

# RESILIENT BYBLOS

CONNECTING WITH OUR PAST,  
CREATING OUR FUTURE



## LETTER FROM MAYOR ZIAD HAWAT



A handwritten signature in black ink, reading "Ziad Hawat" with a stylized flourish.

Dear friends,

It is with great pride that I present to you Byblos' Resilience Strategy, a strategy for a contemporary city, drawing on elements of our past and present to guide us toward a vision for a resilient future.

Byblos is a city of tradition as well as modernity; diverse but also peaceful and united. We treasure our past – its customs, traditions, and culture – but that doesn't mean we're fixed in time. As much as we value our heritage, we know that maintaining our unique society requires effort and even change to guide us toward a balanced and resilient future.

This strategy charts our journey toward that goal and provides a vision for Byblos in which our natural assets are integrated with urban development, new partnerships are created to foster a thriving multi-sector economy, and traditions are protected and honored. The strategy sets out the actions we'll take to ensure we meet the targets we're setting for ourselves, and provides a robust framework for strategic planning and governance.

The strategy acknowledges the social, economic and environmental challenges we face, and recommends practical, achievable solutions to ensure Byblos remains a reflective, inclusive and innovative city in which social cohesion, cultural diversity and local identity meet and merge for the benefit of everyone who lives in and visits the city.

Resilience building is a dynamic process that requires input from everyone in the city, I hope you'll join me on this exciting journey.

**ZIAD HAWAT**  
**Mayor of Byblos**

## LETTER FROM THE CHIEF RESILIENCE OFFICER



A handwritten signature in black ink, appearing to read 'Tony Sfeir', with a horizontal line extending to the right.

In December 2013, the city of Byblos was selected as one of the very first 100 Resilient Cities (100RC). 100RC is the brainchild of The Rockefeller Foundation and is now evolving into an influential global network of cities, of which we are proud to be a part.

We are grateful to the 100RC President Michael Berkowitz, the Vice President for Relationships Bryna Lipper, the Regional Manager Cristiana Fragola, and our Relationship Manager Scott Rosenstein for their inspiration and continuous encouragement on our resilience journey.

We are also highly appreciative of the support we have received from Mayor Ziad Hawat, along with the rest of the staff and members of the municipality.

The development of the strategy has been a fascinating process, involving research, brainstorming, stakeholder engagement, data collection and analysis, and much more. The final strategy is the culmination of months of hard work and dedication by many highly motivated people, not least my assistant and lead writer Ms. Tania Kallab, as well as engineer and reviewer Eng. Anthony Sfeir.

Special thanks go to the Steering Committee, Mrs Alice Eddé, and our local consultants: Ms. Roula Haidar, Ms. Maya Karkour from EcoConsulting, Mr. Adib Dada and his team from theOtherDada, and Prof. Eleish SD from Organization De Developpement Durable (ODDD).

We also gratefully acknowledge the contribution of the academic experts who have supported the Byblos municipality: Dr. Rashid Chamoun, Dr. Tony Lahoud, Dr Joseph Kyprianos, and Dr. José Manuel Madrigal from the Lebanese American University (LAU), Dr Elsy Ibrahim and Notre Dame University (NDU).

Special regards also go to our Strategic Partner, the Arup team: Paula Kirk, Dima Zogheib, Laura Frost, and Johnny Ojeil.

Finally, we'd like to thank Ms. Nathalie Zaarour and her assistant Karine Zoghby from the UNDP, in addition to all of our local stakeholder representatives including NGOs, associations, members of the private sector, and government officials, as well as Ms. Najwa Soueidan, and the special needs organization Ms. Sylvana Lakkis, whose participation in workshops had an extremely positive effect on the strategy.

**TONY ZAKHIA SFEIR**  
**Chief Resilience Officer, Member of Byblos Municipality**

## LETTER FROM 100 RESILIENT CITIES



100 Resilient Cities is honored to partner with the City of Byblos to release the first resilience strategy in the Middle East from the first office of resilience in the region. This marks the beginning of an extraordinary journey for this incredible Lebanese city as it continues to build its reputation as a global leader in resilience planning.

First and foremost, this would not have happened without the vision and passion of Mayor Ziad Hawat. Tony Sfeir, the Chief Resilience Officer, and his extraordinary support team led by Tania Kallab have gone above and beyond the call of duty to produce this visionary document. Arup's technical support was instrumental in guiding this process.

Building urban resilience requires recognizing the interplay of a city's strengths, weaknesses, shocks, and stresses. It is also about bolstering the foundation of a city so that it can respond to new, unforeseen events, and help a city function in good times and bad.

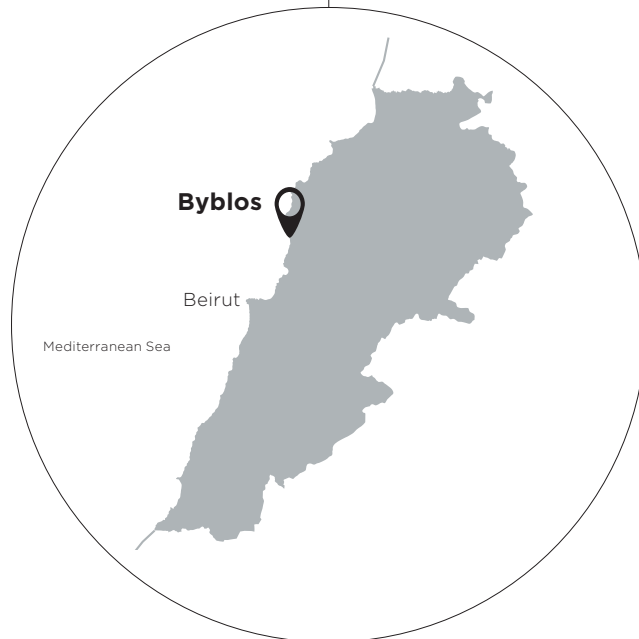
For Byblos, this resilience building journey involves navigating a complicated regional landscape. But at the core of this journey is the city's history and identity, which inspires great affection from both visitors and residents. This has a significant impact on the economic, social, and environmental fabric of the city. The need for an integrated approach to decision-making is therefore an essential component of the prosperity, stability, and sustainability of Byblos.

This strategy, which is the result of many months of research, outreach, introspection, and analysis, looks to identify a road-map for the future. It identifies a range of goals and actions that will address the above-mentioned interplay of challenges and opportunities.

100 Resilient Cities is committed to working with the city of Byblos in the coming years to implement the vision laid out in this strategy. Through the 100RC Platform of Partners - a powerful cadre of public, private, non-profit, and academic sector partners - we will bring many resources to this partnership. Unlocking this support and signaling a growing marketplace that is interested in working with cities that incorporate resilience thinking into their planning process is a key tenet of the 100RC philosophy. This partnership and strategy is just the beginning!

Sincerely,

**MICHAEL BERKOWITZ**  
**President, 100 Resilient Cities**



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# INTRODUCTION

## About 100 Resilient Cities

100 Resilient Cities – Pioneered by the Rockefeller Foundation (100RC) is dedicated to helping cities around the world become more resilient to the physical, social and economic challenges that are a growing part of the 21st century. 100RC supports the adoption and incorporation of a view of resilience that includes not just the shocks – earthquakes, fires, floods, etc. – but also the stresses that weaken the fabric of a city on a day to day or cyclical basis. By addressing both the shocks and the stresses, a city becomes more able to respond to adverse events, and is overall better able to deliver basic functions in both good times and bad, to all populations.

## About the City Resilience Framework

The City Resilience Framework provides a lens through which the complexity of cities and the numerous factors that contribute to a city's resilience can be understood. It comprises 4 dimensions and 12 key drivers.

**"CITY RESILIENCE DESCRIBES THE CAPACITY OF CITIES TO FUNCTION, SO THAT THE PEOPLE LIVING AND WORKING IN CITIES – PARTICULARLY THE POOR AND VULNERABLE – SURVIVE AND THRIVE NO MATTER WHAT STRESSES OR SHOCKS THEY ENCOUNTER".**

CITY RESILIENCE FRAMEWORK, ARUP/ROCKEFELLER FOUNDATION, 2014



City Resilience Framework



## About this strategy

The strategy comprises the work that the city team has done to date.

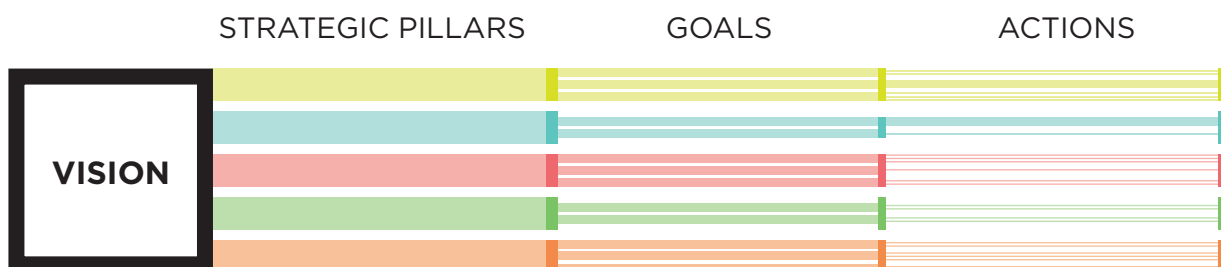
The strategy sets out the vision for our city, the challenges, the strategic pillars, goals and actions to pursue and achieve this vision.

We believe that local ownership of the strategy is critical to its long-term adoption and success. To guarantee that outcome, we've made sure to include city stakeholders from a variety of disciplines and backgrounds including the municipality, private sector, academic community and NGOs.

Phase I of the strategy process aimed to produce a vision for resilient Byblos based on assessments of the current state of resilience in Byblos and the challenges and opportunities facing the city. Working with our academic partners from LAU, alongside stakeholders from the Advisory Group, and a range of other public and private sector groups. We explored how

current and future shocks and stresses could affect the city and identified which assets are already providing resilience as well as those in need of strengthening. At the end of Phase I, we identified 5 Focus Areas which went on to form the basis of the final Resilience Strategy.

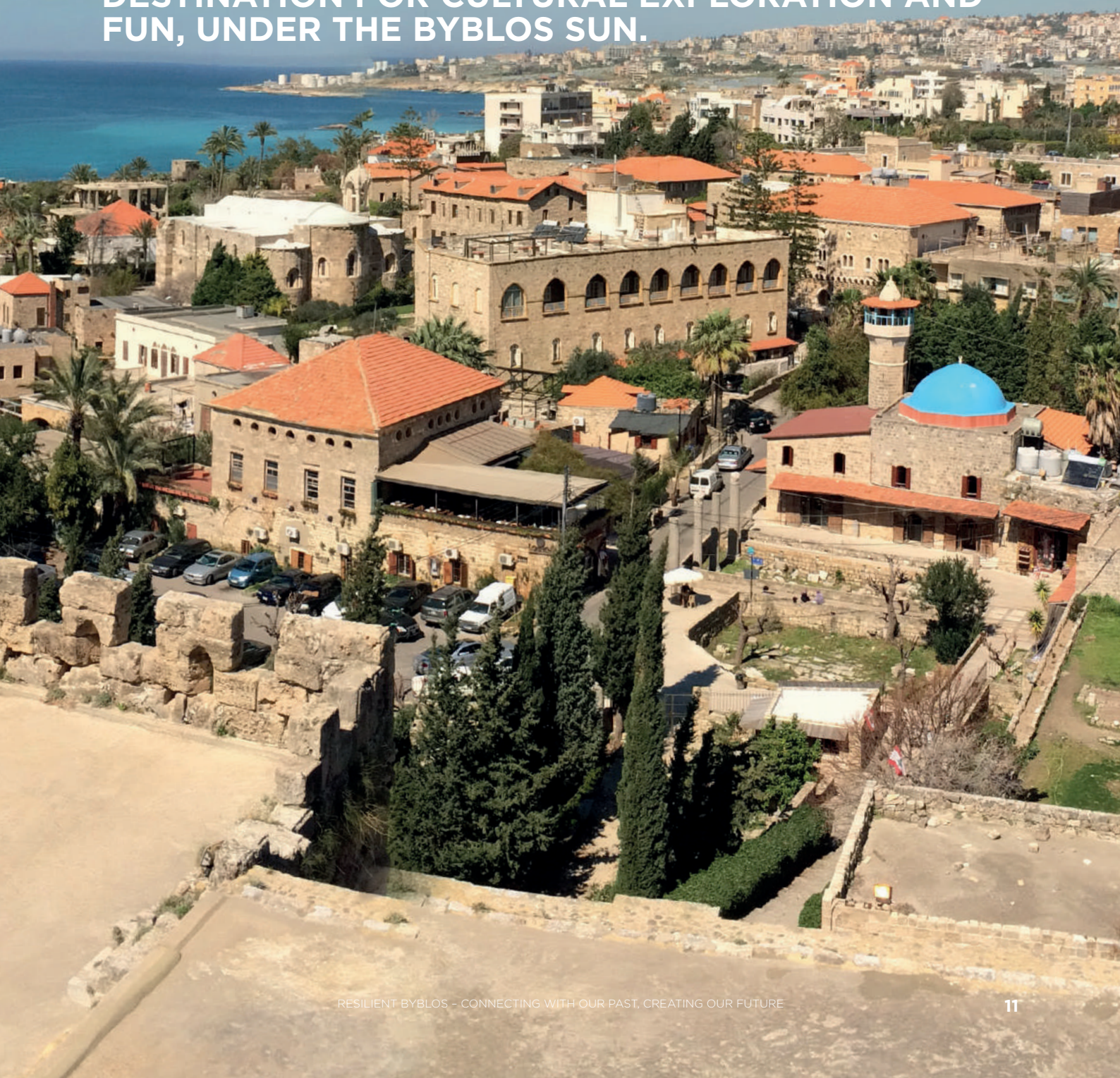
In Phase II, we delved more deeply into the opportunities identified in Phase I, using the Resilience Lens tool to prioritize opportunities based on how, and to what extent they contribute to resilience over the short and longer terms. From this we produced a number of actions to be carried forward and practically implemented - these are the main output of the strategy document.



# OUR VISION FOR A RESILIENT BYBLOS



**BY HONORING THE PAST WHILE ADAPTING TO THE FUTURE BYBLOS WILL DYNAMICALLY EMBRACE ITS HERITAGE WITH INNOVATION AND BUILD ON ITS DIVERSITY, OPENNESS, AND PEACE TO BECOME A PIONEER CITY IN THE MEDITERRANEAN THAT IS A DESTINATION FOR CULTURAL EXPLORATION AND FUN, UNDER THE BYBLOS SUN.**



## OBSERVING OUR CHALLENGES

### Oil spillage, 2006

While the past conflicts in Lebanon have not directly affected the peace of Byblos, our environment and economy have been deeply damaged. In 2006, the Old port, rocks and beaches of Byblos were polluted by a 2 centimeter thick oil slick following the Israeli bombing of storage tanks at the Jiyeh power station south of Beirut. Short term damages included severe damage to the marine life, disruption to the fishing and tourism industry, and severe stains to the archaeological remains. The long-term damage to the city's natural environment could not be quantified.



# BYBLOS RESILIENCE PROFILE

**Byblos is a coastal city vulnerable to numerous shocks and stresses – physical, environmental, economic, societal and political – that will affect the city’s assets. Over the last few years, the city has been implementing actions to mitigate our known risks. Now, in the face of additional challenges facing our city, country and region, we need to do more.**

## Our challenges:



**A fragmented city is not a resilient city**



**Our environment is changing**



**For Byblos, preservation of peace is fundamental to our future ability to survive and thrive**



**Loss of customs, traditional businesses and know-hows threaten our city’s heritage**



**Our economy requires diversification**



## A fragmented city is not a resilient city

Historically, Byblos was a small coastal town, with 2,000 inhabitants. It was a human scale city, low rise, and compact, with a balance of open space. The city itself consisted of a small fishing harbor that was the regional and commercial hub for the caza. The Old City remains at this human scale, but the wider city has expanded to accommodate the growing population. The city expanded up the hills in an uncontrolled and unregulated pattern of development with less community focus, which has led to a reduction in social cohesion and interaction, and a loss of accessibility around the city. Urban sprawl has affected both the physical and social structure of the city. Today, the city is fragmented; a major road cuts the city in half, and part of the infrastructure cannot cope with the network demand of travel. This is due to the reliance on the car as mode of transport. Improving accessibility and linkages around the city is a particular challenge.



## Our environment is changing

Byblos is a city rich in natural heritage, which includes a diverse coastline, river valleys, beaches, orchards, agricultural land, and the surrounding hillside woodlands. These features contribute to the beauty of the city and its setting, and offer valuable services. However, they are under threat from urban growth and human intervention. Rapid population growth, rural-urban migration, unplanned urbanization and unregulated construction is causing encroachment of developments into river valleys and the surrounding landscape along with pollution of rivers and aquifers with waste and sewage and occasional droughts due to rising water demands. This is coupled with the absence of appropriate infrastructure such as a waste water treatment plant. Recently the situation has been aggravated by the waste management crisis in the country and in Hbaline landfill site, and the absence of a national integrated and sustainable waste management strategy. Regular power cuts have increased the demand for private generators, which are polluting our air. Protecting the environment is critical for our resilience.



Top image © Charbel Nahas

Bottom image © 2016 Digital Globe



## For Byblos, preservation of peace is fundamental to our future ability to survive and thrive

Peace has long been a characteristic of Byblos, and it remains a strong value of the city's citizens. However, with rapid population growth, internal migration and an influx of refugees from Syria, maintenance of social cohesion is a growing challenge. 1.5 million Syrian refugees have recently sheltered in Lebanon; a country whose own population is just 4 million. The region is threatened by armed conflicts resulting from injustice, oppression, lack of freedom, radical ideologies, ruthless dictatorship and religious extremism. Regional instability is accelerating an existing economic crisis and escalating problems of unemployment.

According to UN statistics in December 2014, the latest number of registered Syrian refugees in Lebanon is 1,158,995. In the case of Byblos, the statistics compiled on the 30<sup>th</sup> of April 2015 show a total of 1,660 registered refugees in a population of 27,250. The percentage increase since the initial registrations in September 2013 compared to an estimate of a 1% yearly growth rate, is thought to challenge Byblos' population growth rate.

	SEPTEMBER 2013	JANUARY 2014	JANUARY 2015	APRIL 2015
Number of UN registered Syrian refugees	194	559	1,430	1,660
% of increase		188%	156%	16%

Source: UNHCR registrations



## Loss of customs, traditional businesses and know-hows threaten our city's heritage

Byblos' rich archaeology is nothing less than an open air museum, with sites and artefacts dating back to the early days of the city. Fishing, crafts and other traditional businesses are being replaced by more profitable activities. Cultural customs and traditions are being diluted or forgotten due to lack of education, youth migration, and changing demographics. If this erosion of cultural heritage is not curbed, Byblos will lose the reason why so many visitors are attracted to the city in the first place. For Byblos, preservation of historical assets and culture, and revival of customs and crafts is an important aspect of resilience.



## Our economy requires diversification

The ancient city had a variety of economic activities such as fishing and agriculture. Today, the economy relies mainly on tourism, retail and health. Regional unrest, migration of young people (brain drain), shifting economies, growing unemployment and the decline of traditional trades are having an impact on the economic prosperity and resilience of the city, and its attractiveness to investors. Steering economic growth and economic diversity are of particular importance for our city's resilience.



## OBSERVING OUR CHALLENGES

### 'Zina' Storm, 2015

In January 2015, a powerful winter storm swept across Lebanon, creating strong winds reaching 100Km/hour together with high waves and heavy rain. The storm caused an infrastructure collapse. In Byblos, the storm threatened our Old port, archaeological site, and affected some of the businesses. The storm lasted a few days and it was reported as an extraordinary event for Lebanon, unlike any weather conditions experienced for a long time.

# OUR RESILIENCE JOURNEY

The timeline illustrates the key milestones along our journey to a more resilient Byblos.

## December 2013 February 2014 July 2014

### Selection.

Byblos selected to join the first 33 cities in the 100 Resilient Cities network.

### Agenda Setting Workshop

represented the first significant opportunity for 100 Resilient Cities to engage the Byblos municipal government and key stakeholders following the city's selection. The workshop primary function was to start a dialogue between 100 Resilient Cities and key stakeholders on Byblos' resilience context, shocks and stresses and interdependencies. Stakeholders included Byblos Municipal Council leader, government ministries, police, NGOs, academic institutions, and civic societies.

### Strategy launch and Chief Resilience Officer appointment.

The launch was held at the Cultural Center in Byblos, bringing together city stakeholders from the municipal government, private sector, academia and civil society. The objective of the launch was to introduce the resilience strategy development process and publicly launch the strategy by the Mayor of Byblos.

First Office of Resilience in the Middle East

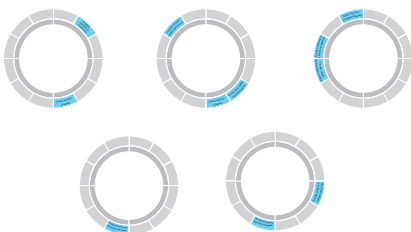


## January 2015 May–August 2015 September–October 2015

### Identification of Focus Areas

Five key themes and focus areas emerged from the PRA; these illustrate the priority areas of focus for the resilient strategy:

- Regulate urban development and improve accessibility and linkages of the city
- Understand and respect environmental limits
- Preserve the peacefulness of the city
- Preserve historical assets, and protect and revive customs and traditions
- Promote and maintain economic diversity

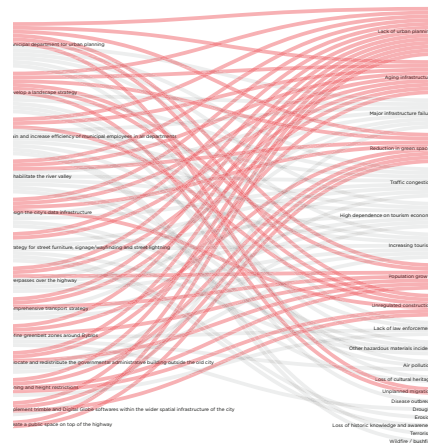


### Resilience Diagnostic and Assessment

To better understand the physical, social and economic risks facing Byblos, we carried out a Resilience Diagnostic where we have developed diagnostic questions to further research our Focus Areas to identify opportunities that the city can take to improve its resilience. The group of all the opportunities is the Field of Opportunities.

### Field of Opportunity and Resilience Lens

To prioritize the Field of Opportunities using the Resilience Lens, to a list of resilience building actions.



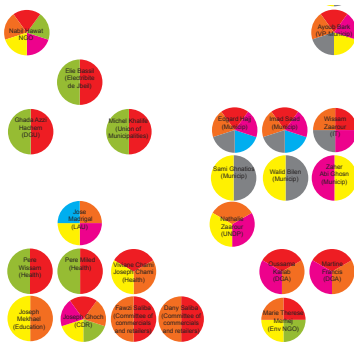


Throughout the process

September 2014

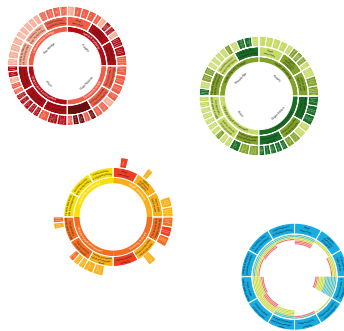
January 2015

**Stakeholder engagement**



**City Context developed**

This includes the following activities: city asset scan, city profile, shocks and stresses review, stakeholder perception review, city action inventory, and gaps and opportunities assessment



**Preliminary Resilience Assessment (PRA)**

Designed to establish the city's immediate and long term resilience challenges; evaluate existing capacity for responding to the known and emerging shocks and chronic stresses facing the city; and identify Focus Areas for further investigation during Phase II. 67 stakeholders were engaged in the process.



Preliminary Resilience Assessment  
Byblos | Lebanon

December 2015

The Mayor's Pledge

**Development of City Resilience Strategy**

To develop an integrated strategy that underpins the city's vision, goals, and actions.



**100RC Mayors' Pledge**

Byblos agreed to commit at least 10% of the annual city budget in support of delivering resilience initiatives. This will help to fund the actions outlined in this strategy, and support us to access further funding by showing our commitment to building our resilience. In return for this commitment, 100RC will provide the city with up to \$5 million worth of goods and services from service providers (Platform Partners) over the next five years.

# BYBLOS' STRATEGIC PILLARS, GOALS & ACTIONS

OUR RESILIENCE STRATEGY IS FRAMED AROUND FIVE STRATEGIC PILLARS.



Image © Aleksandr Sadkov | Shutterstock.com

## OUR CITY WILL BE

1. A **CONNECTED CITY** THAT PIONEERS **INNOVATIVE AND INCLUSIVE** URBAN SOLUTIONS.

2. A **RESOURCE EFFICIENT CITY** THAT OPTIMIZES **ECOSYSTEM SERVICES**.

3. A **PEACEFUL CITY** THAT EMBRACES AND PROMOTES **SOCIAL COHESION** AND **CULTURAL DIVERSITY**.

4. A **CULTURAL CITY** THAT PROTECTS AND HONORS **CULTURAL ASSETS, TRADITION, AND LOCAL IDENTITY**.

5. A **THRIVING CITY** THAT **DIVERSIFIES ITS ECONOMY AND FLOURISHES** FROM OUR VALUED CULTURAL AND **HUMAN RESOURCES**

## WE WILL

- Build our digital infrastructure
- Connect our city's neighborhoods and limit urban sprawl
- Design our blue-green network

- Demonstrate environmental responsibility and promote stewardship by citizens
- Invest in efficient and renewable energy

- Encourage civic engagement and participation in decision making
- Manage safety risks, threats and civil unrest
- Promote social networks and relationships between the caza communities

- Protect the City's historic assets and coastal heritage
- Establish local markets to cherish and protect local identity and traditional businesses

- Promote innovative economic enterprises which create future opportunities that build from Byblos' existing strengths
- Strengthen the city's role in regional economic development
- Improve the socio-economic conditions of Byblos residents

# 1. A CONNECTED CITY: BYBLOS WILL BE A CITY THAT PIONEERS INNOVATIVE AND INCLUSIVE URBAN SOLUTIONS

**Our understanding of a Resilient Byblos is anchored in multidisciplinary and integrated urban strategies that promote innovative, responsive and sustainable interventions in our city to encourage economic development, ecosystem and resource management, preservation of cultural and natural heritage, and a good quality of life for all.**

Our city is suffering from urban sprawl, uncontrolled construction and a fragmented urban form, which are largely the outcomes of three events:

- The construction of the highway linking Beirut to Tripoli, which improved access to the city but also contributed to population growth and split the city into two parts, resulting in growth and physical expansion eastwards up the hills, transforming the Old City into a marginal section of the greater Byblos. Another wide road was also built linking the Old City to the upper mountain villages, which further bisected the city from north to south.
- The 1972 city masterplan – the last masterplan proposed for the city – preserved the Old City at the expense of unrestricted development in other zones, leading to uncontrolled sprawl.
- The Lebanese civil war, which led to significant migration from war torn areas of the country to peaceful metropolitan Byblos, leading to population growth. The increased demand for housing, intensified the pace of construction, and put additional strain on the city's infrastructure.

All have a role to play in what the city suffers today. We need to move toward a more integrated and cohesive urban form. We need improved data about the city and its growth to inform better urban management. And we need to curb the ongoing urban sprawl.

Our work on urban development is integrated with each of our other goals. Through the way we plan and manage our built environment, we will seek to progress toward better management of our natural environment, more cohesive communities, protected and enhanced cultural heritage, and a more holistic approach to economic growth.

## GOAL A: BUILD OUR DIGITAL INFRASTRUCTURE

**Goal objective:** Our city suffers from a lack of data about the people and assets we have, and how we are changing. We are in the digital age, where data is crucial in informing decision-making and building more sustainable and resilient cities. We want to improve our city's measurement capability, in order to improve our management.

## ONGOING ACTION: 1. COLLECT AND MANAGE DATA

**Action description:** The difficulty in finding and acquiring data is pushing us to design a brand new data collection and management system, with support from national agencies and our Platform Partner ESRI. As part of working toward a consistent database, we will:

1. Design our own conceptual data model for Byblos, a geo-database
2. Determine the GIS system architecture and infrastructure required
3. Through field surveys and monitoring sites, gather data including demographics, city services, utility infrastructure, zoning, transportation network (e.g. roads, pedestrian and biking trails, street and traffic lights), locations of facilities such as schools, restaurants, historical sites and landmarks, natural assets, etc.
4. Convert existing data for compatibility with GIS
5. Design and install the identified geo-referenced data systems in municipal offices
6. Recruit and train staff to manage, maintain and analyze the data
7. In the long term, utilize GIS to guide utility infrastructure planning, urban development and transportation planning, environmental impact assessment, and tracking of development projects.

## WE WILL:

- **Build our digital infrastructure**
- **Connect our city's neighborhoods and limit urban sprawl**
- **Design our blue-green network**

In the longer term, we may find opportunities to further enhance our digital infrastructure with the use of satellite imagery and other assets.

**Action owner:** Byblos Municipality

**Action partners:** 100RC, ESRI, Khatib & Alami, Digital Globe.

### ASPIRATIONAL ACTION: 2. OPEN BYBLOS' DATA FOR PUBLIC USE

**Action description:** Once we have our digital infrastructure place and a robust approach to data collection and maintenance, we want to pioneer the open data initiative in Lebanon by opening our data for anyone to access, use or share. Open data stores across different cities around the world have generated multiple benefits for the economy, community and to help cities address their challenges through innovative digital solutions. This will help collaboration between citizens and Municipality to plan for a better city and quality of life for all. It will also help the Municipality to direct its resources where they are needed most through a better understanding of the extent of city challenges, such as traffic congestion, parking availability, or water leaks. With support from our Platform Partners ESRI and Khatib & Alami, we will create an online data store for public access.



Map showing the road (north - south) and the roundabout

## GOAL B: CONNECT OUR CITY'S NEIGHBORHOODS AND LIMIT URBAN SPRAWL

**Goal objective:** One of the major issues in all the coastal Lebanese cities is the road that was built to connect and facilitate access to the capital Beirut. The highway split Byblos into two parts; the Old City (west) and the new city (east). The voie romaine (*decumanus*) divides the city further into north and south. Four parts of the city converge in a major vehicular roundabout at the geographic center of the city. A fragmented city is not a resilient city. We want to improve connectivity across our neighborhoods, and curb the ongoing trend of unregulated development, which is expanding our city into the hills, leading to traffic congestion, obstruction of major view corridors, and development of the remaining natural landscape.



© Hashim Sarkis Studios

Map showing the severance of the city by the road (north to south) and voie romaine (east to west).

### PRIORITY ACTION: 1. SYNTHESIZE EXISTING MOBILITY PLANS AND TRANSPORT RESEARCH TOWARD THE DEVELOPMENT OF AN INTEGRATED MOBILITY PLAN

**Action description:** We aim to synthesize and assess all the transport studies done to date toward the development of an integrated multimodal mobility plan that not only responds to the spatial challenges that Byblos is facing, but also addresses the problems of the lack of basic fixed infrastructure such as

sidewalks, safe pedestrian crossing points and signage. This is a particular issue along some of our main roads, including 'Voie 13' in the new city, and at the roundabout. There is a need in Byblos to improve transportation on different levels:

- Improved walkability and introducing pedestrian streets, particularly connecting the east and west parts of the city.
- Improving the public transportation system, which is currently limited to small electric buses in the Old City and a main bus route along the highway between Tripoli and Beirut, with no other access around the city apart from by car.
- Introducing cycling paths to promote active, sustainable travel and recreation, particularly along the coast.
- Integration of car parking with public transportation.
- Policy led multi-modal strategy.

A group of students led by ODDD has started a transport initiative entitled Toward a Sustainable Mediterranean City: Byblos sustainable transportation policies, to understand and address the transport issues Byblos is suffering from.

We want to create a safer and more inclusive mobility network for our citizens and reduce urban sprawl by redirecting growth along planned corridors, and will be supported by an integrated zoning plan for the city. We want to set a precedent that other coastal cities in Lebanon can follow.

**Action objective:** Improve transport linkages across all parts of the city, promoting safer streets, offering residents and visitors different modes of transport to move around, and creating an exemplar city for other Lebanese coastal cities to learn from.

**Action owner:** Byblos Municipality

**Action partners:** Transport advisors, ODDD (Organization de developement durable), private sector sponsors for transport infrastructure.

**Timeline:** Medium term

**Resilience value:**

- Improved connection between communities, key services and places of work
- Safer streets and neighborhoods
- Environmental improvements, including air quality and provision of green spaces
- Reduction of urban sprawl and redirection of urban growth
- Reduction of travel congestion, which can boost economic activity

- Improved health and wellbeing associated with walking and cycling
- Improved social interaction via use of public transport.



**ACTION: 2. CREATE PEDESTRIAN LINKS BETWEEN THE OLD (WEST), NEW (EAST) PARTS OF THE CITY AND NORTH-SOUTH.**

**Description:** Pedestrian linkages across the distributary road and roundabout are crucial to improve connectivity between the old and new city, to encourage residents to walk between the two parts of the city instead of going by car, and to reintegrate the Old City into the modern Byblos. Design proposals for linkages include creation of an elevated public space across the road and roundabout, connecting the Voie Romaine with the new municipality headquarters and extending up to the eastern part of the city. Combining this major action with more regular and safe pedestrian crossings, footpaths, cycling routes, will enable the whole city to be navigated by foot and connected east-west, north-south. An integrated pedestrian plan will form part of the overall mobility plan for the city, of which we expect some of these specific interventions to be part.

**Action owner:** Byblos Municipality

**Action partners:** Infrastructure advisors/planners, private sector sponsors, international funders.

**PRIORITY ACTION: 3. FACILITATE A DIALOG BETWEEN THE DIRECTORATE GENERAL OF URBAN PLANNING (DGU) AND OTHER STAKEHOLDERS TO REVISE AND IMPLEMENT PLANNING AND CONSTRUCTION LAWS**

**Action description:** Byblos will actively facilitate a dialogue between the DGU and other stakeholders with an objective to revise building and urban planning laws to contain and limit urban sprawl. Going beyond the existing construction rules and regulations, we seek to propose amendments that will improve building performance and limit urban sprawl.

**Action objective:** To improve the planning process, law amendments and implementation to limit urban sprawl in Byblos.

**Action owner:** Byblos Municipality

**Action partners:** Order of Engineers and Architects, Union of Municipalities, Directorate General of Urban Planning (DGU)

**Timeline:** mid-long term

**Resilience value:**

- Strengthened municipal governance and accountability
- Strengthened relationships with neighboring municipalities and national government
- Improved urban planning
- Promotion of compact city development
- Engagement with experts toward a public national good
- Regulation of urban development and conservation of historic assets

- Protection of environment and natural assets
- Increase in green space provision.

**ACTION: 4. DEVELOP A ZONING PLAN TO REGULATE URBAN SPRAWL**

**Action description:** Preparing a municipal zoning plan to regulate and limit urban sprawl and unplanned building developments, and protect the surrounding environment. Areas with special cultural and environmental importance such as the river corridor, the archaeological sites, and the railway corridor should be given special status, together with areas suitable for increased density of development. Alignment with the proposed mobility plan for the city to redirect urban sprawl and growth is crucial.

**Action owner:** Byblos Municipality

**Action partners:** Directorate General of Urban Planning (DGU), Order of Engineers and Architects.



## SHOWCASING BEST PRACTICE

The natural wastewater treatment systems in Remhala, Lebanon use the dense roots of local canes (*Arundo donax*) to fix bacteria and remove pollutants from the water. The system relies on gravitational force alone to move the water from one stage to the next. The process starts with waste water passing through a sedimentation tank where all solid particles are removed to leave a homogeneous effluent. This flows through a primary followed by a secondary purification 'station' or container filled with the cane roots. The two purification stations are linked to improve the treatment level and regulate flow speeds. Integration also increases the system capacity by allowing the effluent to move into the second station once the first is saturated. Fresh water then flows out of the system ready to be reused without harming in the environment.

## GOAL C: DESIGN A BLUE-GREEN NETWORK THROUGHOUT THE CITY

**Goal objective:** Urban sprawl, unregulated development, drought and other shocks and stresses have caused our open spaces, agricultural land, private gardens, woodlands, rivers and other water courses to be marginalized or removed. We want to bring these natural assets back to create a greener, cleaner and healthier urban environment.

### ACTION: 1. BUILD INFRASTRUCTURE IN THE NEW CITY TO CONNECT THE CITY USERS TO THE TREATMENT PLANT

**Description:** To further resolve our wastewater issues, the solutions for the old and new city will be addressed differently. For the new city, we have a wastewater treatment plant that is already built, but lacks infrastructure connections to the houses and buildings. Planning and building the required infrastructure through a well-maintained sewage network is important for our resilience. We are collaborating with our 100RC Platform Partner ESRI, and Veolia to examine how this can be done.

**Action owner:** Lebanese Council for Development and Reconstruction (CDR)

**Action partners:** Byblos Municipality, Veolia, Union of Municipalities.

### ACTION: 2. IDENTIFY WASTEWATER SOLUTION FOR THE OLD CITY

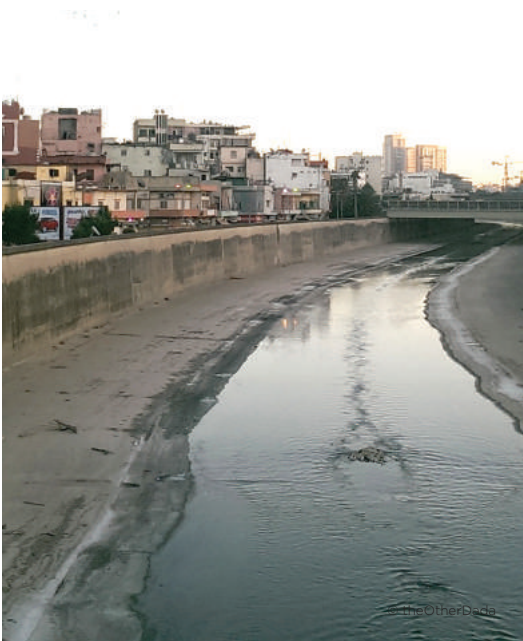
**Description:** For the Old City, separate wastewater treatment solutions are to be explored, since it will not be possible to build sub-surface wastewater pipes in this archeologically rich area. Wastewater solutions for this part of the city will take into consideration the sensitivity of the site. We are investigating alternative small scale sewage treatment plants to be installed in restaurants, and the use of natural treatment solutions which uses plant material to filter wastewater to safe standards. The Old City can become a model and a research center for universities showcasing innovative wastewater solutions within a historic center.

**Action owner:** Lebanese Council for Development and Reconstruction (CDR)

**Action partners:** Byblos Municipality, Veolia, Union of Municipalities.



Green streets in Portland, Oregon



## SHOWCASING EVOLVING PRACTICE

The Beirut River LESS strategy aims to bring the Beirut river back to life. The Beirut river extends 30km from its source in the mountains, through peri-urban and urban areas, into the Mediterranean sea. The river in the early 1990s was a natural flowing river with diverse natural river banks and agricultural land, today it flows in a hard engineered channel throughout most of the urban areas, with little or no water flowing. The river suffers from dumping of sewage, wastewater, garbage, industrial waste, and slaughter house waste which then all flow into the Mediterranean sea. The deterioration of the river is having negative impacts on the economy of the surrounding neighborhoods, the communities and the environment. 'This is a local problem with a global impact', as the design lead of this initiative puts it. The initiative proposes to address these issues through community engagement, collaborative partnerships, stormwater management and restoration of lost ecosystems.





Omega Centre for Sustainable Living

### ASPIRATIONAL ACTION: 3. REHABILITATE THE MAIN STREAM, NAHR JAJ

**Description:** Nahr jaj is one of the streams that cuts across the old and new parts of the city. The stream is currently culverted under the city's roads. We propose to open up the river, also known as 'stream daylighting', to rehabilitate the natural system, improve drainage and create a green ecological corridor for people and wildlife. The stream will also contribute to improving connections between the two parts of the city, the old and the new. Raising awareness of these forgotten streams is key to retaining a sense of our natural heritage in Byblos.

**Action owner:** Byblos Municipality of Byblos and Ministry of Energy and Water

**Potentail action partners:** Technical advisors, private sector sponsors, LAU, theOtherDada.

### ACTION: 4. DEVELOP AN URBAN GREENING STRATEGY

**Description:** Developing an urban greening strategy sets a framework for protecting and restoring existing green open spaces, limiting urban sprawl, and providing context for the city's future planning. The aim is to adopt a holistic and integrated ecological landscape planning methodology that addresses our city's challenges, and integrate them with our blue network (rivers, stormwater management etc.) to create multifunctional opportunities for economic development, amenity and recreation. The strategy will play a crucial role in connecting our city's neighborhoods through a series of green corridors.

**Action owner:** Byblos Municipality

**Potential action partners:** Lebanon Flora, University Saint-Joseph, theOtherdada.



Las Ramblas, Barcelona, Spain



Barcelona Green Infrastructure and Biodiversity Plan 2020

## 2. A RESOURCEFUL CITY: BYBLOS WILL BE A RESOURCE EFFICIENT CITY THAT OPTIMIZES ECOSYSTEM SERVICES

**Our approach to managing Byblos' natural environment and ecosystems is one that looks for synergies in approaches to address our priority issues. This draws on multidisciplinary contributions to limit anthropogenic pollution, protect natural habitats and encourage sustainable local practices of resource use.**

Some of the environmental challenges that we face, such as coastal flooding and the sand storm we experienced in 2015, are outside of our direct control so our focus must be to prepare ourselves for such extreme events. Our preparations are outlined under other goals with respect to specific measures to protect our people and cultural heritage. This goal therefore focuses on the environmental stresses that are within our control, which include the difficulties of managing our solid waste, the air quality issues that stem from reliance on back-up diesel generators for reliable energy supply, and the responsible behaviors of our citizens toward the natural environment.

Our work to preserve our environment is intrinsically linked to our practices of urban development, and should be considered in tandem with the goals outlined in Strategic Pillar 1. Our view is that a unified approach to sustainable behaviors by all of our citizens will generate social cohesion and a sense of wellbeing (Strategic Pillar 4), and new environmental management practices could be a catalyst for economic diversification (Strategic Pillar 5).

### **GOAL A: DEMONSTRATE ENVIRONMENTAL RESPONSIBILITY AND PROMOTE STEWARDSHIP BY CITIZENS**

**Goal objective:** To establish sustainable waste management practices and collection schemes within the city of Byblos, which protect us from the waste management crises experienced in other parts of Lebanon. To raise environmental awareness amongst Byblos citizens, engage the youth and local community in sustainability-oriented initiatives, and foster a deeper understanding and civic responsibility toward natural resources and our supporting ecosystems.

### **PRIORITY ACTION: 1. WORK WITH THE UNION OF MUNICIPALITIES TO INTRODUCE SANITARY WASTE TREATMENT AND A WASTE SEGREGATION PLANT IN HBALINE**

**Description:** The first step of this initiative requires an assessment of the condition and usability of the existing waste management infrastructure that serves Byblos. This consists of an uncontrolled landfill site in the village of Hbaline, which receives waste from all municipalities in the Caza of Byblos. Identifying opportunities to introduce sanitary controls at the site will be critical to limit environmental damage, particularly as our population grows and an increasing volume of untreated waste is disposed in Hbaline. As we develop options to improve the site, we also have the opportunity to consider proposals to introduce other infrastructure that will support more sustainable waste management for Byblos and our neighboring municipalities. A waste segregation plant will be critical to our ability to reduce the volume of waste we send to landfill and ensure that our reusable and recyclable waste streams can be diverted. With the help of our partner, Veolia, we will be able to determine best practice strategies for improving the Hbaline site and establishing appropriate waste collection and separation strategies for the city.

**Action objective:** To put in place effective infrastructure for sustainable waste management, enabling us to reduce the environmental impact of our solid waste and generate new economic opportunities related to material reuse and recycling.

## WE WILL:

- **Demonstrate environmental responsibility and promote stewardship by citizens**
- **Invest in efficient and renewable energy**

**Action owner:** Byblos Municipality

**Action partners:** Union of Municipalities, environmental consultancy firms (i.e. Veolia, Cedar Environmental), other private sector waste collection, recycling, reuse and composting companies and NGOs to be identified.

**Timeline:** Short-medium term

### Resilience value:

- Reduces environmental damages caused by the Hbaline landfill site
- Reduces risks to human health due to the landfill
- Reduces the future cost of environmental clean-up and regeneration of the Hbaline site
- Raise awareness and active participation in waste reduction and recycling within the community
- Enables Byblos to generate economic value from “waste” materials through reuse and recycling
- Enables Byblos to reduce the volume of waste sent to landfill
- Creates new economic activity and employment through services related to reuse and recycling
- Positions Byblos as a proactive, responsible and sustainable city, particularly following the 2015 waste crisis in Lebanon

### ONGOING ACTION: 2. PROVIDE SEGREGATED WASTE BINS IN PUBLIC PLACES THROUGHOUT THE CITY.

**Description:** Following the identification of an appropriate waste recycling plant and collection scheme for Byblos, we will introduce segregated waste bins throughout the city to encourage citizens to separate their waste streams at source. This will be an important way to divert waste from landfills, reduce litter around the city, and raise public awareness of sustainable waste practices. To maximize the benefits, it will be essential to strategically design and locate the bins. We will use international best practices to apply color coding, symbols and shaped openings (e.g. rectangular slit for paper, round opening for glass and plastics) that can be easily recognized and understood. Bins will be concentrated in areas with high pedestrian flow, for example near cafes and restaurants, shopping precincts and festival venues.

**Action owner:** Byblos Municipality



## CHALLENGE IN CONTEXT

### Waste management crisis in Lebanon

Waste management in Lebanon is a municipal responsibility, however the municipal budget was given to a private company Sukleen to manage the waste in Lebanon. In July 2015, Beirut's largest landfill site was shut down as it has exceeded its capacity limits. Without alternatives, and without support from the community, the government was paralyzed in finding solutions. Garbage was piling up on the streets of all Lebanese cities, some dumped under bridges, in the river valleys and forests. To make things worse, some municipalities and citizens started burning the garbage causing additional damage to the environment and air quality. The crisis has instigated a number of civil society movements and protests to urgently address sustainable waste management and avoid health impacts.

### ONGOING ACTION: 3. STIPULATE WASTE SEGREGATION FOR ALL RESTAURANT ESTABLISHMENTS IN THE OLD CITY

**Description:** Following the identification of an appropriate waste recycling plant and collection scheme for Byblos, all restaurants in the Old City of Byblos will be required to sort and recycle their waste, with a long-term plan to expand recycling to other restaurants in Byblos. The first step, which can be implemented immediately, is to reduce organic waste generation by donating excess food to restaurant staff, elderly homes, orphanages and NGOs that care for refugees. Liability being the main impediment to such an initiative, it will be the shared responsibility of giving and receiving parties to ensure that food is fit for consumption. Later, each restaurant will be required to introduce a proper implementation plan to segregate glass, cans, plastics and organic waste for recycling and composting.

**Action owner:** Byblos Municipality

**Potential Action partners:** Environmental consultancies and NGOs such as Lebanese Food Bank, FoodBlessed, Cedar Environmental, EcoConsulting, private sector waste collection, reuse, recycling and composting companies.

### ONGOING ACTION: 4. ESTABLISH ENVIRONMENTAL AWARENESS PROGRAMS

**Description:** We will organize a variety of environmental education initiatives in the schools and universities of Byblos to establish sustainable behaviors in our young people. At school level, all students will participate in at least one interactive environmental education class and waste awareness session, such as a play, presentation or discussions around environmental themes. Other activities could include hands-on gardening, painting and environmental graffiti by students in derelict areas of the city, which would have an added benefit of helping to uplift the neighborhoods and encourage community engagement.

In universities, we will look to establish youth exchange programs between Byblos university students and a model European city; by spending time in cities where green behaviors are the norm, students will become more aware of sustainable lifestyles. The promotion of environmental societies in universities will also be encouraged, including inter- and intra-university competitions on environmental themes, such as sustainable design, mobility, etc. Competition winners may be announced in public events in Byblos, showcasing good sustainable ideas to the local community.

**Action owner:** Byblos Municipality.

**Action partners:** Byblos schools, Lebanese American University, private universities, Lebanon Mountain Trail, EcoConsulting, Ministry of Education, NGOs.



## SHOWCASING BEST PRACTICE

The Green Glass Recycling Initiative Lebanon (GGRIL) is an initiative led by environmental entrepreneur, Ziad Abichaker, in response to the need for a recycling outlet for green glass bottles in Lebanon following the destruction of the only green glass manufacturing plant during the July 2006 war. When the initiative commenced in November 2013, 71 million bottles per year were being dumped in Lebanon's landfills or forests, and the country's traditional glassblowing industry was facing closure. Ziad began collecting green bottles for use in a glassblowing workshop south of Beirut, and started working with the glassblowers to develop new designs and improve access to markets. To date, it is estimated that over 180,000 green bottles have been diverted from landfill, helping to revive a declining industry and generate new economic value from waste glass.

**ACTION: 5. PROMOTE LEADERSHIP AMONG CITIZENS AND NEIGHBORHOOD COMMITTEES TO RAISE AWARENESS ABOUT HOME WASTE SEGREGATION**

**Description:** Following establishment of recycling infrastructure and a recycling plan for Byblos, we will encourage the establishment of a green committee in every neighborhood, residential complex or apartment building in the city. The committees will have a responsibility to raise awareness about the need to segregate and recycle waste streams, and will monitor the correct segregation of waste at the building level to ensure that waste streams remain clean enough for recycling. Green committees will be linked with neighborhood committees, as outlined in Goal 3.

**Action owner:** Resilient Byblos environmental working group, Byblos Municipality.

**Action partners:** EcoConsulting, other private sector waste collection, recycling, reuse and composting companies to be identified.

**GOAL B: INVEST IN EFFICIENT AND RENEWABLE ENERGY**

**Goal objective:** To reduce the city's exposure to power outages and reliance on polluting fossil fuels.

**ASPIRATIONAL ACTION: 1. PREPARE A STRATEGY FOR AN EFFICIENT, RELIABLE AND RENEWABLE ENERGY SUPPLY TO REDUCE DEPENDENCY ON THE NATIONAL GRID**

**Description:** Lebanon experiences major electricity supply issues, with hours of power outages each day. The country relies heavily on energy imports to meet domestic demand, the majority of which is sourced from oil. In Byblos, we rely significantly on polluting private generators to ensure the consistency of our energy supply. In a country with 300 days of sun each year, there is significant opportunity to create more local, clean and renewable energy supply networks, not least via photovoltaic and solar thermal technologies. We will explore options to determine the optimal mix of energy sources to meet our demands. We will also ensure the use of incentives – such as tax credits, subsidies, and feed-in tariffs – and loans – like the low-interest NEEREA loans supported by the Central Bank of Lebanon – to promote the adoption of renewable energy generation, and consider interventions to improve energy efficiency and reduce demand, particularly through sustainable building design and operation. In addition, the efficient and renewable energy will contribute to our economic growth and to the creation of job opportunities for our city to thrive. Together, these solutions can help to create a more energy secure future for the city.



**SHOWCASING BEST PRACTICE**

**Anti-littering Animation, I am going to start, #AnaRa7Balesh**

The Anti-littering animation developed by EcoConsulting in partnership with LMTA, and endorsed by the Ministry of Environment, will be shown in all schools as an extra-curricular activity. The animation addresses irresponsible behavior toward waste, and the unfortunate consequences it leads to. It is supported by a question and answer sheet for teachers to engage their pupils in a discussion about littering and sustainable waste behaviors.

# 3. A PEACEFUL CITY: BYBLOS WILL BE A PEACEFUL CITY THAT EMBRACES AND PROMOTES SOCIAL COHESION AND CULTURAL DIVERSITY

**Byblos has a long history as an inclusive, multi-faith society populated by a diverse range of people and communities including native residents, migrant workers, and refugees.**

Peacefulness is a strong value for the city's citizens; to date, Byblos has remained largely unaffected by unrest in other parts of the country. However, with rapid population growth, internal migration and an influx of refugees from Syria, maintenance of social cohesion is a growing challenge. 1.5 million Syrian refugees have recently sheltered in Lebanon; a country whose own population is just 4 million. The wider region is also threatened by armed conflicts resulting from injustice, oppression, lack of freedom, radical ideologies, violent autocratic governments and religious extremism. The initiatives identified under this goal are aimed at ensuring ongoing changes in the city do not jeopardize social cohesion or affect the peacefulness and tolerance that have characterized it for so long.

Inclusivity is another key priority for Byblos. We are acutely conscious of the vulnerable groups that reside within the city, including those who are elderly, physically or mentally challenged, and socially or economically disadvantaged. This goal seeks to ensure these groups have a voice and their needs are adequately addressed. It further promotes the integration of vulnerable groups in all aspects of the city's social, cultural and economic life. These principles are closely aligned with Goal 5, since by embracing the diversity of our people we can turn our unique city characteristics into a catalyst for diverse economic development.

Inclusivity and peacefulness also mean improving communication and engagement between citizens and local authorities, particularly outside of election times. Actions under this goal are aimed at improving ongoing relations with our citizens and caza communities to minimize the risk of instability, especially during volatile or strained periods. This will lead to improved governance for the city through actively engaged and empowered community.

## GOAL A: ENCOURAGE CIVIC ENGAGEMENT AND PARTICIPATION IN DECISION MAKING

**Goal objective:** To engage Byblos' communities to tackle local issues and maintain an excellent quality of life for the people of the city, including vulnerable groups.

### ONGOING ACTION: 1. CREATE NEIGHBORHOOD COMMITTEES TO REPRESENT AND ADVOCATE FOR THE COMMUNITIES WITHIN BYBLOS

**Description:** We want to create neighborhood committees that will:

- Work together to change and improve their neighborhoods to achieve better outcomes for the community living and working there
- Become the link between the Municipality and the community.

The committees will be made up of 4-5 people. The city of Byblos currently comprises more than 20 neighborhoods which could be regrouped to form 7 larger neighborhood groups. The representation of vulnerable groups will be essential in each neighborhood committee.

**Action objective:** To include the community and vulnerable groups in the decision making and implementation of city actions while boosting social cohesion and nurturing cross-cutting city relationships.

**Action owner:** Byblos Municipality.

### ACTION: 2. CREATE A YOUTH TASK FORCE TO ENCOURAGE YOUNG PEOPLE TO PARTICIPATE IN THE CITY'S OPERATIONS

**Description:** The youth of Byblos are an asset to our city's resilience. They represent the dynamic and creative backbone of the city. The aim is to set up a volunteer Youth Taskforce to connect the future workforce to the city's economic and social activities,

## WE WILL:

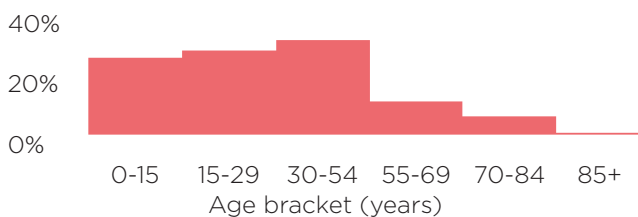
- Encourage civic engagement and participation in decision making
- Manage safety risks, threats and civil unrest
- Promote social networks and relationships between the caza communities

provide our Youth Taskforce with the required training, skills, and support to participate in the city's present and future activities and to encourage them to participate in the city's actions, and suggest proposals and initiatives at the city level. Activities can include tourism, hospitality management and others. The youth taskforce will be formed by the high school and university students, and other members of the community.

**Action owner:** Mayor's office

**Action partners:** Local NGOs, schools, universities, local cultural associations, tour operators, travel agents, local restaurants.

### POPULATION DISTRIBUTION OF BYBLOS



Source: Statistical Bulletin of the Ministry of Health, 2012

### ONGOING ACTION: 3. PARTICIPATORY BUDGET PLANNING WITHIN NEIGHBORHOOD COMMITTEES

**Description:** We want to empower our community and engage them in the municipal or public budget allocation. A budget will be allocated to each neighborhood committee to decide on how and where the money shall be spent. This can include local neighborhood level projects, training, education and others.

**Action owner:** Byblos Municipality

**Action partners:** Nahnoo NGO



## INSPIRATION FROM PORTO ALEGRE

### Participatory budgeting as catalyst for collaboration

The 100RC process provided a platform for networking between Porto Alegre, Medellin and New Orleans which has helped the cities exchange experiences, collaborate to build resilience, and identify common initiatives and actions that respond to similar challenges. For instance, New Orleans' 'Icons of Peace' has inspired Porto Alegre to launch a similar initiative. Porto Alegre also recently signed a Memorandum of Understanding with Medellin to promote and share peacebuilding best practices. Along the way, Porto Alegre shared its extensive experience with participatory budgeting with these cities and discovered ways to increase effectiveness of this process through improved information sharing.

## GOAL B: MANAGE SECURITY RISKS, THREATS AND CIVIL UNREST

**Goal objective:** To preserve the peace of our community and mitigate potential risks to our unique historic assets.

### ACTION: 1. DEVELOP A COMMUNITY SAFETY STRATEGY

**Description:** We want to develop an integrated security strategy to ensure the safety of our community and to protect our cultural heritage. We will collaborate with the national security forces, the local police stations, and the community to have a comprehensive strategy suitable for Byblos and its growing population to address the surrounding security threats.

**Action objective:** To ensure Byblos' peacefulness is retained for future generations.

**Action owner:** Mayor's office, with the municipal guards section.

**Action partners:** Byblos Municipality, national security forces, local police, businesses, and neighborhood committees, specialist advisors.

## GOAL C: PROMOTE SOCIAL NETWORKS AND RELATIONSHIPS WITHIN AND BETWEEN THE CAZA COMMUNITIES

**Goal objective:** The strong community networks within Byblos have contributed to maintaining the peacefulness that the city has been known for. Our aim is to build on our social networks, strengthen them and expand them to include the rest of the caza communities. Establishing these social networks will become the catalyst for economic, cultural and political collaboration.

### PRIORITY ACTION: 1. ESTABLISH A COMMUNITY CENTER, PARTICULARLY TO SERVE VULNERABLE GROUPS (INCLUDING REFUGEES) IN BYBLOS

**Description:** The Municipality has conducted a survey in 2014 asking the citizens to prioritize projects and services that the city should take forward to address the community's needs. Services for vulnerable groups, elderly people, and children were among the top priorities. Establishing a community center to contribute to our community's development and cohesion is one of our priorities. The center will become the social hub for the city, and will offer appropriate services for the elderly, children and vulnerable groups, host the Youth Taskforce and neighborhood committee meetings, and become the venue for a variety of community and public events. **Action objective:** To address the citizens' needs, improve the quality of life and contribute to the community's development and level of participation.

**Action owner:** Byblos Municipality

**Action partners:** Community Based Organizations (CBOs), local NGOs, International NGOs.

**Timeline:** Short to medium term.

#### Resilience value:

- Increase in social cohesion
- Promotion of active and engaged community
- Support for livelihoods
- Empowerment of a broad range of stakeholders
- Development of a central hub to draw together the two areas of the city.



**ONGOING ACTION: 2. PROMOTE CONFLICT RESOLUTION WORKSHOPS AND PROGRAMS**


**Description:** Lebanese American University in Byblos, in collaboration with the Institute for Peace and Justice Education and the United Nations (UN), organized a two week conflict resolution workshop in summer 2014. Topics covered included an introduction to conflict, the root causes and triggers of violent conflict, causes of the Lebanese civil war, the political economy of civil wars, the UN and conflict resolution in the Middle East, prevention of violent conflict, power sharing and constitutional reform in Lebanon, and bottom up conflict resolution. Similar

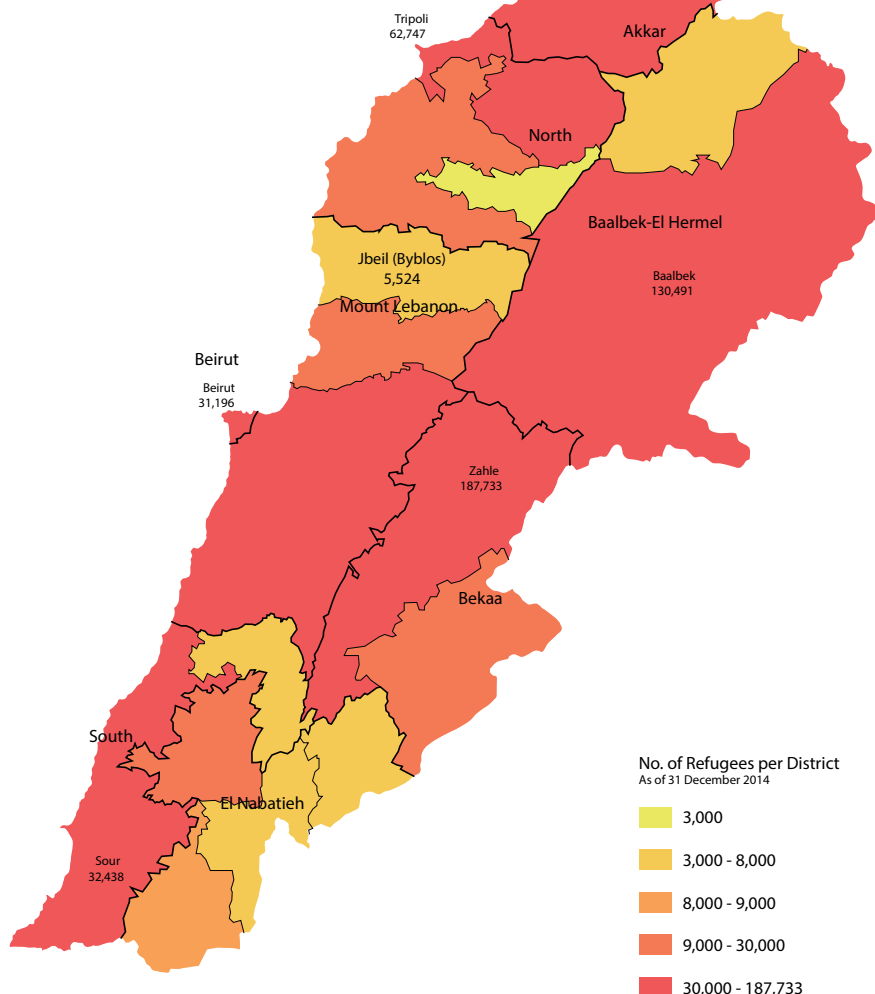
courses are delivered on a regular basis by the LAU, including Fundamentals of Conflict Resolution, Cross-cultural Communication and Conflict, Community Conflict and Conflict Resolution. The cultural center of Byblos, in coordination with the Youth Taskforce, will coordinate the delivery of similar courses to selected young people, who in turn will deliver training to other community groups in the city.

**Action owner:** Byblos Cultural Center, under the support and direction of the Municipality, can coordinate these activities between LAU, volunteers and the community.

**Action partners:** LAU, local NGOs, International NGOs, UNDP

LEBANON Syrian Refugees Registered  
31 December 2014

	Total No. of Refugees	1,158,995
	Refugees Registered	1,146,405
	Refugees Awaiting	12,590



No. of Refugees per District  
As of 31 December 2014

- 3,000
- 3,000 - 8,000
- 8,000 - 9,000
- 9,000 - 30,000
- 30,000 - 187,733

Source: UNHCR Beirut, Lebanon

# 4. A CULTURAL CITY: BYBLOS WILL PROTECT AND HONOR CULTURAL ASSETS, TRADITION, AND LOCAL IDENTITY

**Our cultural heritage, customs, and traditions are a source of pride for our people, contributing to the distinctiveness of our city. They need to be revived and celebrated. Byblos' history can be traced back to the development of the modern day alphabet, where myths of the death and birth of Adonis, Byblos' main God made the city a famous pilgrimage site in the past.**

Cities like Byblos can use protection and celebration of culture as a catalyst for improved economic development, community engagement, participation and social cohesion. This goal therefore contributes significantly to Goals 3 and 5. Some of our oldest traditional sectors have suffered from negligence, shifting economies, regional instability, and youth migration to larger cities. We believe that the traditional economies are an asset to our city that need to be incorporated in our strategy for a resilient Byblos. These include crafts, agriculture, fishing and others.

Furthermore, this goal is closely related to Goal 1, since without sensitive, responsible and integrated urban development strategies we risk losing our unique built heritage to uncontrolled urban development.

**“Monuments left standing in situ include a small Neolithic village; a small Chalcolithic village; a 3rd millennium BC city wall, buildings and temples; a 2nd millennium royal necropolis and temple; a Persian period citadel; a Roman road, theater and nympheum; a Crusader castle and church; and an Ottoman mosque and buildings. The site is also famous for the treasures found in one of its temples and in its necropolis, which expose the craftsmanship, trade and cultural relations of the city in antiquity, mainly with Egypt.”**

Charbel Nahas, 2002, study of the development of the Old City of Jbail (Byblos) in the framework of the "Cultural Heritage Development" project, with the CDR and the World Bank.



## BYBLOS WORKING WITH OUR PARTNERS

### A tsunami simulation for our city

Our heritage sites are vulnerable to environmental change and shock events. The high waves created by storm 'Zina' in January 2015 damaged our Old Port. A tsunami simulation conducted by our 100RC Platform Partner Swiss Re confirms that our Old Port is at risk from coastal flooding. Based on two different tsunami scenarios generated from earthquakes in the region, it is predicted that the largest tsunami could create a 6 meter wave in the port area. This type of event has a return period of around 2,000 years, while a smaller tsunami of 1-3 meters may re-occur every 300-1,000 years. Due to the elevated coastline around Byblos, many of our assets on higher ground would be protected, but the port area would be inundated and some of our old religious buildings too.

## WE WILL:

- **Protect the City's historic assets and coastal heritage**
- **Establish local markets to cherish and protect local identity and traditional businesses**

### GOAL A: PROTECT THE CITY'S HISTORIC ASSETS AND COASTAL HERITAGE

**Goal objective:** To develop measures, guidelines and frameworks for the protection of the city's historic assets.

#### ACTION: 1. UNDERTAKE A FEASIBILITY STUDY TO IDENTIFY COASTAL MANAGEMENT SOLUTIONS TO PROTECT THE CITY AND IMPROVE THE MARINE BIODIVERSITY

**Description:** We will investigate appropriate planning measures, including hard and soft engineering techniques to address the adverse effects of tsunamis, sea level rise, and flooding. The current pier is affecting the sea current and directing the force of the waves onto the ancient port. It has already damaged the marine habitat and created a moderately adverse visual impact. This has resulted in partial collapse of the ancient tower at the entrance to the port. We want to explore the options to construct a wave breaker to absorb the impacts of strong waves, reduce damage to the Old port, and protect fishermen's livelihoods. We would like to align this project with efforts to restore the marine biodiversity. We will work with technical specialists to identify the most effective combination of hard and soft solutions to achieve these outcomes.

**Action objective:** To ensure the protection of the coastal historic assets such as the old port and the Phoenician port.

**Action owner:** Byblos Municipality, Ministry of Environment, Ministry of culture, Ministry of Public Works and Transport.

#### ACTION: 2. DEVELOP RESTORATION GUIDELINES AND TECHNIQUES FOR THE PRESERVATION AND ENHANCEMENT OF BYBLOS' OLD CITY

**Description:** Establish a framework in partnership with the local community, heritage experts in the city and national government institutions, for the restoration of historic buildings in the city, similar to the restoration of the souk façades which was completed in 2014. Develop affordable restoration techniques for property owners to implement, and give incentives for training and implementation, such as loans and tax deductions.

**Action owner:** Byblos Municipality - Engineering department

**Action partners:** Ministry of Culture, Ministry of Environment (Directorate General of Antiquities), LAU, UNESCO

### BYBLOS PREPARING TO RESPOND

In 2014, within the scope of the National Response Plan, UNDP collaborated with Lebanon's National Committee of Disaster Management and the Response Committee of the Caza of Byblos to undertake a field simulation scenario of earthquake and tsunami disaster management in the city of Byblos. Local schools, hospitals, the Civil Defense, and the Army participated in this exercise, which included evacuation of students from a school, receiving patients in the nearest hospital, rescue of injured citizens, warning citizens before a tsunami, ushering citizens to safe areas, securing roads for logistical supports, and preparing a municipal crisis management room. The simulation aimed at testing the response plan and practicing communication and cooperation among the different stakeholders, and at identifying areas of strengths of weaknesses in the city's capability at responding.

## GOAL B: PROTECT AND PROMOTE LOCAL IDENTITY AND TRADITIONAL BUSINESSES

**Goal objective:** To use culture, heritage and traditions in Byblos as a catalyst for economic and social development. To support our community in reviving Byblos' social and economic heritage and dormant traditions.

### PRIORITY ACTION: 1. ORGANIZE A LOCAL FARMERS' MARKET IN BYBLOS TO MARKET LOCAL PRODUCE

**Description:** We want to organize a monthly farmers' market in the Old City to promote the small-scale farmers, fishermen and traditional industries. The market will become a social space where communities from across the caza meet and interact. We will engage with organizations with previous experience, such as Souk El Tayeb, to seek support and potential partnership.

**Action objective:** To market the local produce of the city and surrounding villages and promote local products. To revive traditional foods and recipes to protect and celebrate local identity.

**Action owner:** Community-based organizations, with the Office of Community Development, supported by Byblos Municipality  
**Action partners:** Byblos Municipality, Souk El Tayeb, farmers, and fishermen cooperatives

**Timeline:** Medium term

#### Resilience value:

- Preservation of traditional economic activities
- Reinforcement of social cohesion and relationships
- Valorization of the local products
- Revival of local industries and economies

### ACTION: 2. EMPOWER LOCAL COMMUNITY, PARTICULARLY WOMEN, TO REVIVE TRADITIONAL CRAFTS AND DEVELOP MARKETS FOR ARTISANAL PRODUCTS

**Description:** We want to revive and support our traditional crafts through collaboration and partnerships with private organizations to empower craftsmen and women, offer required skills training, improve quality of products, and explore innovative designs and improved technology. We want to give incentives to artisans to market and sell the products through valorization and promotion of a high quality brand for Byblos' traditional crafts.

**Action owner:** Byblos Municipality, Union of Municipalities

**Action partners:** Private sector sponsors, schools, universities, local NGOs and social enterprises.

## BYBLOS WORKING COLLABORATIVELY

During the 100RC strategy development process, the city has collaborated with the Lebanese American University (LAU) under the supervision of Professor Jose Madrigal, to begin surveying and creating an inventory of the historical assets in the city. We need to continue our efforts in surveying and documenting all our historical assets including assets requiring restoration and preservation. The inventory should include the type, condition, age, and ownership of our historic assets, which will enable us to monitor and protect our heritage resources. The inventory should be accompanied with survey and mapping information compatible with GIS.

As we take this work forwards, the municipal Engineering department will become the owner of the inventory. They will collaborate with our Platform Partner ESRI, with continued input from LAU together with the Lebanese Ministries of Culture and Environment, and UNESCO.



## INSPIRATION FROM NORFOLK

### Norfolk, Virginia

This US coastal city with a bustling port is embarking on a resilience building journey with notable similarities to Byblos. Released in October 2015, their resilience strategy helps the city address its challenges in an integrated manner. Like Byblos, it is grappling with growing coastal threats, which threaten to undermine both prosperity and community cohesion. Addressing these threats will require better understanding and dissemination of the city's data, connecting and empowering marginalized communities, and the identification and implementation of innovative water management solutions. Examples of these approaches include:

- Launching a state of the art resilience dashboard to integrate and synthesize data;
- Partnerships with the Netherlands to design robust water management initiatives;
- Empowering neighborhood faith-based communities to support emergency preparedness efforts across the city.



## SHOWCASING BEST PRACTICE

L'Artisan du Liban is a social enterprise founded in Beirut in 1979, an initiative of the Lebanese Social Movement with support from private donors. Its mission is to preserve Lebanese crafts and artisanal creative products, and allow artisans to maintain a viable livelihood through their work. The key drivers for the initiative are to promote the creativity of young artisans, coordinate the marketing of products through outlets in Lebanon and promote distribution abroad, contribute to job creation in rural and urban areas, empower workers, and distribute revenues to promote crafts and finance social projects. L'Artisan du Liban currently has three stores Beirut and Tripoli. Currently, more than 800 artisans, throughout Lebanon contribute to the creation of artisanal work. In 2014, a new workshop opened in Tekrit-Akkar, a remote rural area, creating an opportunity for both Syrian refugees and local people to acquire skills in traditional Syrian Aghabeneh embroidery, sewing and block printing, thereby contributing to social inclusion, identity and creating economic opportunities for Syrian women.

© Joyce Rouhana, L'Artisan Du Liban

# 5. A THRIVING CITY: BYBLOS WILL BE A CITY THAT DIVERSIFIES ITS ECONOMY FLOURISHES FROM OUR VALUED CULTURAL AND HUMAN RESOURCES

**Byblos is characterized by a vibrant and diverse economy, which places the city in a strong economic position compared with other Lebanese cities. Historically, the main economic activities of the city centered around trade and agriculture. Today, with the help of migration and tourism, the city hosts 12 main industries, spanning health, education, finance, hospitality, tourism, commerce, law, and construction, among others. There are around 3,000 businesses in Byblos serving a growing number of city residents and visitors.**

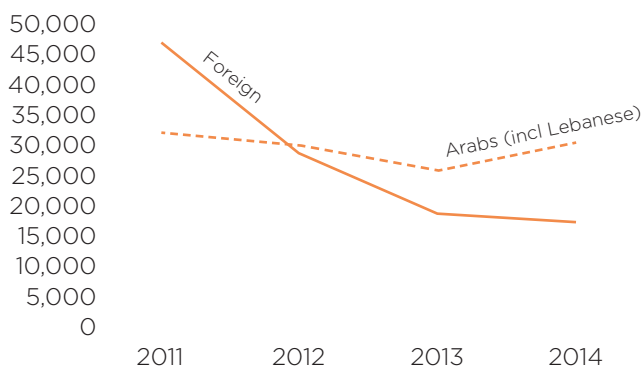
Our dependence on agriculture has declined substantially as other activities have grown and real estate development has expanded on to our former farm lands. Around 150,000m<sup>2</sup> of agricultural land remains in Byblos, consisting primarily of greenhouses.

Byblos continues to hold a strong appeal with tourists, especially Lebanese and other Arab visitors; the city has been named Arabic Capital of Tourism 2016 by The Arab Tourism Organization. However, continued instability in the region has led to a decline in the number of foreign tourists. Overreliance on tourism revenue is therefore a significant resilience challenge.

Promoting and maintaining the diversity of Byblos' economy is a critical requirement to ensure resilience, especially by expanding the city's role as a hub for banking, retail, education and artistic and cultural activities, as well as an advanced medical center for the region north of Beirut and north Lebanon. By creating economic opportunities and enabling sustainable livelihoods, the city can support its population into the future and generate the financial resources needed to secure its survival.

Diversification is an integral outcome from each of our other resilience goals; by transforming our approach to urban development, environmental management, social cohesion and cultural heritage, we intend to generate new economic opportunities that build upon our historic assets to create a forward-looking future city.

NUMBER OF VISITORS TO BYBLOS CITADEL, RECORDED AT VISITORS' OFFICE BETWEEN 2011 AND 2014



Source: Byblos citadel visitors' office, 2011-2014

## WE WILL:

- **Promote innovative economic enterprises which create future opportunities that build from Byblos' existing strengths**
- **Strengthen the city's role in regional economic development**
- **Improve the socio-economic conditions of Byblos residents**

### **GOAL A: PROMOTE INNOVATIVE ECONOMIC ENTERPRISES, WHICH CREATE FUTURE OPPORTUNITIES THAT BUILD FROM BYBLOS' EXISTING STRENGTHS**

**Goal objective:** To promote diversification into sectors that will enable Byblos to be more active in the 21st century global economy, particularly sectors that attract young people.

### **ASPIRATIONAL ACTION: 1. SUPPORT AND ENCOURAGE SMALL AND MEDIUM-SIZED ENTERPRISES (SMES) IN EXISTING AND POTENTIAL INDUSTRY SECTORS**

**Description:** Byblos has a long legacy of economic activity and skills related to traditional crafts, agriculture/horticulture and fishing, not to mention a unique built heritage that offers a special setting for media, film production, and digital. We would like to promote growth clusters that encourage these creative industries to develop and thrive in Byblos, making use of existing networks and partnerships. By developing growth clusters, we will incentivize SMEs to locate in Byblos by offering them space and communication/logistical facilities. We will build a local knowledge base to promote research and innovation around our targeted industries. This will draw young creative entrepreneurs from local universities to settle in Byblos. We will create incubators for new creative products and activities. In the long term, the market for these sectors will grow as Byblos becomes recognized as a hub for the creative economy, a reputation that will further enhance our attractiveness to tourists and other visitors.

Through our growth clusters we do not intend to constrain ourselves only to creative industries. Our encouragement of clusters will also target healthcare, which is already strong in Byblos but which will need to continue developing as we respond to a growing population and seek to retain our position as a healthy city in Lebanon.

### **ONGOING ACTION: 2. DELIVER A PROGRAM OF EVENTS AND FESTIVALS ALL YEAR LONG TO PROMOTE LOCAL CULTURE, TRADITIONAL FOOD AND MUSIC**

**Description:** Byblos is renowned for its annual International Festival, which attracts performers and artists from all over Lebanon and the world for a month-long festival of arts and music. In summer 2015, Byblos also launched a new festival to celebrate local wines, drawing on its history of exporting Lebanese wines to the Roman Empire. This ongoing festival program is important to promoting Byblos as a destination and attracting visitors who spend money in local shops, restaurants and hotels. The festivals will continue to play a central part in Byblos' economy, and opportunities to expand and diversify the program of events will be considered on an ongoing basis to attract a wider audience, especially during the tourist low season. We will particularly focus on supporting lesser-known, younger artists to help build their profile, and we will develop a stronger communications plan to support our events. In 2016, an exhibition may be held to celebrate Byblos' year as Arabic Capital of Tourism. We would also like to enhance the content of our existing festivals by introducing themes about environmental responsibility and green practices – for example, raising awareness through the use of recycling stations, recyclable packaging, e-ticketing, etc. – which will help to achieve our goal of resource efficiency.

**Action owner:** Byblos Municipality.

**Action partners:** Ministry of Tourism, Union of Municipalities, event managers.

## GOAL B: STRENGTHEN THE CITY'S ROLE IN REGIONAL ECONOMIC DEVELOPMENT

**Goal objective:** To grow our local economy as an integral part of economic development in the wider region, leading to improved capacity to thrive sustainably as a union of municipalities and not only as one small city.

### PRIORITY ACTION: 1. IDENTIFY AND INTEGRATE THE ASSETS OF THE REGIONAL HINTERLAND OF BYBLOS TO FOSTER PARTNERSHIPS AND DIVERSIFY TOURISM

**Description:** Byblos' economic influence is not constrained to the municipal borders. The larger district (qadaa) of Jbeil comprises 92 towns and villages and around 83,000 inhabitants over an area of 430 square kilometers. While Byblos is the capital of the district and hosts a range of important archaeological and coastal visitor attractions, the wider district also has a wealth of facilities and attractions to offer. One of the challenging things about tourism in Byblos is the short average duration of each tourist visit. By leveraging the assets of the wider region, Byblos has the opportunity to create a program of tourist activities that would attract longer stays and a more diverse range of tourist experiences, thereby enhancing Byblos' reputation as a tourist center. This would reap benefits both for Byblos itself, and for the surrounding towns and villages. For example, organized trips could be offered to tourists staying in Byblos' luxury hotels, to visit beautifully preserved local villages in the mountains, to hike, take environmental excursions, sample cuisine cooked from ingredients grown on local farms, participate in cooking and craft schools, and visit local wineries. In collaboration with local hotels and businesses in the wider region, we will identify opportunities to expand Byblos' tourist program and attract new types of ecotourism, cultural tourism, artistic and gastronomic tourism. This diversification will attract people from a wider variety of ages and backgrounds and help to strengthen and sustain our tourism sector. Opportunities could be promoted to tourists via hotels and a strengthened tourist office in Byblos.

**Action objective:** To diversify the range of tourist attractions available to Byblos' visitors, promoting longer stays and deeper engagement with the culture and environment of the region.

**Action owner:** Byblos Municipality.

**Action partners:** Ministry of Tourism, travel agencies and tour operators, regional businesses including hotels, museums, wineries, restaurants, etc.

**Timeline:** Medium term.

#### Resilience value:

- Strengthened and more sustainable tourist sector for Byblos.
- Creation of new jobs in the tourist sector, supporting the growing city population.
- Generation of additional revenues through expansion of tourist sector.
- Enhanced image and reputation for the city and district.
- Improved flow of tourist revenues to towns and villages in the wider area.
- Improved coordination of economic planning and governance between the city and wider region.
- Incentives to preserve heritage and traditional practices in the wider region as a mechanism to attract tourists.

### ACTION: 2. PARTNER AND COLLABORATE WITH THE UNION OF MUNICIPALITIES TO IDENTIFY POTENTIAL SHARED OR COLLABORATIVE DEVELOPMENT PROJECTS

**Description:** We will schedule regular meetings with other municipalities, business and economic stakeholders to explore and identify potential development projects or targeted investments that could benefit multiple cities and villages, including Byblos, by building on our common resources. Partnerships with other municipalities and business beyond Byblos' city limits will be an important way to create new economic opportunities within Byblos itself. By drawing on the combined resources of the Union of Municipalities we can each achieve more value with less individual cost. Examples of collaborative initiatives might be a shared program of cultural events and festivals at a specific time in the year, a shared tourist guide to promote visitor attractions throughout the region, networking and training events for entrepreneurs and SMEs throughout the region to help consolidate our growth clusters, or physical developments such as a training center for use by all municipalities in the Union.

**Action owner:** Byblos Municipality.

**Action partners:** Union of Municipalities, regional business stakeholders.



**ACTION: 3. EXPAND OFFERS IN EXISTING UNIVERSITIES AND COLLABORATE TO CREATE NEW PROGRAMS FOR EMERGING SECTORS**

**Description:** Byblos is home to the Lebanese American University (LAU) campus outside Beirut. This is an incredible asset for Byblos compared with other cities in the country. Furthermore, as a world heritage center designated by the United Nations Educational, Scientific and Cultural Organization (UNESCO), Byblos is an international focus for research and education related to the city's ancient history. These assets are the foundation for Byblos to grow its knowledge economy to become a regional hub for learning and education, especially in relation to history, archaeology and urbanism. Through the development of this strategy we have already worked closely with architects in the urban planning unit at LAU, as well as leveraging projects that are being run by other stakeholders via the university (such as the bus stop design competition for the Municipality). We will look for opportunities to continue consolidating links between the Municipality and our university, and to identify research and educational projects within the city that could attract other researchers and educators from inside and outside Lebanon. By doing so we hope to further diversify Byblos' economy and raise the city's status internationally as a center for research and knowledge.

**Action owner:** Byblos Municipality.

**Action partners:** Lebanese American University, UNESCO, other educational partners

**GOAL C: IMPROVE THE SOCIO-ECONOMIC CONDITIONS OF BYBLOS' RESIDENTS**

**Goal objective:** To improve the quality of life for Byblos residents, particularly those working in traditional industries, by promoting viable and sustainable livelihoods

**PRIORITY ACTION: 1. IMPROVE THE SUSTAINABILITY OF FISHERMEN'S LIVELIHOODS**

**Description:** Fishing is a long-standing part of Byblos' economy and society. However over recent years, fishing has become a less lucrative profession, the number of fishermen has decreased and the special traditions of local fishing have been declining. We would like to reinvigorate our traditional fishing industry by offering support to fishermen via the fishermen syndicate union. We will explore opportunities to offer training on sustainable fishing and basic business skills to enable fishermen to manage their activities effectively. We will also explore options to diversify the fishing industry by introducing a fishing school and day trips for visitors to learn the traditional fishing techniques. This could be linked with local cooking schools to enable visitors to learn both how to catch and prepare their fish according to local customs. These opportunities will be promoted via local hotels and the tourist center. We hope this would bring an alternative source of income for fishermen, helping to create a more viable livelihood. Furthermore, we will explore options to re-open the fish market in Byblos to provide better opportunities for fishermen to sell their products.



**SHOWCASING BEST PRACTICE**

Beit Douma is a guest house located in the village of Douma in the Batroun Mountains near Byblos. The guest house is a carefully restored 19th-century Lebanese mountain home, and the village of Douma is recognized as one of the best-preserved villages in Lebanon. Surrounded by olive groves and orchards, Beit Douma positions itself a retreat for visitors seeking to get away from the stress of everyday life, enjoying traditional foods with produce from the kitchen garden.

Beit Douma is one of three such guest houses developed by the Souk El Tayeb organization. Byblos has the opportunity to create its own role within an agenda of sustainable economic development in the surrounding region.

**Action objective:** Improve the fishermen’s livelihoods through sustainable fishing practices.

**Action owner:** Byblos Municipality.  
Action partners: Fishermen syndicate and cooperative.

**Timeline:** Medium term.

**Resilience value:**

- Supporting vulnerable communities and improve livelihoods
- Reviving traditional businesses
- Seek employment opportunities in the city

**ACTION: 2. ESTABLISH INCENTIVES TO ENCOURAGE FARMERS TO CONTINUE CULTIVATING THEIR AGRICULTURAL LAND WITHIN BYBLOS**

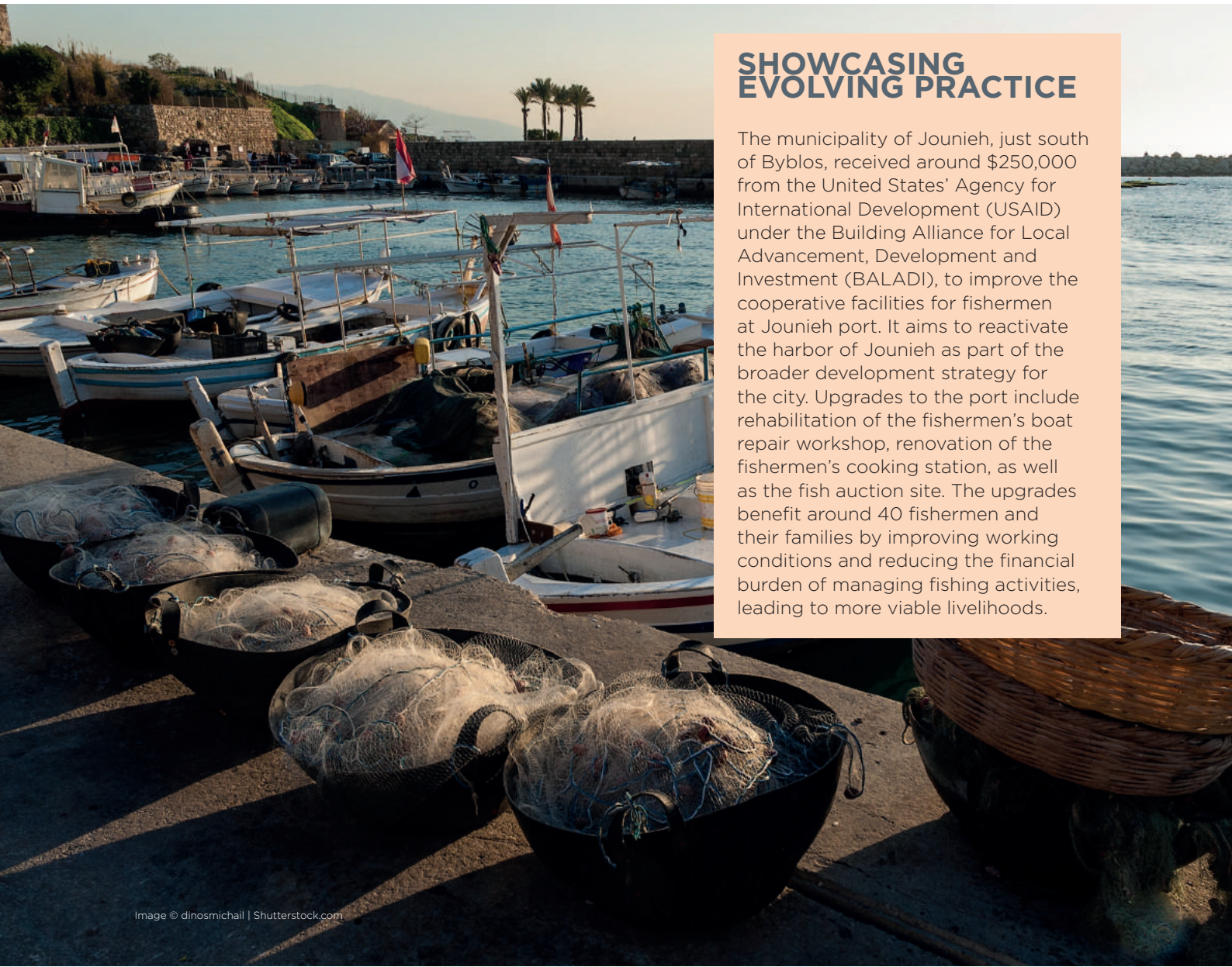
**Description:** East of the highway, the modern city of Byblos is an increasingly dense urban environment, however there remain several pockets of agricultural

and horticultural land that have withstood modern urban growth. On this land, farmers continue to cultivate bananas, pomegranates, olives and other fruits. This local produce is part of the region’s history, and we would like to prolong our connection to the land despite the ongoing threat of development. We will seek to help farmers diversify their businesses and improve productivity, for example with the use of improved farming practices and technologies, and developing brands based on local and sustainable/organic produce. We will explore options to incentivize farmers to continue cultivating their land, for example by finding opportunities to sell produce locally at farmers’ markets and local stores in the city. Our work with farmers will connect to our wider strategy to protect Byblos’ natural and cultural heritage, and promote new forms of tourism centered around the region’s traditional practices.

**Action owner:** Byblos Municipality, Ministry of Agriculture, Farmers in Byblos.

**Actions partners:** Farmers in Byblos, Agricultural experts





## SHOWCASING EVOLVING PRACTICE

The municipality of Jounieh, just south of Byblos, received around \$250,000 from the United States' Agency for International Development (USAID) under the Building Alliance for Local Advancement, Development and Investment (BALADI), to improve the cooperative facilities for fishermen at Jounieh port. It aims to reactivate the harbor of Jounieh as part of the broader development strategy for the city. Upgrades to the port include rehabilitation of the fishermen's boat repair workshop, renovation of the fishermen's cooking station, as well as the fish auction site. The upgrades benefit around 40 fishermen and their families by improving working conditions and reducing the financial burden of managing fishing activities, leading to more viable livelihoods.

## LEARNING FROM OUR PAST

During a visit to Byblos, one cannot help but notice the granite columns inserted in the walls of the Old city, the citadel and the crusaders' castle. The granite columns were quarried in Egypt and brought to Byblos by the Romans to use in the construction of the city to reinforce and fortify the walls, particularly against the threat of earthquake. Our city's existence to this day is evidence that the ancient civilizations who inhabited the city were thinking of innovative solutions to shocks early on.

# RESILIENCE DIAGNOSTIC

## BYBLOS IN CONTEXT

Byblos is known to be one of the oldest continuously inhabited cities in the world; a Phoenician city, inhabited since Neolithic times with evidence of human settlements dating back more than 7,000 years. As such, the city is already a testament to resilience. We want to embrace our challenges, and build resilience to maintain the city's existence for the next 7,000 years.

Ancient Byblos was a major port, trade hub and center of learning; the founding of the modern alphabet by the Phoenicians earned the city its name - Byblos - which comes from the Greek for papyrus.

Modern Byblos - or Jbeil - retains a strong sense of its heritage; home to the internationally distinguished Lebanese American University (LAU) and renowned for its diversity of cultural and religious traditions. The city has been recognized as a UNESCO World Heritage site since 1984.

Despite a long and destructive civil war in Lebanon (1975-1991), the city of Byblos has remained largely unaffected by unrest in other parts of the country. Then as now, the city is proud of its long tradition of multi-faith tolerance and ethnic co-existence. In the wake of current conflicts in nearby Syria and Iraq, efforts are now underway to ensure that the pressures placed upon the city's services by an influx of refugees and migrants do not negatively affect the peacefulness and tolerance that have characterized the city for so long, but become an opportunity for the city in the future. Challenging events such as these should not damage the city's image as open, tolerant and diverse. Among others, these factors provide a contextual underpinning to the development of the resilience strategy.



BYBLOS HAS A LONG HISTORY AS A DIVERSE, **MULTI-FAITH SOCIETY**. THE DOMINANT RELIGIONS ARE **CHRISTIANITY AND ISLAM**.



# MULTI-FAITH SOCIETY



BYBLOS HAS A RESIDENT POPULATION OF **27,500**, **65,000** WITHIN ITS CITY LIMITS, **100,000** WITHIN THE METROPOLITAN AREA, AND A GROWTH RATE OF **0.9%**.



# GROWTH RATE: 0.9%



THE MUNICIPAL COUNCIL INCLUDES **100 EMPLOYEES**.



# CITY BUDGET: \$8.3 MILLION





MAYOR ZIAD HAWAT IS AN **INDEPENDENT POLITICIAN**. HE IS CURRENTLY IN HIS **FIRST TERM** IN OFFICE, WITH MAYORAL ELECTIONS TO BE HELD IN **2016**.



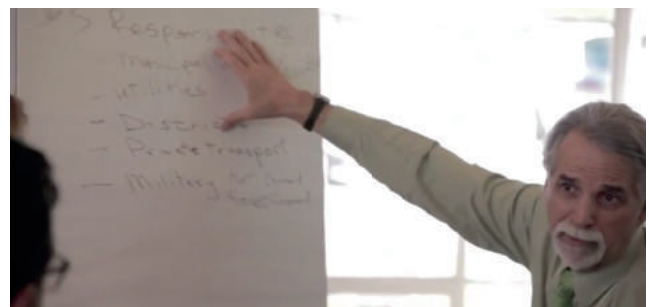
## MAYOR ZIAD HAWAT



THE **TOP 3 INDUSTRIES** THAT DRIVE THE CITY'S ECONOMY ARE **TOURISM, RETAIL AND HEALTH**.



TOP 3 INDUSTRIES: **TOURISM, RETAIL, HEALTH**



THE **MAIN LANGUAGES** SPOKEN IN BYBLOS ARE **ARABIC, FRENCH, ENGLISH AND ARMENIAN**.



## OVERVIEW OF OUR EXISTING RESILIENCE ACTIONS

We have already successfully implemented many initiatives to develop our city's resilience, taking advantage of opportunities and partnerships on the national and international levels. We will build on these positive beginnings as we take forward our strategy for resilience through to 2030.

- Completion of a preliminary transport capacity study with the city of Carcassone, France, to begin planning an effective transit system for Byblos;
- Participation in the UNISDR Making Cities Resilient campaign, along with four other Lebanese cities, focused on preparing for and responding to emergency;
- Participation in the MED-3R solid waste management project to identify suitable urban waste strategies;
- Creation of a multifunctional public park for the dual benefits of recreation and environmental management. This project won a prize in Barcelona for its landscape design (1) ;
- Restoration of the souk façades in the Old City, financed by Byblos Bank (2);
- Development of a Cultural Center for Byblos, together with the Ministry of Culture (3);
- Construction of a new municipal building, creating an iconic community center bridging the Old City and the newer part of the city east of the main highway (4);
- Installation of parking meters, electric shuttles and pedestrian footpaths in the Old City to reduce traffic congestion (5);
- Construction of a sports complex for community use, funded by the association of Carlos Slim and suitable for local recreation as well as international sports events (6).
- Participation in "War Free World Heritage Listed Cities", focused on defining risk preparedness plans and risk mitigation measures for the cities of Byblos in Lebanon and Mtskheta in Georgia. It aimed at developing a strategy to create the required conditions for both Byblos and Mtskheta to be candidates for enhanced protection status to UNESCO.







# DELIVERY AND MONITORING

## DELIVERING THE STRATEGY

We recognize that this strategy is ambitious. But we believe we can unlock the necessary resources to make these actions a reality. This will be achieved through local, national, and international partnerships. And this strategy will serve as the foundation for attracting these partners while providing a coherent and thoughtful road map for exploration and innovation.

In the coming months we will create a detailed action plan, assign roles and responsibilities and appropriate timelines for the execution of these tasks. Successful implementation will require strong coordination and communication with a diverse array of individuals.

### Our People

People are our most important asset and we want to ensure all of our skills and knowledge are put to the most effective use in implementing the strategy.

### Our Platform Partners

The Platform is a curated suite of resilience-building tools and services, provided by partners from the private, public, academic, and non-profit sectors, giving our cities access to the resources they need to become more resilient.

### Our Stakeholders

The CRO's office will be responsible for initiating the plan, in collaboration with the Working Groups and other local stakeholders including NGOs and academic partners. The strategy provides a framework for the delivery of the resilience goals and actions we've identified but collaboration is essential to make sure everyone is supported and able to carry out the actions we've set ourselves.

### Our Municipal Staff

Over the coming months, we'll be working with municipal staff to ensure they have the tools they need to deliver the strategy, and the support to engage with a variety of other city actors.

## Our Regional & National Government

Beyond the limits of the city, we believe the strategy also provides a meaningful platform to engage regional authorities and partners including the union of municipalities, and the national government. As a pioneer in resilience, we hope to use what we've learned over recent months to facilitate a wider dialog on the importance and potential impact of resilience planning in the region and the country. Through this process we also aim to engage new collaborators and establish working partnerships for the mutual benefit of all involved.

## MONITORING PROGRESS

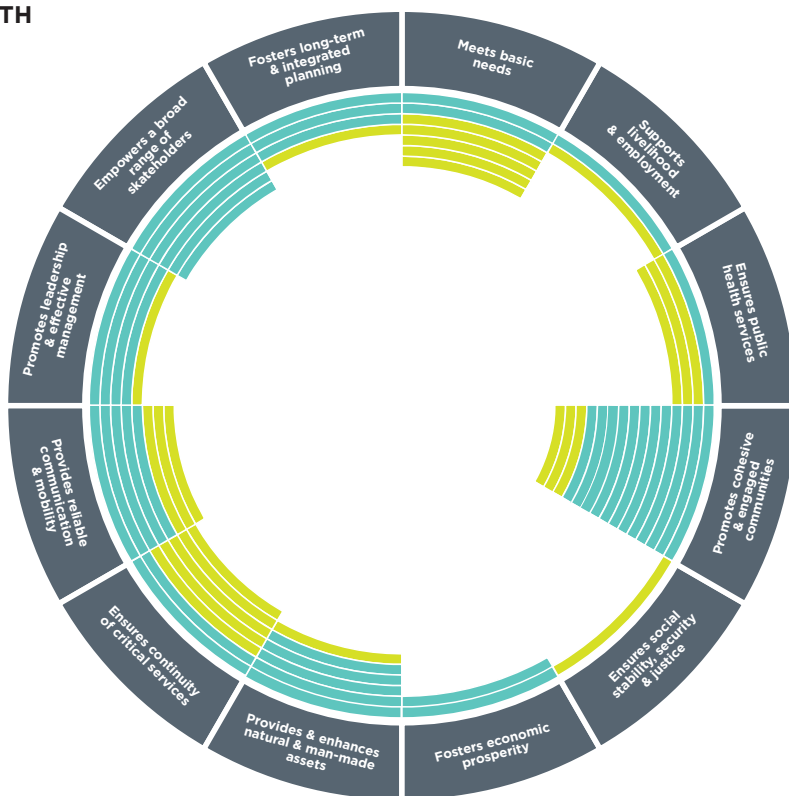
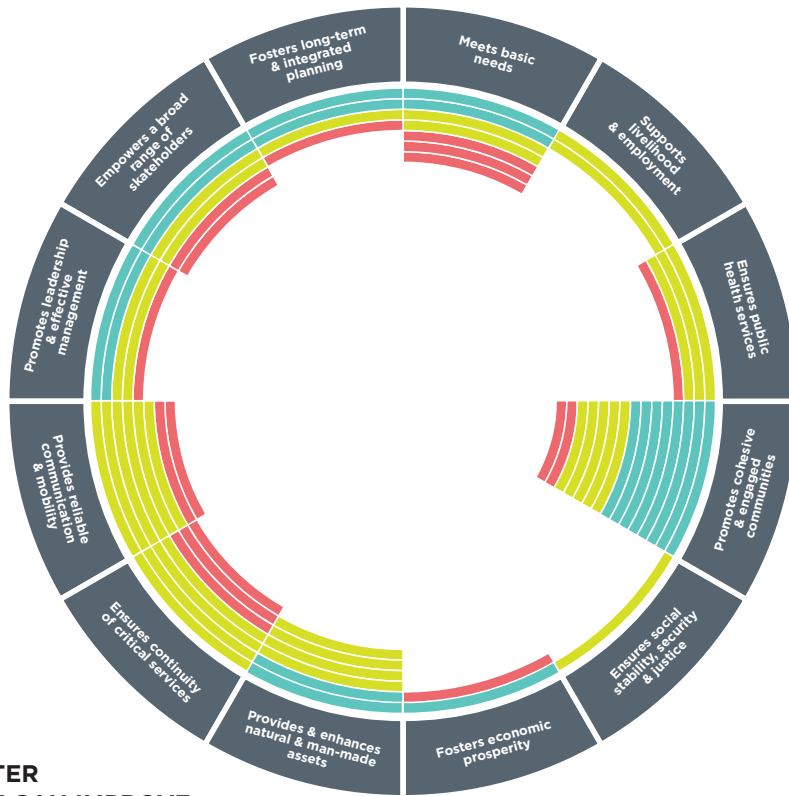
Dialog and transparency are important to the delivery of the resilience plan. To ensure we're progressing toward our targets and building on our actions, we are setting out a monitoring plan.

### City Perceptions Tool

Having developed an action plan to enhance resilience, it is also important that we keep track of how activities are progressing so we can make adjustments, assess impacts and explore further opportunities.

During the PRA process, we carried out a Stakeholder Perception analysis using a structured perception tool. This helped us to understand how city stakeholders view the current level of resilience in Byblos, as well as the major risks facing the city and opportunities to tackle them using our existing assets. As part of the ongoing monitoring process, we will run this tool again to gauge how views have changed since it was implemented, and how drivers have evolved since the start of the resilient strategy development. This will allow us to assess progress, and identify any remaining gaps and future risks that the strategy may then be adapted to cover.

Monitoring will allow the CRO and other stakeholders working on resilience to review the status of actions and facilitate feedback between parties, for example relating to challenges that prevent progress. The monitoring schedule will also provide a framework through which we will keep the Mayor up-to-date on the development of the action plan. The Working Groups and other partners including LAU will also feed into this process.



# APPENDICES

## A. SUMMARY OF STRATEGIC PILLARS, GOALS, AND ACTIONS

STRATEGIC PILLAR	GOAL		ACTION	STATUS	MILESTONE (2016-2017)	TARGET (2020-2030)		
<b>1. A CONNECTED CITY:</b> BYBLOS WILL BE A CONNECTED CITY THAT PIONEERS INNOVATIVE AND INCLUSIVE URBAN SOLUTIONS	A	Build our digital infrastructure	1	Collect and manage data	Ongoing	50% of data is collected 50% of data migrated to GIS.	100% of our data is digital and open to the public.	
			2	Open Byblos' data for public use	Aspirational			
	B	Connect our city's neighborhoods and limit urban sprawl	1	Synthesize existing mobility plans and transport research toward the development of an integrated mobility plan	Priority	Report covering the synthesis and summary of all the studies, including a 'next steps' plan.	Integrated mobility plan for Byblos.	
			2	Create pedestrian links between the old (west), new (east) parts of the city and north-south	Action			
			3	Facilitate a dialog between the Directorate General of Urban Planning (DGU) and other stakeholders to revise and implement planning and construction laws	Priority	Draft revised construction laws in collaboration with DGU and the stakeholders.	Final and agreed revised construction laws.	
			4	Develop a zoning plan to regulate urban sprawl	Action			
	C	Design our blue-green network throughout the city	1	Build infrastructure to connect the city users to the treatment plant	Action	Feasibility study assessing the infrastructure requirement.	Users of the new city to be connected to the wastewater treatment plant.	
			2	Identify wastewater solution for the Old City	Action			
			3	Rehabilitate the main stream Nahr Jaj	Aspirational			
			4	Develop an urban greening strategy	Action			
	<b>2. A RESOURCEFUL CITY:</b> BYBLOS WILL BE A RESOURCE EFFICIENT CITY THAT OPTIMIZES ECOSYSTEM SERVICES	A	Demonstrate environmental responsibility and promote stewardship by citizens	1	Work with the Union of Municipalities to introduce sanitary waste treatment and a waste segregation plant in Hbaine.	Priority	Agreement with the Union of Municipalities to set up a waste segregation plant in Hbaine.	Zero Waste Byblos 2030.
				2	Provide segregated waste bins in public places throughout the city.	Ongoing action		
				3	Stipulate waste segregation for all restaurant establishments in the Old City.	Action	Zero Waste in the Old city.	Zero Waste Byblos 2030.
4				Establish environmental awareness programs	Ongoing action			
5				Promote leadership among citizens and neighborhood committees to raise awareness about home waste segregation.	Action			
B		Invest in efficient & renewable energy	1	Prepare a strategy for an efficient, reliable and renewable energy supply to reduce dependency on the national grid.	Aspirational			

STRATEGIC PILLAR	GOAL	ACTION	STATUS	MILESTONE (2016-2017)	TARGET (2020-2030)		
<b>3. A PEACEFUL CITY:</b> BYBLOS WILL BE A PEACEFUL CITY THAT EMBRACES & PROMOTES SOCIAL COHESION AND CULTURAL DIVERSITY	A	Encourage civic engagement & participation in decision making	1	Create neighborhood committees to represent and advocate for the communities within Byblos.	Ongoing		
			2	Create a youth task force to encourage young people to participate in the city's decision making and operations.	Ongoing action		
			3	Participatory budget planning within neighborhood committees	Ongoing	Make the budget plans available online. Organise a workshop to gather key stakeholders and community groups to understand the urgent need and budget demands.	
	B	Manage safety risks, threats and civil unrest	1	Develop a community safety strategy	Action		
	C	Promote social networks and relationships between the caza communities	1	Establish a community center to serve vulnerable groups (including refugees) in Byblos	Priority		
			2	Promote conflict resolution workshops and programs	Ongoing		
<b>4. A CULTURAL CITY:</b> BYBLOS WILL PROTECT & HONOR CULTURAL ASSETS, TRADITION, AND LOCAL IDENTITY	A	Protect the City's historic assets and coastal Heritage	1	Undertake a feasibility study to identify coastal management solutions to protect the city and improve the marine biodiversity.	Action	Feasibility study assessing the options.	
			2	Develop restoration guidelines and techniques for the preservation and enhancement of Byblos' Old City.	Action		
	B	Protect and promote local identity and traditional businesses	1	Organize a local farmers' market in Byblos to market the local produce	Priority	Farmers' forum' - identify space, logistical requirements, and farmers.	
			2	Empower local community, particularly women, to revive traditional crafts and develop markets for artisanal products.	Action		
<b>5. A THRIVING CITY:</b> BYBLOS WILL BE A CITY THAT DIVERSIFIES ITS ECONOMY FLOURISHES FROM OUR VALUED CULTURAL AND HUMAN RESOURCES	A	Promote innovative economic enterprises which create future opportunities that build from Byblos' existing strengths.	1	Support and encourage Small and Medium-sized Enterprises (SMEs) in existing and potential industry sectors.	Aspirational		
			2	Deliver a programme of events and festivals all year long to promote local culture, traditional food and music.	Ongoing		
	B	Strengthen the city's role in regional economic development	1	Identify and integrate the assets of the regional hinterland of Byblos to foster partnerships and diversify tourism.	Priority	Set up 2 partnerships with surrounding municipalities/ organization with agreed Terms of Reference.	Develop a network of tourism trails.
			2	Partner and collaborate with the Union of Municipalities to identify potential shared or collaborative development projects.	Action		
			3	Expand offers in existing universities and collaborate to create new programs for emerging sectors.	Action		
	C	Improve the socio-economic conditions of Byblos' residents	1	Improve the sustainability of fishermen's livelihoods.	Priority	Organize sustainable fishery courses for fishermen.	
2			Establish incentives to encourage farmers to continue cultivating their agricultural land within Byblos.	Action			

## B. GLOSSARY

**Strategic pillar:** is a strategic direction that the city will pursue to achieve the vision

**Goal:** is a tangible and attainable objective

**Milestone:** is a tangible output for a particular action in the short term (2016-2017)

**Target:** is the ultimate outcome and/or output that the action is intended to achieve (2020-2030)

**Priority action:** an action which is essential for Byblos' resilience and which we are ready to implement with our partners.

**Action:** an action which either supports a priority action, or which in itself is important for Byblos' resilience and can be implemented with our partners.

**Aspirational action:** an action which is necessary for Byblos' resilience, but which requires additional scoping before it can be implemented.

**Ongoing action:** an action which we already implementing in the city and which is contributing to our resilience. We will ensure that these actions continue.

**Caza:** is an administrative division used during the Ottoman Empire and still in use today in Lebanon, in this case the Byblos caza includes the city of Byblos and the surrounding towns and villages.

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