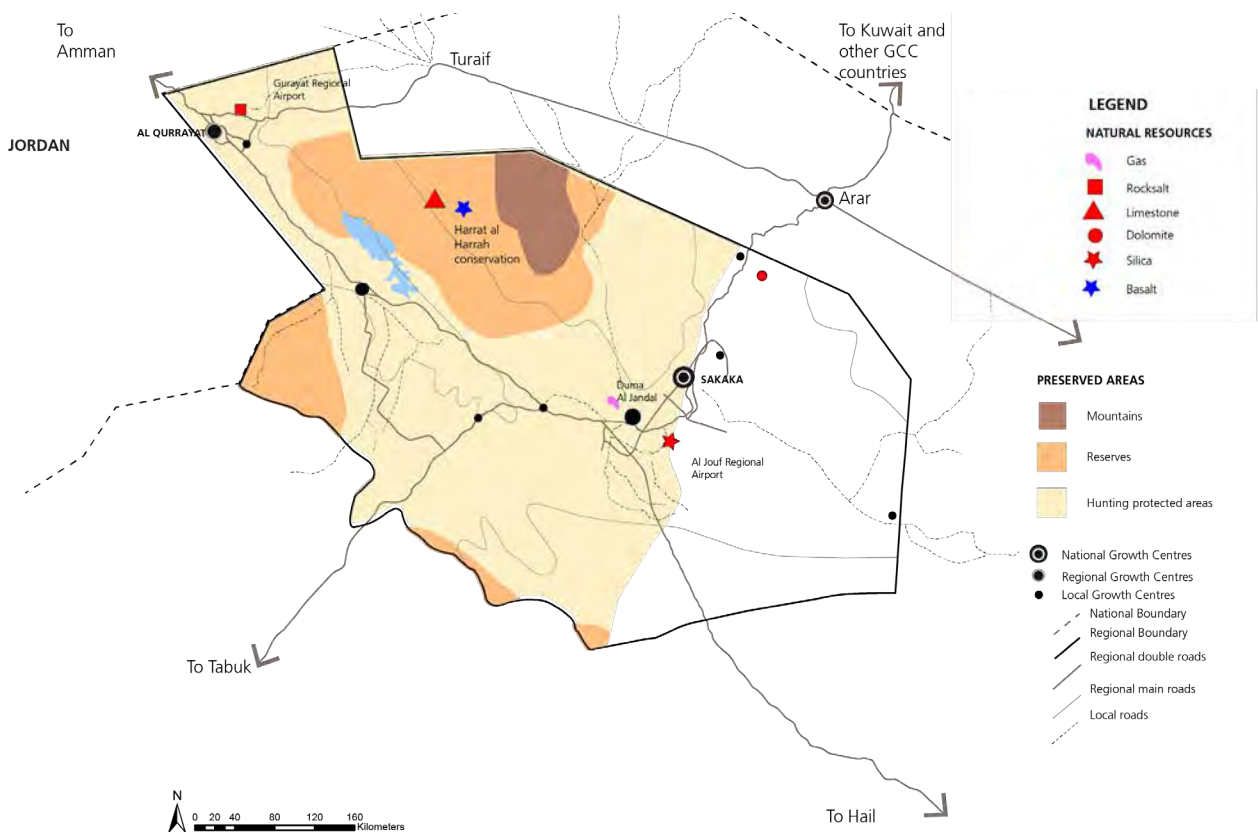


Fig. 8. Natural resources



4% respectively, and a significant increase in the production of green fodder, vegetables, dates, and fruits. It is also noted that the number of sheep increased by 6.5% and poultry by 4.3%, while the numbers of cattle, goats, and camels decreased by 14.7%, 11.7%, and 5.8% respectively. The region has notable production of honey, which represents about 16.4% of the total production of honey in the Kingdom that amounted to 119 tonnes in 2011.

Trade

The Al Jouf Region retained 17,500 establishments and businesses in 2012, representing about 1.5% of the entire trading establishments in the Kingdom. The average increase, annually of new establishments in the region is about 760. This figure was recorded during the period 2004 to 2012. They operate in various aspects of economic activities, as follows:

- Trade sector: Includes establishments for wholesale and retail trade, distribution, and agencies;
- Agricultural sector: Includes establishments for agricultural and livestock production and agricultural services;
- Industrial sector: Includes establishments for industrial production, workshops, and municipal licenses;
- Construction sector: Includes establishments for general contracting, maintenance and operation;
- Services sector: Includes establishments for public services, education and training, and transport;
- Other sectors: Include organisations for personal services and others.

Mining and Quarrying

In mining, a study was done in 2015 estimated an investment exceeding \$200 billion including more than \$100 billion in new project investment opportunities in phosphate, aluminium, bauxite, and other minerals, in addition to another \$100 billion in investments in existing capacity.

The clay, which is found near the town of Doumat Al Jandal is suitable for several industries, such as ceramics, pottery, bricks, and tiles. On the other hand, silica sand, which can be found in Maleeh, Allagnah, and Tabuk Road, can be used in the manufacture of glass. Likewise, other raw materials, such as dolomite stones and limestone usually used in basalt roadworks, reinforced concretes, or as building stones. In addition, there are several locations in the Sarhan Depression, which contain a large number of swamps that can be exploited in the production of salt for industrial uses and human consumption. These sites include Ethra, Kaf, and Hozaza Bottom.

Industry

The Al Jouf Region has 47 productive factories, representing only about 0.7% of the total number of productive factories in the Kingdom, with a total of 6,364 at the end of 2013. The total investments of factories in the region amounted to 797 million riyals, representing less than 0.1% of the total fund of the productive plants in the Kingdom, amounting to 873.2 billion riyals. The number of workers in the factories of the Al Jouf Region is about 2,200, representing 0.27% of

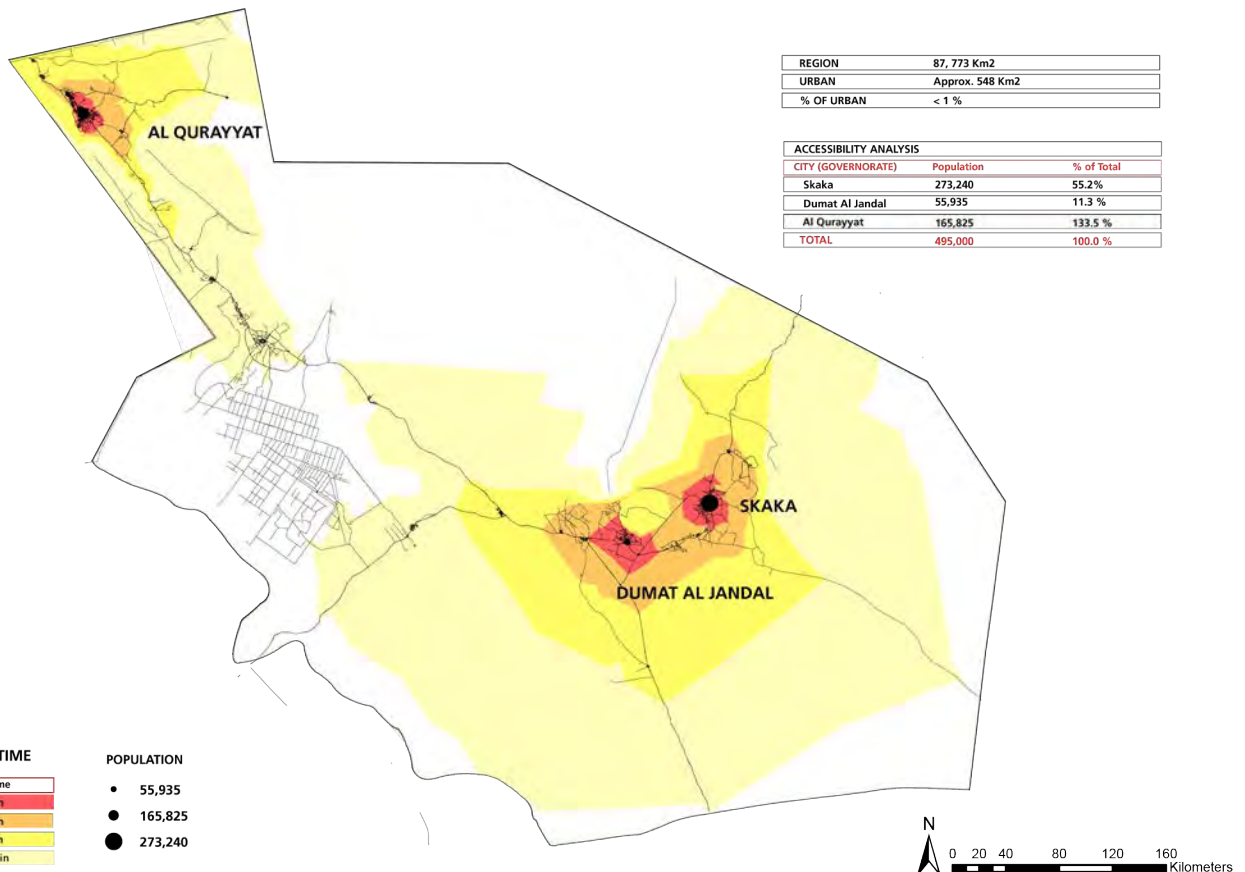


Fig. 9. Access and connectivity in the Al Jouf Region

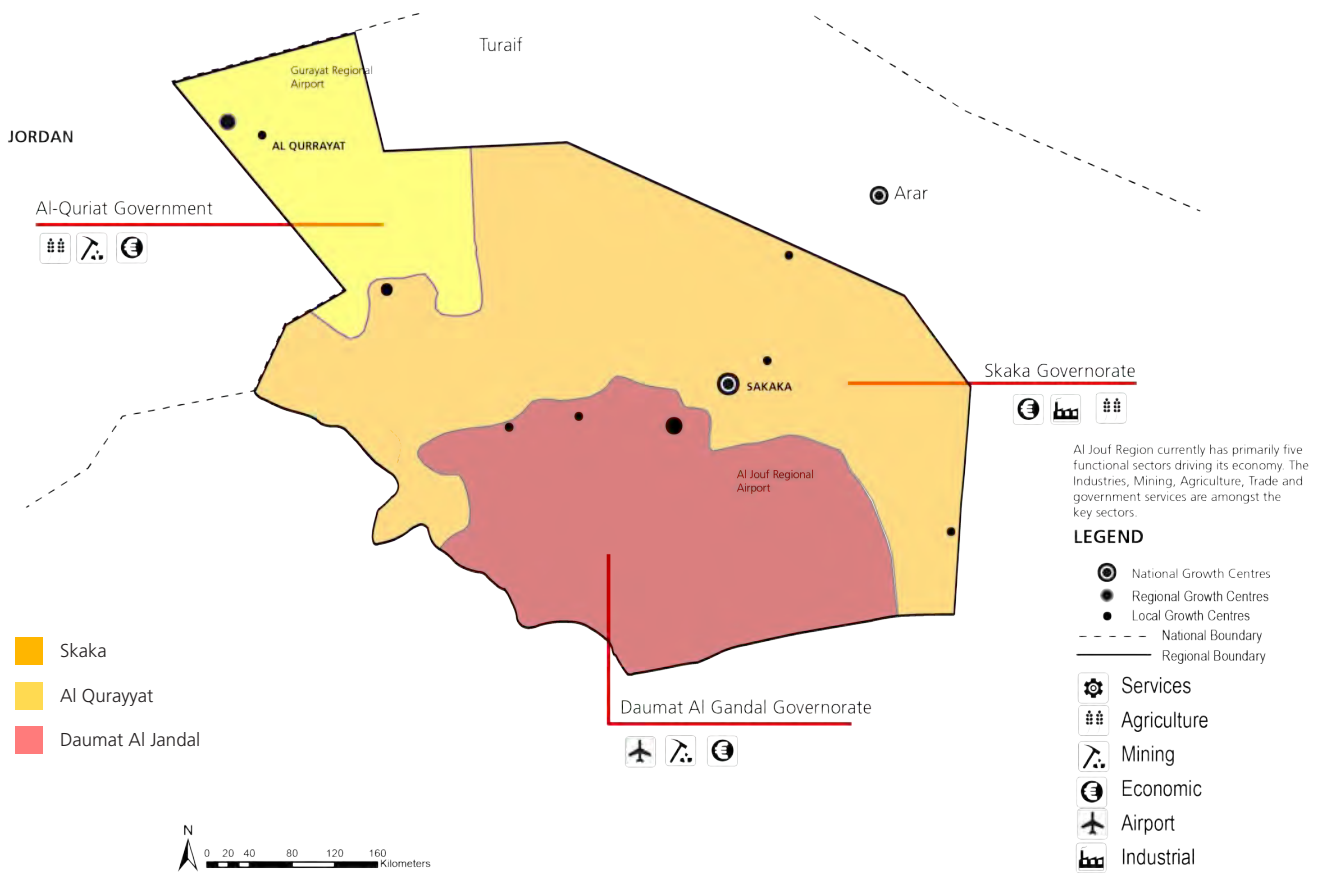


Fig. 10. Development sectors in the governorates according to the Regional Plan for Al Juf Region by the Amanah



Rock formations characterising the regional landscape



the total number of workforce in the industrial sector in the Kingdom, which came up to 878,000 workers by the end of 2013. Despite the low figures of industrial establishments in the region, there is an industrial city, built on an area of 300 hectares, whereas only 97 hectares of it has developed to date. The existing and targeted industries are textile industry and natural wool yarn, specialised food processing, arts and crafts products, fertilizer industry, veterinary industries, canning, and food preservation.

Additionally, it has been planned to establish an industrial centre called MODON Oasis only 40 kilometres away from Skaka City and around 11 kilometres from the airport. The region's strategic location of proximity to the agricultural regions and the Jordanian border, together with the availability of decent infrastructure, makes it an appropriate investment area, especially for food industries.

Tourism

The Al Jouf Region is Saudi Arabia's Northern gateway linking Syria and Iraq with the Arabian Peninsula, and it's part of the cradle of the Nabatean and Assyrian civilisations. Doumat Al Jandal, the main oasis in the region, is one of the earliest recorded settlements in Arabia. Archaeological monuments in the region include the Marid Fortress, which dates back to 2000 BC, Al Hamra Palace, and Al Ablaq Palace. There are 11 notable historic sites in the Al Jouf Region⁶, that contribute to its rich history. These are:

- **Zubal Castle**
Worth mentioning that, the castle is overseeing an old residential quarter and town below, as well as some old farms. Moreover, the castle was famous for its strong fortifications, which made it inaccessible.
- **Sisrah Well**
Sisrah Well is considered as one of the most significant antiquities in the region.
- **Hudrah Cave; Rocky-Drawings**
It is located 200 metres to the South of Sisrah well. It is a grotto carved into a mountain hill and there are small round holes in its walls.
- **Al Towair Site**
It is located South of Skaka representing an ancient city now covered by sand dunes. Also, Al Towair is considered as a big site, and it is worth noting that the urbanisation expansion, which is growing towards the site, may lead to trespassing and vandalism of the site.
- **Al Rajajeal Antiquities "Erected Stones"**
The erected stones are located five kilometres to the South of the Garah administrative centre.
- **Alshoihaitia Site**
It is located approximately 45 kilometres to the North of

Skaka stretching out through a wide valley to the North of Al Shoihaitia village, and is considered as oldest archaeological site in the Kingdom as it is estimated to be 1.3 million years old to one million BC, and dates back to the age of Al Oldawan in the stone ages.

- **Marid Castle**
The city of Doumat Al Jandal and Marid Castle's history is dating back to over 2,000 years.
- **Omar Bin Al Khattab Mosque**
The mosque of Omar Ibn Al Khattab is situated in the town of Doumat Al Jandal, a major intersection of ancient trade routes linking Mesopotamia, Syria and the Arabian Peninsula.
- **Al Dar'i Quarter**
Al Dar'i Quarter is located in the neighbourhood of Omar Bin Al Khatab Mosque and Marid fortress, which represents the old quarter of Doumat Al Jandal. Al Dar'i Quarter is considered to be one of the remaining antiquities of Doumat Al Jandal's ancient city.
- **Doumat Al Jandal Wall**
Doumat Al Jandal boundary wall is considered as one of the ancient antiquities in the city. It is still one of the historical evidence that characterises the region.



© <http://www.ju.edu.sa>

Dumat Al Jandal Castle

3

GOVERNANCE AND FINANCIAL FRAMEWORK



4.3 Skaka's Legal and Institutional Context

Skaka's legal planning framework is shaped by the Kingdom's legislative environment, which is based on Islamic Sharia Law. The law-making authority is vested in four entities; the King, the Shura Council, the Council of Ministers and the Ministerial departments. Consequently, there are five legislative instruments (Royal Order, Royal Decree, Supreme Order, Council of Ministers Resolution, and Ministerial Decree) that function in a hierarchical order, underpinning their authority and validity.

Given this non-centralised law-making process, the city of Skaka is guided by over 500 existing urban planning related instruments with most of these having been promulgated at the lowest administrative level (Circulars),⁷ that lack authoritative legal force.

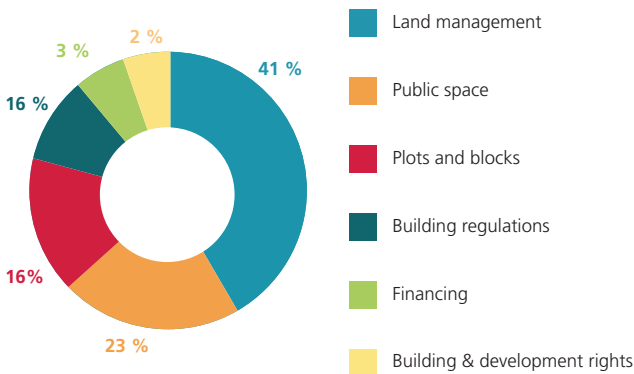


Fig. 11. Number of urban laws in KSA based on the Main Themes of Urban Planning Legislation (UN-Habitat)

The Ministry of Municipal and Rural Affairs (MoMRA) is legally entrusted with the task of conducting urban planning of the Kingdom's cities, including the permitting of all types of construction activity. It therefore plays a significant role in Skaka's growth and development patterns. The Municipality of the Al Jouf Region (Amanah), as the local level actor for Skaka, acts solely as an implementing arm for MoMRA. The institutional budgetary system is also centralised, meaning that Skaka's development intervention is reliant on funding allocation from MoMRA, through the sole fiscal resource of an annual line item budgeting.

The Kingdom's planning system, which follows a hierarchy of spatial level and is predominantly top-down, influences the spatial system of Skaka. The National Spatial Strategy (NSS) of 2001 is the guiding plan for the Kingdom. Four plans, except the Local Plan, have been approved and implemented for Skaka: (a) the Regional Plan for Al-Jouf and Northern Borders 2003; (b) the Sub-Regional Plan 2003; and (c) the Structural plan 1997. Furthermore, the Urban Growth Boundary aims to prevent urban sprawl in the outskirts of cities without adequate urban infrastructure while the Land Subdivision Plans are the basic building blocks that guide Skaka's development.

Apart from NSS which is enshrined in law, the remaining planning instruments are defined only by procedural manuals which compromises their legitimacy. By nature, these instruments cannot construct a system of legal accountability and transparency among the relevant actors. Moreover, land use and building control regulations have facilitated urban sprawl within Skaka. For example, more than half of the city's urban area has a low-density residential typology (i.e., large detached houses with a height limit of two floors), which is where more than 190,000 people or 66.2% of the total city population lives. There is a demand from the residents and experts to increase the density of the city by increasing the building height within most of the neighbourhoods, (to prevent current urban sprawl issues and promote sustainable urban extension in Skaka).⁸ In addition, outdated planning policies, such as the non-linkage of various residential districts, coupled with the rapid urban expansion have caused negative effects on the urban population and the city's growth patterns.

In terms of reform, Skaka would benefit from both fiscal and jurisdictional decentralisation to facilitate independent and innovative solutions to urban social problems at the Amanah level. This should entail:

- The transfer of local planning power, authority and function from MoMRA to the Amanah with provision for independent action without recourse to effectively address community needs. This is supported by the New Urban Agenda, which specifies that territorial urban design and planning processes should be led by sub-national and local governments, but their implementation will require coordination with all spheres of governments as well as participation of the civil society, the public sector and other relevant stakeholders.
- Fiscal decentralisation, which gives autonomy to the Amanah to source funds to finance development activities. Revenue generation activities in cities may also include taxes and levies. Urban areas should be allowed to collect some form of property taxes to fund development activities. The recent White Lands Act that imposes fees on undeveloped plots in urban areas to tackle land speculation, housing shortage and indiscriminate land development shows that regulatory mechanisms can be leveraged to generate revenue while fostering an efficient development framework.
- Opening of avenues for actors, including the private and voluntary sector and the general community, to participate in decisions regarding projects that affect them.

The city also requires functionally effective legislation (locally relevant) to deal with:

- The proliferation of abandoned farms, which pose security problems, in the urban core;



© FSCP

UN-Habitat workshop discussion in Skaka with stakeholders and ministries

- The existence of dilapidated residential houses with specific attention to public safety and building materials; and
- The separation of uses of different facilities in the built environment particularly heavy industrial from residential to promote public safety.

The legal framework needs to enshrine an acceptable level of public participation in decision making, to foster equality and inclusion.

Revising the Urban Growth Boundary Law to include clear criteria for its definition would enhance technical and vertical accountability. The Law also needs to place more emphasis on establishing the Development Protection Boundary as a no-development zone, not only to prevent haphazard development but also to discourage the advantage taken by private interests from laxity in the legal text. These initiatives will strengthen policy formulation designed to move the city towards a more sustainable, compact and dense future. Primarily, a post-legislative scrutiny of the urban growth boundary law should be undertaken to assess whether or not it has met its policy objectives. This could, in turn, inform the legal reform process as well as planning policy options.

4.4 Planning Instruments and Procedures

4.4.1 Hierarchy of plans - Skaka

The planning system of Skaka is derived from the de facto planning hierarchy of the Kingdom. In this framework, there are four different levels of spatial plans: national, regional, local and district. Figure 12 highlights the planning instruments in force in Skaka.

4.4.2 Regional and Sub-regional Plan for Al Jouf Region

Regional planning represents the second-tier of spatial planning in the KSA, which aims to address the natural, urban, social and economic regional development aspects. Two plans are operational in Al Jouf: the regional and sub-regional plans, which were both developed and approved by MoMRA in 2003.

The strategic and development objectives of the Al Jouf Region have been specified, by not only the regional plan of Al Jouf Region but also the semi-regional plan of the Skaka Emirate and the Structural Plan of the city of Skaka. These are:

- To strengthen the links between the city of Skaka and its centres, and the governorates of Domat Al Jandal in the Southern part, as well as Qurayyat in the West, and the Northern Border Region (Arar) in the North, through strong and integrated ways, besides promotion of the Al Jouf Airport to become an international airport, and

to keep pace with the system of comprehensive and integrated development in the region in general and the Emirate in particular;

- To find a functional hierarchy of the urban clusters according to each cluster's potential. A number of these clusters have been nominated to play their developmental role in the comprehensive development system (Skaka - Doumat Al Jandal - Tabarjal);
- To raise the level and efficiency of public services and facilities as well as the distribution thereof in a manner that ensures equitable distribution and accessibility, in accordance with the proposed hierarchy of urban clusters and the provision of lands and spaces required for the establishment of such services;
- The development and rehabilitation of historical tourist attractions areas in the Al Jouf Region, the most important of which are Za'abal castle, Bir Sisra, the ancient ruins of Al Rajajil, and Qasr Al Qadeer in Skaka City, and Omar Bin Al Khattab Mosque and Mareed castle in Doumat Al Jandal and Kaf Castle in Qurayyat to attract the historical and archaeological tourism movement to Al Jouf;
- To increase the interest in the agricultural expansion of the olive crop and associated olive oil mills and packing, as well as pickles, which are one of the most important economic sectors in Al Jouf Region and Skaka City; and to reduce the phenomenon of neglecting and burning palm farms in the city of Skaka which have an economic impact on the region and farmers.

4.4.3 The Skaka Plan

The Skaka Plan⁹ is a planning tool composed of a strategic component (the Structural Plan) and of a regulatory document, (the Local Plan). The scope of these plans includes:

- Long term strategy for the city;
- Identification of relevant development areas;
- Identification of urban/non-urban land;
- Main mobility system;
- Environmental protection;
- Infrastructure provision;
- Detailed land use;
- Urban regulations; and
- Detailed proposals for selected areas

Structural Plan of Skaka

The Structural Plan aims to identify key spatial structures as those provided for in the Regional Spatial Strategy. The Skaka Structural Plan (1996-2043), was prepared and approved by the Amanah. This plan, in line with the Regional Plan, highlights different objectives for the different cities that are located within the metropolitan area. For instance, the city of Skaka remains the administrative and services



Abandoned and gated oasis located in the city centre of Skaka

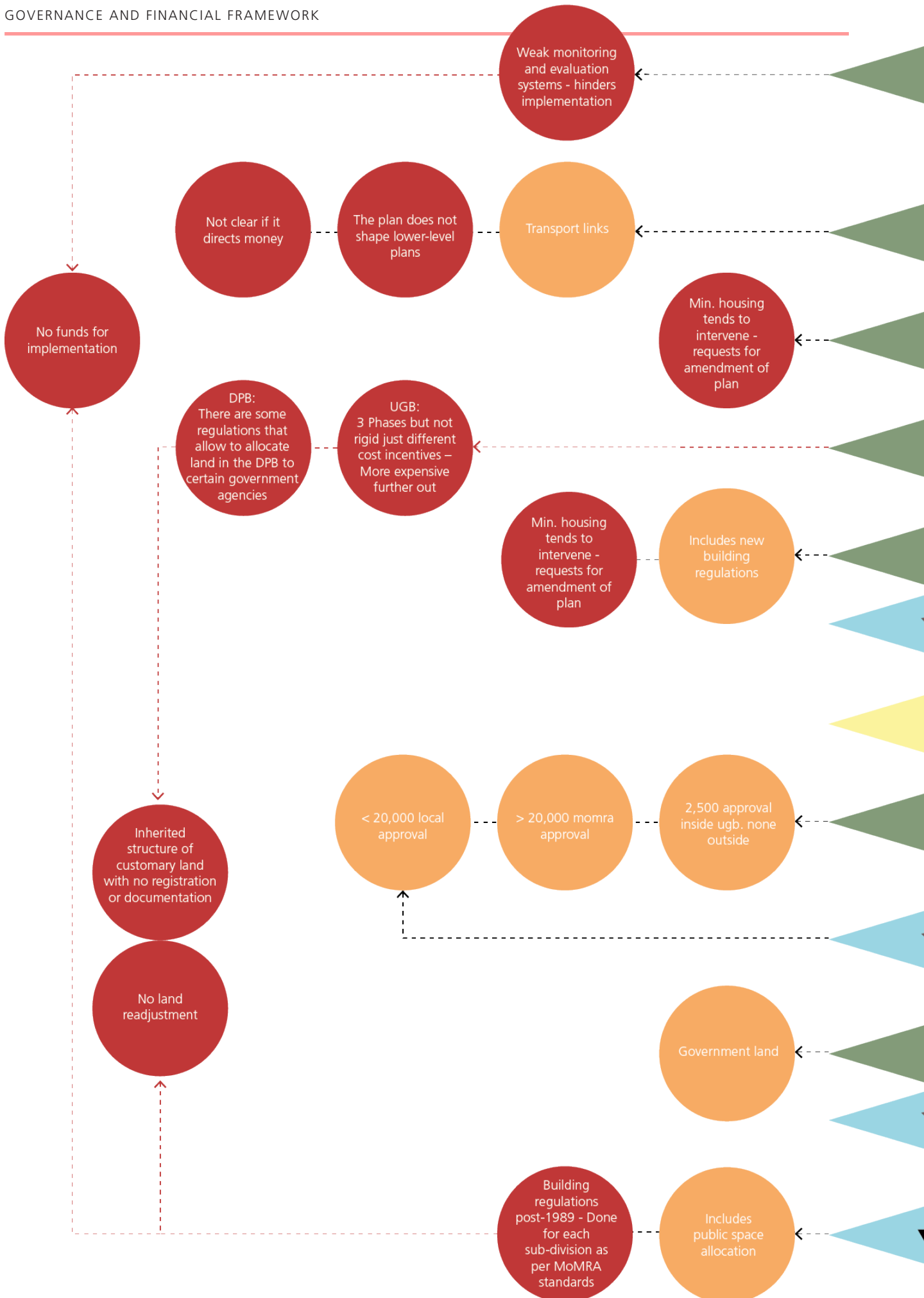
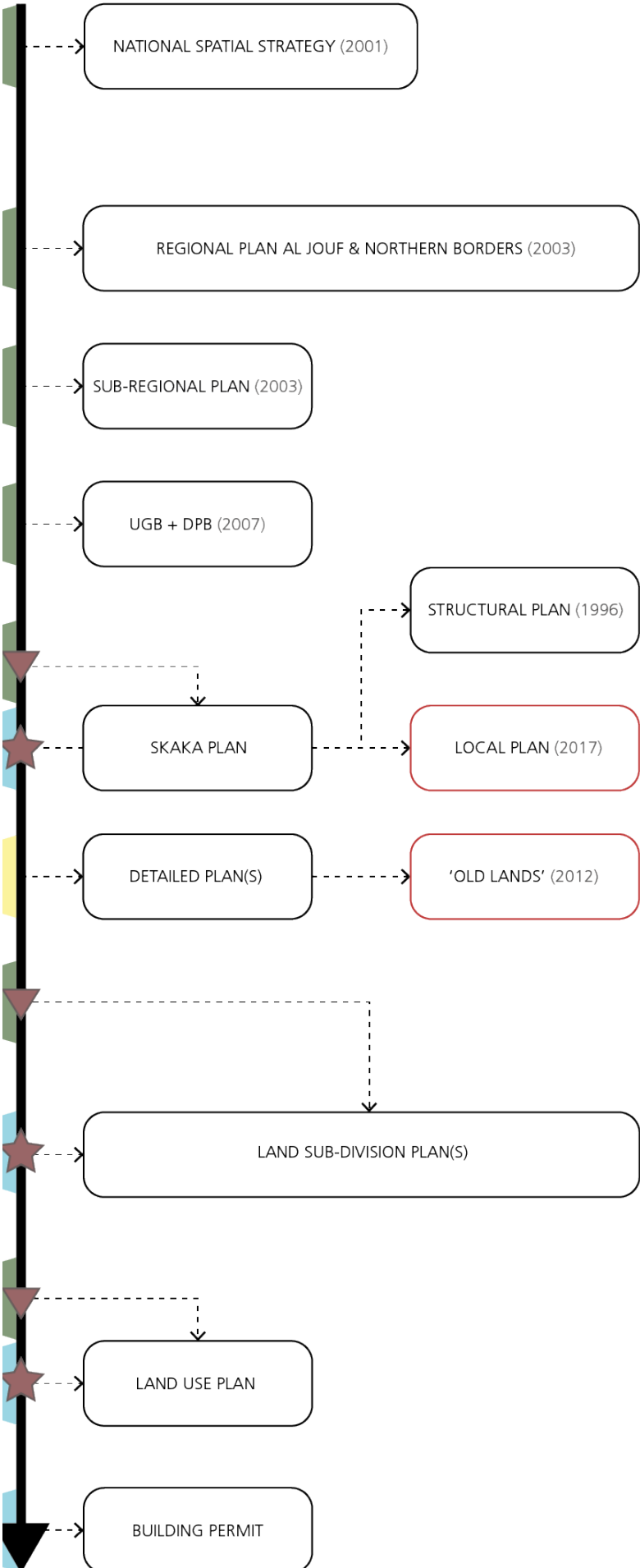


Fig. 12. FSCP simplified representation of hierarchy of plans and the planning instruments for the city of Skaka (Al Jouf Region)



	AL JOUF REGIONAL GOVERNMENT
	MOMRA
	AMANAHA
	DECISION
	APPROVAL
	CHALLENGE
	TERMS & CONDITIONS
	APPROVED
	NOT APPROVED

center with an improved future focus on strengthening tourism along the historical areas within the Al Jouf Region and Skaka City, (such as Zubal Castle, Sisra Well, Alq Dear Palace, Omar Bin Al Khattab Mosque, and Marid Castle).

In terms of land use, this plan identifies strategic land uses and infrastructure networks within the metropolitan area of the 1450 Urban Growth Boundary. Within this growth boundary, 22.6% of the land is allocated for residential land uses whereas 48% of the urban area is preserved for agricultural use (the relationship between the urban and rural areas is strong in Skaka). The area allocated for residential purposes can hold double the projected population because the plan promotes a very low-density residential typology.

This plan does not promote a clear mixed land use strategy as it encourages a mono land use typology instead. Mixed land uses (1.3% - Commercial - Residential) are only proposed along the major corridors. Other uses such as industrial, have a land allocation of 1%, while 3.4% of the city urban areas are for public facilities.

Skaka Local Plan

The Local Plan represents the third level of the urban planning system in KSA and is largely focused on those areas of a municipality, which are contained within the UGB with a special focus on housing. The Local Plan contains the Urban Atlas which details the allowed land uses for every part of the city. It is complemented by a report of regulations which contains specifications on the permissible development rights such as floor area ratio, street dynamics, building heights, areas of special building regulations, etc.

The aim of the Local Plan is to a) apply urban controls to urban land use and building regulations; b) to provide public services and infrastructure in a cost-effective and integrated manner; c) set basic requirements for proposed road networks; and d) help facilitate the development of public and private sector housing.

The local plan is prepared by various consultants following the "Booklet of the Terms of Reference for the Preparation of the Local Plan" which is formulated by MoMRA. This Booklet was updated in 2015 and one key technical change is the requirement that the lifespan of new plans should be 14 years (2015-2029). However, this booklet has no legal standing and there is no accompanying legal framework to support the enforcement of the local plans.

The development of the Local Plan is complicated by the existence of parallel structures applied by MoMRA and the Ministry of the Interior. Whilst the legal mandate for planning clearly lies in the Municipalities (under MoMRA), there are jurisdictional overlaps with the Mohafezat (Governorates – sub-regional) and Markaz (Districts), which fall under the Ministry of Interior. More precisely, the Ministry of Interior remains the oversight body for regional project implementation with

MoMRA designated as the central spatial planning institution, however, there lacks a clear mechanism for coordination. This frequently leads to an impasse in decision-making which affects the delivery of technical standards within municipalities such as Skaka. The Skaka Local Plan is yet to be approved, but it was prepared in 2009 by MoMRA in coordination with the Amanah.

4.4.4 The Skaka Urban Growth and Development Protection Boundaries

Legal Framework

In 2008, the Prime Minister issued decree No. 157, which sets the overall regulations for both the Urban Growth Boundary (until 2030) and the Development Protection Boundary. The executive regulations were issued in 2010 by the MoMRA Ministerial Decree No. 11769 followed by the current revision (MoMRA Ministerial Decree No. 66000) which was enacted in 2014.

The growth boundary is intended to control urban expansion and prevent sprawl in the outskirts of cities without adequate urban infrastructure, whereas the development protection boundary sets a long-term plan for future development of cities beyond the 2030 UGB.

The 2014 Decree stipulates several general development principles including:

- Strategic development projects that are part of the spatial strategies, including major road and railway networks passing through private lands, should be prioritized over any other development projects;
- Development projects outside of the boundary are only permitted with the approval of MoMRA; and
- Large-scale development projects should follow specified detailed standards.

The Law also defines infrastructural standards that developers are to follow based on the city's categorization as either national, regional or local centre and the size of the proposed lot. Legally, the area between the Development Protection Boundary and the 1450 (2030) Urban Growth Boundary is protected and not earmarked for development, however, the law does outline exceptional mechanisms for building mega or national-regional economic projects therein. Moreover, given the law, certain agencies have rights to lands situated in protected areas between the two boundaries. Approval of development projects in such cases is routinely controlled by set of regulations in this regard. Additionally, given the legal flexibility surrounding the definition of "mega" or "strategic" projects, private residential developments have been approved outside the 2030 urban growth boundary. These factors have undermined the functional effectiveness of the regulations, the rule of law, and the compact development of urban areas.

URBAN BOUNDARY CLASSIFICATION OF LAND SUBDIVISION APPROVALS AND THE URBAN BOUNDARY PHASES

EXECUTIVE REGULATION ISSUED BY THE MINISTERIAL DECREE
NO 66,000 IN 20/12/2014

1 ST PHASE (2014-2018)	2 ND PHASE (2019-2024)	3 RD PHASE (2025-2030)
NATIONAL GROWTH CENTRES (HAEL, TABUK, BURAIDAH, UNAYZA, ARAR, NAJRAN, JAZAN, AL BAHA, SKAKA, ABHA, TAIF AND AL-AHSA)		
MORE THAN 500,000 SQM		
<ul style="list-style-type: none"> - Tarmacking of internal roads - Sanitation and electricity - Water if available - Storm water infrastructure 	<ul style="list-style-type: none"> - Tarmacking of internal roads - Sanitation and electricity - Water if available - Storm water infrastructure - Connect to closest main road - Percentage of residential area completed not less than 50% - Provide land for social services (schools, kindergartens, hospitals, etc.) 	<ul style="list-style-type: none"> - Tarmacking of internal roads - Sanitation and electricity - Water if available - Storm water infrastructure - Connect to closest main road - Percentage of residential area completed not less than 50% - Provide land for social services (schools, kindergartens, hospitals, etc.)
<ul style="list-style-type: none"> - Tarmacking of internal roads - Sanitation and electricity - Provide land for social services (schools, kindergartens, hospitals) 	-	-

Fig. 13. Matrix showing the development options within the phases of the Urban Boundary in the National Growth Centres (including Skaka)



Current condition of the remnant green spaces in the city

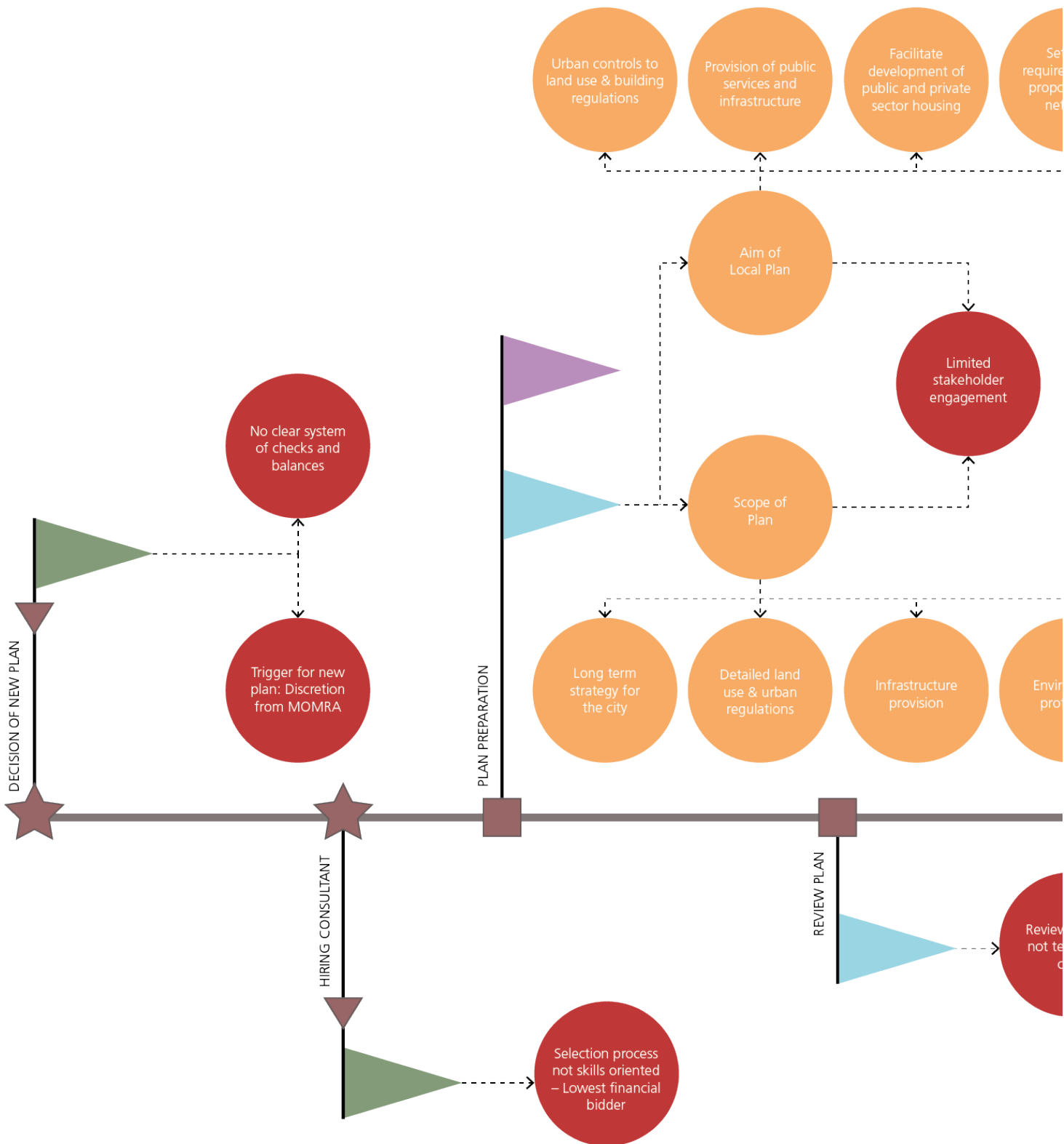
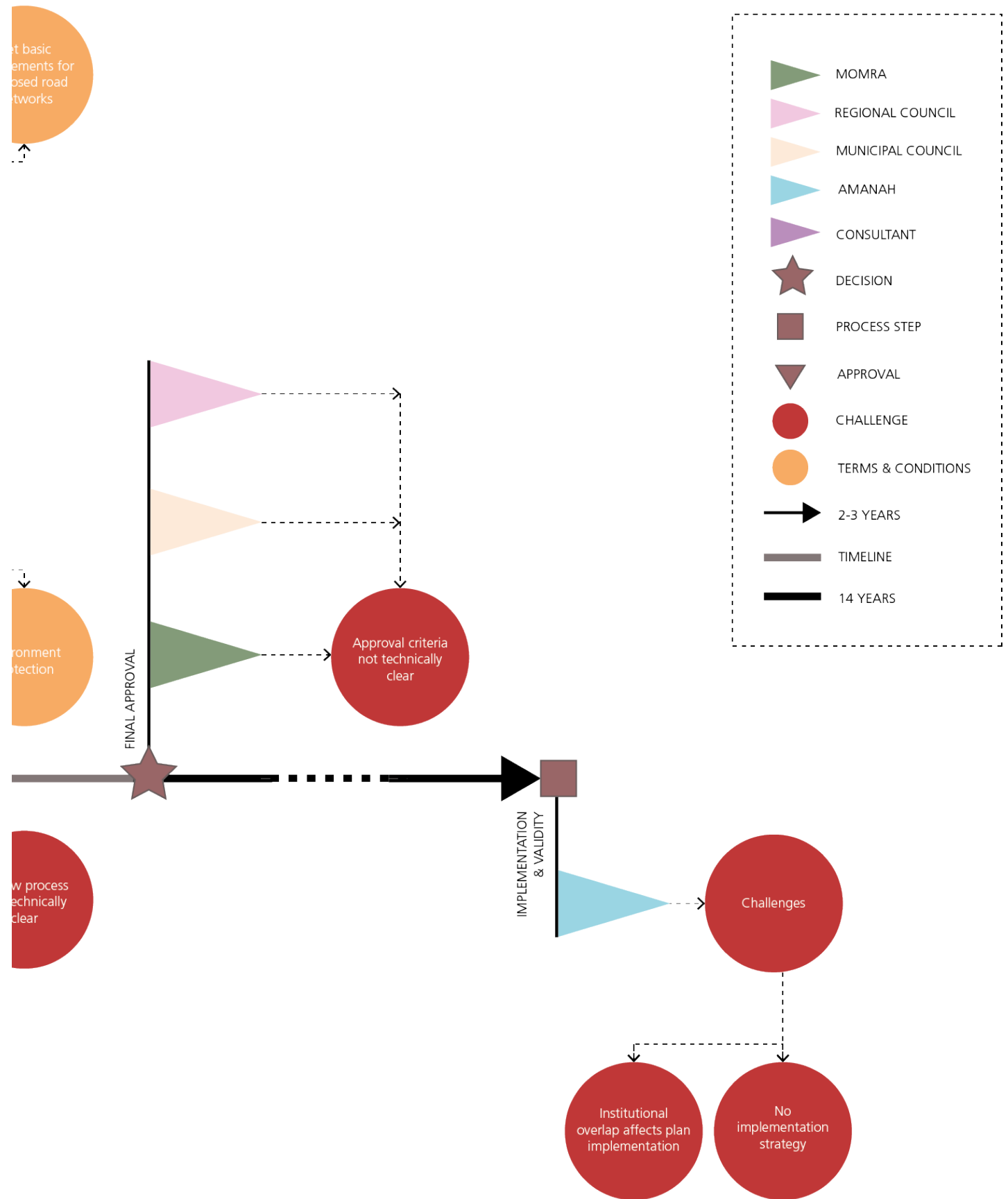


Fig. 14. FSCP simplified representation of Planning Process and Actors involved in the preparation of the Skaka Local Plan



Setting the Boundary

The Urban Growth Boundary for Skaka was set simultaneously, alongside those of other cities, by MoMRA, through a Committee under the Unit of Coordination and Projects. The composition of the committee is not yet clear, however, it is known that it did not include the municipality of Skaka, which remains formally responsible for planning at city level. There is an understanding that the calculations were based on factors such as historical and expected population and built growth in the city, however, there are no published criterion explaining the methodological calculation of the boundary size. Spatially, the Committee was not guided by existing infrastructure and services, as the boundary was set symmetrically so that “all sides of the city” can benefit.

Challenges

Although the growth boundary regulations set very clear rules for development not to happen outside the boundaries, there are some exceptions, such as housing projects, which undermine the effectiveness of the law. For instance, in Skaka, there is land located outside the boundary with no legislation to specify the applicable land use, resulting in the emergence of commercial services therein. Additionally, there are large areas of agricultural land in the city centre without formal ownership documents (often due to inheritance), which has led to zoning challenges for the Amanah and has contributed to difficulties for road expansion or re-development in these areas.

Permitting

Development within the UGB is closely linked to permitting and development control. The process in Skaka is as follows:

- A developer submits a land subdivision plan, including detailed implementation plans for the instalment of the requisite infrastructure to the Amanah of the Al Jouf Region;
- The Amanah will then assess the application in accordance with the provisions of the Law on the Urban Growth Boundary; except those cases defined by MoMRA Ministerial Decree No 17777. This Decree delegates certain roles to the mayors in regards to approving land subdivision, solely in relation to the size of residential projects. The Mayor of Al Jouf Region is an approval authority under this Law;
- The application is then sent to MoMRA for review in accordance with development standards and applicable building codes, and building permits are either refused or granted by MoMRA;
- A developer whose permit has been refused has two options of appeal: a) recourse to the Amanah and MoMRA calling a re-study of the application; or b) file the case in the relevant jurisdictional administrative court;
- The decision in the above appeal processes is final and binding to all the parties.

White Lands Act – Skaka

The percentage of undeveloped land (“white lands”), in Skaka, is high, there are 18,000 hectares which represent more than 63% of the land inside the 2030 / 1450 UGB area. The existence of “white lands” has been a major contributor to a growing housing shortage particularly for the youth and the growing population as owners choose to hoard property to maximise value rather than develop it. The government recently issued the White Lands Tax Law that imposes an annual land tax of 2.5% of its value on “white land,” which is defined as vacant land located in ‘populated areas’; zoned for residential or for dual residential and commercial use. This Law aims to: a) increase the supply of developed land to better address housing shortages; b) make residential land available at reasonable prices, and c) combat monopolistic practices. The Ministry of Housing, which is the implementing authority, will enforce the Law in phases. At the moment, the Act is operational only in Makkah, Riyadh, Dammam and Jeddah (see figure 15).

4.4.5 Land Subdivision Plans

The Land Subdivision Plans are the basic building blocks for KSA cities’ growth and development. The Mayor of the Al Jouf Region has the power to approve the land subdivision in accordance with the following criteria (Ministerial Decree No. 17777 of 2010):

- The land must be within the approved urban boundaries;
- The plot size must be below 20,000 square metres (above this the approval is done by MoMRA);
- The land use specified for the land is consistent with the instructions and regulations governing it;
- The subdivision will not result in cancellation or modification of an approved regulation, planning or authorised land use.
- All necessary planning procedures have been completed and the Deputy Ministry for Town Planning (DMTP) has been issued with a certified copy of the plan after its approval.

There are 2,500 land subdivision plans, which have been approved by Amanah within the UGB.¹⁰

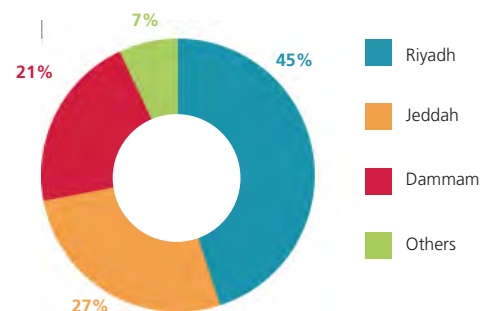


Fig. 15. Percentage of white lands – First phase of implementation of the White Lands Law

4.5 The Institutional Context

4.5.1 Urban institutions in KSA

Skaka's growth and development pattern is impacted by the centralised planning institutional framework of the KSA, under the Ministry of Municipal and Rural Affairs (MoMRA). MoMRA is entrusted with the task of conducting urban planning of the Kingdom's cities, including providing the necessary roads and fixtures, maintenance and cleanliness of the environment, as well as of licensing all types of construction activity.¹¹

The Deputy Ministry of Town Planning under MoMRA and its departments, such as Local Planning, Studies & Research, Projects Coordination and Urban Planning & Design, is mandated to coordinate with "concerned bodies" in charge of planning, to achieve comprehensive urban development.¹² In practice, there is little coordination between these departments and the Amanah, and this affects service delivery and project implementation.

4.5.2 Regional context: Al Jouf Region

According to the Ministry of Interior administrative classification, the Al Jouf Region is divided into 3 governorates and 36 centres (13 are class A while 23 are class B). Skaka, being the regional capital, is not included in this classification but is instead governed through a "municipality" (Amanah), and headed by a Mayor. This delineation is provided for by

MoMRA with Skaka's actual status being a 2nd class Amanah. Given this structure, the Amanah is allocated funds by MoMRA for development action and municipal services through an annual line-item budgeting, which is the sole fiscal means available to Skaka.

There are additional institutions in the Al Jouf Region that manage and regulate the development process. The Amarah of the region, headed by the Regional Prince who, pursuant to the Regional Law,¹³ reports to the Ministry of Interior..

The Regional Council is based in the Amarah and is required to :

- Identify the needs of the region and propose their inclusion in the National Development Plan;
- Identify beneficial projects for the region and submit these as activities requiring funding. These requests are vetted, and viable projects selected for funding. Funding is provided as part of the National Development Plans and annual budget of the country, which is the sole means available to municipalities;
- Study the organisational arrangement of the regional administrative centres, follow up implementation of any modifications; and
- Implement the provisions of the development and budget



Aerial view of Skaka

plan, and carry out the needed coordination.

The Municipal Council, located in the Amanah, with two-thirds of its members elected by citizen's votes while MoMRA appoints the rest, supervises the activities of the Amanah and municipalities to make sure that they conform to the Local Plan, as well as meet the current needs of the region. It approves:

- The municipal budget sourced from the cash allocation from the national government. This is constantly subject to revision as it is based on the agreed priorities between the Council and the Mayor;
- Examines the residential plans focusing on whether any procedural violation occurred;
- The scope of municipal services; and
- Expropriation projects based on the priorities of the Mayor.

4.5.3 Local context: Skaka

The Al Jouf Region is composed of several cities including Skaka, which is the capital and largest city. As above, the city is managed by the Amanah, which is headed by a Mayor. The mayor is appointed by the Minister of MoMRA and the Amanah's executive members are appointed by the Civil Service Bureau, by professional qualification.

The organisational structure of the Al Jouf Amanah was updated during 2009, and the revision process is ongoing after the current appointment of a new Mayor. However, within the administrative structure and under the Mayor's office there are four important main deputies/agencies concerned with the administrative, organisational, and planning aspects of the Amanah of Al Jouf as follows:

- Deputy of Reconstruction and Projects
- Services Agency
- Agency for Regional Affairs (under its administration there are 17 sub-municipalities)
- Amanah Agency for Planning and Budget

Various challenges are facing the Amanah in relation to the administration of Skaka, such as:

- There are 200 buildings in the central business district of Skaka that are about to collapse. Some of these buildings have been renovated through cladding in the facades with materials that are not fire-resistant. Moreover, there are warehouses prevalent in residential districts, wherein some, flammable material is stored. These issues pose a safety hazard to the occupants of these houses;
- The city has many abandoned farms, which cause significant security problems;

- The role of the Amanah is mainly to apply the regulations and legislation, especially those issued by the higher authorities. It has a limited role mainly providing few developmental suggestions. The Amanah also has a direct role in the preparation of building regulations/systems of the town of Skaka, especially within the unapproved local plan;
- Many governmental agencies, and especially their departments operating within Skaka City, overlap with the Amanah. These are the Emirate of Skaka, Skaka Regional Council, Skaka Municipal Council, and Municipalities of the Governorates, including the following departments: Transportation, Electricity Company, Water, Agriculture, Civil Defence, Traffic, Civil Service and Notary public. At the regional level, several committees were formed to resolve the issue; these include: i) the Sub-Committee of the Regional Council; ii) the Municipal Council Committee; and iii) the Committee of Violations. Usually, there is direct consultation between the Amanah and these agencies particularly in relation to addressing citizen's complaints;
- There is limited vertical coordination between the Amanah and the Ministerial departments except for the Ministry of Finance whereas there are continuous and direct coordination and communication, especially with respect to budgets, financial claims, and preparation of budgets;
- The limited number of employees specialised in urban planning in addition to the recruitment and selection process is quite bureaucratic and time-consuming;
- Insufficient budget, which does not compliment the magnitude of work to be undertaken within the Amanah. This affects among others, the hiring of qualified consultants to prepare the plans;
- The existence of large areas of agricultural land in the city that have no formal ownership has led to zoning challenges for the Amanah; and
- The procedures to monitor violations of planning regulations and enforcing administrative actions such as penalties is cumbersome hence ineffective as a deterrent mechanism.

4.5.4 Legal and institutional implications for Skaka

Most technical decisions and approvals passed in the local governance system (Amanah), including planning decisions, are made on a discretionary basis according to the priorities set for the city. This affects the system's technical accountability, predictability and practical clarity.



© FSCP

UN-Habitat workshop with the Mayor of Skaka and local authorities

4.6 Financial Context

The region of Al Jouf is located in the Northern area of the Kingdom of Saudi Arabia. Al Jouf is home to a diverse natural environment and a place of deep cultural heritage, and handicraft.¹⁴ Agriculture, construction, wholesale, and retail trade, community and social services are the region's main activities and employ more than 80% of the region's workforce.¹⁵ As the Region's capital, Skaka is both an administrative and an economic centre, where most of activities take place, including considerable olive and date production.

In order to foster local economic development, job creation, and innovation in the Al Jouf Region, the government is working to identify strategic economic sectors. Economic diversification in this part of the Kingdom is key to achieving both the regional and the national economic goals of the Vision 2030.¹⁶

Consequently, the development of public infrastructures, (e.g., transportation, water treatment facilities, etc.) serving Skaka's key economic sectors, (e.g., industry, agriculture, and tourism) is a priority for the government in its effort to increase market access, spur competition, and harness the productive capacity of the region, and its contribution to the national economy.

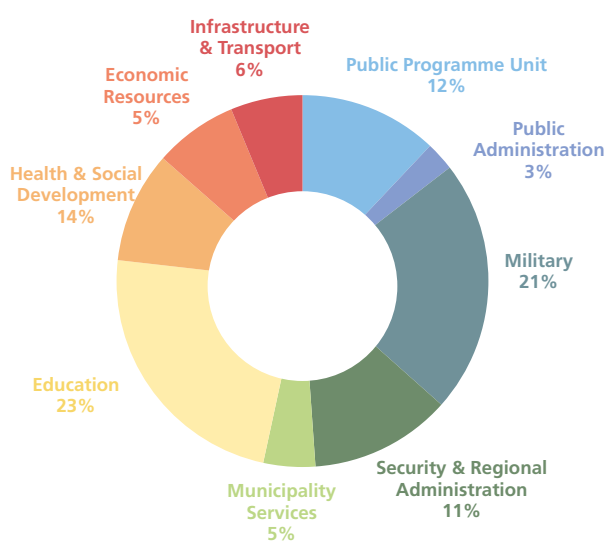
Part of the government's strategy to reach its economic goals includes a renewed commitment to strengthen the feedback

loop among (1) regional and local needs, (2) education and training, and (3) the economic landscape. The government aims to foster growth in human capital, and improve market conditions that are likely to develop research, innovation, and economic diversification.¹⁷

4.6.1 Financial system

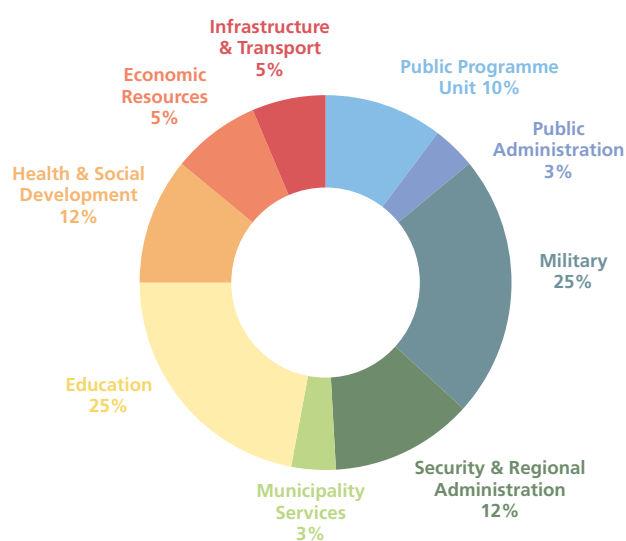
Public finance and sound fiscal management play a key role in supporting local development goals. Currently, the National Development Plan leads Skaka and its province public financial system. This system is highly centralised and depends on intergovernmental transfers (vis-à-vis line-item budgeting in the National Development Plan), funding local activities and projects. In 2017, the central government allocated 5% of the total budget to municipal services, which also covered projects and programs managed by the Ministry of Municipal and Rural Affairs (MoMRA), (see figure 16 and figure 17).

MoMRA, via the Amanahs, is responsible for financing activities categorised as "municipal services," such as urban planning, building licensing, sanitation, and road maintenance.¹⁸ In addition to MoMRA, several other government ministries and entities, such as the emir and regional councils fund, implement projects at the municipal level (e.g., the Ministry of Education provides direct funding for city schools).



Source: Bhatia, R. (2017). Saudi Arabia Budget 2017. The Gulf's International Bank.

Fig. 16. Saudi Arabia national expenditures by sector, 2017



Source: Bhatia, R. (2017). Saudi Arabia Budget 2017. The Gulf's International Bank.

Fig. 17. Saudi Arabia national expenditures by sector, 2016

4.6.2 Municipal revenue

Currently, the Amanah only has a few sources of revenue and limited authority to collect fees. MoMRA has recently introduced municipal fees although local revenues remain insufficient. Consequently, the Amanah continues to rely on support from the central budget. Inter-governmental transfers from the MoF are based on annual budget proposals submitted by the various ministries. In MoMRA, the budget drafting process tends to be influenced by local needs and priorities. Municipal governments submit project proposals for the next budgetary cycle, which subsequently are submitted to MoMRA's leadership for final approval. The authorised projects are included in the MoF's budget review, and proposed for approval to receive funding.

4.6.3 Financing municipal operating costs

In 2016, own-source revenues comprised 7% of Amanahs budget, while grants from the central government constituted the remainder.¹⁹ In order to reduce this dependency on transfers from the central government, the National Transformation Programme 2020 (NTP), directs the local government to establish sound fiscal policies through the introduction of new financing instruments.²⁰

Amanahs own-source revenue reached SAR 34 million in 2016, which only financed a small part of its budget.²¹

Budget Category	SAR (thousands)
Salaries	46,652
Operation Expenses	9,648
Operation and Maintenance Programmes and Contracts	79,300
Projects	356,900
Total Budget	492,500

Source: Ministry of Finance, Saudi Arabia (2016).

Fig. 18. Amanah budget, Skaka (2016)

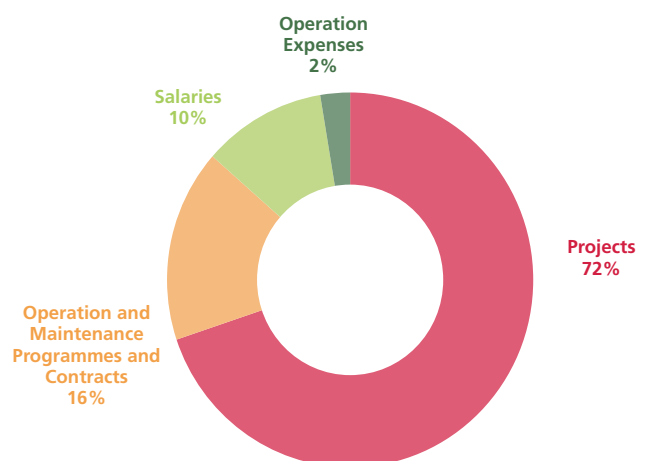
4.6.4 Capital financing for municipal development

The demand for capital to finance local infrastructure in emerging countries is becoming a priority, especially in cities like Skaka. To fill the financing gap and address these new development challenges, the financing options available to countries like Saudi Arabia has been rapidly expanding.

Recent reforms are aiming to improve the Saudi capital market through increased market capitalisation. For example, the Capital Market Law, the Securities and Exchange Commission, and a privately owned Stock Exchange were recently launched in Saudi Arabia with the goal of improving the domestic capital market.

Between 2011 and 2016, Saudi equities increased in value from just over 50% of GDP to almost 70% of GDP. Today, Tadawul is the sole Saudi stock exchange market and the largest equities exchange market in the Arab world.²² In addition to Tadawul, Saudi Arabia introduced Nomu, an equity market for small and medium-sized enterprises (SMEs). With fewer listing requirements, Nomu is a good option for SMEs that are interested in going public.

In addition to providing traditional banking services, Saudi Arabia's domestic banks went through a series of mergers and acquisitions, diversified their assets, and began to offer both



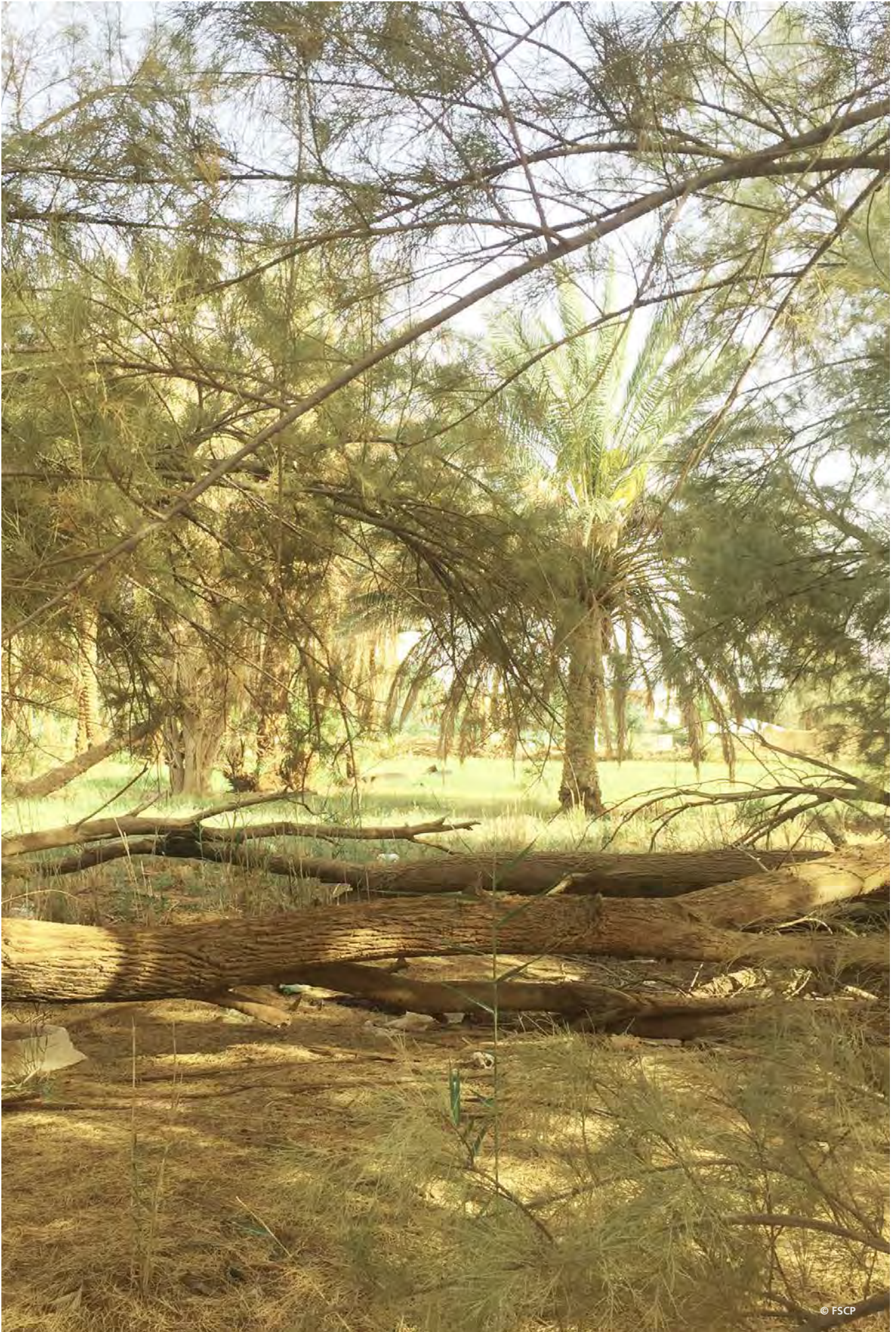
Source: Ministry of Finance, Saudi Arabia (2016).

Fig. 19. Amanah budget breakdown (2016)

conventional and Islamic investment products to a diversified investor base.²³ The Saudi Arabian capital market is becoming an example of efficient capital allocation driven by strategic reforms and increased market capitalisation.²⁴

Regarding Saudi Arabia's debt market, the government began issuing bonds for debt financing in 1988. In the last 15 years, the debt market underwent a series of reforms, which changed the process for issuing bonds, pricing bonds, and setting bond maturity terms. One major buyers of government bonds is the group Investors in Government Development Bonds (GDBs), which is made up of domestic financial institutions, banks and foreign investors.²⁵ GDBs are Zakat deductible for domestic investors and exempt from withholding tax on income for foreign investors.

This approach creates the competitive and attractive conditions for capital and equity investors and is expected to have wide-ranging impacts on the local economies of cities like Skaka in the future, increasing the availability of capital to fund urban development.



Abandoned farmlands at the core of the city

4

THE CURRENT CITY





5.7 Urbanisation Patterns

5.7.1 The city's development patterns

Rapid urbanisation is a common trend in Saudi Arabian cities during the last decades, and Skaka has not been an exception. The transformation from a rural settlement into a developing city has generated a moderate annual growth, especially from 1970s to early 2000s, where the city experienced the biggest demographic growth, increasing from about 12,700 inhabitants to 110,000.

In response to the economic opportunities and strategic location, the population of Skaka has multiplied almost 10 times over the last 30 years. Similar to other Saudi Arabian cities, such as Madinah, Makkah, or Dammam, the highest density in Skaka also appears in the historical core of the city. Often these areas that are characterized as dense activity centres, are abandoned and inhabited by migrant population. Instead, in Skaka City, migration from countryside to urban area has not been as significant. Therefore, Skaka can still be considered as a small-scale urban-rural settlement, not only by its dimensions, but also by the economic and social dynamics of strong relationship with its rural surroundings.

In 2001, Skaka City composed of a total area of 8,788 hectares, with a population of 110,000 inhabitants; which constitutes an average density of about 13 p/ha. As shown by the figures, Skaka was not considered yet a city, rather a rural village with scarcely flourishing urban activities and emerging small-scale industry.

By the year 2017, the urban footprint enlarged to 11,123 hectares, in addition to the population reaching 242,813 inhabitants. The population of the city has grown more than double in only 16 years. In other words, in 16 years Skaka has transformed from a rural settlement to an urbanised city, with a tendency of becoming a medium size metropolis. Although urbanization is widely seen as a tool for economic growth, referring the cities as engines for economic development, rapid urbanization has also substantial adverse impacts that have to be taken into consideration. It is crucial especially in developing countries where the urbanisation is unprecedented either in speed or scale. This is aggravated with the limited planning and management capacities of the institutions and results in many unsustainable impacts and problems,²⁶.

Skaka City represents a relatively good balance between population growth and urban expansion, unlike the trend in most of the cities analysed in FSCP, that indicates disproportionate urban expansion relative to the growth in population Skaka has shown a positive trend where population has grown more than the urban area of the city. In other words, average density has increased in the urban area of Skaka from 8.3 p/ha in 1990 to 22 p/ha in 2017.

POPULATION



POPULATION DENSITY on built-up area



AGE PROFILE



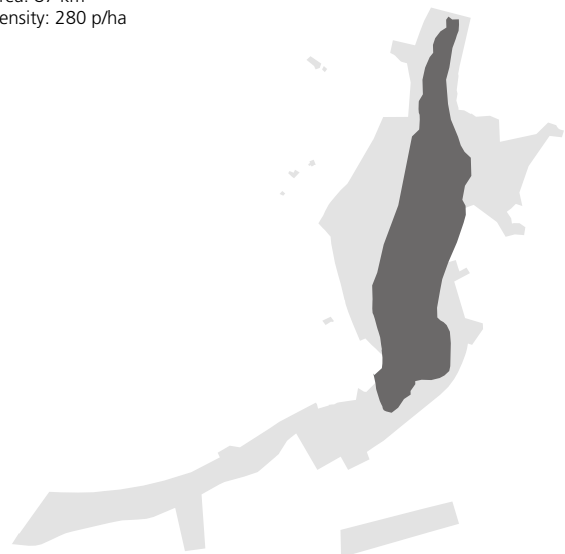
POPULATION GROWTH RATE



354,240 Expected population by 2030

SKAKA CITY COMPARED TO MANHATTAN

Population: 1,664,000
Area: 87 km²
Density: 280 p/ha



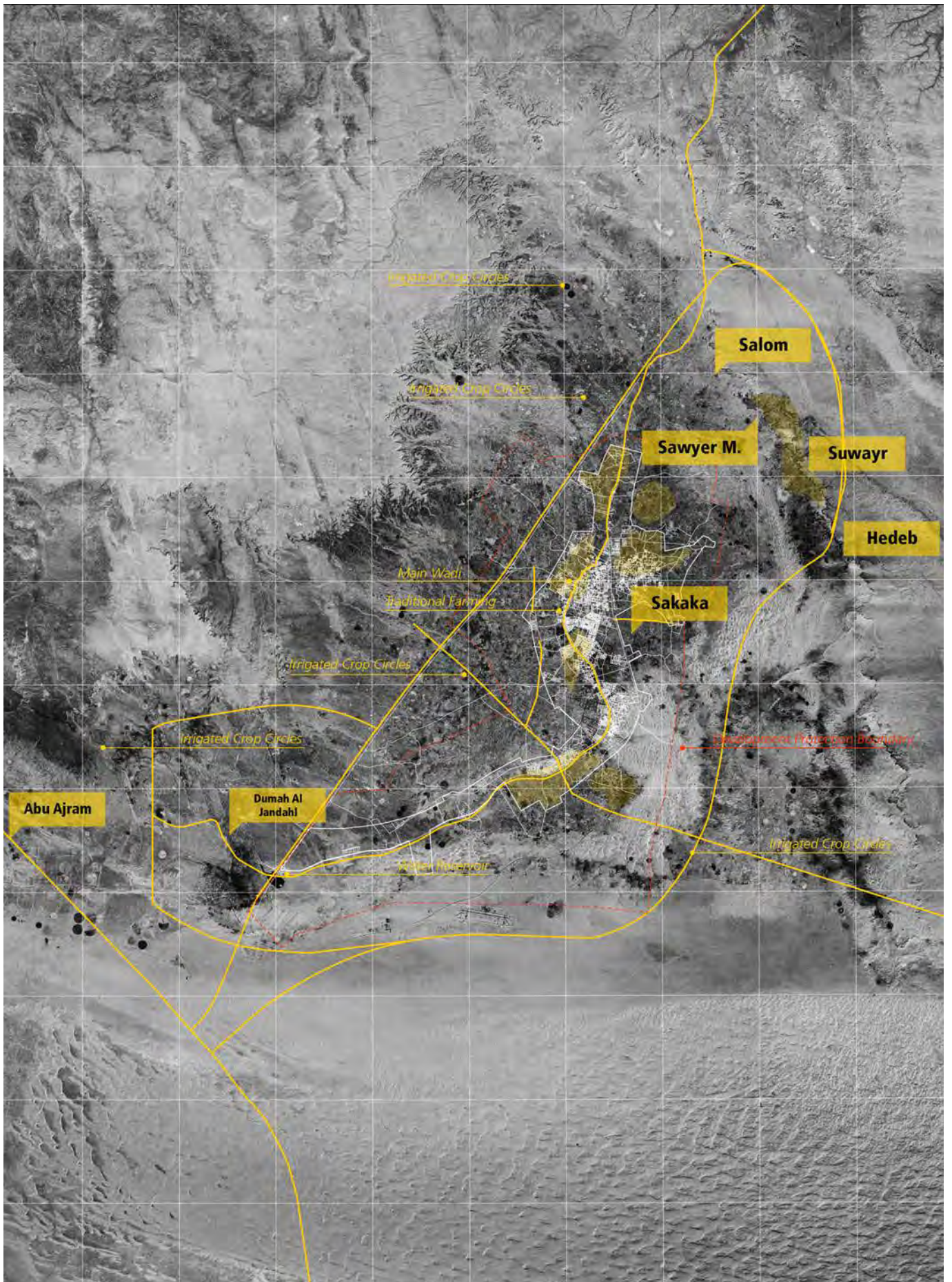


Fig. 20. Boundaries, neighbourhoods and key infrastructures

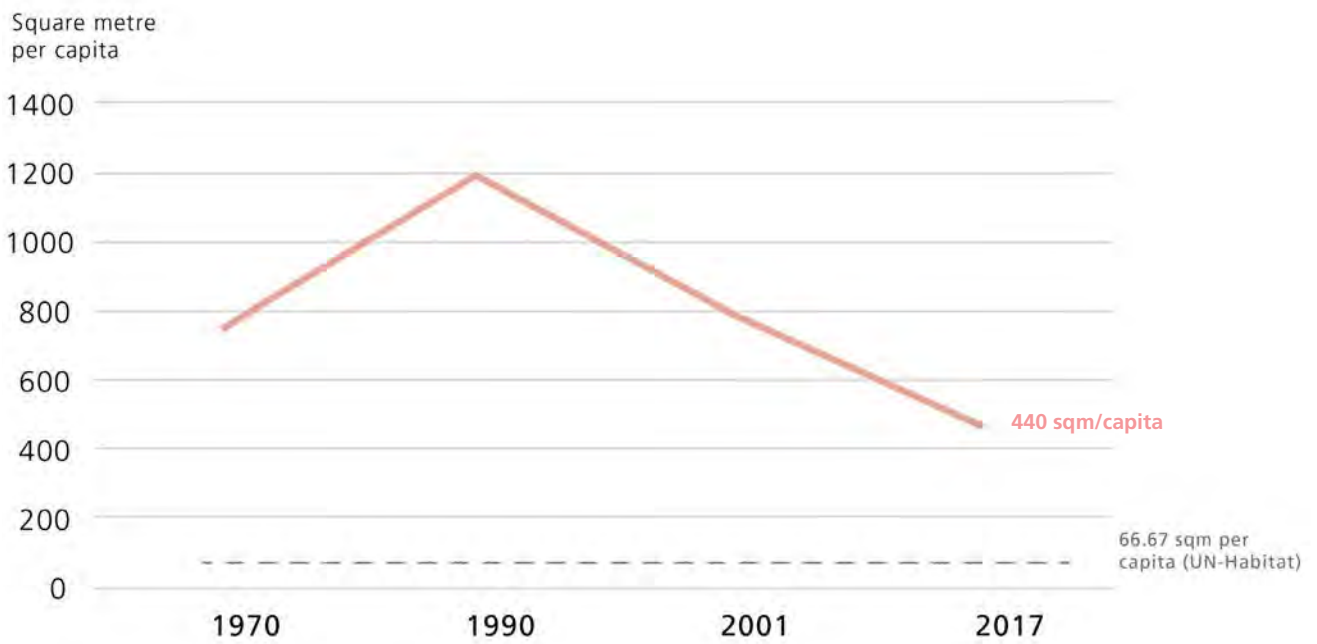
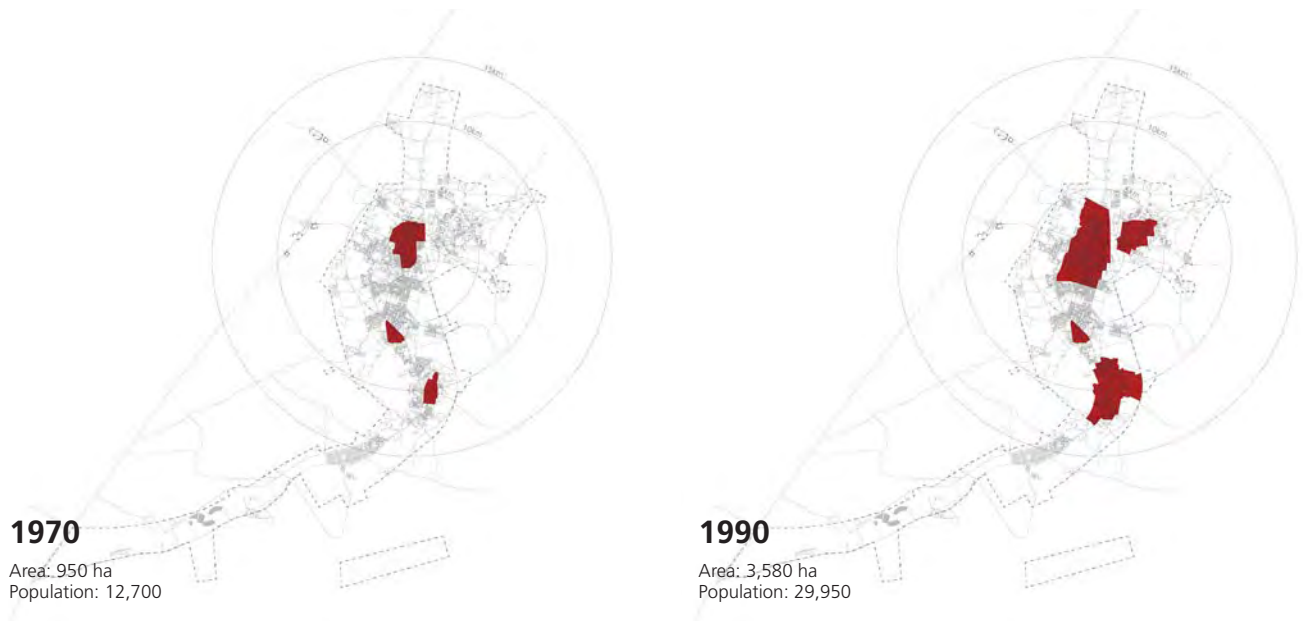


Fig. 21. Land allocated per capita

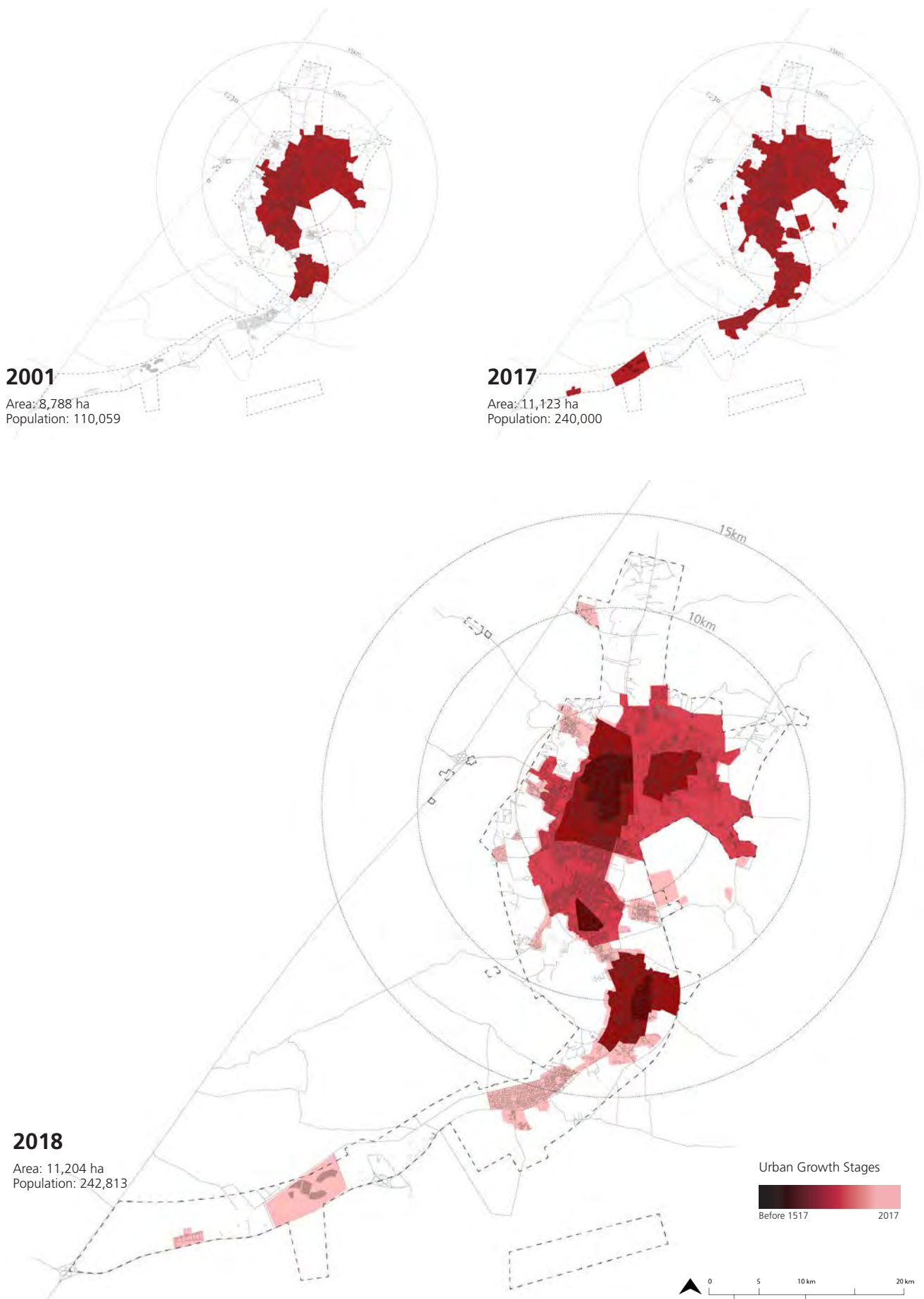


Fig. 22. Urban growth stages



Even though the density has been increasing in Skaka, formation of urban sprawl and territorial dispersion can still be seen in the periphery of the city. Most importantly density distribution is not consistent within the city, as shown in figure 23. According to the density analysis map, the highest density appears only in two areas that correspond to the city centres while the rest of the city is exposed to low-density development.

5.7.2 Administrative boundaries

The delimitation of the Development Protection Boundaries for Saudi Arabian cities was established by MoMRA and the Amanahs. It is now a controversial issue that has been raised in several workshops by the local municipalities. The key issue is that they were established in an ad-hoc manner without taking into account the specificity of each city such as the environmental context, the urban growth and development patterns.

The Development Protection Boundary of Skaka covers an area of 91,459 hectares. The boundary covers a variety of landscapes including dunes, agricultural fields, mountains, wadis, heritage places and the city's urban fabric. These landscapes are integral part of urban ecosystem and under threat of urban growth.

Amanah has set the 1450 Urban Growth Boundary as the limit for future urban expansion of Skaka. This boundary constitutes 28,960 hectares, of which 17,756 hectares, or 62% of the total land area, is still vacant. The Municipality has decided to define the future master plan by proposing the use of the 1450 UGB instead of the Development Protection Boundary defined by MoMRA.

The 1435 UGB includes more than 20,000 hectares that is almost double the current built-up area in Skaka of 11,204 hectares in total. There are no new residential developments that occurred beyond the 1435 UGB, which has helped to maintain relatively good standards of accessibility to public facilities and commercial areas.

UN-Habitat proposes to contain the urban expansion within the 1450 UGB and to preserve the rest of the Development Protection Boundary. This is similarly anticipated in the approved land use plan and it will help maintain the compactness and high density development as well as avoid urban sprawl in the future in Skaka.



Za'abel Castle

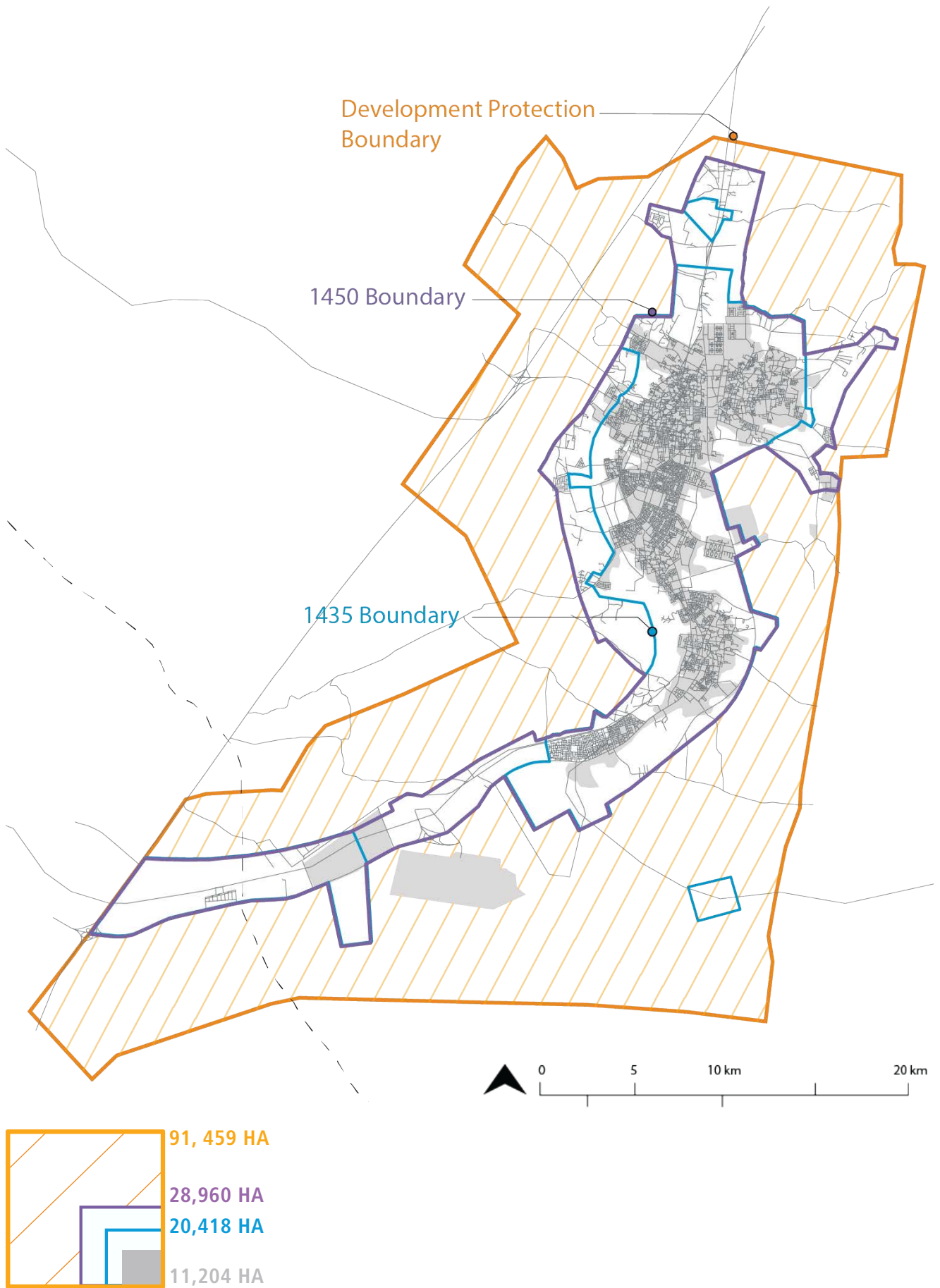


Fig. 23. Administrative boundaries



5.7.3 Urban density

Skaka has relatively low density due to the structure of the city and the amount of vacant land existing in the city centre, which provides ample opportunities to increase the density numbers with a proper, and strategic population intensification.

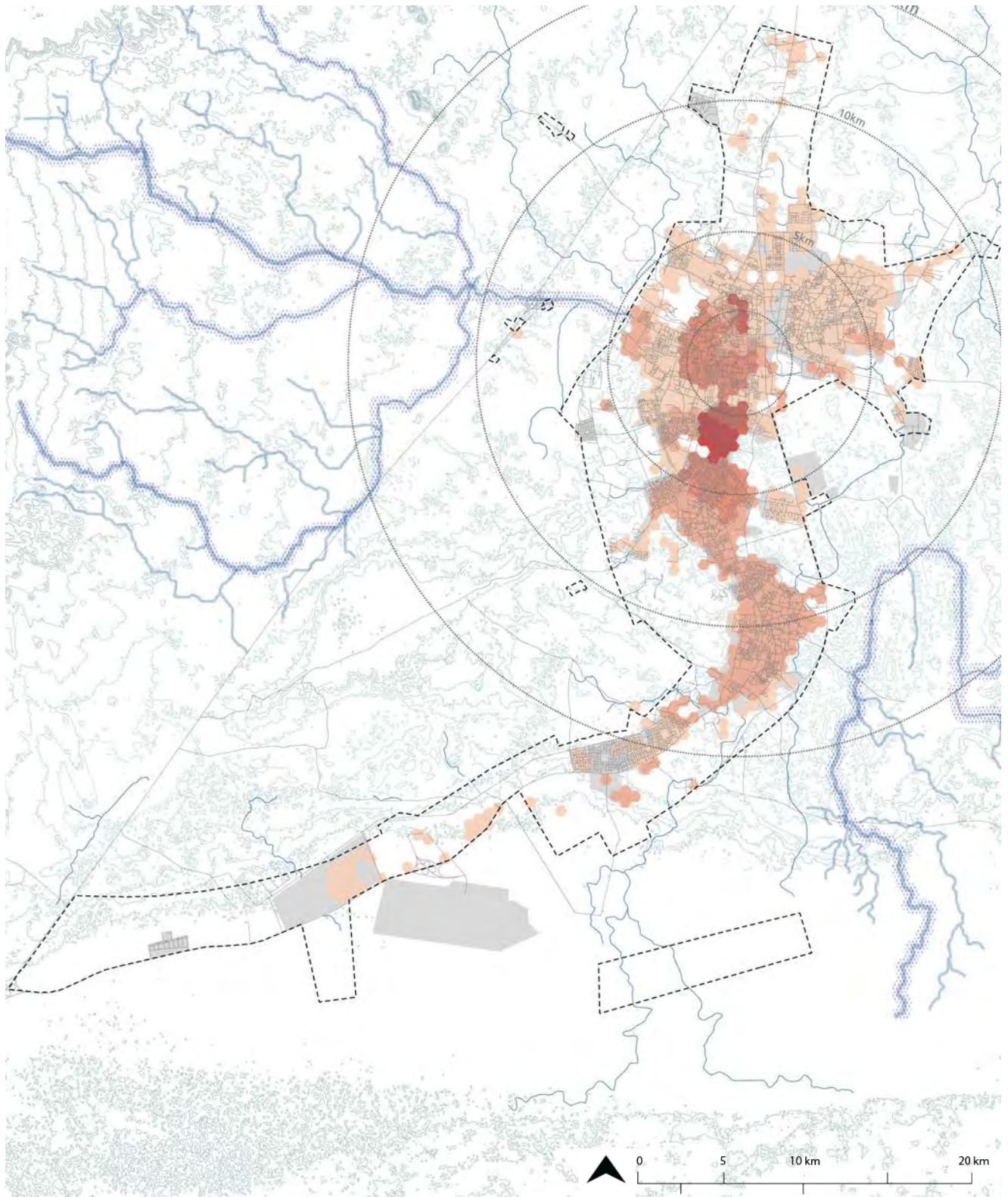
The current population of Skaka, according to 2017 census, is 242,813 people, which translates to a density of about 22 p/ha within the built-up area. Despite its relatively small size the average density is still far from the preferred level. The urban built-up area can still be densified by at least four times, to achieve the target set by the UN-Habitat recommended density of 150 p/ha in the urban areas.

The density analysis shows that density within the built-up area varies from 1 to 99 p/ha in Skaka. Unfortunately less than 14% of city's population, which corresponds to about 33,000 inhabitants, lives in a relatively higher density of 60-99 p/ha, and occupies only 390 hectares of land. On the other hand, 33% of population, which reflects 79,000 inhabitants, lives in relatively medium density of 30-59 p/ha, and resides in about 1,930 hectares of land. Whereas, more than 131,000 of inhabitants, which is almost 54% of the total population live in 8,040 hectares of very low density areas, less than 30 p/ha. Urban fabric of Skaka is mostly fragmented. In the city centre it is

characterized by a high density mixed-use urban development. While in other areas of Skaka, it is overwhelmingly low dense, with majority being single-use. Some of these are typically low cost residential estates at the outskirts of the city. There is also significant vacant land within the urban built-up areas, which needs to be considered as priority areas for infill development to improve density and limit urban expansion.



Medium-low density neighbourhoods located at the city centre



Residents:
242,813
 Average population density:
21.6 p/ha

- 1 - 21.8 p/ha
- 21 - 40.5 p/ha
- 41 - 60 p/ha
- 61 - 80 p/ha
- 81 - 95 p/ha

Fig. 24. Current distribution of population density



5.7.4 Land use

The existing land use of Skaka lacks a balanced distribution between the major economic activities and the residential areas. For example, mixed-use land constitutes only 1.3% of built-up area. Most of the land is designated as single-use allowing very limited interaction between sectors. This is also significantly lower than UN-Habitat's recommended ratio of 40% for mixed-use in a city.

Agriculture is the major economic activity in Skaka. Around 48% of the total land is used for farming activities inside the Urban Growth Development Boundary and it is characterized by the olive and date plantations, which generate significant revenues and employment and would require maintaining and protection against the urban expansion. The industrial land use represents only one 1.1% of total land use in the city.

The residential land use accounts the 22.6% of the land. Whereas mixed-use is limited and it is mostly located at the old city centre and along the main road that crosses the city from the North to the South. The outskirts of Skaka are mostly residential use where there are also large public infrastructures such as the Al Jouf University, the airport, the Medical City and the Industrial Area providing services for entire region.

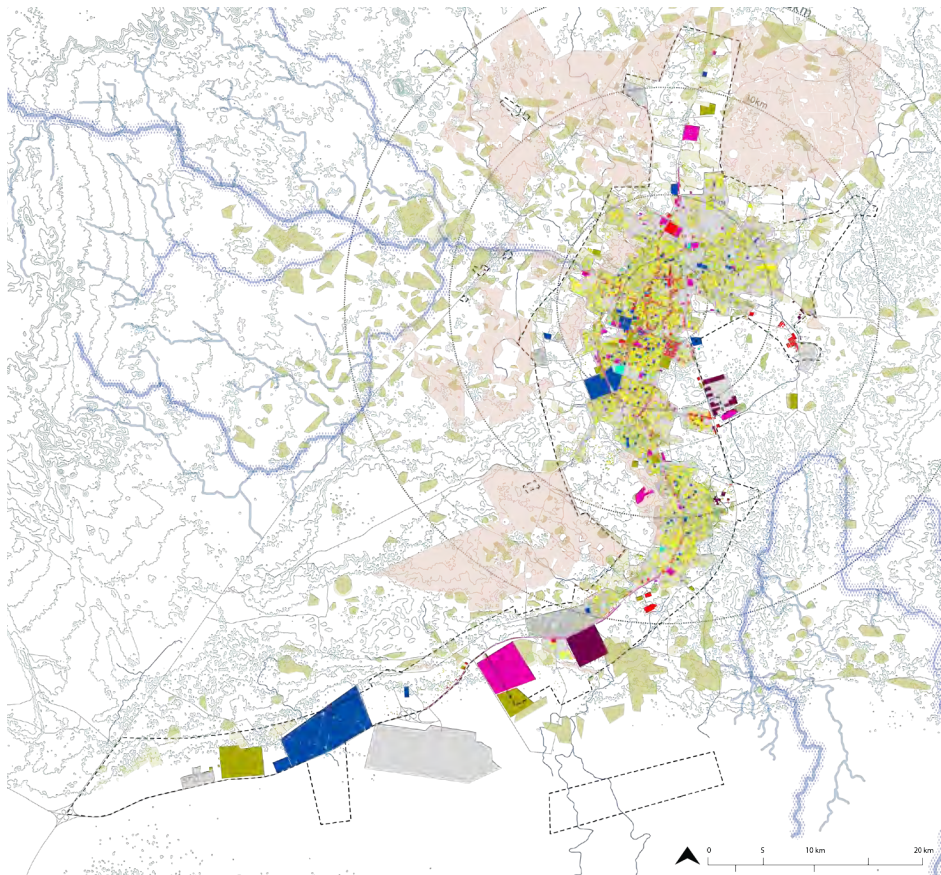
Furthermore, the imbalanced land use continues to exist in the approved land use plan for the city. For example, the residential area was doubled, whereas the industrial land use and mixed land use were decreased from the current figure, compromising the economic activity and prosperity of Skaka. The approved land use plan solely promoted low-density residential land use, which would have extensive cost implications for public infrastructure.

The approved land use plan for Skaka could be strengthened by a more balanced approach that would typically imply:

- Diversified land use
- Development of economic nodes and corridors
- Strengthened urban-rural linkages
- Balanced development of agricultural land use and industry
- Infill development through establishing development priority for vacant land
- Incremental land use development and promotion of mixed-use.
- Allocation of sufficient land use for open public space and parks
- Designation of residential land use with higher density.



Vacant land in the city



- Residential
- Commercial
- Mixed-use
- Industrial
- Agriculture
- Public facilities
- Amenities
- Government
- Religious
- Desert

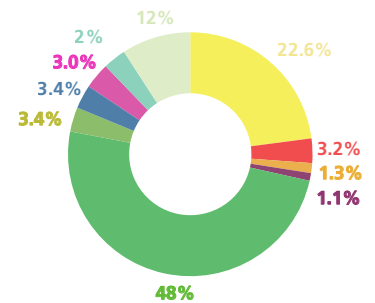
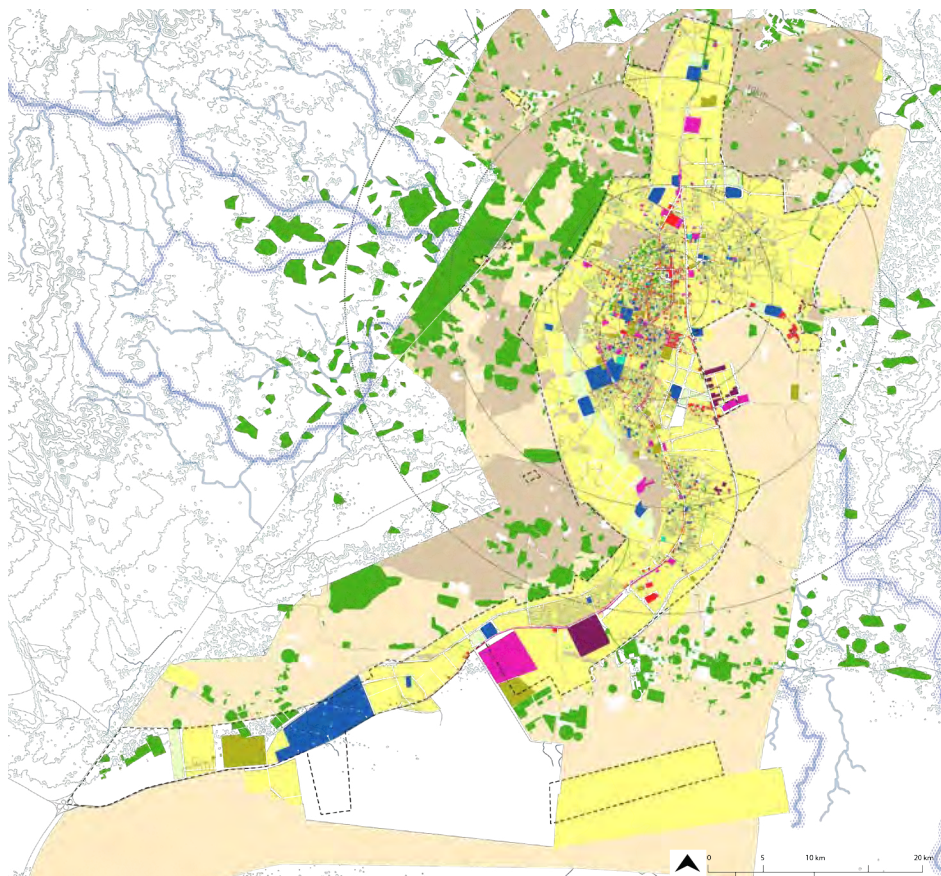


Fig. 25. Existing land use



- Residential
- Commercial
- Mixed-use
- Industrial
- Agriculture
- Public facilities
- Amenities
- Government
- Religious
- Desert

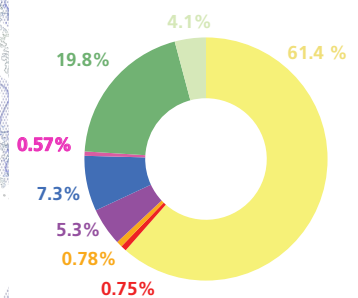


Fig. 26. Proposed land use in the Skaka Plan by the Amanah



In Skaka there is very limited area allocated for commercial activities. Within the 1450 UGB, only 3.2% of the total land use is designated as commercial land use (358 hectares), and the mixed-use urban development is almost non-existent, equivalent to around 1.3% (145 hectares). This is far from the recommended ratio of 40% by UN-Habitat.

Most of the existing commercial areas are located next to the main roads. For example, the King Abdulaziz Road, which is a backbone of Skaka City urban fabric, hosts majority of the mixed-use with relatively higher density along both sides of the artery. Similarly, the King Khaled Road being the longest in the city crossing from the North to the South, has created a continued economic corridor with commercial activities that needs to be maintained and strengthened.

This means, that people in Skaka living close to these main arteries have a better walk access to shops and businesses but the people living at the city's periphery depend totally on the car to reach the commercial facilities. UN-Habitat recommends to maximize land efficiency because it releases traffic congestion and avoids unnecessary car-trips.

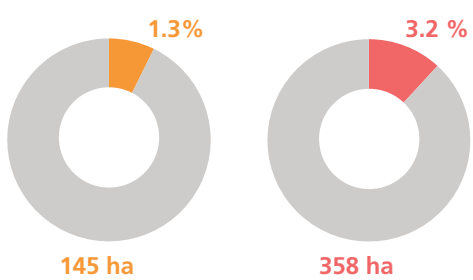
As shown in figure 27, the mixed-land use and commercial land use is already starting to expand from East and West of the main artery, and permeating the surrounding neighbourhoods. This should be strengthened as a means to promote a vibrant street life into the deprived areas of the city. The commercial use

varies from local services at a more neighbourhood scale such as, groceries, markets, butcher's shops, fish markets, beauty shops, etc. While on the other hand, there are big portions of land allocated to shopping malls, big stores, restaurants and social amenities. These malls are usually located at the city's outskirts, far away from the urban cores of activity and neglecting any kind of spatial or economic link with these areas of the city.

Future land use plan for Skaka, should re-think this kind of commercial development, that tends to concentrate the business activity into only one space, and promote more vibrant streets with mixed-use activity and walking access to commercial services.



Mixed-use street in Skaka



Mixed-use areas
Commercial areas

Fig. 27. Commercial and mixed-use land distribution



5.7.5 Vacant land

The slow urban growth process experienced in Skaka, has led to an inconsistent urban form and structure of the city, leaving many empty plots within the urban footprint. This promotes a lack of continuity in the fabric of total built-up area of Skaka, which is about 11,204 hectares. However, there still are about 3,700 hectares of vacant land within the city's existing footprint, that can be developed to create cohesion and continuity in the composition of the city. These 3,700 hectares represent 12.7% of the area inside the 1450 Urban Growth Boundary, and are able to accommodate more than half a million people at the UN-Habitat recommended density of 150p/ha.

Most of these remnant spaces have legal issues regarding the land ownership, which has provoked their abandonment with a lack of activity and maintenance. These vacant spaces are usually used to construct public infrastructure and open spaces in well-managed settlements. If these interstitial spaces are left undeveloped, it can easily result in disconnected and unsafe places.

Besides the vacant land within the city's footprints, there is also a massive amount of unoccupied land outside the city's built-up area, but within the 1450 Urban Growth Boundary. In other words, the growth boundary was set very generously and covers about 28,960 hectares of unoccupied land reserved for the future urban expansion of Skaka.

If the city expands to these limits as envisaged by land use plan, the 18,000 hectares of vacant land could accommodate an additional population of 2,700,000 inhabitants with a density of 150p/ha, a number way beyond to any population projections for Skaka. The existing built-up area of the city constitutes only around 38.6% of the entire area delineated by the 1450 Urban Growth Boundary.

In addition to the vacant land inside Skaka's urban footprint, there are also many small ancient oases around the city, with a considerable amount of vegetation that turned into abandoned green spaces. These old oases can be seen as great assets that can be reactivated with the intention of creating a network of green and public space for the city.

The analysis shows that there are substantial opportunities for new development within the existing built-up area. Utilisation of these well located land portions in an integrated development approach could yield substantial benefits in future.



Current state of vacant land located in Skaka

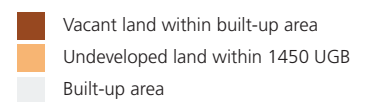
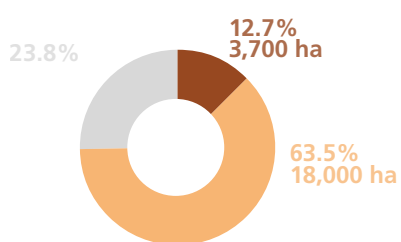


Fig. 28. Vacant land and undeveloped area

5.8 Structuring Elements

5.8.1 Major infrastructure and economic nodes

Al Jouf Region is located at the intersection of the international commercial movement from East to West and from North to South of the Kingdom of Saudi Arabia. The city of Skaka, being the most relevant city in Al Jouf, and the national growth centre of the region, is very well connected to the main arteries of movement as a result of major infrastructure development at regional and local level, especially transport routes. Skaka's transport infrastructure is composed of the main roads and secondary arteries.

The most important of them is the King Khaled Road that acts as a linear spine for the development of the city. There is no significant traffic congestion despite the prolific distribution of commercial land use on this road.

Al Jouf University, the airport and the new industrial area are also located on the South end of this main road, creating a considerable flow of people and reinforcing the North-South axis. Al Jouf Airport; which is located only 20 kilometres South of the city, is the main commercial airport

of the region, connecting the city to the rest of the country. There is a demand to transform the currently operational domestic airport into an international airport that can serve the region and beyond. Skaka is also situated on the new 1,250 kilometres long railway line from Al Qurayyat through Al Jouf, Hael and Al Qassim Regions, that terminates in Riyadh. This unique spatial importance provides a comparative advantage for the region and the city in terms of economic activities.

Figure 30 shows how the functional nodes and major economic activities in the city are interrelated with the rest of cities in the region. It is clear that agriculture is the most important sector, generating most of the local jobs for Skaka. There are also important heritage sites such as; Za'abel Castle, Doumat Al Jandal and Qasr Marid which promote tourism. As well, in Skaka one can find public infrastructure that provides services to the entire Al Jouf region, such as the King Abdulaziz Special Hospital, the Skaka Maternity Hospital and Al Jouf University.



UN-Habitat workshop presentation in Skaka with local stakeholders and ministries

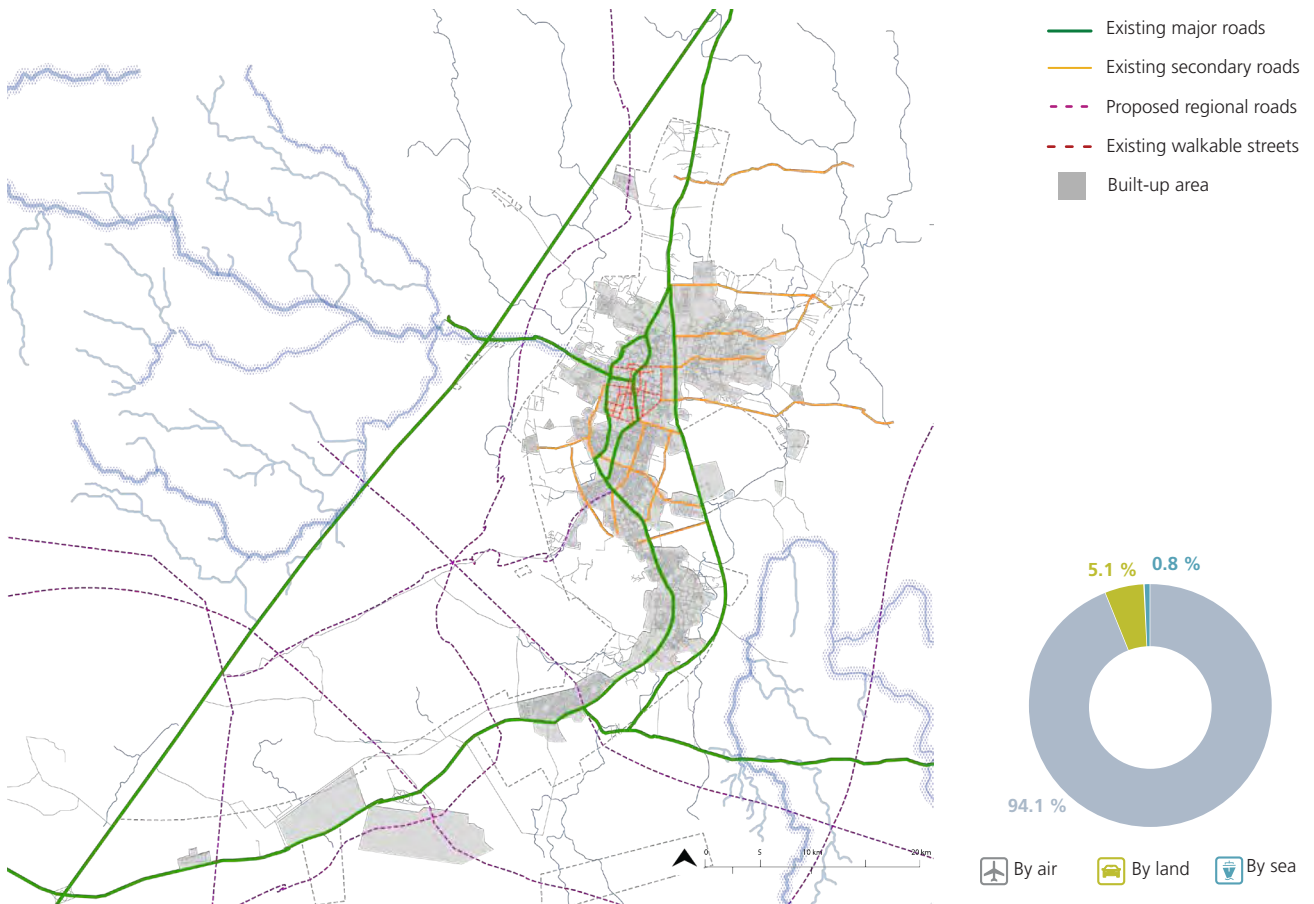


Fig. 29. Roads hierarchy

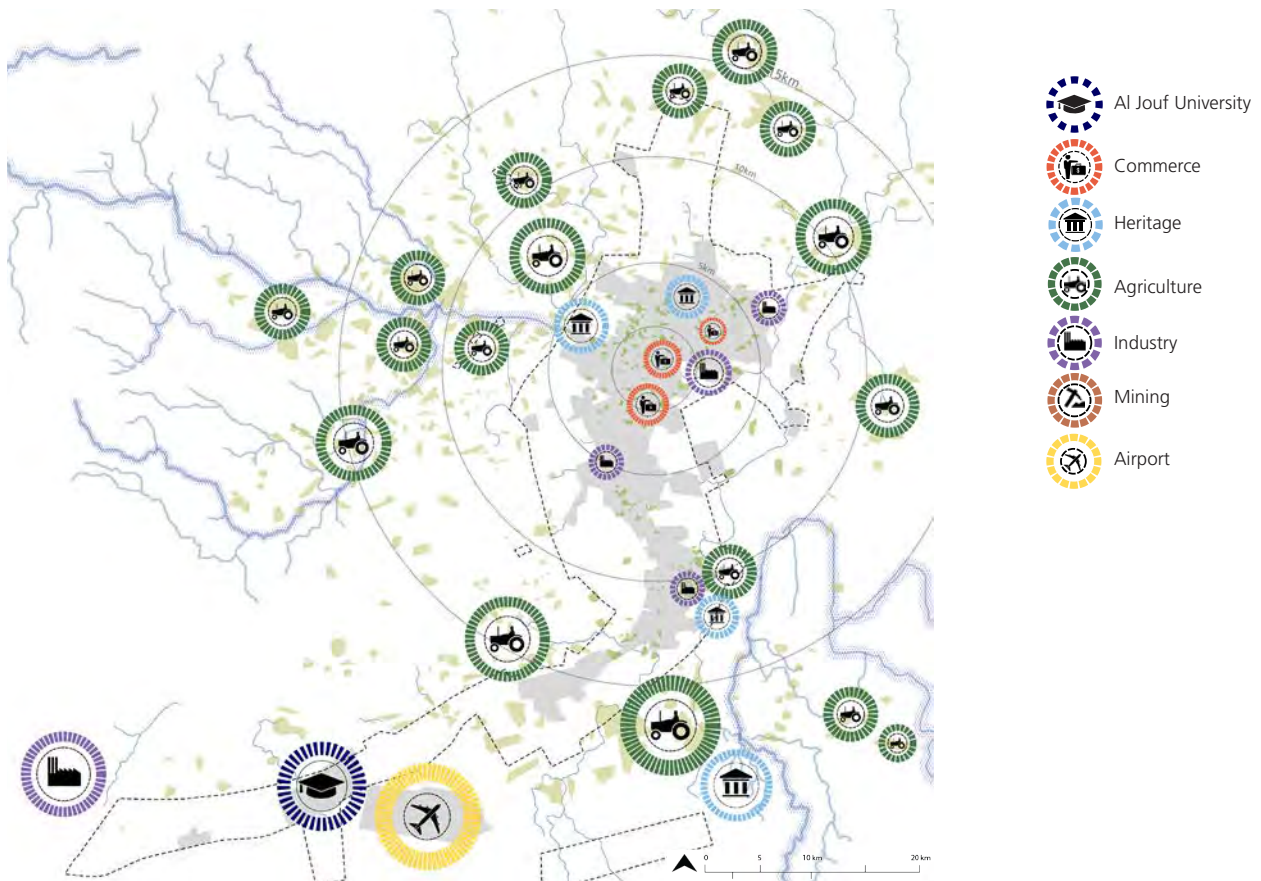


Fig. 30. Economic nodes and network



5.8.2 Natural and topographic elements

Water and agricultural lands are the two main natural elements of Skaka. They act together having a direct social and environmental impact within the territory and the city. The blue and green network supports the diverse economic and development activities of Al Jouf Region and Skaka City. This network includes the wadi floodplains, steep mountains, agricultural lands, green spaces, parks inside the city and aquifer protection areas.

According to the analysis carried out for Skaka, the water resources are facing serious risks, due to two main reasons. Firstly, the intensive new agricultural farms appearing around the city demand excessive water resources; secondly the general strategy to manage the water within the city and the agricultural fields does not provide clear policy parameters.

Although Skaka is situated on a plain that to a certain extent limits the occurrence of flooding in the city, there is still one area within the urban fabric, that faces a high risk of flooding and needs a flood protection boundary to be sufficiently established. In addition, there are some farm lands within the 1450 UGB that are at high risk, which would also require flooding protection to minimize the risk of flooding.

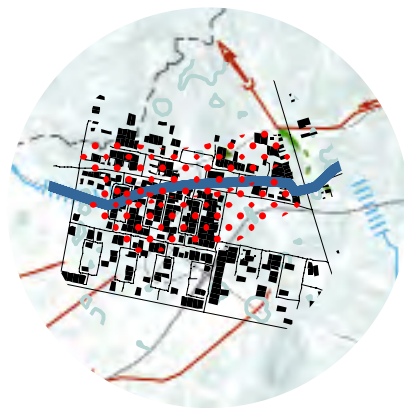
Since agriculture is the most important economic sector in Skaka, there is a strong urban-rural linkage. The existing agricultural land inside the 1450 UGB is more than 3,000 hectares in extent. Historically, the agricultural activity has permeated the central urban fabric of the city, where numerous small oases with palm trees still exist. Small scale farming used to be one of the main characteristics of Skaka, while today many of these farms are abandoned, often because of contentious property issues, and the urban farming is rapidly disappearing.

The approved land use plan for Skaka aims to increase the agricultural land inside and outside the city by adding around 5,400 hectares. It is a sustainable strategy to strengthen farming from the economic perspective, as long as it is accompanied by a water management strategy to preserve the wadis, underground rivers and water basins in Skaka. Furthermore, incentives should be created for sustainable agricultural methods that are low in water consumption, including reviving the small scale farming efforts to allow for inclusive economic benefits from the agriculture sector.



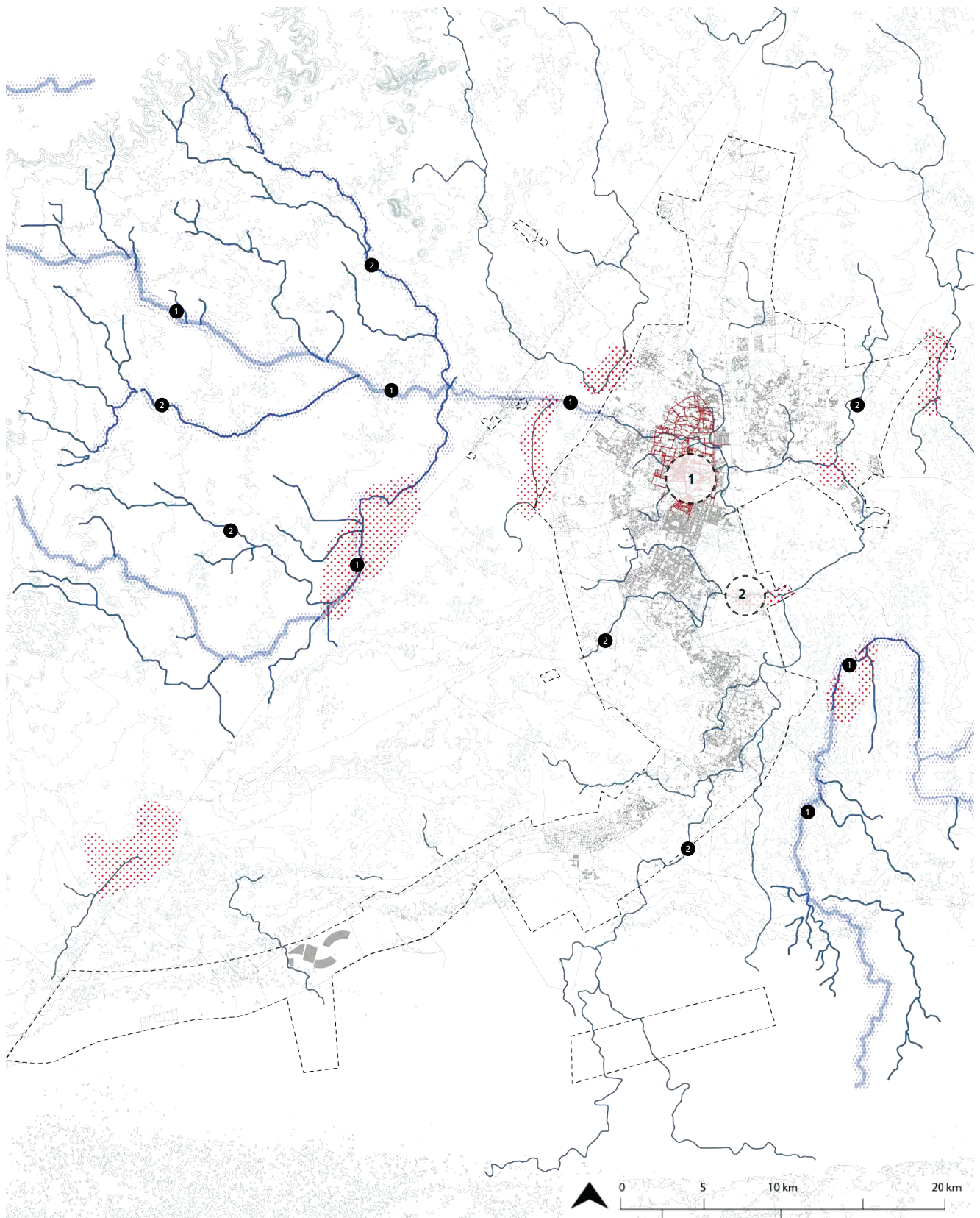
1.

There is a danger to contaminate the aquifers under the city sewage, which will have consequences on the quality of water for people and agriculture.



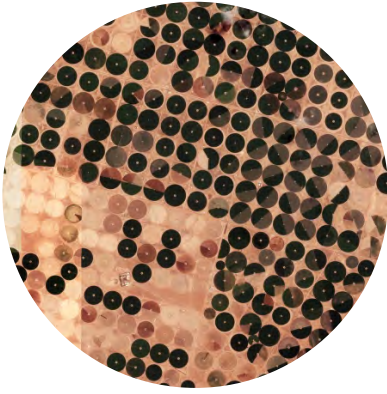
2.

Most of the risk areas are outside Skaka City, but there is one neighbourhood at risk with mostly family homes that get flooded during the raining season.



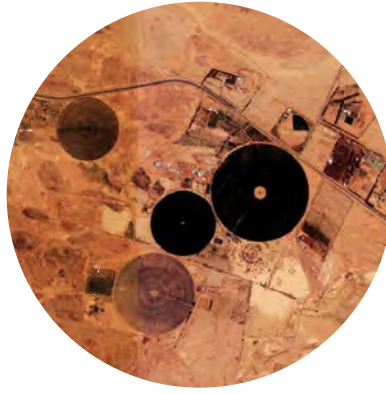
- | | | |
|--------------------|-----------------|----------------|
| Flooding risk | Sewage coverage | Main wadi |
| Buffer zone (100m) | Contours | Secondary wadi |
| 1450 UGB | Wadis | |

Fig. 31. Blue network



1.

Irrigated crop circles that represent a risk for underground aquifers



2.

Increasing irrigated crop circles in Skaka



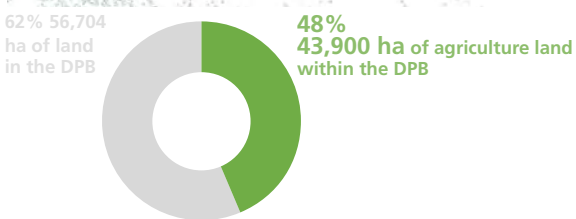
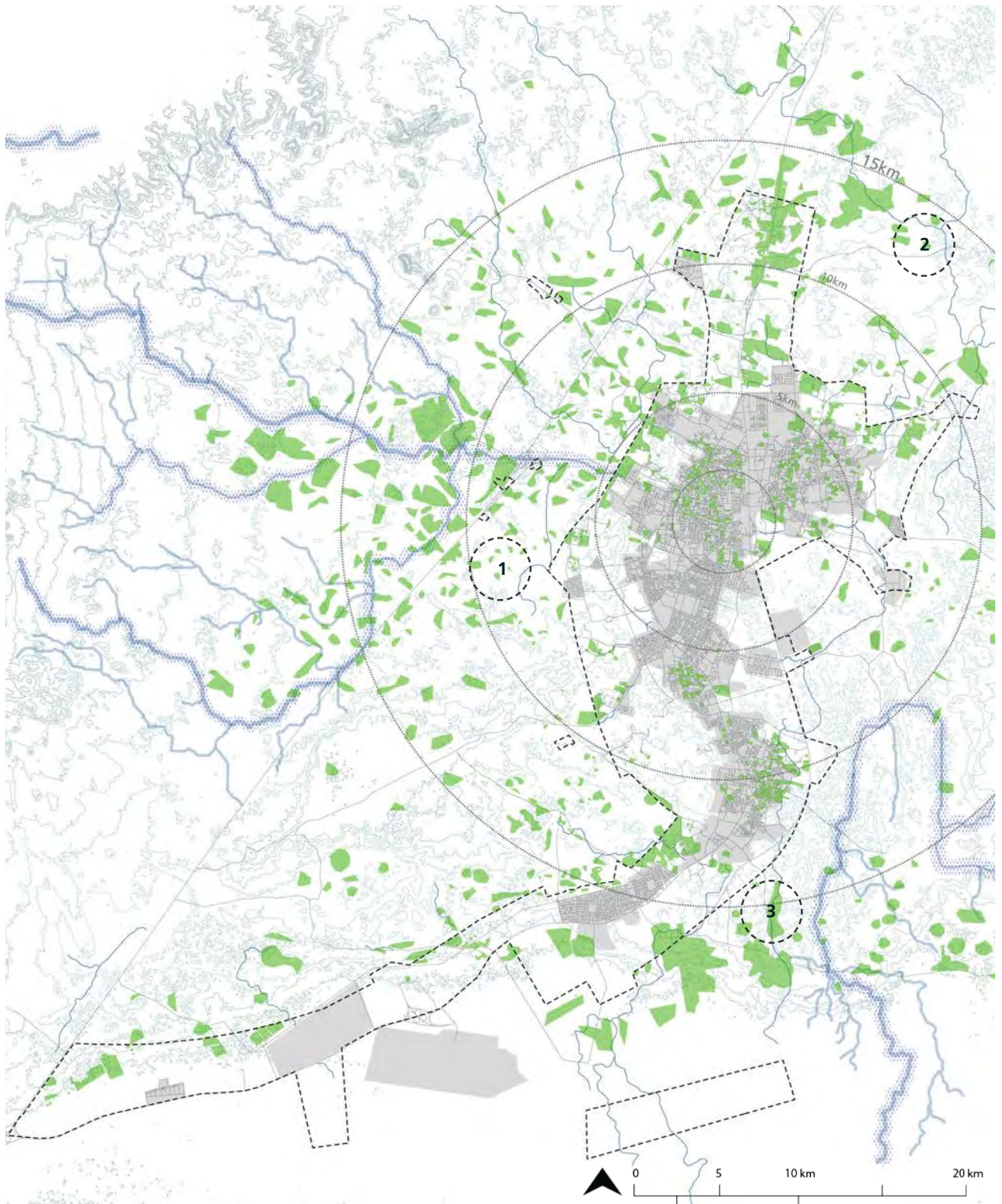
3.

Traditional farming that is not a risk for the underground aquifers



© FSCP

Olive plantations at the city's outskirts



■ Agricultural lands

Fig. 32. Agricultural land



5.8.3 Informal settlements

Informal settlements in Skaka city started to appear with the migration from the countryside into the city's periphery in the 70's. They represent only 8% of Skaka's urban fabric, covering around 896 hectares of urban land and are located mainly in the historical city centre. They are characterised by relatively high density and compact mixed-use development that is accessible within walking distance.

This pattern is replicated in other cities of the Kingdom of Saudi Arabia too. Although it is centrally located and has good urban pattern in terms of architecture and spatial structure, it is not well maintained and many of buildings are run down.

This is because inhabitants of these areas are the poorest segments of the population who end up overcrowding in small living areas, facing issues such as lack of economic opportunity and tenure security, limited access to recreation due to lack of available open public space, as well as access to social economic infrastructure.

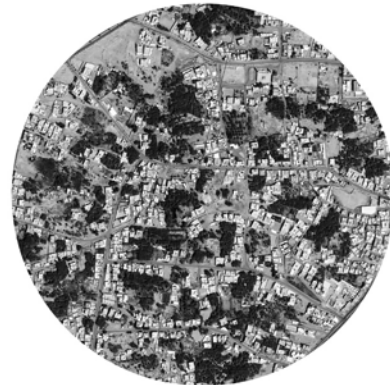
There is very low home ownership as many of residents are tenants. This part of the city is also classified as unplanned development due to its historical context.

The new developments in Skaka are mainly located at the outskirts and in some cases their location is even outside the 1450 UGB lacking access to the rest of the city.

Some of these new developments are considered informal settlements due to the absence of basic infrastructure such as sewer, potable water and public transport. These unplanned areas on the edge of the city contribute to urban sprawl and unbalanced development.



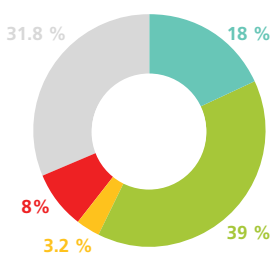
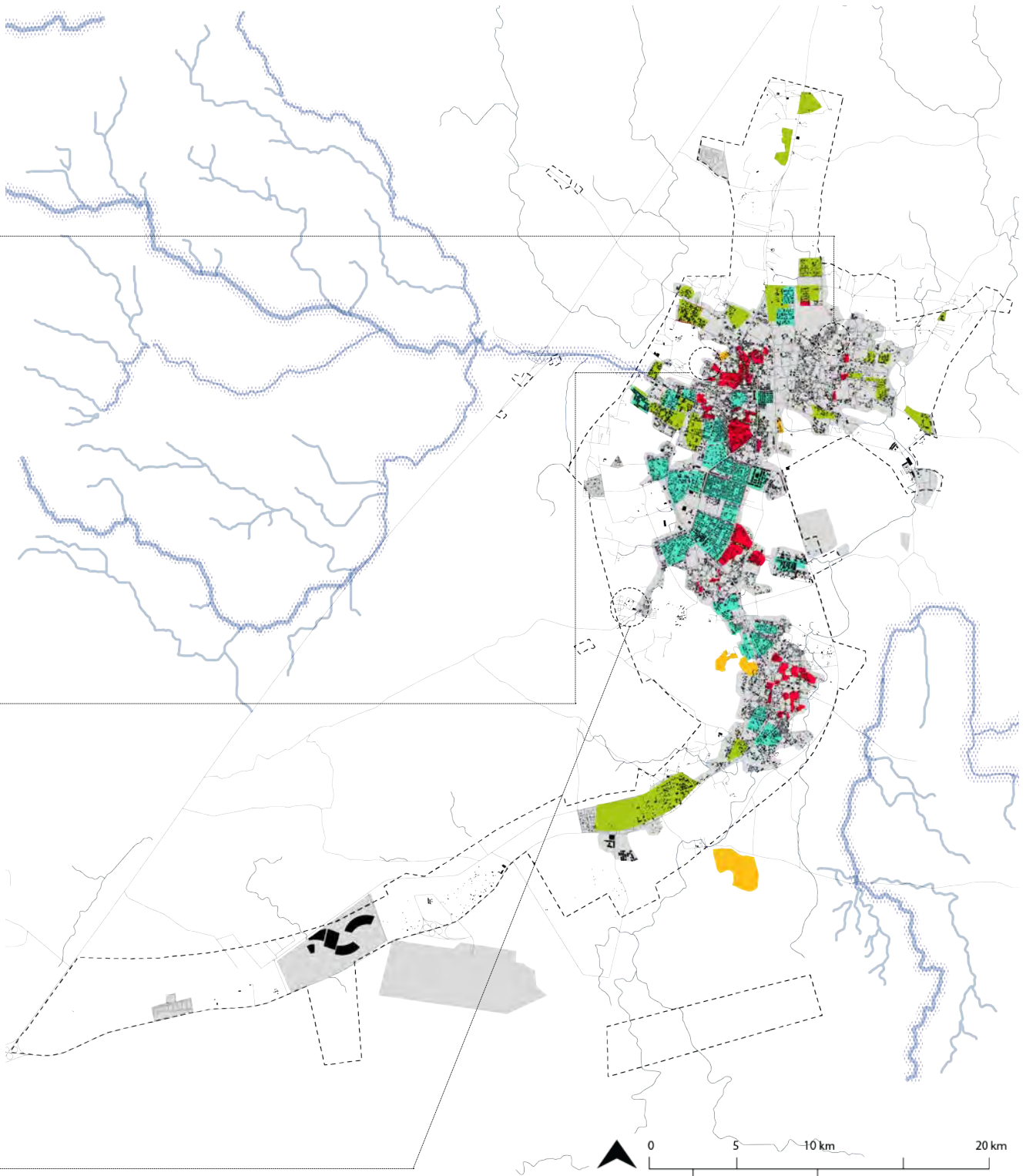
1. Urban pattern of a formal neighbourhood



2. Urban pattern of an Informal and historical area



3. Urban pattern of a sprawling development



- Unplanned areas
- Planned areas
- New development areas
- Heritage areas
- Built-up area

Fig. 33. Planned / unplanned areas



5.8.4 Movement and accessibility

Skaka has a linear urban structure articulated by the King Khaled Road that crosses the city from North to South. It serves as a backbone, linking the secondary roads from West to East that lead to the residential areas. This road also connects the city centre, and the big infrastructures located at the South of Skaka. To understand the movement pattern of the population, a GIS accessibility model has been applied to test the accessibility to the commercial and business central district of the city. Both motorised and non-motorised accessibility has been analysed.

The result showed that only 7.3% of the population has walking access to the centre within a ten minute walking distance. This is quite low for such a small size city. Measuring vehicle accessibility indicates that 82% of the population can reach to the centre of Skaka within 15 minutes. It indicates that the street pattern of Skaka was designed mostly for motorized vehicles, and not for pedestrians. If this pattern of development continues it will result in a more unsustainable and inefficient urban form. The expansion of the Al Jouf University and new industrial infrastructure in the South of Skaka would significantly increase the travel trips on the North-South axis. Skaka does not face severe traffic congestion yet, but there is a possibility of having traffic congestion on King Khaled Road in future if there is no transition and promotion of public transport oriented policies. Relying on private car ownership as a major form of transportation would bring along negative side effects, such as infrastructure cost, health issues and air pollution.

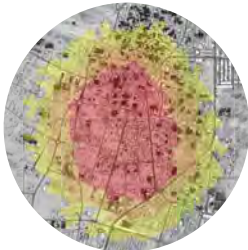
Accessibility to Public Facilities

The number of social infrastructure in a city reveals the quality of life the inhabitants have. The city should aim to offer equal amount of opportunities to every inhabitant, leaving no one excluded. In Skaka, the accessibility to the social infrastructure such as education and health represents a good coverage for the majority of the population. The analysis indicates that 80% of the population has access to the education facilities (primary and secondary schools) within a 10-minute walking distance. This demonstrates the fact that majority of people are covered by social infrastructure.

Likewise, accessibility of health facilities is reasonably high, with 150,000 people having access within a 10-minute walking distance. These health facilities include hospitals, healthcare clinics, Red Crescent and other specialized hospitals. This high coverage verifies the strategy that aims to provide appropriate healthcare to all Saudi residents. As part of this strategy the Prince Muhammed Bin Abdulaziz Medical City was built to provide high quality health care to the entire region. Regarding health and education facilities, the locations were coherent with the density of population, which means the most dense areas of the city have ample social infrastructure covering the needs and providing better accessibility. The accessibility analysis indicates that Skaka is well positioned for access to community facilities although walkable access to commercial areas and centres of production is limited. The relatively compact linear structure of Skaka offers an opportunity to implement public transport and walkable networks that will greatly improve accessibility and sustainable future urban form.



People walking at the more dense fabric of the city



18% of Skaka's population has walking access to the city center

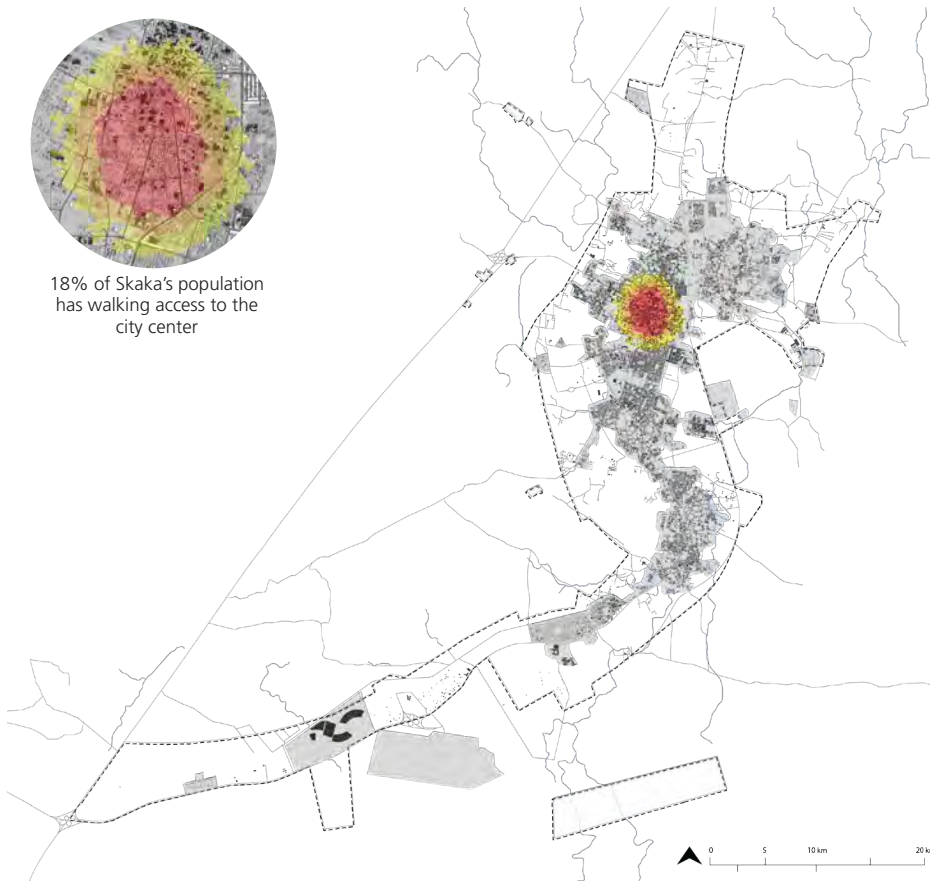


Fig. 34. Walk access to the city centre

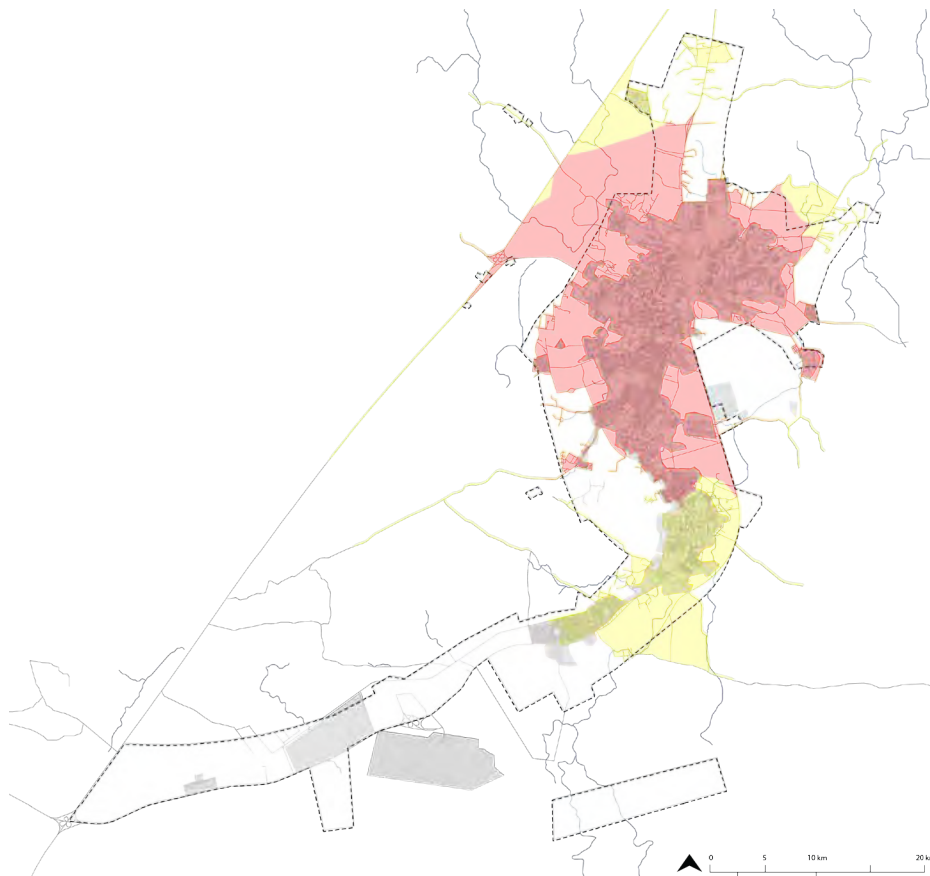
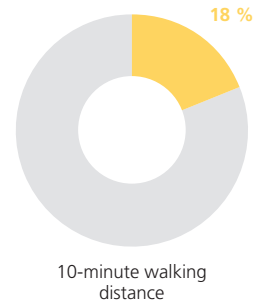
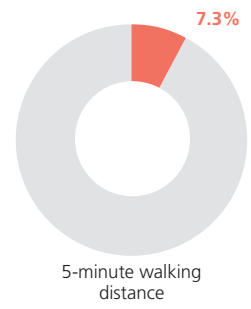
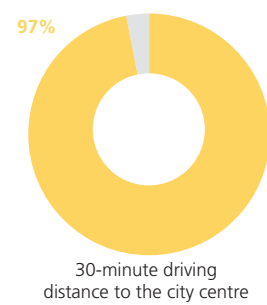
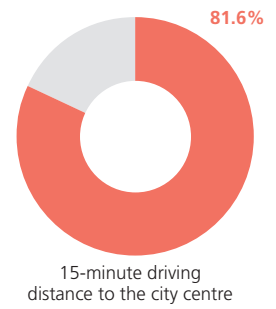


Fig. 35. Drive access to the city centre



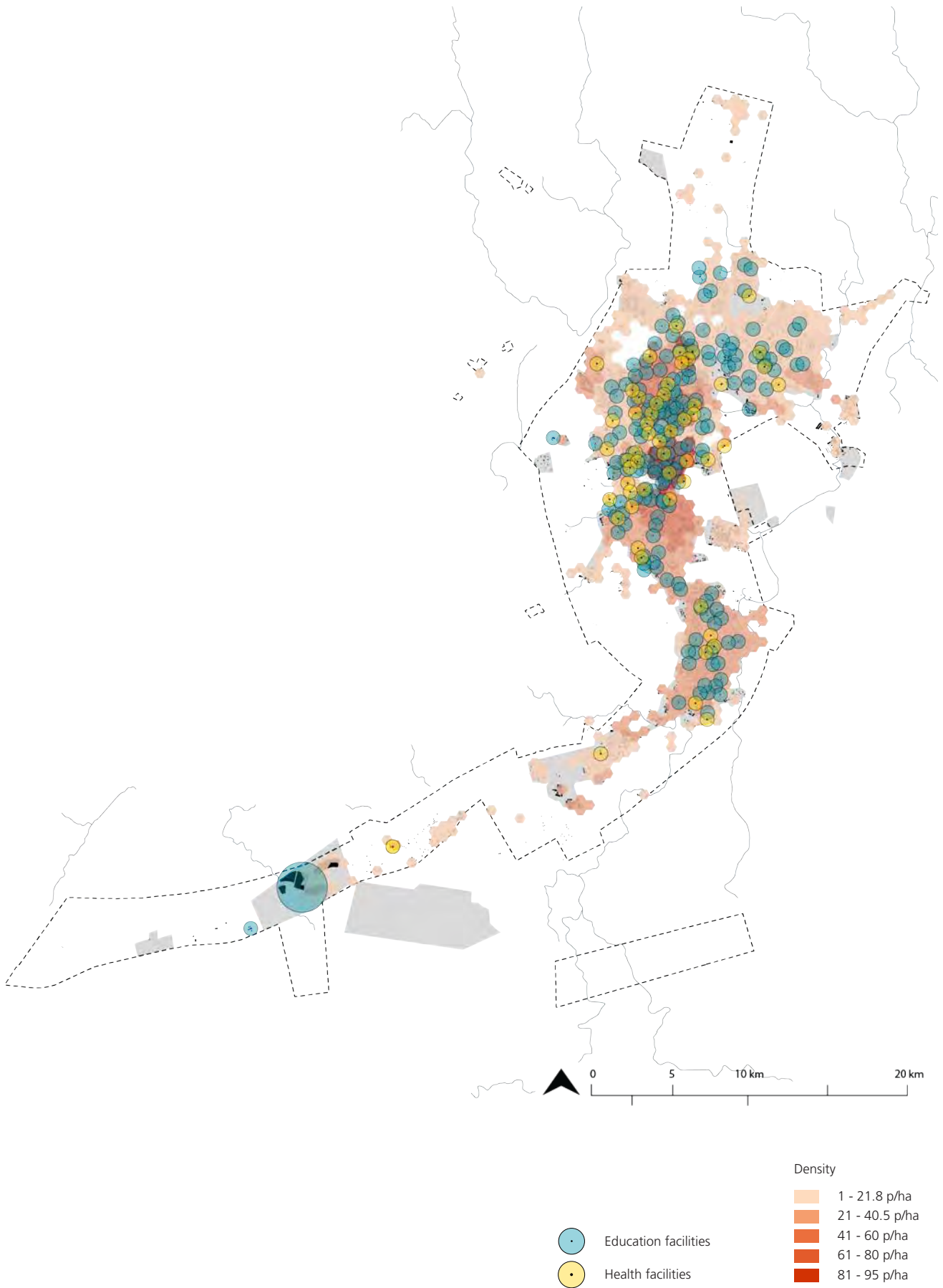
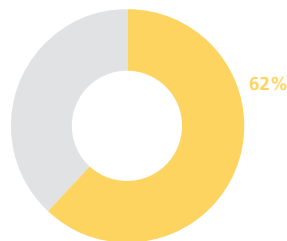
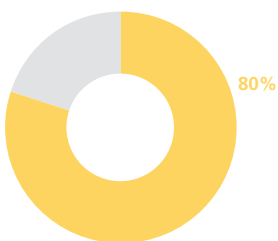
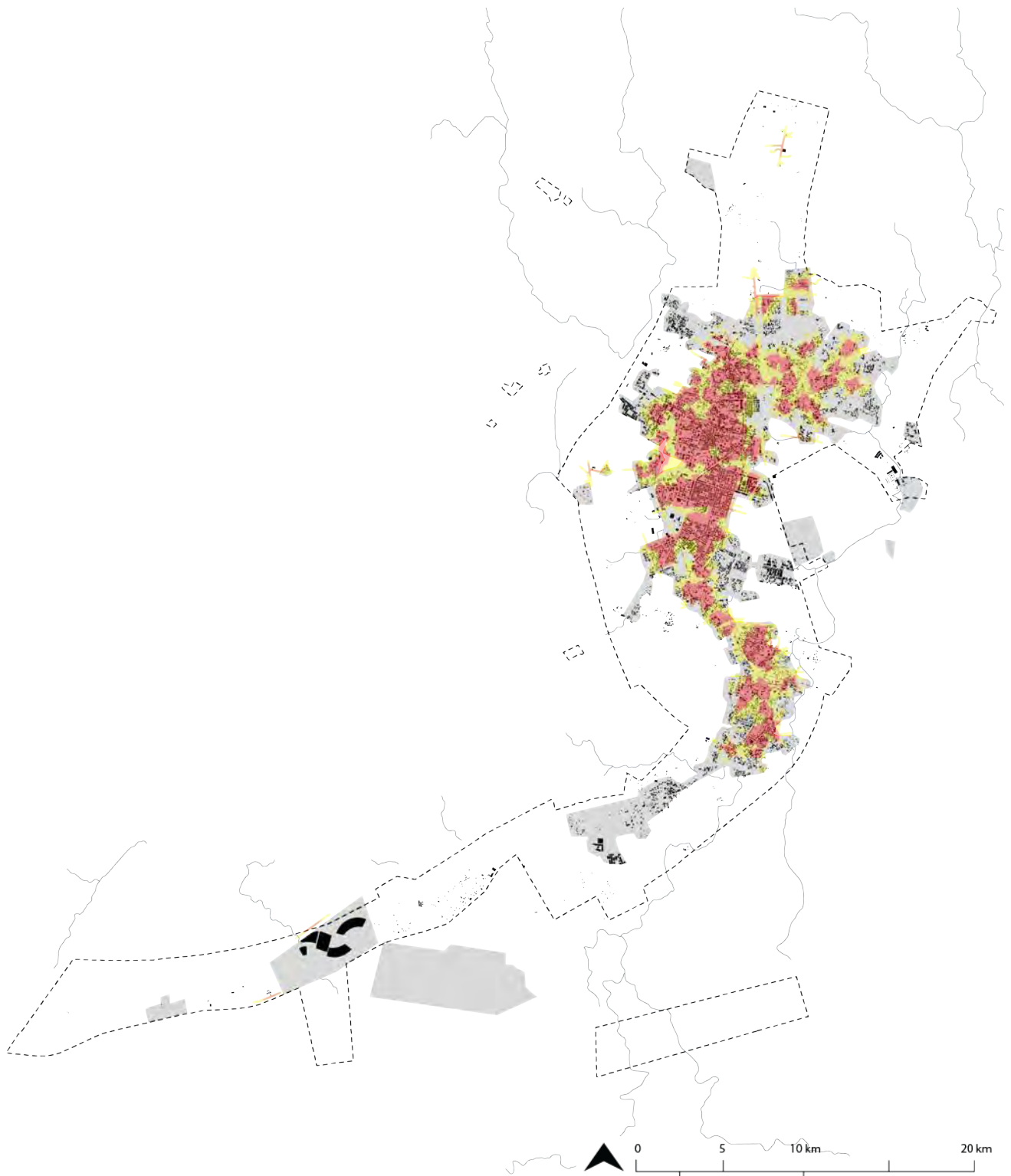


Fig. 36. Location of public facilities



5-minute walking accessibility
10-minute walking accessibility

Education access within 10-minute walking distance

Health access within 10-minute walking distance

Fig. 37. Walk access to public facilities



5.8.5 The Skaka Plan

The Structural Plan approved by Skaka Municipality was prepared in the context of economic development in the national strategy. The priorities for the national plan where to;

- Improve living standards and quality of life.
- Saudisation of the work force and providing job opportunities for all Saudi citizens.
- Expanding of education, training, health and social services.
- Expanding applied and technological sciences.

According to the review and analysis of the plan for Skaka (1409) the main key issues and concerns are;

- The lack of a body structure in the legal aspect of the plan that integrates the legislation in Skaka with the land development policies.
- The lack of coordination and dialogue between Ministry's at the local and at the National level to develop a common vision for the city.
- The obsolete Development Protection Boundary that was defined by MoMRA, needs a revision and a proposal that responds to the specificity of the city, the urban growth patterns and the future vision for 2030.

The main weaknesses of the current plan for Skaka are:

- The lack of increase of density numbers inside the urban fabric of the city;
- The urban expansion in a monofunctional direction without taking into account the best practices for land designated for commercial and mixed-use purposes;
- The lack of a plan for the future relationship between the agricultural sector, the industrial sector and the urban expansion;
- The lack of a clear strategy for a public transport system in the city;
- The lack of a comprehensive water management strategy that responds to the actual and future demands of the urban population, as well as the new intensive farming areas;
- The lack of a clear legal and financial strategy to deal with land tenure issues of the abandoned oases inside the urban core of the city;
- The low amount of public spaces proposed for the city.



Garbage accumulation in the informal areas

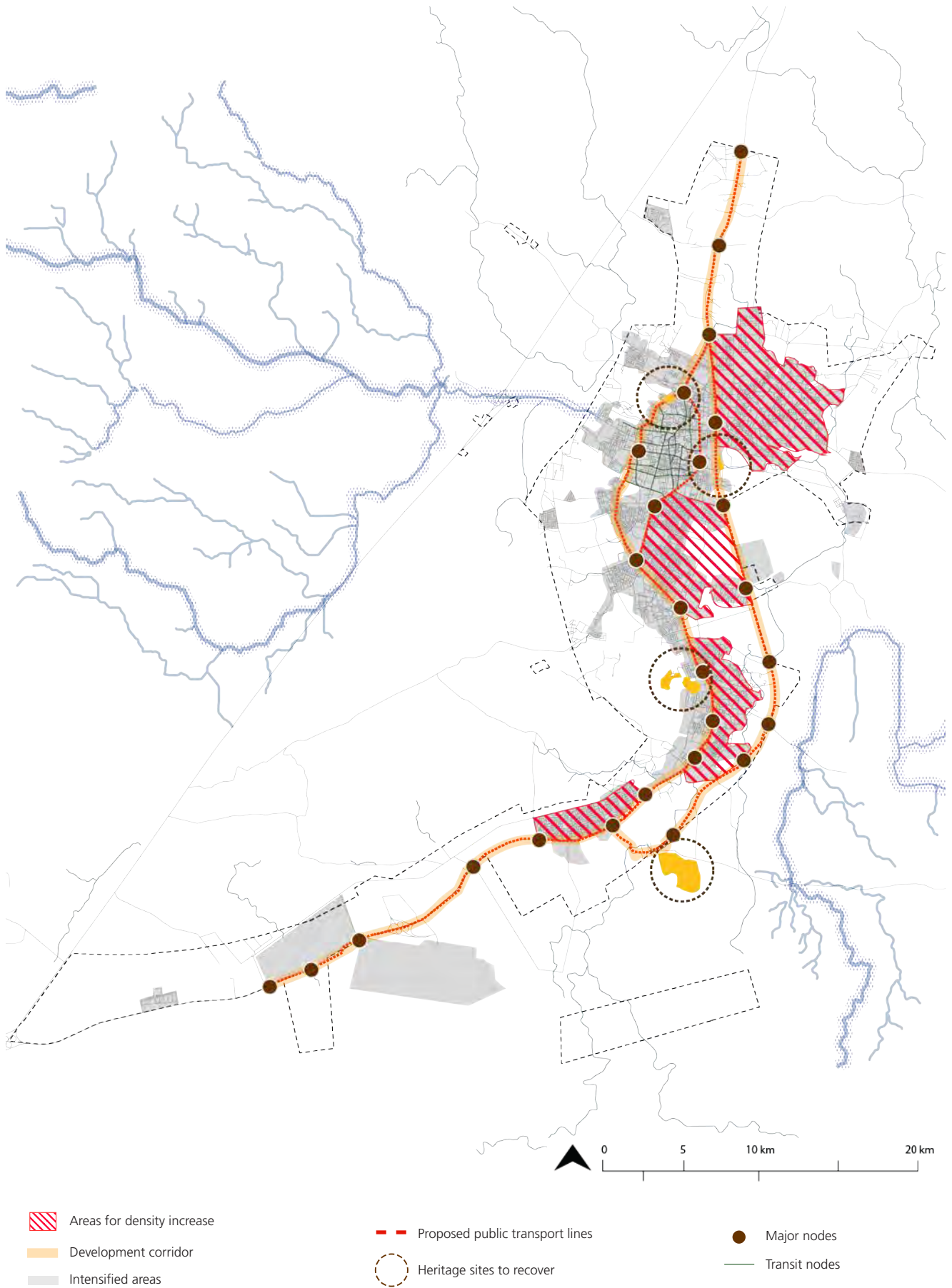


Fig. 38. The Skaka Plan recommendations



5.9 Urban Density Scenarios

Crosscutting the diagnosis of the current urban conditions and the approved/submitted projects proposals, FSCP operated a scenario-analysis for increased urban density under comparable conditions. The scenarios depict three conditions: the current condition, the projected condition based on the implementation of the approved planning instruments, and a condition in which density distribution is allocated according to the City Profile's recommendations. The UN-Habitat scenario is based on the Five Principles for Sustainable Neighbourhood Planning, which are as follows:

1. Adequate space for streets and an efficient street network: The street network should occupy at least 30% of land and at least 18 kilometres of street length per km²,
2. High density: At least 15,000 p/km², that is 150 p/ha or 61 p/acre,
3. Mixed land use: At least 40% of floor space should be allocated for economic use in any neighbourhood,
4. Social mix: availability of houses in different price ranges and tenures in any given neighbourhood to accommodate different incomes; 20% to 50% of residential floor area should be reserved for low-cost housing, no single tenure type should exceed 50% of the total,
5. Limited land use specialisation: This is to limit single function blocks or neighbourhoods; single function blocks should cover less than 10% of any neighbourhood.

Current Condition

The current population in Skaka amounts to 242,813 people with an average population density of about 21.6 p/ha within the 11,204 hectares of built-up area, and is well below the UN-Habitat recommended density of 150 p/ha. However, some developments have started to appear outside the urban core, disrupting the compactness of the city while adding financial pressure into the local municipality in terms of the demand of water, electricity, waste management, education and health for this new areas.

The UN-Habitat recommendations state that an average density for a city should be around 150 p/ha. Nevertheless, the highest number of density in Skaka appears to be around 90 p/ha. Considering the small size of the city, this number is considered adequate. But the problem is that this density figure can be found just in few areas where mostly non-Saudis live and work. This reflects a divided society that is not sharing and experiencing the space in Skaka in an equal manner.

Scenario 1: 2011 Skaka Plan and Vision 2030

Based on Vision 2030, the strategy of approved land use plan of Skaka is to limit the expansion of the city (urban footprint) up to the 1450 Urban Growth Boundary and keep the rest of the territory between this boundary and the Development Protection Boundary as preservation area. According to the

Skaka land use plan, the planned built-up area is supposed to increase to 28,960 hectares, hosting a total population of 354,000 people. Even with the increase in population, the density will decrease to 12.2 p/ha over the built-up area.

Scenario 2: UN-Habitat Recommendations

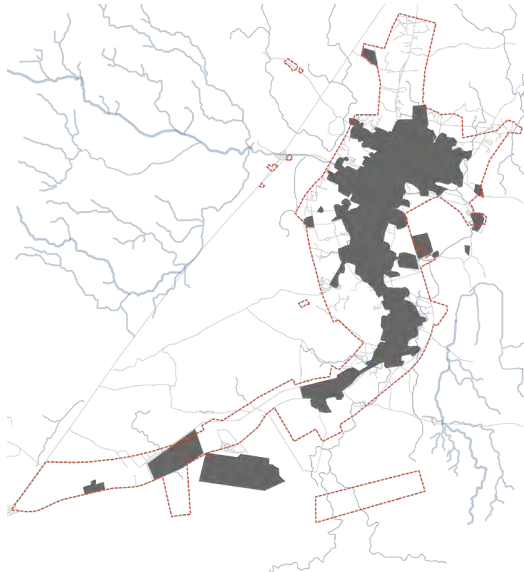
The UN-Habitat scenario supports sustainable neighbourhood planning for Skaka, starting with promoting an increase in density, in line with the average UN-Habitat recommended density of 150 p/ha. This scenario indicates that there are 3,700 hectares of area still available within the existing urban footprint, whereas only 741 hectares of land is required to accommodate future population growth of Skaka by 2030.


The scenario shows that it is not necessary to grow outside the current urban footprint and suggests strategic interventions to support policies that will facilitate the densification of existing urban areas, thus provide the citizens with maximum benefits for an improved quality of life at an affordable cost.


Therefore, even if development is restricted to the 1450 boundary as the land use plan proposes, it would still be an overreach and resulting in sprawl. A sustainable strategy requires densification of existing urban footprint to enhance a compact city form and the accessibility of services in order to use existing serviced areas to their maximum potential. The scenario proposed based on the UN-Habitat recommendations suggests limiting the urban expansion of the city and increasing the density in the existing urban footprint by introducing mixed land uses and developing the existing vacant land inside the urban area to provide land for public facilities and open spaces.




CURRENT CONDITION

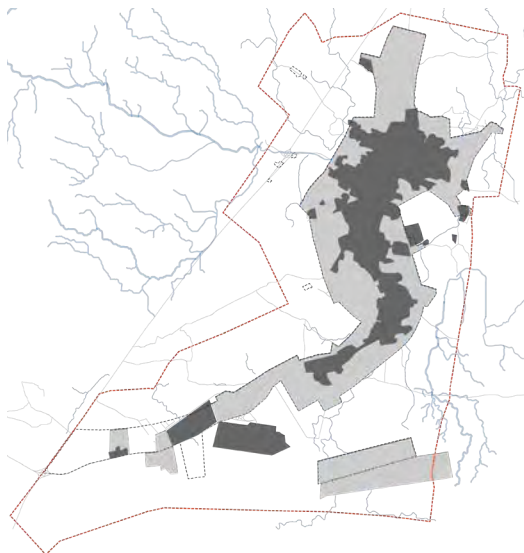



population  **242,813**

built-up area  **11,204 ha**


average density on built-up area  **21.6 p/ha**

SCENARIO 1: VISION 2030 AND THE SKAKA PLAN

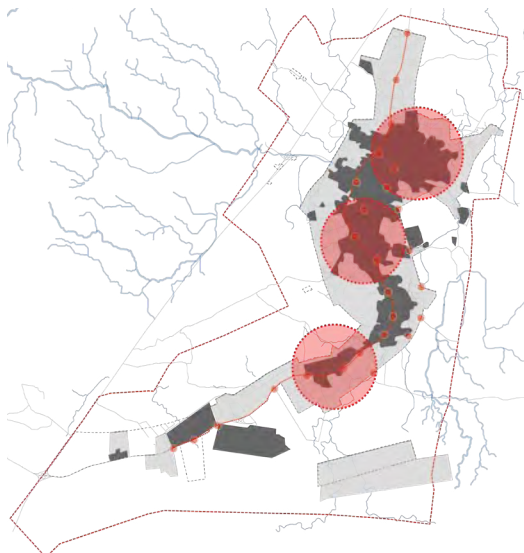



population  **354,000**


planned built-up area  **28,960 ha**


average density on planned built-up area  **12.2 p/ha**


SCENARIO 2: UN-HABITAT RECOMMENDATIONS



population  **354,000**

built-up area needed according to UN-Habitat recommendations  **2,360 ha***

vacant land needed to accommodate the new population growth  **666 ha**

average UN-Habitat recommended density  150 p/ha

* less than 1/20 of the built-up area proposed by the Skaka Plan

5

STRATEGIC DIAGNOSIS



6.10 Identifying and Defining Main Strategic Issues

During the evidence-based and cross-scalar analysis, three main issues affecting sustainable urban development in Skaka were identified. These issues represent the strategic framing of a complex diagnosis, synthesised through three conceptual lenses. These lenses are firstly defined in their conceptual nature, and later contextualised by an examination of their spatial manifestation in Skaka, at different scales.

6.10.1 Unbalanced growth and development patterns

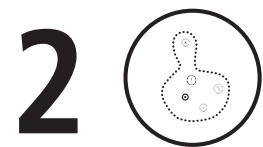
This often happens when a city grows rapidly, presenting a widespread sprawl phenomenon that manifests in inharmoniously balanced developments across its territorial extension. Dysfunctionalities in urban management, both institutionally and experientially, are brought to light. In this scenario, the city demonstrates low-density and does not perform effectively, its services and facilities are not well-balanced in distribution and access, which results in inequitable citizenry experience. This condition additionally makes the provision and maintenance of basic services and transport infrastructure costly and challenging. This is most visible in the sprawling development happening outside the consolidated urban area of Skaka.



[SPRAWL]

6.10.2 Monofunctional and polarised development

When a city showcases a predominance of extended monofunctional zones and lacks in mixed-use areas, this implies a polarised development. This is particularly acute in cases in which monofunctional developments are distantly scattered and isolated from the rest of the city. In Skaka, the urban structure is characterised by monofunctional clusters of economic or social activity that amounts to socio-spatial polarisation, creating inequality with highly variable levels of access between different urban areas. Overall, various forms of polarised development result in inequality in a city, the most obvious example of which can be characterised by socio-economic segregations such as private compounds and gated communities, with high quantity and quality of services when compared to the majority of the consolidated city, in which they are lacking. This is especially true for the new foreseen development in Skaka, most of which are monofunctional and far from the rest of the consolidated city.



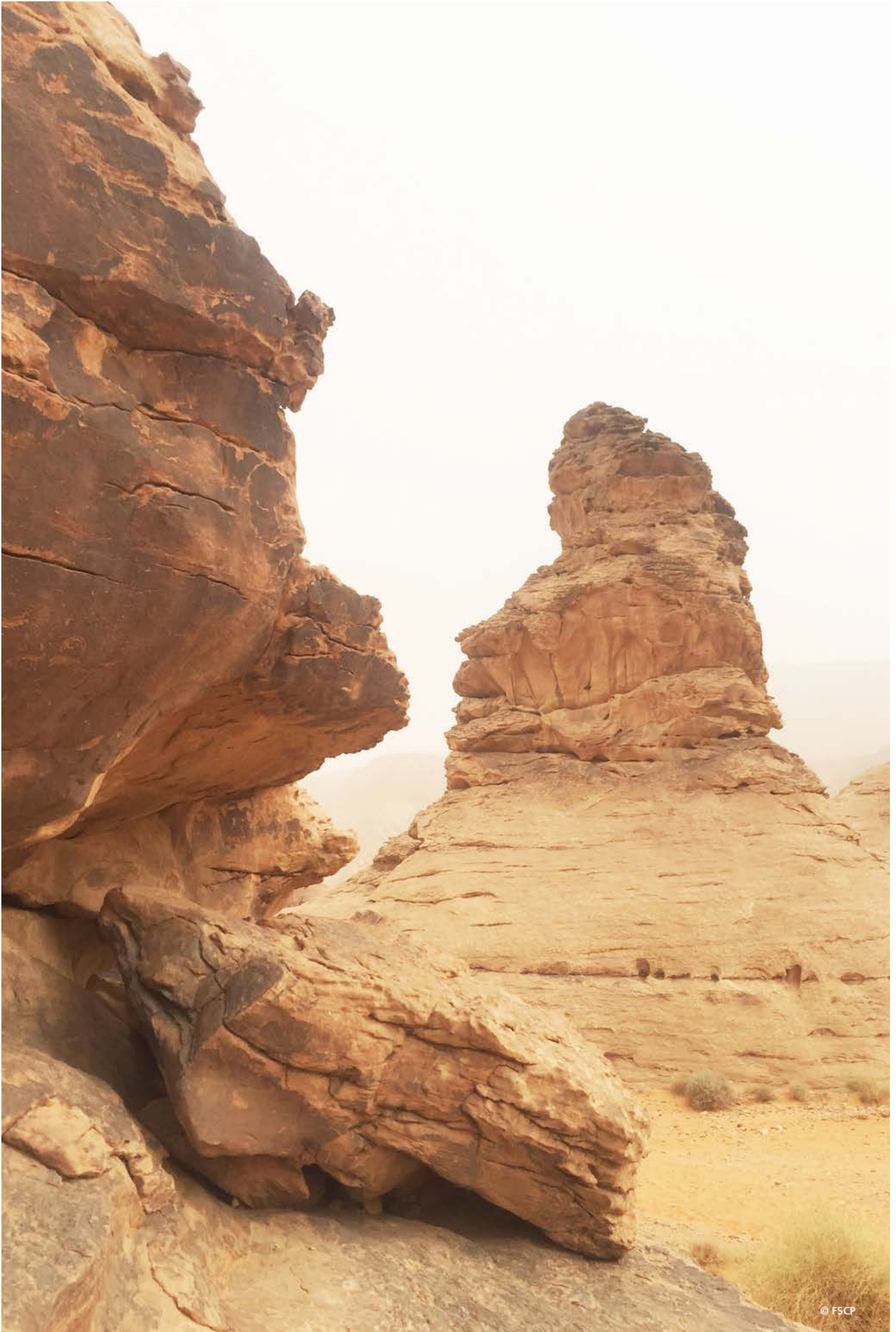
[SPATIAL INEQUALITY]

6.10.3 Socio-ecological and economic imbalance

Each city is formed by complex social, economic and ecological systems. In a sustainable city, the balance between these three interrelated systems is maintained and enhanced over time. If any one system is given continued preference over the others, over time, a structural imbalance will emerge that alters the sustainable trajectory of the city's growth and development. This misalignment generates an issue in terms of water provision and food security, heavily impacting other socio-spatial aspects of the city's health. A good example is the case of the agricultural industry, where an urban economic system grows and supports the city. However, if it is not managed appropriately by avoiding widespread intensive industrial farming that depletes water resources, it can affect the natural recharge mechanisms of the aquifers and damage the hydrological system of the region, in a permanent way.



[LACK OF RESILIENCE]



© FSCP

Landscape in Al Jouf Region



6.11 Analysing Skaka's Three Issues in Depth

6.11.1 Skaka's unbalanced growth and development patterns

Skaka does not adequately represent the phenomenon of leapfrog urban expansion and fragmented development patterns, as pronounced as in other Saudi Arabian cities. The city developed along King Khaled Road, preserving a linear structure and a relatively compact form, that eases the management of the city. The city demonstrates a positive character of a strong single building block that supports the overall sustainability of the urban structure, which should be maintained with future growth. However, this current linear and compact urban structure is still endangered by the emerging trend of urban sprawl, therefore, pushing development toward the outskirts of the urban area. The new sprawling developments threaten the current compact structure at risk, and thus corrective measures should be taken.

As shown in figure 39, Skaka is expanding along two main directions, where new residential developments and isolated services have started to emerge. Towards the Northeastern part of the city, there are several new expansions, as well as towards the South, where the airport and Al Jouf University are located. These recent developments in the periphery of the city resulted in a density of 22 p/ha, which is extremely low, compared to the UN-Habitat recommended density of 150 p/ha. Furthermore, these developments usually emerge as pockets detached from the existing urban fabric, which generates a sprawled and fragmented growth of the urban area. In other words, the city expands beyond its edges despite large tracts of vacant land located right in the heart of the city that remain underutilised and undefined in land use. This leapfrog development pattern dangerously promotes sprawl as it lowers density and hinders the efficiency of urban management.

Urban sprawl causes inefficiency in urban management and an elevated financial cost for the government in terms of delivery and maintenance of infrastructure and public services. In a sprawled city, the cost of providing access to electricity, sewage, and clean water by the municipality is higher than in a compact city. Additionally, maintenance capacity is also affected as infrastructure networks are more widespread. The low density of population does not compensate the costs through an ordinary revenue system.

In the case of Skaka, urban sprawl can still be controlled and managed by enhanced legal mechanisms, which, together with appropriate planning, and supported by ad-hoc urban policies, can promote a more compact urban form. In this framework, redevelopment of available vacant land must be prioritised with the goal of densifying the urban fabric, to achieve efficient and sustainable urban growth.



1. New type of developments appearing in the city's outskirts, without access to infrastructure (Water, sewage, electricity).



2. Developments that were built some years ago and have public infrastructure (Water, sewage, electricity) but are still unpopulated, and promoting a monofunctional city expansion.



3. Peripheral residential-only private development, with very low density, vacant land and no infrastructure.

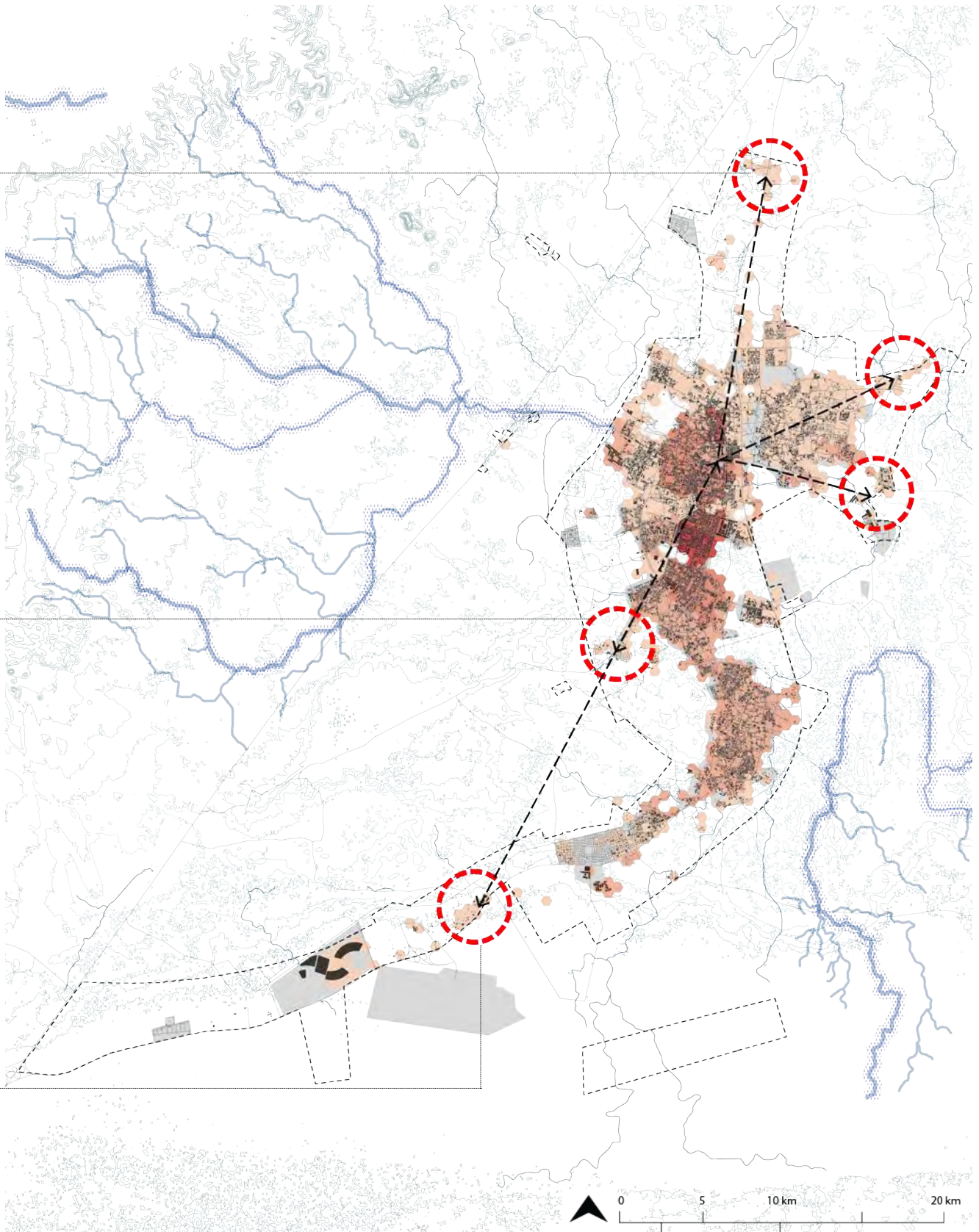
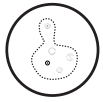


Fig. 39. Skaka's unbalanced growth and development patterns



6.11.2 Skaka's monofunctional and polarised development

Skaka demonstrates polarised development in relation to distribution and mix of functions within the city. Unbalanced distribution of public services, infrastructure facilities, commercial, and public areas, creates inequality between different urban areas. This is particularly true for the large-scale institutional land uses located in the Southern end, which, with their remote location and monofunctional character, reinforce urban polarisation. Ideally, universities and public facilities should be integrated into the existing city as anchor points to strengthen both the urban structure and its functionality. In the older core of Skaka, mixed-use areas, bringing together commercial, residential, and public service, are seen frequently. These areas not only create a vibrant urban life but also boost economic activity and vitality. Conversely, the polarised, monofunctional islands undermine and weaken the current mixed-use city center, affecting overall urban integration and functionality aspects in the future. To integrate these parts with the current and future urban system, especially with public transport, will require substantial interventions.

The approved future land use plan for Skaka suggests to predominantly infill the area delimited by the 1450 UGB, with residential use. The direction of this development does not improve the issue of polarisation; instead, it escalates the existing issue of expanding monofunctional developments. If this development pattern does not change, Skaka runs the risk of consolidating these urban archipelagos as poorly serviced, self-contained areas rather than moving toward an integrated, well-balanced, and interconnected urban system. Moreover, besides expanding the monofunctional residential areas, the approved land use plan envisages a conflict between residential developments and agricultural land.

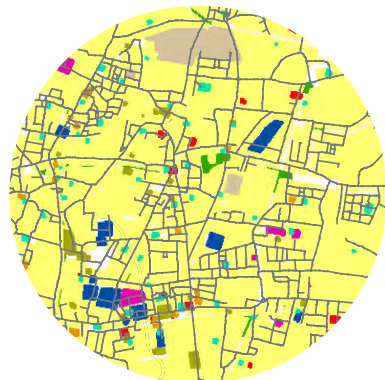
Skaka, having a rural character and strong bond with its agricultural identity should consider the aspects of preservation and integration of agricultural land use within the urban fabric as a priority. Instead of encroaching and competing, agricultural land use and other urban functions must be integrated and harmonised in order to achieve a sustainable urban form that supports economic development.

The three different zooms show a more fine-grained land use distribution, giving a better understanding of the issue. The first one showcases the city centre of Skaka, where the traditional mixed-use areas can be found. This area can be considered as a model of dense urban fabric, providing higher residential density operating together with a variety of functions, in an integrated manner. Unfortunately, in most of the Saudi Arabian cities and in the case of Skaka, these areas are usually considered "informal" and degraded, creating a misunderstanding towards such urban patterns in both the planning culture and the perception of the population. The second zoom showcases an area in the Northeastern urban edge of Skaka. In this area, diversity of land use starts to weaken, displaying a more monofunctional residential area. The proportion between commercial activities, public infrastructure, and residential developments is no longer well-balanced. The zoom shows how the low-density residential

area occupies at least 85% of the total land, while other functions barely reach a 10-15% ratio, resulting in an unbalanced distribution and lack of integration of functions in the urban environment. The third zoom is an example of urban extension, as per the approved future land use plan of Skaka, where the disproportion is even more dramatic. As a matter of fact, the area predominantly consists of residential land use, with no services and no commercial facilities. Such a development pattern must be avoided to address socio-spatial polarisation and prevent inequality amongst the residents.



1. Area of the city with high percentage of land designated to commercial and economic activities.



2. Area of the city with a medium percentage of land designated to shops, public infrastructure, health, education, markets.



3. Area of the city with absence of land designated to mixed-use. Most of the new residential developments are following this model of urbanism, which affects the performance of the city in terms of life quality.

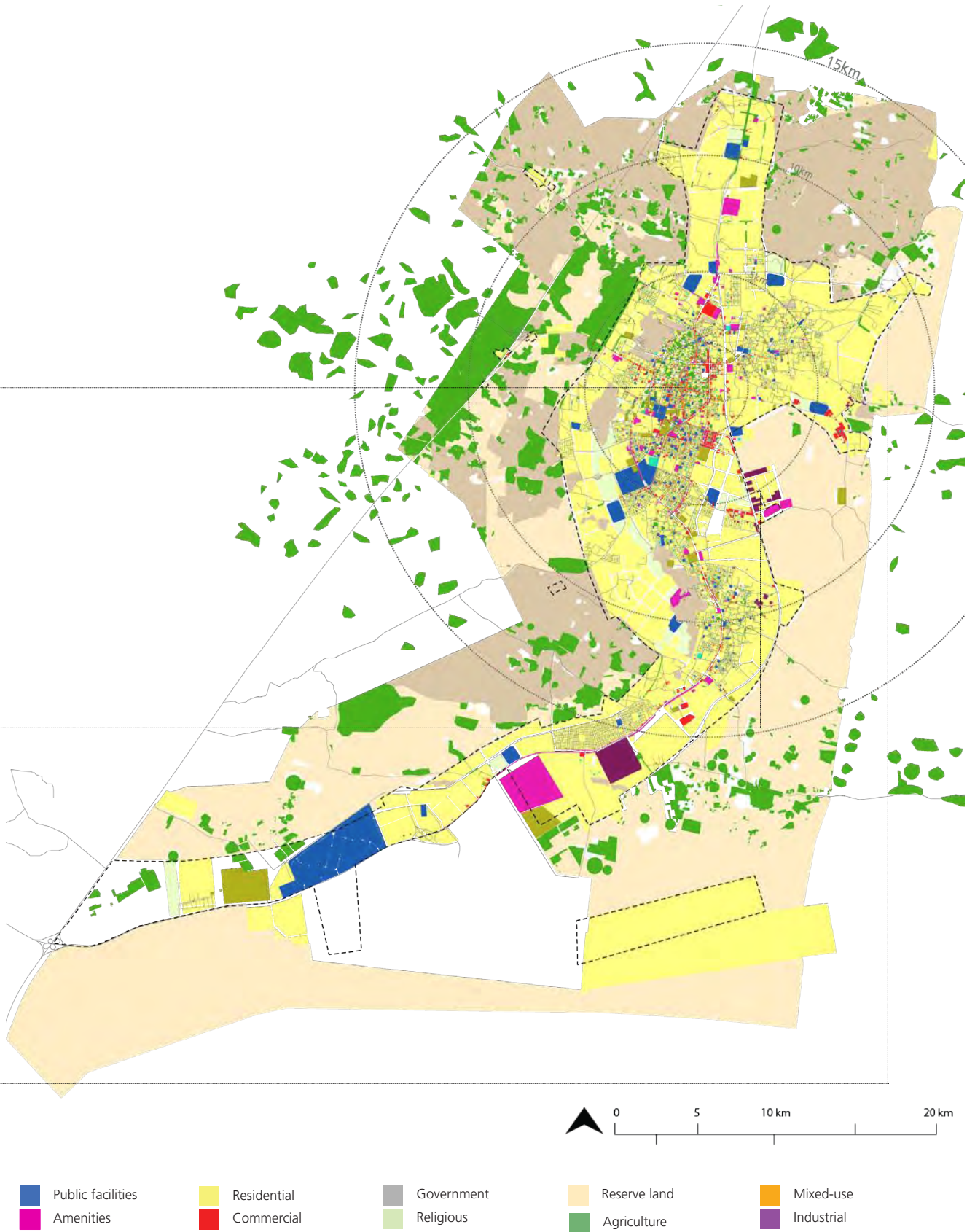


Fig. 40. Skaka's monofunctional and polarised development



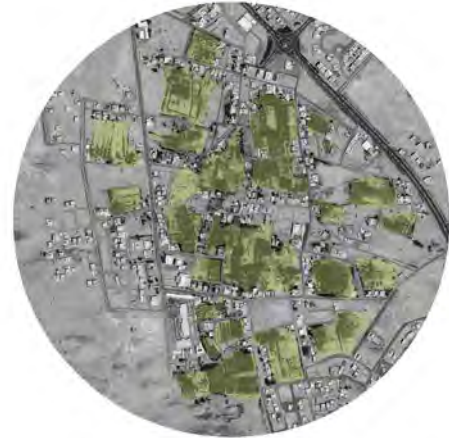
6.11.3 Socio-ecological and economic imbalance in Skaka

Skaka has a strong rural character, due to both the agricultural lands surrounding the city, and the numerous farms still existing within the urban footprint, some of which lie abandoned. Moreover, Skaka has important heritage sites, some of which are located in close proximity to the urban area, together with the agricultural lands and wadis, and this could add cultural value to the city.

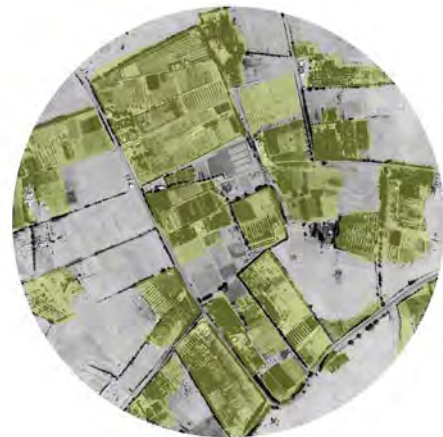
Preserving the agricultural land and integrating it with the other land uses while the city grows and develops, in order to retain and build on its identity and peculiar characters, is vital for Skaka. Nonetheless, the city does not showcase enough public green, and open spaces. The World Health Organization (WHO) recommends that cities should provide a minimum of nine square metres of open space per person. As the projected population of Skaka for the year 2030 is 354,000 inhabitants, 318.6 hectares of open space should be provided for the city to reach the minimum international recommendations.

In addition, existing green spaces inside the urban fabric have no linkage or strong relations with the farms on the outskirts, as well as with the wadis and the general watershed system, which constitutes the blue network. This disconnect weakens the capacity of the evapotranspiration phenomena and combating heat island effect by linking it to a blue and green network that will help reduce it. In addition, while agriculture is a primary activity for the city, the intensive industrial farming model taking foot in the area is not sustainable water-wise, and inherently pushes agricultural activities further from the built fabric. The pressure of new and intensive farming models, which begin to dominate the agricultural production over the traditional models, are increasingly putting the non-renewable aquifers at risk. In the long term, the current situation will not be sustainable in economic and ecological terms.

All of this defines an imbalance between the way available natural resources are exploited to support economic growth. It is therefore important to develop an enabling strategy to balance economic development while preserving and enhancing the wealth of blue and green networks, in order to ensure future sustainability of Skaka. Agriculture and tourism should be regarded as leading sectors in the economic development of both the region and the city. In conjunction with industrial development, preservation of agricultural land and natural resources, as well as the conservation of heritage sites, deserve critical attention in order to strengthen their linkage with future development strategies.



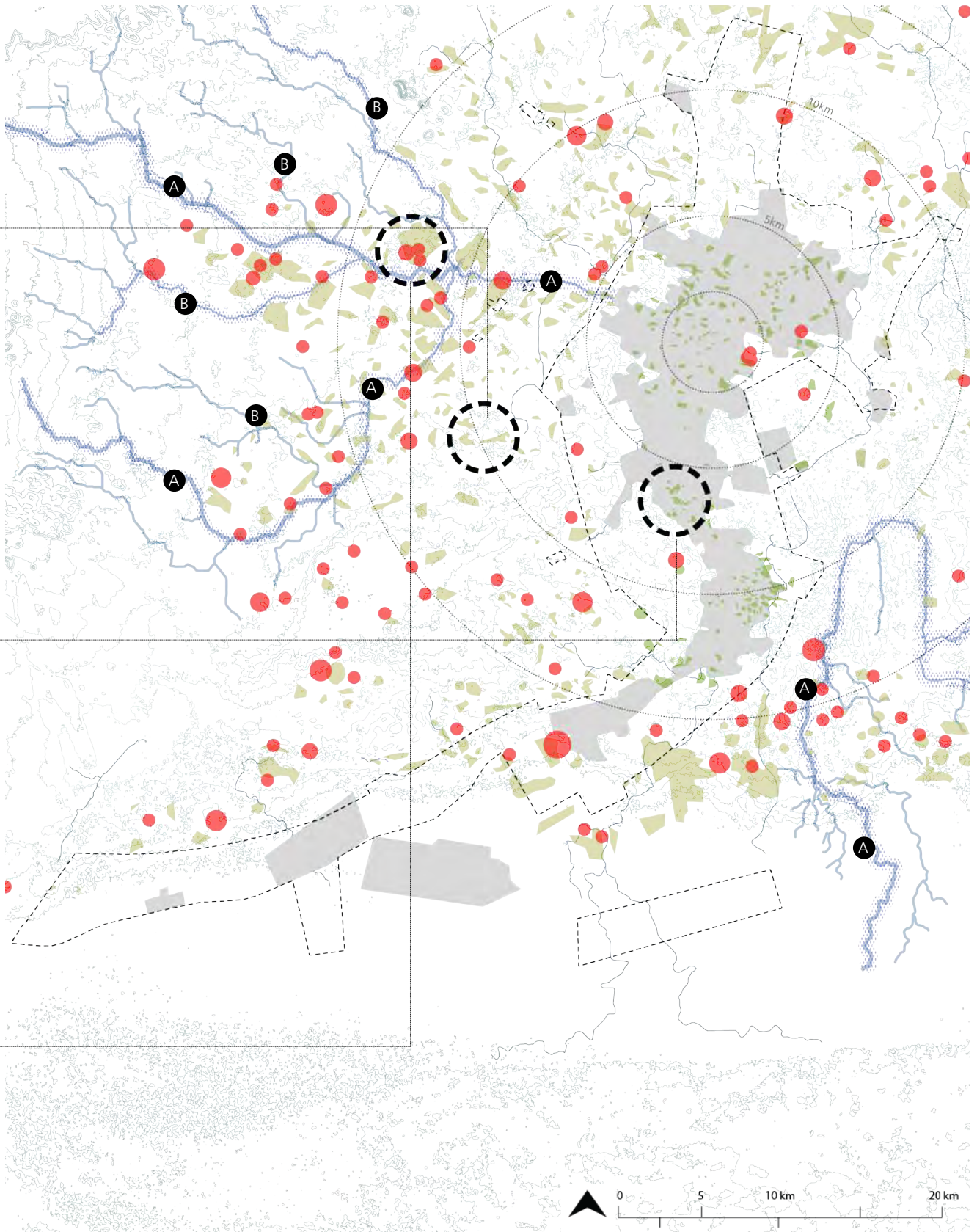
1. There are many hectares of agricultural land located inside the urban footprint that are abandoned and have the potential to be reactivated for economic gains.



2. Traditional, small scale model of farming dates and olives in the desert that does not compromise the underground aquifers.



3. On the ground, these circles are as wide as the aquifers are deep—about a kilometre, or .62 mile—and are formed by the use of center-pivot irrigation sprinklers.



- A Main wadis to be protected and managed
- B Secondary wadis to be protected and linked to the agricultural farms
- Existing traditional agricultural fields
- New intensive irrigated crop circles with non renewable water
- Wadis buffer zone

Fig. 41. Socio-ecological and economic imbalance in Skaka

6

THE FUTURE CITY



7.12 Strategic Responses

After performing a strategic diagnosis, and identifying three main issues affecting the urban development of Skaka, three strategic recommendations were identified in response. Akin to the three strategic issues, the above-mentioned three strategic recommendations define the conceptual framing for a systemic and strategic level of solutions. Once defined in their conceptual nature, they are developed into a more detailed description, spatially interpreted and contextualised in Skaka, at the various scales. This is followed by a roadmap to implementation, in the form of an articulated Action Plan.

7.12.1 The Compact City

According to UN-Habitat principles, cities need to encourage spatial development strategies that take into account the need to guide urban extension, prioritising well-connected infrastructure and services. A Compact City is envisioned as a high-density urban settlement, characterised by mixed-use development, dense and vibrant urban areas, and well-distributed services and facilities, (such as hospitals, parks, schools). Establishing spatial and legal mechanisms to consolidate a Compact City can increase accessibility and walkability, therefore increasing use of public transport and public space, reducing congestion, boosting the local economy, and increasing interactions across society. Policies to promote urban compaction involve the promotion of urban regeneration, the revitalisation of town centres, restraint on development in rural and peripheral areas, promotion of higher densities and mixed-use development, and the concentration of urban development around public transport nodes.



7.12.2 The Inclusive City

The New Urban Agenda (NUA) requests commitment from cities in the promotion of diversity in cities and human settlements, to strengthen social cohesion, intercultural dialogue, understanding, tolerance, mutual respect, gender equality, innovation, entrepreneurship, inclusion, identity, safety, and the dignity of all people, while fostering liveability and a vibrant urban economy. Skaka needs to implement UN-Habitat Principles and develop a vibrant, sustainable and inclusive urban economy, building on endogenous potentials, competitive advantages, cultural heritage and local resources, as well as resource-efficient and resilient infrastructure; This can be achieved through the promotion of sustainable and inclusive industrial development and sustainable consumption and production patterns. This should be considered in parallel with fostering an enabling environment for businesses and innovation for provision of sustainable livelihoods.



7.12.3 The Resilient City

A Resilient City takes into consideration appropriate built form and physical infrastructure to increase resilience to the physical, social, and economic challenges that arise from depleting carbon-based fuels and climate change. As such, a Resilient City can be defined as a sustainable network of physical systems and communities²⁷, in which these physical systems consist of both the constructed and environmental components of the city. According to the New Urban Agenda (NUA), cities need to ensure environmental sustainability by promoting clean energy and sustainable use of land and resources in urban development, protecting ecosystems and biodiversity, promoting sustainable consumption and production patterns, reducing disaster risks, as well as mitigating and adapting to climate change. These elements amount to resilience. A Resilient City also supports and is mutually supported by its territorial systems, activating positive urban metabolism mechanisms, ensuring a reliable supply and balanced value chains. For Skaka, this means re-assessing the city's relationship with its natural features and their functions as social, ecological, and economic infrastructure, with specific reference to the blue and green networks.





© FSCP

Restoration of Za'abal Castle to promote tourism



7.13 Appropriate Models for Skaka's Urban Development

7.13.1 The Compact City: Consolidating and densifying development in Skaka

Skaka is mostly composed of low-density residential areas, with the exception of the older city centre, where higher-density and mixed-use patterns stand out. In order to achieve more compactness, new development outside the urban footprint should be limited, while new dense and revitalised developments should be promoted within the city, by using the available vacant land within the urban footprint. With this perspective, vacant land gains a vital role in consolidating the development and increasing the current density, while allowing for the introduction of public spaces into the city's existing urban fabric. Simultaneously, it becomes fundamental to define and enforce a strong edge, corresponding to the limit of the existing urban footprint, to contain the new sprawling developments.

With the goal of consolidating and densifying future development, a series of areas for strategic densification were identified in various parts of the city, following criteria linked to the availability of vacant land and density patterns distribution. The first area to be targeted by strategic densification is the area surrounding the existing city centre, which already presents a mixed-use area as well as having the highest-density in the city. However, a consistent amount of vacant land is also present in the area and could be developed to strengthen the role of a mixed-use centre as the main urban core. Other areas selected for enacting strategic densification, as shown in figure 43, are in the South of the city where the Al Jouf University and the airport are located; the Northeastern part of the city expanding through the new developments; and, lastly, an area South of the existing city centre, which currently presents a dispersed and fragmented urban fabric with abundant available vacant land. The densification of these areas would contribute to the enhancement of a compact linear development of Skaka.

Aside from targeting strategic densification in the selected areas, low-density development within the existing urban fabric should be generally addressed by redeveloping and introducing higher-density, mixed-use areas, when possible. Considering Skaka's annual urban growth rate of 3%, and the amount of available vacant land currently inside the footprint, it appears that there is no need for expansion beyond it, as the available vacant land can provide the space needed to allocate the future projected population in the next years, without any extension of the infrastructure networks. Applying this framework to Skaka's future development would lead to improved accessibility to services and facilities, inducing a more cost-effective use of infrastructure, such as water, electricity, waste management, and sewage. This would encourage a positive ecological impact for the territory of Skaka by limiting sprawl and helping to preserve agricultural land in the city's outskirts.



1. Densifying the existing urban core of Skaka, to support the local business and shops will increase the economic activity in the area, creating a vibrant city centre.



2. Consolidating and densifying will create secondary economic nodes, that can be linked to the existing.



3. Densifying and introducing mixed-use in residential areas will reduce dependence on the city centre for services.

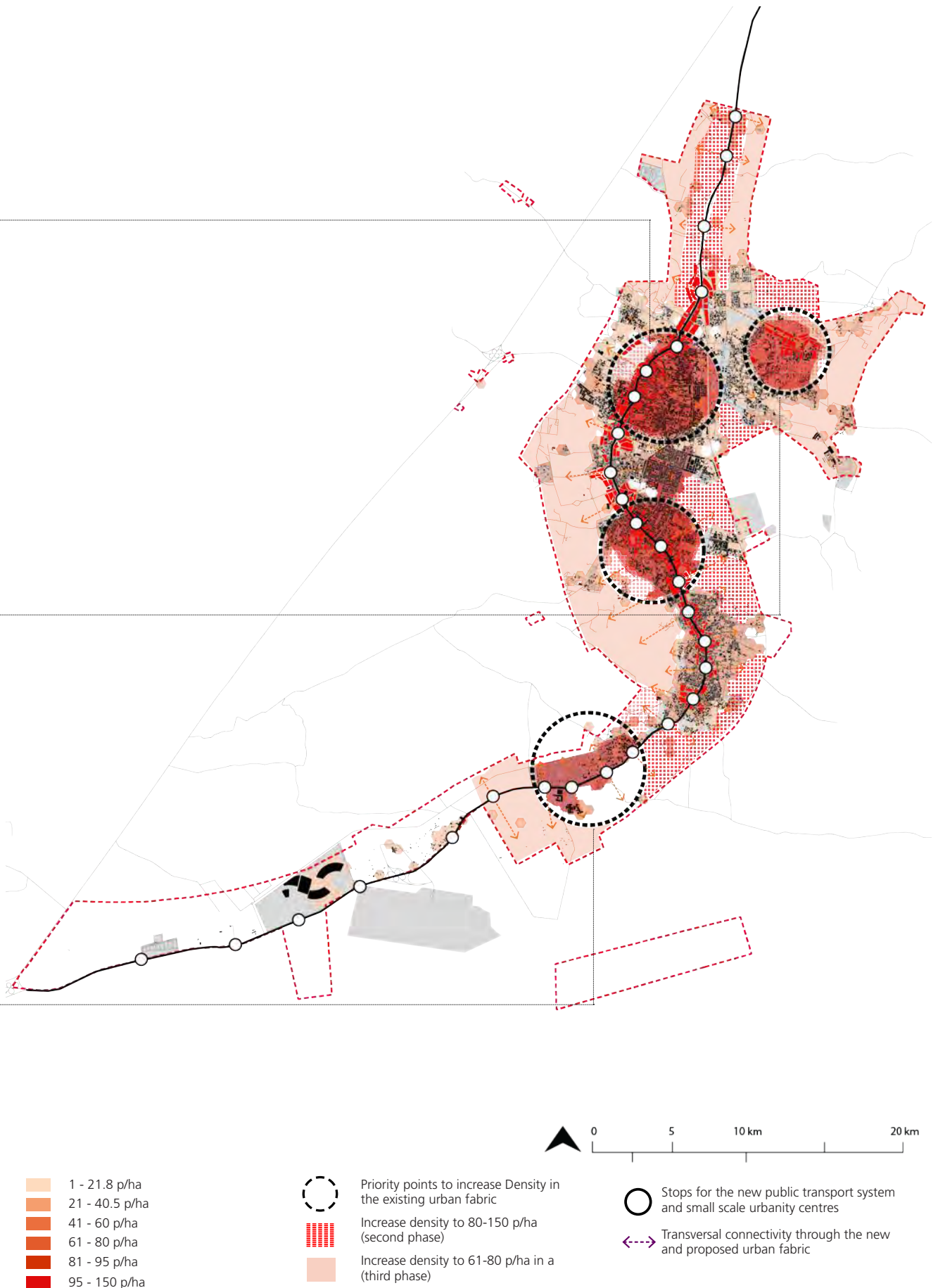
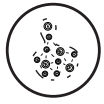


Fig. 42. The Compact City: Consolidating and densifying development in Skaka



7.13.2 The Inclusive City: Rebalancing access to services and opportunities in Skaka

Overall, Skaka showcases a relatively compact form, as the city mainly grew along King Khaled Road. This urban pattern, easy to densify and make efficient, ideally facilitates access to public services and basic infrastructure. However, one of the main issues is that despite its relatively compact form, Skaka lacks an efficient public transport system. To this effect, the city relies heavily on private mobility; therefore, long distances are not easy to cover, especially for the lower economic class and women who do not own private vehicles. The lack of an efficient public transport, in particular, affects the new developments emerging on the Northern and Southern edges of the city, leading to socio-spatial polarisation, fragmentation, and disconnection of the various neighbourhoods within the city.

To counteract the current polarisation of the urban areas, a linear public transport system should be developed as a North-South central spine, leveraging the linear urban structure of the current city, which would allow the public transport to cover most of the urban extension. A complementary network of supporting transversal public transport links should be set in place, in order to connect the areas on either side of this central public transport line. This would improve the overall urban accessibility and provide a series of new, well-connected centralities by linking the previously indicated target-areas for strategic densification and intensified mixed-use development to the city centre. Higher-density, supported by mixed-use and community facilities, commerce and services will provide equitable access to services, facilities, and opportunities, to also create better conditions for sustainable and more efficient service delivery.

A central public transport network will not only allow efficient movement but will also create an urban corridor characterised by vibrant mixed-use, promoting socio-spatial integration across the population and fostering accessibility to diverse urban functions. As such, the public transport nodes along this urban corridor will have to bring together a diverse range of activities and spaces, such as commerce, health, and social facilities, as well as public space. The upcoming new mixed-use areas along the corridor, being central and accessible, will counteract the polarisation of certain residential neighbourhoods, helping to diversify the monofunctional urban fabric, to produce an integrated one instead, where a system of new and well-connected centralities will rebalance access to services and opportunities across the city.

Overall, in order to address polarisation and spatial inequality, the strategy builds on a linear transport system accompanied and supported by newly distributed centralities, and in parallel, by reducing car-dependency and encouraging walkability. To complete this scenario, a well-connected pedestrian-friendly street network would enhance and support the development of Skaka as an integrated and vibrant city.



1. Densifying the existing urban core of Skaka, will increase the economic activity in the area and this will create a vibrant city centre.



2. This area is a priority for the densification by consolidating a second economic centre that can be linked to the currently existing one.



3. Connecting the city with a good public transport system will promote activity and use of public spaces in Skaka.

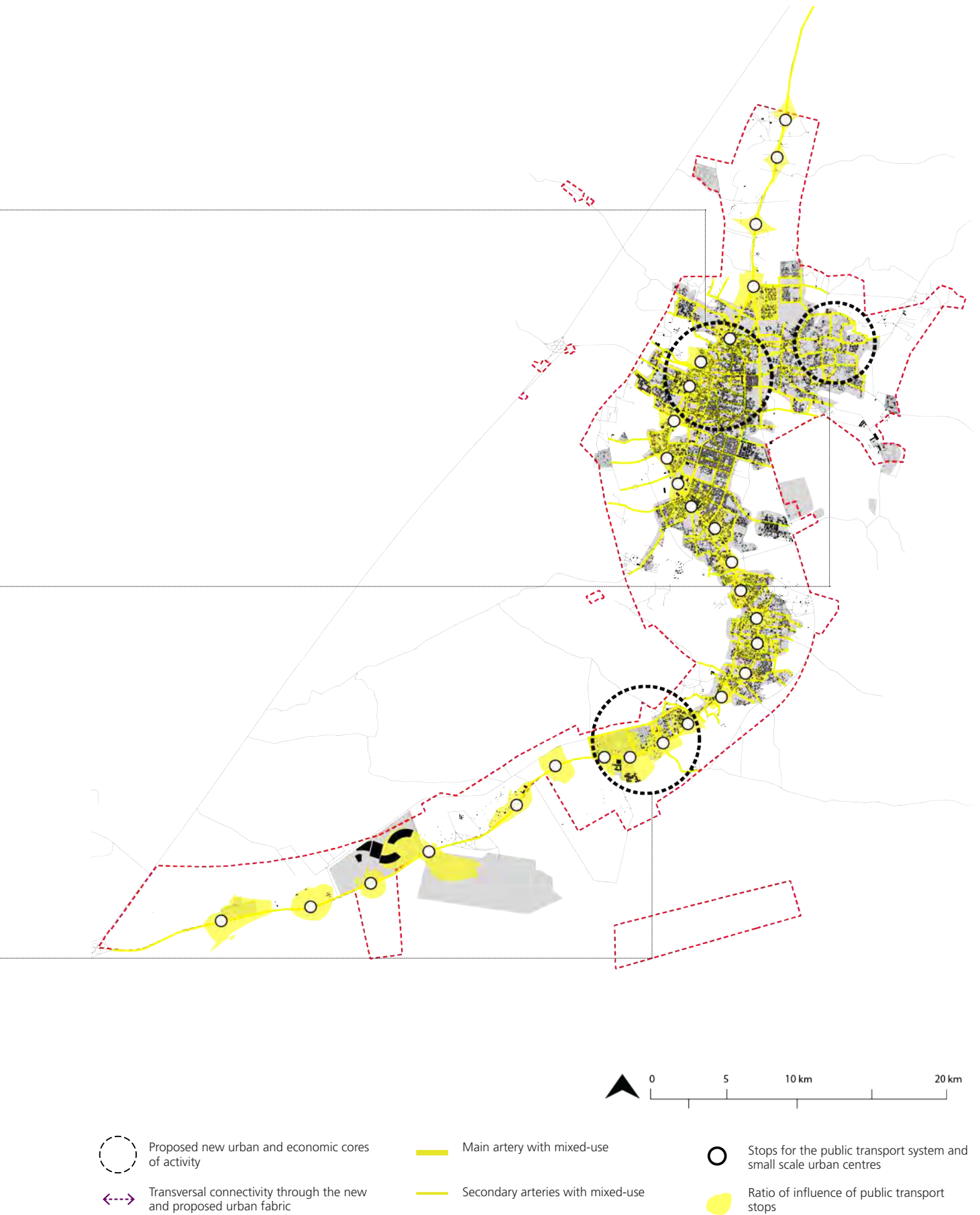


Fig. 43. *The Inclusive City: Rebalancing access to services and opportunities in Skaka*



7.13.3 The Resilient City: Rebalancing Skaka's socio-ecological and economic systems

The proposed strategy aims to promote a natural balance between natural resources, urban growth, and the major economic activities of Skaka. As such, on the road to a resilient city, three aspects need to be promoted. Firstly, extensive exploitation of the non-renewable water resources has to be managed in order to reduce the stress on water resources in Skaka and the region. Programs and incentives should be developed with the goal of reducing the amount of land designated to intensive industrial farming, as the current circle irrigation systems has been demonstrated to be inefficient and unsustainable water-wise.

Environmentally sustainable farming technology should be promoted in combination with local, traditional knowledge and techniques, which are more respectful of the environment according to the Food and Agricultural Organization (FAO). It should also be noted that the promotion and protection of traditional and local agricultural knowledge requires interdisciplinary approaches, as well as communication and cooperation from different levels of government, ministries, and local stakeholders.

Secondly, the natural landscapes and the agro-ecological heritage of Skaka, which are mainly composed of the historic wadis, the traditional dates and olive farms, and the cultural sites related to farming activities during the older times, need to be preserved. These heritage sites should be linked to the city, establishing a route for tourists passing through the main heritage sites and farming fields related to olive, and date industry. This would reinforce the local identity of Skaka, boost the economic activity, and establish a strong Agro-touristic route linking the city and the region.

Lastly, a well-connected green network needs to be established in Skaka utilising the existing green spaces, including the historic farms, adding new public green spaces in areas currently lacking them and relinking this new extended green network to the blue system. The existing public spaces within the urban footprint should be improved and linked amongst them and with the wadis, and their buffer zones. This will include and reactivate the abandoned farms in the city. Such a strategy would ensure an overall improvement of the quality of the urban environment and residents' quality of life while building resilience and capacity for the city.



1. Promoting traditional farming technique for growing dates and olives will limit the water consumption and help preserve heritage.



2. Increasing public spaces and green parks within the existing urban fabric, will raise the green space per capita in Skaka.



3. Reactivate old buildings, creating agro-farms, countryside hotels and restaurants that sell what is locally produced, will reactivate the countryside economy involving the youth into a dynamic economic sector.

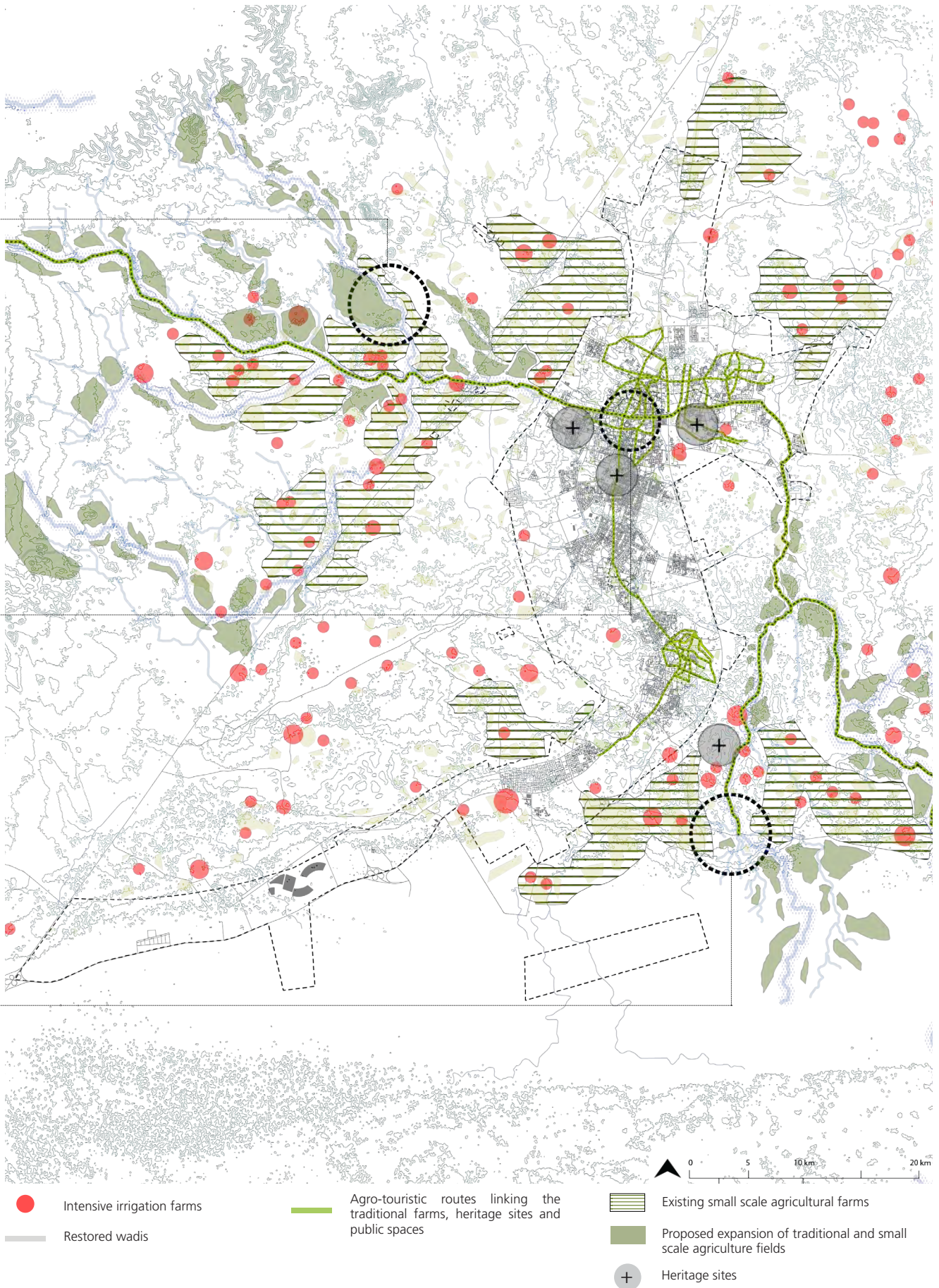


Fig. 44. The Resilient City: Rebalancing Skaka's socio-ecological and economic systems

7.14 An Action Plan for Skaka

7.14.1 From strategy to action

Transforming conceptual recommendations into concrete and implementable strategies requires detailed systemic actions that can incrementally trigger the envisaged spatial, economic, and social transformation. As such, an action plan that is rooted in three strategic recommendations and grounded in a series of systematic and incremental interventions for Skaka serves as a guide in prioritising and detailing the subsequent actions needed for building a compact, integrated, and resilient city. In essence, the Action Plan outlines three actions, explicitly envisaged for Skaka, operating systemically and incrementally:

- **ACTION 1: Establish a central spine for a public transport system**
- **ACTION 2: Implement strategic densification and create new centralities**
- **ACTION 3: Establish a strong socio-ecological system including heritage**

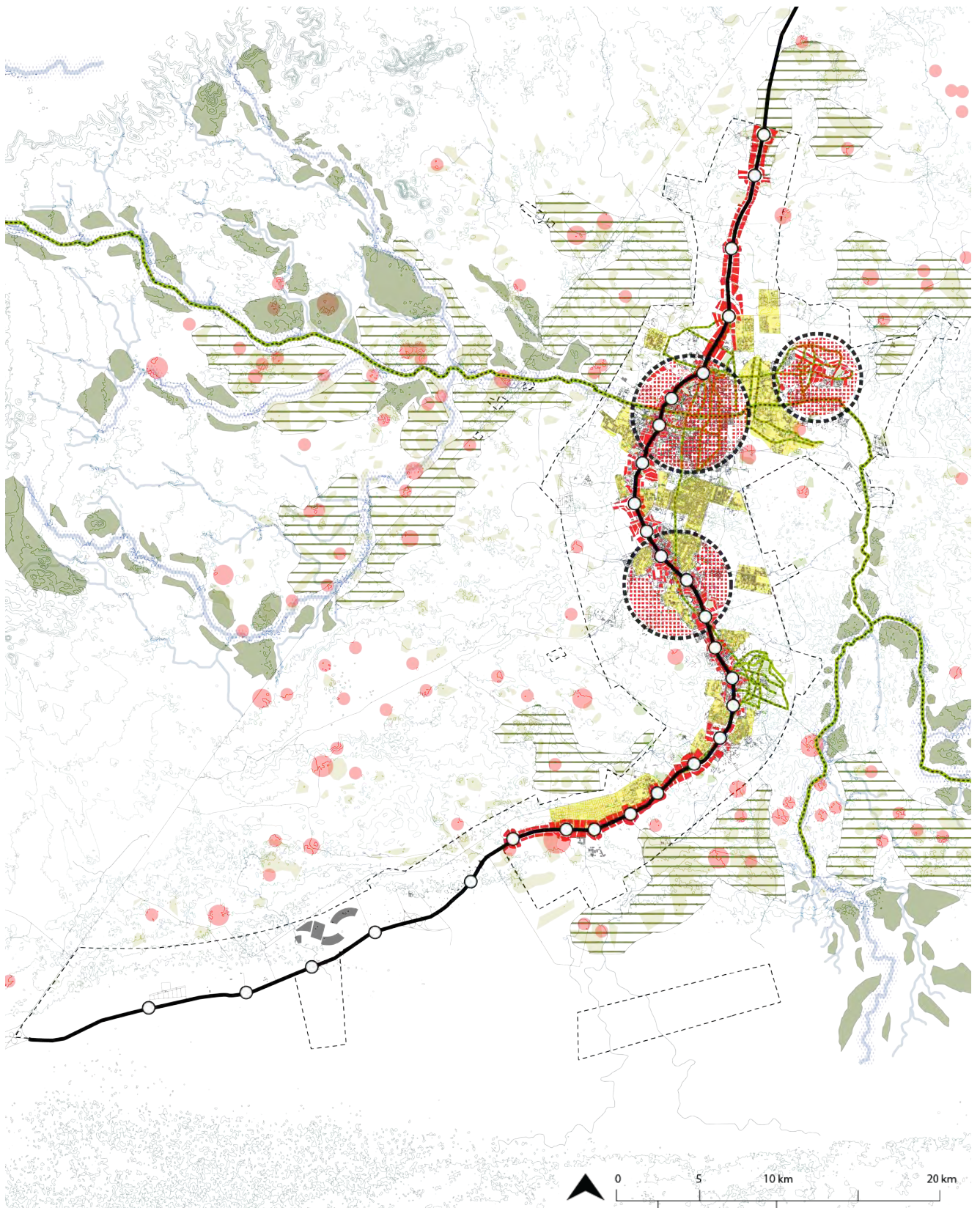
Action 1 fosters the precondition for a restructuring of the city by leveraging the compact and linear urban structure characterising Skaka transforming it in a main public transport spine. Action 2 builds on Action 1 by promoting

strategic densification within the current footprint, specifically promoting the TOD principles along the public transport spine and especially around the main transport nodes, to also create new mixed-use centralities. Action 3 complements the overall structural transformation of the city by rebuilding a robust green network and relinking it to both the fabric and the blue network. Overall, the Action Plan creates impact at three scales: the territorial, the urban, and the neighbourhood ones. At the territorial scale, it relinks the natural systems to the larger network while discouraging new intensive farming activities and promoting traditional farming, and in parallel building a territorial circuit aimed at the valorisation of heritage sites and agro-tourism.

At the city scale, a linear backbone for public transport system will drastically improve Skaka's connectivity from North/South, as well as East/West with a supporting secondary public transport system (feeder). Lastly, at the neighbourhood scale, the Action Plan fosters transformation and activation of existing vacant land inside the urban footprint, while improving overall connectivity across the neighbourhoods because of a denser and more integrated urban fabric and the support of the public transport system, establishing dynamic movement of people and goods, and therefore boosting local economies.



UN-Habitat workshop in Skaka



- | | | |
|---|--|--|
| ● Intensive irrigation farms | Existing small scale agricultural farms | New traditional and small scale agriculture fields that are respectful with aquifers |
| Restored wadis | Proposed agro-touristic routes linking the farms, heritage sites and public spaces | Stops for the new public transport system and small scale urban centres |
| Density nodes | Density areas (80-150 p/ha) | Intensification areas of mixed land use |

Fig. 45. Strategic recommendations for Skaka

7.15 Three Systemic Actions for Structural Change

7.15.1 Action 1: Establish a central spine for public transport system

The first action addresses the need for restructuring the city starting from its mobility patterns. Fostering a proposal for a new public transportation system, both enhancing and taking advantage of Skaka's linear and compact urban form, Action 1 guides the setting for its implementation. Furthermore, it sets the preconditions for promoting an incremental increase of urban density and for the creation of new centralities around the emerging major transport nodes, as envisaged in Action 2. Establishing a central public transport backbone will provide accessibility to the entire city, promoting a different kind of pedestrian-friendly streetscape, inducing more mixed-use development and supporting the future creation of new centralities. Action 1 can be summarised in the following steps:

1.1. Establish a linear public transport system along the main urban axis

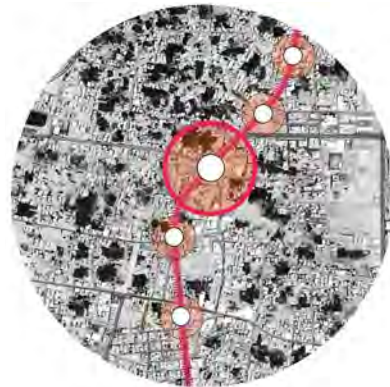
The first step concerns the setup of a spinal public transport system (e.g., BRT) linearly developing along the King Khaled Road. This line is foreseen to be running from North to South, creating a new mixed-use and pedestrian-friendly urban corridor, and connecting the new residential developments in the North and centre of the city to the institutional and educational facilities located in the South.

1.2. Promote mixed-use development around main public transport system nodes

During the implementation of the linear transportation network, the city should allocate the main public transport stops in strategic areas that lack mixed-use and economic vibrancy. These stops are potential areas for future redevelopment, as they are expected to grow over time. Some of them will also become new centralities, operating as secondary socio-economic nodes for Skaka.

1.3. Expand and connect the mixed-use spine to main arteries

The new mixed-use spine will need to be complemented by an expanded system with a series of transversal arteries. This will be done by promoting the development of secondary mixed-use and pedestrian-friendly streets linked to the new emerging economic nodes sitting along the main public transport spine. This will create a new system of pedestrian and public mobility networks, which will support the incremental intensification of mixed-use both along King Khaled Road and along the secondary streets linked to this major urban spine. Over time, with a growing population, and following the strategic densification envisaged in Action 2, a secondary public transport system (feeder) can be set up along the transversal arteries, to extend and complete the public mobility network.



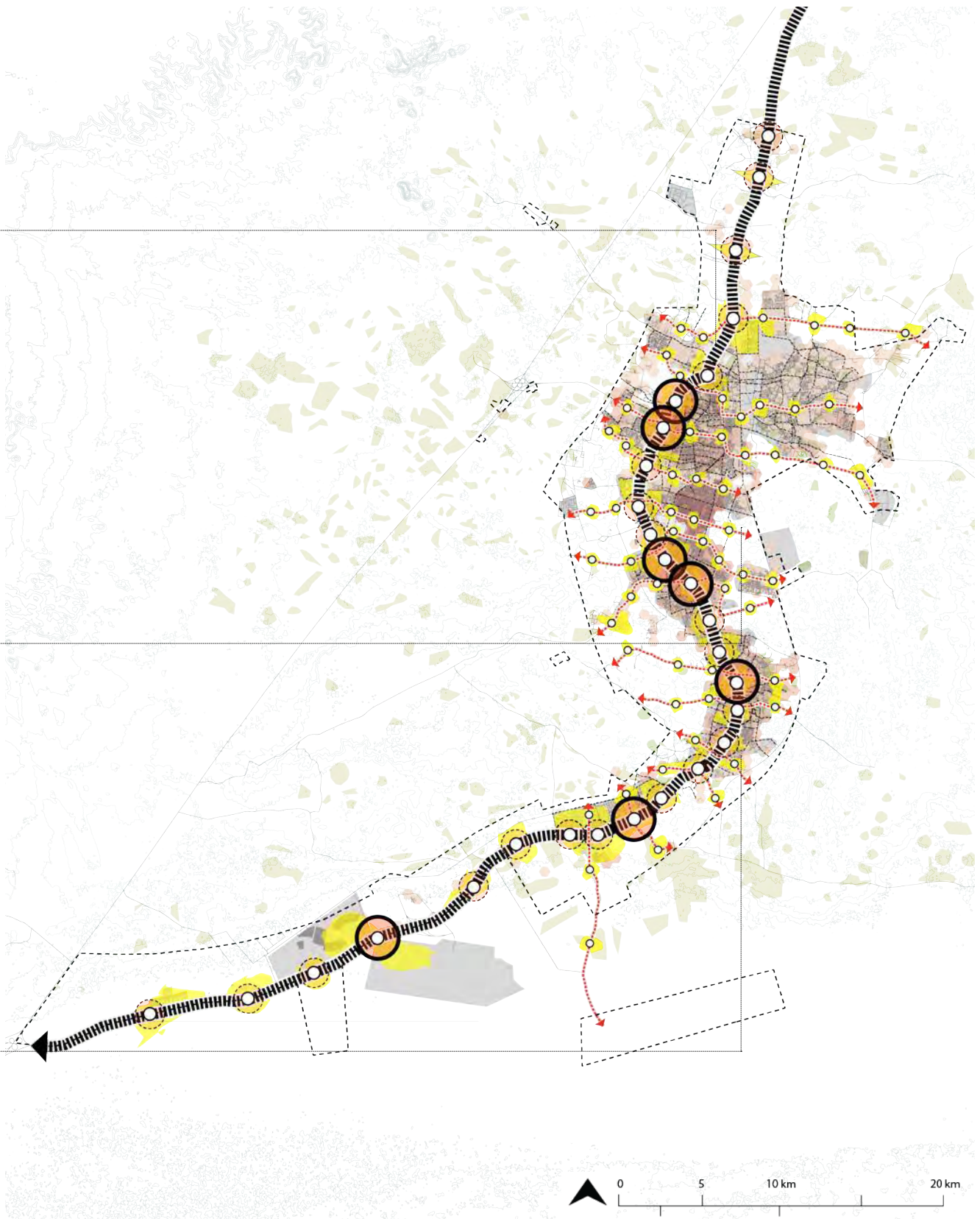
1. The linear public transport system will act as the main backbone for the city, connecting the different urban centres from North to South.



2. Building on the main backbone, a transversal feeder system will link to the main spine, linking the city from West to East. The feeder system will share the multi-modal stops.



3. Commercial activity and medium to high density developments will be allocated in the secondary streets, linked to the linear transport spine.









-  New urban nodes of activity
-  Secondary stops of the linear transport system
-  Feeder bus stops
-  Linear public transport system (BRT)
-  Feeder bus lines
-  Intensification of commercial activity and high density

Fig. 46. Action 1: Establish a central spine for public transport system

7.15.2 Action 2: Implement strategic densification and create new centres

Following the implementation of a public transportation network, the city should start actively incentivising residential densification and mixed-use development in the areas with walkable access to public transport. Strategic densification should be applied to selected major nodes to define emergent new centralities, and able to rebalance the city's overall distribution of services and facilities by encouraging mixed-use development and concentration of services, and facilities around them. Implementing strategic densification at an accessible distance from public transport should, at this point, become a priority when addressing any further development. This should be enforced together with using the interstitial spaces and the available vacant land within the urban footprint to prevent sprawl. As such, Action 2 is composed of the following steps:

2.1. Strategically identify and develop new secondary urban centres

The first step focuses on strategically selecting some of the main public transportation nodes to become new centralities, investing in their redevelopment as high-density and mixed-use cores. The creation of new centralities connected by the linear public transport system will at the same time reinforce Skaka's linear structure while dismantling its monocentrism. Public facilities such as health, education, and social services, will need to be located around these new centralities to redistribute access, counteracting the existing polarisation and attracting more population to these new urban centres.

2.2. Densify in proximity to public transport using available vacant land

Following the creation of new urban centres and secondary economic nodes around the public transport stops, densification should then be strategically operated by utilising the available interstitial and vacant land in the city. This action should particularly target the areas located in proximity of the public transport, promoting mixed-use and high-density development. Incremental escalation of density within the existing built-up areas, through infill development, would boost the economic activity and trigger prosperity in smaller neighbourhoods and the overall city.

2.3. Establish policies to increase density within the city limits

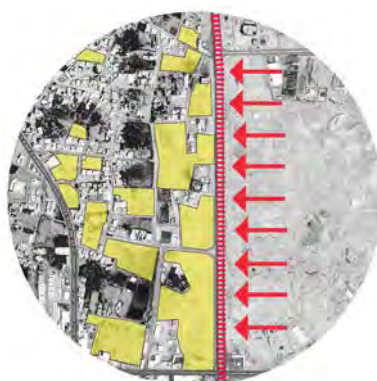
The last step towards strategic densification is to incrementally increase the density in the peripheral areas of the city, adjacent to the actual urban footprint and within the 1450 UGB. This action would consolidate the urban form and control the urban growth of Skaka, and have continuity in the urban structure and demographic distribution.



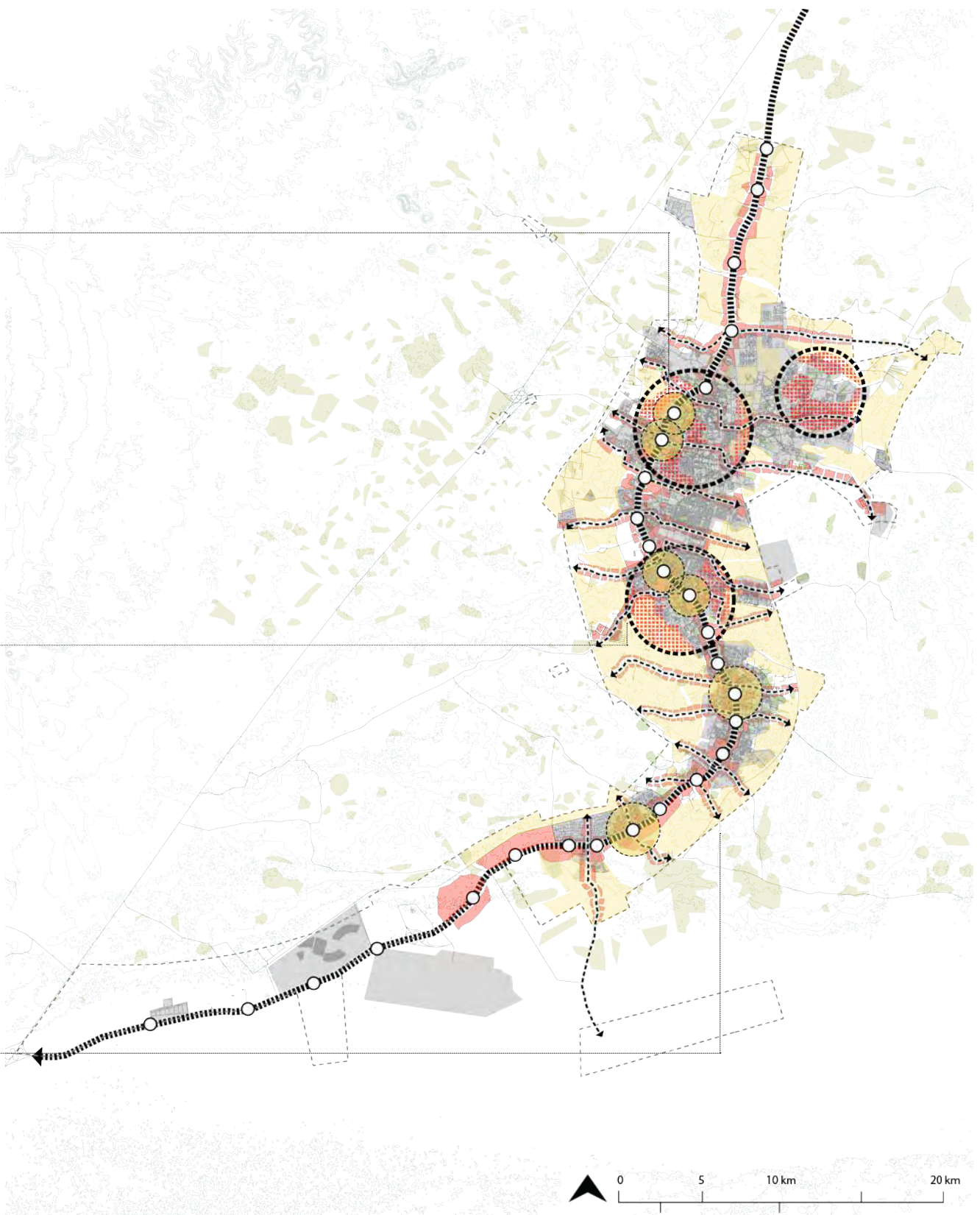
1. The densification process begins around the intermodal transport system stops. This should be the priority areas to start filling the vacant land and intensify mixed-use and high density developments.



2. Densification of available vacant land located next to the public transport arteries, promoting mixed-use and high density development.



3. Establish clear boundaries and associated policies to stop the construction of new developments that are not contiguous to the existing urban fabric.










-  New urban centres where densification should be increased in a first phase
-  Developable land next to the public transport system
-  Vacant land to develop in a second phase of densification strategy
-  Linear Public Transport System (BRT)
-  Secondary arteries connecting East / West
-  Urban footprint of Skaka
-  Densification nodes

Fig. 47. Action 2: Implement strategic densification and create new centres

7.15.3 Action 3: Establish a strong socio-ecological system including heritage

Action 3 aims at making the city more resilient, more sustainable, and enjoyable by its residents. As such, and in parallel to the strategic densification process of Skaka, a strong ecological system should be set in place, linking the rehabilitation and strengthening of green and blue networks to the heritage sites within and outside the city. This will redefine a new territorial system, relinking the natural and socio-cultural components of the city and its territory. Promotion of urban and peri-urban agriculture along the wadis will gradually support the relinking of green and blue networks while strengthening food security and resilience. Moreover, some of the existing vacant land will have to be selectively preserved for the creation of green public space, especially in areas subjected to densification. This will create the potential structure for a new and strong socio-ecological system, relinking the agricultural farms, the heritage sites, and existing and new green urban spaces, with agrotourism and heritage sites outside the urban boundary. Action 3 can be implemented by following these steps:

3.1. Establish a network of green public spaces within the city linked to a larger ecological system

There is a need for a systemic approach to establishing a green network that would improve urban quality and relink the urban ecosystems to the territorial ones. As such, an extensive green network, linking public spaces and traditional farms, needs to be established within the city and linked to the wider territory. A special effort should be put towards recovery and re-activation of the abandoned historic farms within the urban area of Skaka. From an economic point of view, the impact of creating such a network of green public spaces would ultimately support increased property value and refunctionalisation and valorisation of abandoned land, especially in the proximity of the emerging green network.

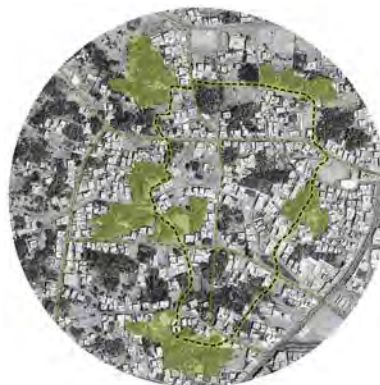
3.2. Limit the intensive farming models and promote traditional agricultural farming

Simultaneously, programs and incentives need to be set in place to discourage and limit intensive and industrial agricultural farming methods as to reduce the stress on water resources and extraction in the Al Jouf Region, promoting the protection of the underground aquifers. The aim of this operation is the preservation of both the natural landscapes and the agro-ecological heritage of Skaka, composed of historic wadis, traditional dates, and olive farms, and sites of cultural and historical importance. As the approved land use plan aims to increase the land dedicated to agriculture from 3,840 hectares to 8,960 hectares, it is important to encourage traditional models of farming to boost sustainable economic activities and reduce depletion of aquifers.

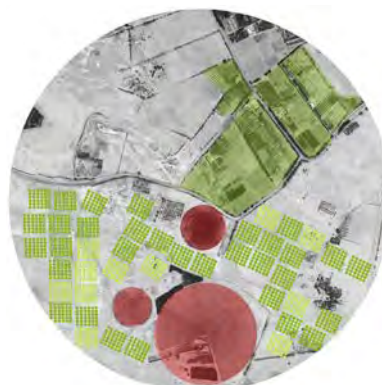
3.3. Establish a tourist route connecting the agro-ecological and heritage sites of Skaka

Building on the two previous steps, and following the promotion of traditional farming within and outside the city, an agro-touristic route should be developed with the goal of linking the cultural

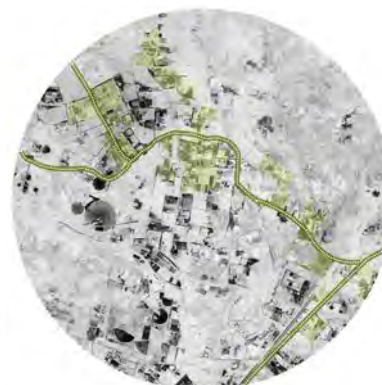
heritage sites to the traditional agricultural activities. This route should offer walking and cycling activities around the heritage sites and agricultural farms, becoming a main tourist attraction in the region. The establishment of such a route would reinforce the local identity of Skaka by providing jobs in the city and Al Jouf Region.



1. Abandoned green spaces inside the city should be restored and reactivated, in order to create a network of public spaces that are interconnected and accessible to pedestrians.



2. Intensive farming models should be banned or controlled, in order to preserve the aquifers, and instead, promote more traditional methods and small-holding farming.



3. An agro-tourism route should be created in order to link the different farms and heritage buildings, this will increase the local production of dates and olives, as well as increase the number of visitors in the city.



Fig. 48. Action 3: Establish a strong socio-ecological system including heritage

FINAL RECOMMENDATIONS: THE THREE-PRONGED APPROACH

7



8.16 Spatial Recommendations

8.16.1 A strategic view of the Al Jouf Region

The population growth trend in the Al Jouf Region indicates the presence of strong potential for the development of the region and its cities. The average annual growth rate of population in the region, considered over the period of 2004 to 2014, is around 3%, whereas for the entire Kingdom, in the same period is around 2%. In other words, the Al Jouf Region attracts a higher number in population if compared to the common trends in the Kingdom. Although the availability of good quality services, such as the extended road and electricity networks, and the proposed railway lines make the region attractive for investments in commerce and industrial activities, as per 2014, the region presented the highest unemployment rate in the Kingdom. The Al Jouf Region is distinguished for its strategic location in terms of both the extended agricultural fields and the vicinity to the shared border with Jordan. As such, Skaka, as a national growth centre, has to be promoted as a commercial and transportation hub, strengthening the linkage between agricultural farms and industry in the region, and leveraging the advantage of its strategic location. Similarly, the connection of Skaka to the neighbouring regions and their capital cities has to be strengthened through enhanced and integrated transport infrastructure. In order to achieve sustainable regional development, the agricultural sector, which is the main economic activity in the region, has to be fostered while carefully promoting more sustainable techniques, being

mindful of the hazards brought by intensive farming models such as irrigated crop circles. A system of incentives should give support to the extension of agricultural farms located in the West of the region and surrounding the cities of Skaka and Doumat Al Jandal. To increase rate of employment in the region, the establishment of processing plants for local agricultural products should be encouraged, acting as a further population attractor in the region, as projected by the SAGIA regional economic report of 2014. The industrial city located near the airport and the envisioned MODON Oasis could also constitute a valuable base to enhance the agricultural industry in the region.

As mentioned, the region sits on an important transportation route from Tabuk to Arar, and to Kuwait on the Northeast–Southwest direction, and to Hael on the South, also presenting a cross-country border with Jordan. This increases the importance of the city of Qurayyat, which sits less than 40 kilometres from the border. The presence of the Al Haditha dry-port provides a significant economic opportunity for the Al Qurayyat City to host future cross-border activities. Therefore, the strengthened functional linkage between Qurayyat and Skaka needs to be supported by improved and efficient transport infrastructure.



Urban oasis at Al Jouf Region

© SplendidArabia



Participatory design process for regional recommendations of Al Jouf Region

Lastly, the linkage between the cities of Skaka and Doumat Al Jandal, having a strong functional relation, needs to be reinforced to connect better the industrial city, the university, and the airport, located along the 40 kilometres road between the two cities. Their functional roles in the region should be strengthened as an agricultural settlement for Doumat Al Jandal, and as a commercial and service centre for Skaka. Utmost attention should be paid to the fact that the development of these two cities has to be considered jointly, in terms of both functional and spatial aspects.

8.16.2 Toward Skaka, a Sustainable Agro-heritage City

The strategic vision for the future of Skaka, articulated through the Action Plan, aims to promote the development of urban spatial frameworks that redistribute appropriate compactness and density around polycentrism and mixed-use. A more compact urban form, structured along public transport networks, will support sustainable management of natural resources and land, allowing for greening the city and making it more resilient. As such, the Action Plan translates the strategy into a sequence of systemic actions, which, if implemented, will enable the strategic vision to become a reality, making the city:

- Compact,
- Inclusive, and
- Resilient.

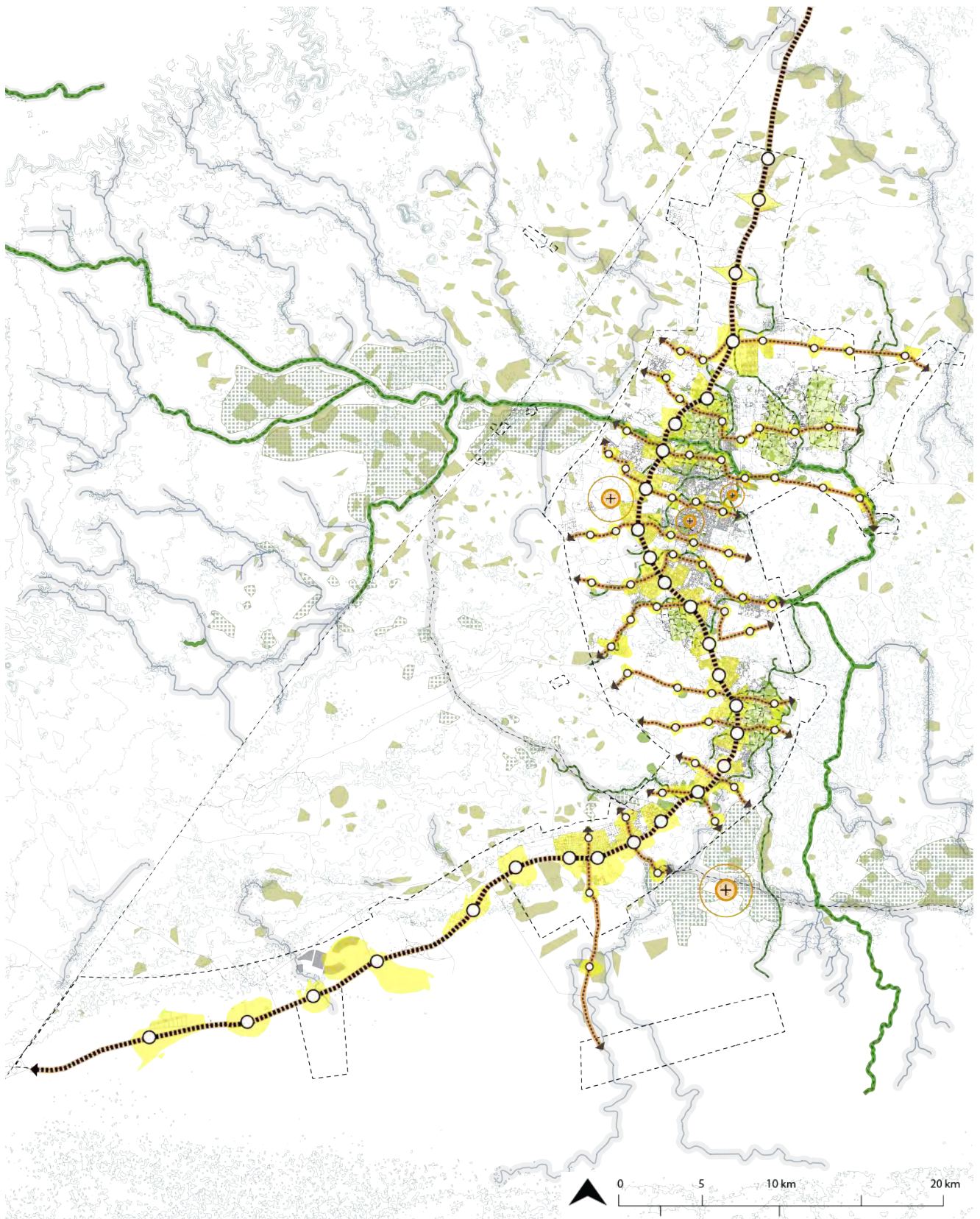
Overall the city will become more livable and pleasant, vibrant, and attractive, being socially and environmentally sustainable, and increasing its resilience through the rebalancing of existing natural resources and major economic activities. This will allow Skaka to better capitalise on its strategic location, at the crossroad of international commercial fluxes and historic pilgrimage routes, and on its economic potential, becoming a destination rather than a passing-through point, and attracting a new population.

Defining an Agro-heritage City as a city where outstanding landscapes of aesthetic beauty that combine agricultural biodiversity, resilient ecosystems, and valuable cultural heritage come together, this envisages the future of Skaka as a Sustainable Agro-heritage City: a vibrant modern capital where the economic and historical identities are redefined and relinked.

Most importantly, both the strategic vision and the Action Plan strengthen two fundamental aspects, previously overlooked in Skaka's development: the natural environment, and a dense, integrated, and well-connected urban structure. The restructured urban development patterns, grounded in a new and efficient public transport network supporting a new system of mixed-use centralities, will entirely transform the way the city functions. In parallel, by incrementally greening the city while re-establishing a healthy and functioning relationship between the built and the natural environments, Skaka will be able to enhance and rebalance the ecological,



Fig. 49. Scenario of recommendations of a vibrant street typology within the city of Skaka












-  Cultural and heritage sites to consolidate and link to the agricultural landscape
-  Built-up area
-  Linear public transport system (BRT)
-  Proposed public spaces and green areas inside the urban fabric
-  Consolidated agricultural fields using traditional and local farming techniques
-  Feeder bus lines
-  Proposed agro-touristic routes linking the farms, heritage sites and public spaces
-  Restored wadis
-  Intensification of mixed land use and high density

Fig. 50. Action Plan for Skaka

social, and the economic dimensions, providing a healthy and productive urban environment for its citizens, while becoming more attractive to tourism and increasing job opportunities. To achieve this vision, there is a need to establish a strong and consistent urban and territorial green network, starting with the revitalisation of the abandoned urban farms, the heritage sites, and the agricultural land surrounding the city, by strengthening the physical and functional connectivity between them, and integrating them through the establishment of touristic routes.

The proposed touristic route can enhance the local economy, generate employment and leverage the heritage sites together with the traditional farming activities.

8.17 Institutional and Legal Recommendations

In terms of legal reform, Skaka would benefit from both fiscal and jurisdictional decentralisation to facilitate independent and innovative solutions to urban social problems, at the Amanah level. This should entail:

- The transfer of local planning power, authority and function from MoMRA to the Amanah, with provision for independent action without recourse to effectively address community needs. This is supported by the New Urban Agenda, which specifies that territorial urban design and planning processes should be led by sub-national and local governments, but their implementation will require coordination with all spheres of governments, as well as the participation of the civil society, the public sector, and other relevant stakeholders;
- Fiscal decentralisation, which gives autonomy to the Amanah to source funds to finance development activities. Revenue generation activities in cities may also include taxes and levies. Urban areas should be allowed to collect some form of property taxes to fund development activities. The recent White Lands Act that imposes fees on undeveloped plots in urban areas to tackle land speculation, housing shortages, and indiscriminate land development shows that regulatory mechanisms can be leveraged to generate revenue while fostering an efficient development framework;
- The opening of avenues for actors, including the private and voluntary sector and the general community, to participate in decisions regarding projects that affect them.

The city also requires functionally effective legislation (locally relevant) to deal with:

- The proliferation of abandoned farms, which pose security problems in the urban core;
- The existence of disintegrating residential houses with specific attention to public safety and building materials;

- The separation of uses of different facilities in the built environment, particularly heavy industrial from residential, to promote public safety.

Consolidation of the legal planning instruments would also support development intervention in Skaka and add legitimacy. These laws additionally require review and modernization to bring them in line with the current development paradigm. This should entail a re-thinking of the lawmaking process, to limit the number of actors. The mere existence of the laws in the KSA will not guarantee sustainable urban development as they must be functionally effective, i.e., precise in achieving their intended results, clear, consistent, and simple to understand. There is a need for a functionally effective urban planning law that, inter alia:

- Introduces incentives/requirements that will enable more compact city growth;
- Defines clear institutional roles and responsibilities at each level;
- Enforces linkage between all levels of plans (national-regional-local);
- Provides effective coordination and monitoring mechanisms; and
- Increases meaningful public participation and engagement in planning.

The legal framework also needs to enshrine an acceptable mode of public participation in public decision making to foster equality and inclusion. The consolidation of the urban legislation would also give legitimacy to the plans that Skaka relies on.

Revising the Urban Growth Boundary Law to include clear criteria for its definition would enhance technical and vertical accountability. The Law also needs to place more emphasis on establishing the Development Protection Boundary as a no-development zone, not only to prevent haphazard development but also to discourage the advantage taken by private interests from laxity in the legal text. These initiatives will strengthen policy formulation designed to move the city towards a more sustainable, compact and dense future. Primarily, a post-legislative scrutiny of the urban growth boundary law should be undertaken to assess whether or not it has met its policy objectives. This could, in turn, inform the legal reform process as well as planning policy options.



© FSCP

Saudi women addressing urban gender issues with the local authorities

8.18 Financial Recommendations

In 2015, the government began enacting a series of reforms intending to create a more self-sustaining public financing system through diversified revenue sources, efficient tax administration and private investment in strategic economic sectors.

Skaka's public finance priorities are closely aligned with Saudi Arabia's larger national development goals, which include supporting SMEs in key sectors like agriculture,²⁸ manufacturing, and tourism, (e.g., leisure and cultural). Therefore, expanding the public sector's capacity to finance essential local infrastructure and projects supporting development in these areas is a priority for Skaka.

International experience with own-source tax mechanisms represents the optimal set of financing tools for increasing local revenues, (specifically through the taxation of real estate and land value capture mechanisms) which support sound fiscal policy.²⁹ Saudi Arabia has already adopted new property taxes, such as the White Lands Tax and will continue to explore other tax instruments that are suitable to the needs of Skaka,³⁰

Land taxes are a good option since they establish a stable and reliable own-source revenue stream for local governments. Moreover, the benefits associated with development projects, (e.g., public transportation and social infrastructure),³¹ are increased substantially by their multiplier effect, (directing a portion of land value increases back into the government revenue stream),³². UN-Habitat suggests Skaka make use of land taxes, such as betterment levies for upcoming projects, including the bus

rapid transit network, which will cover approximately an area of 82 kilometres.

Public infrastructure, such as transportation systems can spur adjacent residential and commercial development, enhance accessibility, and create jobs,³³. Local development driven by public projects can also drive increases in land value and indirectly engender a number of other community benefits,³⁴.

While betterment levies are well suited for infrastructure projects, fiscal instruments like waste management fees, parking fees, and congestion fees are useful tools for reducing vehicle dependency and increasing pedestrian traffic, especially in commercial and leisure areas.

There are a variety of tax instruments available to local governments interested in expanding own-source revenues. Governments can maximise the benefits of these tax instruments by:

1. Coordinating and collaborating with different levels of government to connect national strategies with local priorities.
2. Investing in capacity building and improving tax administration,³⁵.
3. Tailoring fiscal instruments to local needs (e.g., fiscal cadaster),³⁶.

Lastly, coordinating among planning, legal/regulatory frameworks, and local finance is crucial to creating the necessary local conditions for sustainable and equitable development, as outlined in the New Urban Agenda,³⁷.

CASE STUDIES AND BEST PRACTICES

WASTE MANAGEMENT

In the Tamil Nadu State of India, a waste management project proposed the central government (35%) and the state government (15%) share 50% of the total project costs. A private entity (via a PPP) would provide the remaining 50% of project funding. The private concessionaire would be responsible for planning, designing, building, financing, operating, and maintaining the municipal solid waste management facility for the concession period. Land would be provided by the municipality through an annual lease as specified by the Government of Tamil Nadu.

PARKING FEES

Chicago leased 34,500 curb side parking metres to the bank Morgan Stanley for 75 years, trading metre revenues for an upfront payment of nearly USD \$1.16 billion. This type of PPP contract includes a fixed schedule of metre rate increases, which raised rates two to four-fold by 2013. As a result, Chicago had the highest curb side metre rates in the United States. Metres were netting USD \$20 million annually while Morgan Stanley managed pricing and maintenance of the metres.

CONGESTION FEES

In 2007, Stockholm introduced a cordon pricing-based scheme to reduce congestion, local pollution, and generate local revenue. Following the introduction of the cordon, traffic decreased by 19% in the first year in addition to generating € 59 million annually. In Singapore, the implementation of an Area Licensing System (ALS) reduced traffic from 12,400 vehicles in May 1995 to 7,300 vehicles in August 1995 during restricted hours. Moreover, revenue from the sale of area licenses amounted to US\$ 47 million with capital costs were US \$ 6.6 million in 1975 with an additional US \$17 million from ALS revisions in 1989.

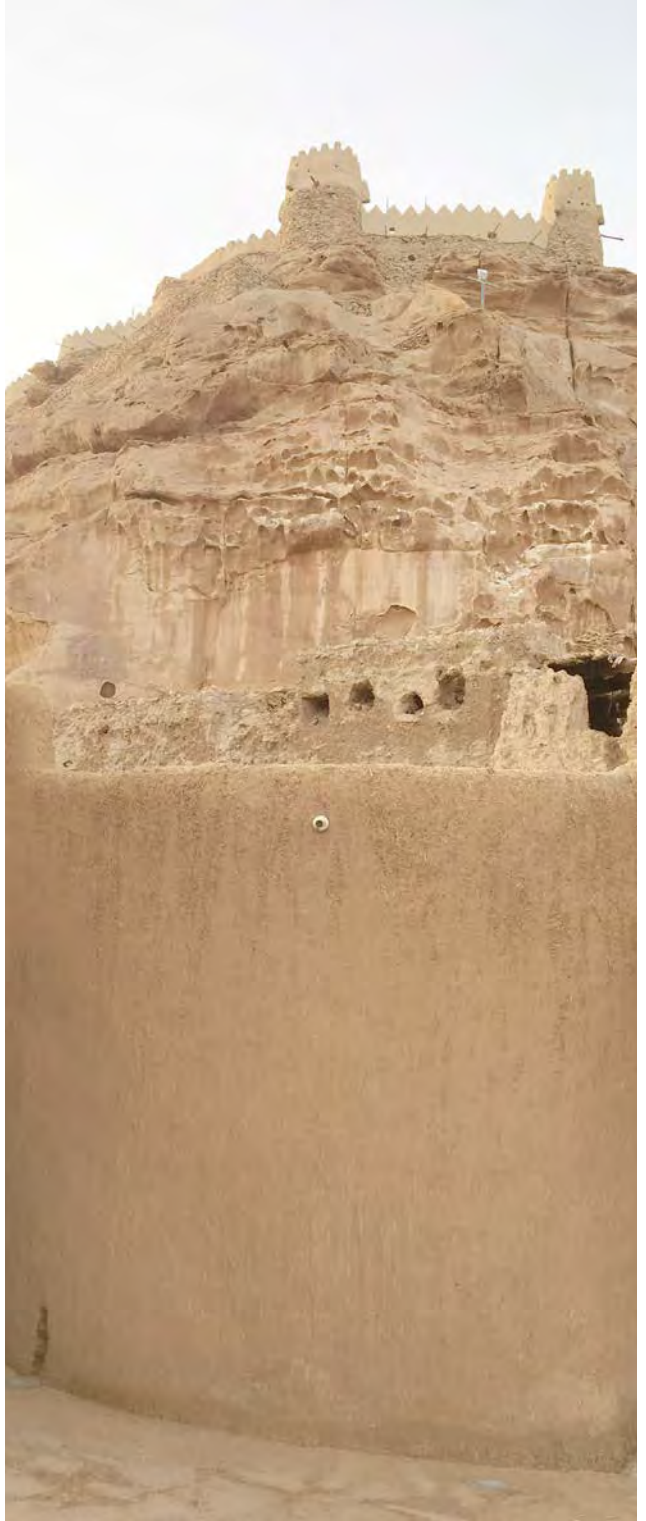
Source: Ernst and Young Pvt Ltd., Ministry of Urban Development of the Government of India, & the Confederation of Indian Industry. *Compendium on public private partnerships in urban infrastructure: case studies*. (2017). World Bank. Washington, DC.; Weinberger, R., Kaehny, J., & Rugo, M. (2010). *U.S. parking policies: an overview of management strategies*. Institute for Transportation and Development Policy. New York, NY.; Croci, E. (2016). *Urban Road Pricing: A Comparative Study on the Experiences of London, Stockholm and Milan*. *Transportation Research Procedia* 14, 253-262.; Phang, S., & Toh, R.S. (2004). *Road Congestion Pricing in Singapore: 1975-2003*. *Transportation Journal*, 43(2), 16-25.



Fig. 51. Scenario of green public spaces within the city

8

ANNEX



9.19 Picture Credits

© Wikipedia.....	3
© blogunik.com.....	9
© EricLafforgue.....	11
© FSCP.....	12
© youvictours.com.....	15
© FSCP.....	18
© blogunik.com.....	19
© FSCP.....	25
© http://www.ju.edu.sa	27
© aljouftourism.sa.....	29
© FSCP.....	31
© FSCP.....	33
© FSCP.....	37
© SaudiTourism.sa.....	41
© FSCP.....	43
© FSCP.....	49
© FSCP.....	51
© FSCP.....	56
© FSCP.....	58
© FSCP.....	60
© FSCP.....	62
© FSCP.....	64
© FSCP.....	66
© FSCP.....	70
© FSCP.....	74
© FSCP.....	78
© FSCP.....	83
© FSCP.....	85
© FSCP.....	93
© FSCP.....	95
© ONEWORKS.....	98
© ONEWORKS.....	98
© ONEWORKS.....	98
© FSCP.....	102
© FSCP.....	111
© Splendarabia.....	112
© FSCP.....	113
© FSCP.....	117
© FSCP.....	119
© FSCP.....	121

9.20 List of Figures

List of Figures

Fig. 1. Population distribution, growth rate and urban areas within the Kingdom of Saudi Arabia	16
Fig. 2. Regional Gross Domestic Product and economic sector contribution	17
Fig. 3. Transport connectivity between Saudi cities	17
Fig. 4. Population distribution in the governorates according to 2010 census.....	20
Fig. 5. Development corridors according to the Regional Plan for Al Jouf Region by the Amanah	21
Fig. 6. Movement infrastructure	22
Fig. 7. Blue and green regional network.....	23
Fig. 8. Natural resources	23
Fig. 9. Access and connectivity in the Al Jouf Region.....	24
Fig. 10. Development sectors in the governorates according to the Regional Plan for Al Jouf Region by the Amanah.....	25
Fig. 11. Number of urban laws in KSA based on the Main Themes of Urban Planning Legislation (UN-Habitat)	30
Fig. 12. FSCP simplified representation of hierarchy of plans and the planning instruments for the city of Skaka (Al Jouf Region)	34
Fig. 13. Matrix showing the development options within the phases of the Urban Boundary in the National Growth Centres (including Skaka)	37
Fig. 14. FSCP simplified representation of Planning Process and Actors involved in the preparation of the Skaka Local Plan	38
Fig. 15. Percentage of white lands – First phase of implementation of the White Lands Law.....	40
Fig. 16. Saudi Arabia national expenditures by sector, 2017	44
Fig. 17. Saudi Arabia national expenditures by sector, 2016.....	44
Fig. 18. Amanah budget, Skaka (2016)	45
Fig. 19. Amanah budget breakdown (2016).....	45
Fig. 20. Boundaries, neighbourhoods and key infrastructures	51
Fig. 21. Land allocated per capita	52
Fig. 22. Urban growth stages	53
Fig. 23. Administrative boundaries	55
Fig. 24. Current distribution of population density.....	57
Fig. 25. Existing land use.....	59
Fig. 26. Proposed land use in the Skaka Plan by the Amanah	59
Fig. 27. Commercial and mixed-use land distribution	61
Fig. 28. Vacant land and undeveloped area.....	63
Fig. 29. Roads hierarchy.....	65
Fig. 30. Economic nodes and network.....	65
Fig. 31. Blue network.....	67
Fig. 32. Agricultural land	69
Fig. 33. Planned / unplanned areas.....	71
Fig. 34. Walk access to the city centre	73
Fig. 35. Drive access to the city centre	73
Fig. 36. Location of public facilities.....	74
Fig. 37. Walk access to public facilities	75
Fig. 38. The Skaka Plan recommendations	77
Fig. 39. Skaka's unbalanced growth and development patterns.....	85
Fig. 40. Skaka's monofunctional and polarised development	87
Fig. 41. Socio-ecological and economic imbalance in Skaka	89
Fig. 42. The Compact City: Consolidating and densifying development in Skaka	95
Fig. 43. The Inclusive City: Rebalancing access to services and opportunities in Skaka.....	97

Fig. 44. The Resilient City: Rebalancing Skaka's socio-ecological and economic systems.....	99
Fig. 45. Strategic recommendations for Skaka.....	101
Fig. 46. Action 1: Establish a central spine for public transport system.....	103
Fig. 47. Action 2: Implement strategic densification and create new centres	105
Fig. 48. Action 3: Establish a strong socio-ecological system including heritage.....	107
Fig. 49. Scenario of recommendations of a vibrant street typology within the city of Skaka	112
Fig. 50. Action Plan for Skaka.....	113
Fig. 51. Scenario of green public spaces within the city.....	117

9.21 Notes and References

- 1 Skaka CPI
- 2 Department of Statistics and Information, Workforce Report 1433 H (2012). Ministry of Economy and Planning.
- 3 Central Department of Statistics and Information, Ministry of Economy and Industry.
- 4 Statistical Yearbook, 2012 / Central Department of Statistics and Information, Saudi Airlines
- 5 General Organization of Railways, Saudi Arabian Railways Company (SAR).
- 6 Thamer Aud Al Malki, Archaeological Sites in Al Jouf Region.
- 7 Represent the instructions issued by a Minister, his representative or any official of the Ministry to announce new regulations and updates regarding any intent or action to be undertaken.
- 8 UN-Habitat Workshop held in Skaka 2018
- 9 The planning system in Saudi is not formalized and therefore there is lack of consistency in the naming of plans across the cities. Normally, the strategic component is labelled as the Comprehensive Plan or Structural Plan. In the context of Skaka, it is referred to as the Structural Plan.
- 10 UN-Habitat Workshop held in Skaka 2018.
- 11 Royal Decree of 1975.
- 12 See Royal Decree No. (1663) of 1976.
- 13 See Article 5 of the Law of Regions to Royal Order No. A/92 (1993).
- 14 Al Jouf Province Tourism. (2018). The Kingdom of Saudi Arabia. Retrieved from <http://www.sauditourism.sa/en/aboutKSA/Regions/Jouf/Pages/default.aspx>
- 15 General Organization for Social Insurance. (2016). The Kingdom of Saudi Arabia. Retrieved from <http://www.gosi.gov.sa/portal/web/guest/home>
- 16 Vision 2030. (2018). Kingdom of Saudi Arabia. Retrieved from <http://vision2030.gov.sa>
- 17 Education is a priority input for local economic development and was an important discussion topic during the UN-Habitat workshop held in Skaka (May 2018).
- 18 Each of 13 regions is divided into governorates and the region capital, which has the status of municipality (Amanah) headed by mayors. Ministry of Municipal and Rural Affairs (MoMRA).
- 19 Approved Amanah Budget (2015-2016). Ministry of Finance. The Kingdom of Saudi Arabia.
- 20 National Transformation Programme 2020 indicates to reach the goal of 40% of budget financed by own resource. In 2016, the national transfers for Amanah was 93% out of the total budget. Approved Amanah Budget (2015-2016). Ministry of Finance. The Kingdom of Saudi Arabia.

- 21 Approved Amanah Budget (2015-2016). Ministry of Finance, The Kingdom of Saudi Arabia.
- 22 Jadwa Investment. (2016). The Saudi Stock Exchange.
- 23 Saudi banking system is supervised by Saudi Arabian Monetary Authority (SAMA), which includes 12 licensed local banks and 12 branches of licensed foreign banks. Saudi Arabia Monetary Authority <http://www.sama.gov.sa/en-US/Pages/default.aspx>
- 24 The Capital Market Law, formation of the Securities and Exchange Commission, and creation of a privately-owned stock exchange were launched with the aim of improving the domestic capital market. Saudi Arabian Monetary Authority. Retrieved from <http://www.sama.gov.sa/en-US/Pages/default.aspx>
- 25 Hentov, E., Kassam, A., Kumar, A., Petrov, A. (2017). Transforming Saudi Arabia's capital Markets, Strengthening the Financial Triad. State Street Global Advisors.
- 26 Abou-Korin1 & Faez Saad Al Shihri, 2015
- 27 D. Godschalk (2003) Urban Hazard Mitigation: Creating Resilient Cities, *Natural Hazards Review*, Vol. 4, Issue 3
- 28 Agriculture is an important economic sector for the region. The main sector priorities are (1) encouraging new private sector activities oriented to agribusiness, (2) increasing the value of the Saudi agriculture exports, (3) improving the linkage between education system and labor market needs, (4) investing in human capital and research centers, and (5) funding renewable energies and new techniques for sustainable water use. These priorities were important discussion topics during the UN-Habitat workshop held in Sakaka (May 2018).
- 29 Potential revenue contribution through immovable property taxation is 2.1% of GDP in high-income countries, while in middle-income countries it contributes an additional 0.6% to GDP; Norregaard, J. (2013). Taxing immovable property revenue and implementation challenges. (No. 13-129). International Monetary Fund. Washington, DC.; Walters, L. (2016). Leveraging land: land-based finance for local governments. United Nations Human Settlements Programme. Nairobi, Kenya.
- 30 The white lands tax law (introduced in 2015), requires owners of empty plots of urban land designated for residential or commercial use in towns and cities will have to pay an annual tax of 2.5% of land value. The land tax applies to plot sizes equal to or greater than 10,000 square metres. It has been adopted in the cities of Riyadh, Jeddah and Dammam.
- 31 The impact of schools on residential land prices increased by about 13% on average. Colliers International. (2017). The Impact of Social Infrastructure on Mixed-use Developments. Retrieved from <http://www.colliers.com/en-gb/-/media/files/emea/uae/case-studies/2017-overview/impact-of-social-infrastructure-mixed-use-developments.pdf>
- 32 Walters, L. (2016). Leveraging land: land-based finance for local governments. United Nations Human Settlements Programme. Nairobi, Kenya.
- 33 In order to accommodate an estimated population of 3 million in 2030, the new transport system must include 73 metro stations.; UN-Habitat, Rapid Planning Studio workshop (2018).
- 34 Colliers International. (2017). The Impact of Social Infrastructure on Mixed-use Developments; Rodriguez, D.A., & Targa, F. (2004). Value of Accessibility to Bogotá's Bus Rapid Transit System. *Transport Reviews* 24(5), 587-610.
- 35 Walters, L. (2016). Leveraging land: land-based finance for local governments. United Nations Human Settlements Programme. Nairobi, Kenya.
- 36 Between 2009 and 2010, Bogotá, Colombia's cadastral office began valuing all urban property following the adoption of several administrative reforms. The valuation revealed an increase in the city's cadastral value by 47%. The property valuation process cost USD \$7.8 million and generated USD \$171 million in property tax revenue for the city.; Ruiz, F., & Vallejo, G. (2010). Using land registration as a tool to generate municipal revenue: lessons from Bogota. World Bank, Washington, DC.
- 37 United Nations. (2017). New Urban Agenda. United Nations Human Settlements Programme, Nairobi, Kenya.

