ATLAS OF LEBANON

New Challenges

Edited by
Eric Verdeil, Ghaleb Faour and Mouin Hamzé

Cartography by
Claire Gillette

Presses de l’Ifpo
After fifteen years of reconstruction in a relatively peaceful environment spanning the years 1990 to 2004, Lebanon has experienced successive violent political events resulting from complex entangled internal and external struggles. Since 2002, a collaborative endeavor between French and Lebanese researchers has resulted in producing two versions of the Atlas of Lebanon, now adapted and translated in English. The richly illustrated book displays original maps and infographics to provide a rare vision of the country. It highlights the new main legacy of the civil war and the reconstruction, and underscores the new challenges linked to the unfolding of the Syrian crisis and its consequences on Lebanon, particularly because of the massive influx of Syrian refugees in the country. The atlas assesses the fragile economy, the environmental degradation, climate change and the failures of public infrastructure. The book ends with the analysis of the mutations of the local territorial management, which is marked by the retreat of the state, if not its marginalization, and the rise of other actors, notably municipalities, local powers and also civil society organizations.
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Atlas of Lebanon

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Abstract

After fifteen years of reconstruction in a relatively peaceful environment spanning the years 1990 to 2004, Lebanon has experienced successive violent political events resulting from complex entangled internal and external struggles. The Syrian crisis and its political, economic and demographic consequences on Lebanon have increased these tensions. This atlas sheds light on these new challenges and adds new data that complete the analyses already published in the *Atlas du Liban. Territoires et société* (Atlas of Lebanon. Territories and Society) released in 2007 by the same research team. Some of its components are included in this edition. Beyond the international regional crisis and the population movements, it takes into account Lebanon’s socio-economic dimensions, the environmental issues linked to uncontrolled urbanization and to natural risks, as well as conflicts due to local territorial management.

This atlas is the result of a collaborative endeavor between French and Lebanese researchers. It uses a geographical approach that puts in the foreground a spatial analysis of social and natural phenomena. Public sources are scarce in Lebanon, especially at the local scale. They are sometimes less reliable and difficult to access. It is particularly the case for the Lebanese census data, conversely data are abundantly available on the refugees population, which is less known than the population of refugees. International data help compare Lebanon to its neighbors. Thematic data produced by some ministries are helpful to provide a detailed view regarding specific domains. Analyses processed on aerial and satellite images have produced essential data on urbanization and environment. Local thematic fieldwork surveys have provided additional data.

The book consists of seven chapters. The first one deals with the territorial state–building seen in the light of regional geopolitics, and emphasizes internal violence and the reemergence of militias and armed groups that fight each other and the state army. Lebanon is once again perceived as a territory divided between multiple allegiances. The second chapter is devoted to the analysis of population dynamics, despite the lack of reliable data whose sources are subject to discussion. It includes analyses of internal population flows, the Lebanese diaspora, and the assessment of Syrian refugees’ influx. The third chapter shows the fragility of the Lebanese economic model. Its dependency on foreign investments and on the remittances of the diaspora, as well as the deadlocks of industry and agriculture, which aggravate social imbalances. The fourth chapter is an assessment of urbanization in the country, which has increased by 80% in surface in twenty years at the expense of natural spaces and agriculture. The shore is highly coveted and widely artificialized and damaged. Multiple signs of environmental degradation are examined in chapter five. They seem to announce the global climate change and its local effects. In addition to that, there is a direct link between massive urbanization and many risks, measured and mapped in an increasingly detailed way. Chapter six tackles the dysfunctional public services that exploit natural resources: water and energy supply, both marked by massive shortages, and the management of solid waste hit by a serious crisis. The seventh and last chapter studies the mutations of the local territorial management, which is marked by the retreat of the state, if not its marginalization, and the rise of other actors, notably municipalities, local powers and also civil society organizations.


Acronyms

ABL Association of Banks in Lebanon
ABTF Administration Board of Tripoli Fair
ACSAD Arab Center for the Studies of Arid Zones and Dry Lands
AFESD Arab Fund for Economic and Social Development
ANR National Agency of Research (France)
AUB American University of Beirut
BTP Bâtiment et travaux publics
Building and Public Work Industry
CAS Central Administration of Statistics
CC Climate Change
CDR Council for Development and Reconstruction
NCSR-L National Center of Scientific Research - Lebanon
CERDA Center for Studies and Research in Development and Planning (Lebanese University)
CESBIO Center for Spatial Studies of the Biosphere
CIMA Interuniversity Research Center of Environmental Monitoring
CIRC Climate Impacts Research Center
CNRG Centre national de recherches géophysiques
National Center of Geophysical Research
CRDT-A Collective for Research and Training on Development-Action
CREAL Research Center on Agriculture in Lebanon
CRI Consulting and Research Institute
EDL Electricity of Lebanon
EIB European Investment Bank
ESCWA The United Nations Economic and Social Commission for Western Asia
EU European Union
FDI Foreign Development Investment
FLSH-USJ Faculty of Language and Human Sciences, Saint-Joseph University
GCC Gulf Cooperation Council
GEF Global Environment Fund
GDP Gross Domestic Product
GDUP General Directorate of Urban Planning
GIS Information Geographic System
GoL Government of Lebanon
HID Human Development Indicator
IAURIF Institut d’Aménagement et d’urbanisme de la région Ile-de-France (French Planning Agency for the Ile de France region)
IDB Islamic Development Bank
IEA International Energy Agency
IFPO Institut français du Proche-Orient
French Institute of the Near-East
IMF International Monetary Fund
IRFED Institut international de recherche et de formation éducation et développement
International Institute for Research and Training Education and Development
JICA Japanese International Cooperation Agency
KFESD Kuwait Fund for Economic and Social Development
LCCE Lebanese Center for Energy Conservation
LCPS Lebanese Center for Policy Studies
LoN League of Nations
MWE Ministry of Water and Energy
NAFTA North American Free Trade Agreement
NASA National Aeronautics and Space Administration
NCG National Center for Geophysics
NCRS National Center for Remote Sensing
NGO Non-Governmental Organization
OEA Order of Engineers and Architects
OECD Organisation for Economic Co-operation and Development
Notice

Toponyms

We followed the transcription of toponyms adopted by the Central Administration for Statistics in its 1998 *Répertoire des circonscriptions foncières, des villes et des villages au Liban* with some exceptions.

Nota Bene

The CNRS-Lebanon, Ifpo and the book’s editors are not responsible for the viewpoint and analyses presented in the chapters by their corresponding authors. The later remain the sole responsible of their contributions.
Authors
and
Contributions

The Atlas is a collaborative effort between the NCRS-Lebanon and the research team Environnement Ville Société (EVS/CNRS at the University of Lyon). The project was funded by the Lebanese section of UNESCO and the French-Lebanese CEDRE programme. The project has been coordinated by Ghaleb Faour and Mouin Hamzé for the NCSR-Lebanon, and by Éric Verdeil for EVS.

Éric Verdeil et Ghaleb Faour were the scientific editors. Sébastien Velut contributed to the scientific edition of the 2007 version of the Atlas, parts of which are integrated in this version.

Claire Gillette did the mapping and data structuring when she was intern at the NCRS-NSCR. She also coordinated part 5, selected the data and wrote the texts of this section. For this English edition, she also translated and adapted the texts and the maps.

Jihad Farah, Professor at the Lebanese University, coordinated part 7 on municipalities and planning. The CERDA team gathered the data from various administrative origins and from their own surveys.

The CERDA team included several young Lebanese researchers: Vicken Ashkarian, Hisham Ashkar, Christine Moujahed, Khaled Ghoch, Amanie Majed, Emilio Gemayel, Dima Raydan, Wassim Abdelsater and Bouchra Tohme.

The National Center for Remote Sensing (NCRS) provided its georeferenced databases, including basic geographic data (administrative limits, roads, etc.) and diverse thematic series.

Most data used in part 4 and 5 have been generated and interpreted by the researchers of the NCRS, specifically Ghaleb Faour for urbanization and land use, Amin Shaaban for climate change and Chadi Abdallah on flooding hazards, mass land movements and forest fires.

This Atlas also highly benefitted from the contributions of researchers such as Walid Bakhos, Fabrice Balanche, Marie Bonte and Bruno Dewailly.
Each double-page is signed by its authors, except the one on seismic risk, which is the collective achievement of the research team involved in the project ANR Libris, which gathers researchers

from the Earth Sciences Institute (ISTerre, Grenoble-Alpes University),
from the Institut de Physique du Globe de Paris (IPGP) ;
from the research unit Politiques publiques, Action politique, Territoires (PACTE, Grenoble-Alpes University) ;
from the research unit Environnement et Dynamique des Territoires de Montagne (EDYTEM - Savoie-Mont Blanc University) ;
from the research unit Centre d'études et d'expertise sur les risques, l'environnement, la mobilité et l'aménagement (CEREMA - DT Méditerranée) ;
from Résonance Ingénieurs-Conseils SA ;
from the geography department (Saint-Joseph University) ;
from the department of Civil Engineering (Notre-Dame University) ;
from the Geology department (American University of Beirut) ;
from the Center for Geophysical Research (NCSR Lebanon).

Christophe Voisin (ISTerre) coordinated the authors of this page, who are, by alphabetical order, Jocelyne Adjizian-Gérard, Nada Badaro-Saliba, Marlène Brax, Stéphane Cartier, Cécile Cornou, Jacques Harb, Rachid Jomaa, Corinne Lacave, Alexandre Sursock et Rita Zaarour.

Claire Gillette et Antoine Eid (Ifpo) did the final layout.
Introduction

Over the last thirty years, from the end of the Civil War to the turmoil following the assassination of Rafiq Hariri, the Israeli war against Hezbollah, and the consequences of the war in Syria, Lebanon has regularly made the headlines, either for being at the heart of conflicts or due to the fact it is always connected to international and Middle Eastern geopolitics, both painfully impacting its people. The recent and ongoing garbage crisis in Beirut and its suburbs, and the popular mobilization it has sparked, seem to tell another kind of story: mismanagement, corruption, environmental hazards, as well as the rise of a middle class torn between consumerism and aspiration for transparency and democracy. Both series of events not only testify of the turbulence of history, but also proves that the turmoil that shakes a society deeply reshapes its material, social and political spaces. In this perspective, deciphering the Lebanese space and its dynamics at several scales is seen as an alternative way to read the country’s transformations. This is what this Atlas intends to do.

Mapping Lebanon’s structural features, transformations and challenges

This book results from a collaboration of Lebanese and French academics that has been spanning over more than fifteen years. In 2007, we published Atlas of Lebanon, Territories and Society. This large book (about A4 format, 200 pages and the same number of images), aimed to assess the geographical transformations of the country since the beginning of the Civil War (1975-1990) and over the rebuilding years (until the 2006 war). It also included a reflection on the structural features that have shaped the country over more than a century, and that can be defined as follows: a) the (unachieved) building of a State and the imprints this process has left on the territory; b) the insertion of the country in the world’s economy, from the several waves of the diaspora to its economic relations with foreign powers that have used its territory (and its capital) as a relay in their regional endeavours; c) the tensions and geopolitical crises that have decomposed the Ottoman Empire, created new States like Lebanon, and then affected them for over a century, including through the meddling of its two neighbours, Syria and Israel, and of other regional powers, into internal affairs; d) the last feature at play is the changing lifestyles, resulting in increased urbanization and demographical changes, such as access to education and the decrease of the family size. These four intertwined aspects powerfully transformed the Lebanese space.
In 2016, we released an additional version of this atlas entitled Lebanon, *the new challenges*. It was not an update, this being impossible due to the lack of data, but rather a complement to the first edition with a focus on missing or understudied topics, and taking into account the effects of the most recent challenges. The most obvious of these challenges is the arrival of more than 1 million Syrian refugees, amounting to about one quarter or one third of the resident population. However, other issues, which have been absent from most tales about the country, have emerged and deserve more attention.

The question of climate change and environmental hazards in a context of continuous urbanization arises and an appraisal of these alarming trends is necessary. In addition, the continued infrastructural crises the country is facing and their uneven geographical impact need to be documented. That publication also scrutinized the public, civic and private responses to these threats. This English translation blends the totality of the 2016 edition with some of the most important and structural features identified in the 2007.

**Critically mapping Lebanon**

While this Atlas is probably the first or one of the first of its kind in English, it is the latest one in a series of similar books that appeared in French and Arabic. It is therefore essential to explain its specificity. Atlases usually display a located inventory of resources and emanate from political powers asserting their sovereignty over a territory and aiming to develop it. It is often a way to perform the State's legitimacy. At least three such documents can be identified in the history of Lebanon: the Atlas de la Syrie et du Liban, published in 1926 by Khanzadian with the support of French chambers of commerce in the context of the colonial seizure of the country under the French mandate; the Atlas du Liban elaborated by the IRFED mission in 1964, in the framework of the developmental approach followed by President Fouad Chebab, this book providing (poor) visuals supporting the assessment of the "needs and possibilities of Lebanon"; and the Atlas of Lebanon that accompanied the National Masterplan the CDR commissioned in 2002 and published in 2005, elaborated by a team of French and Lebanese consultants. This document provided a visually rich and critical analysis of the reconstruction years and highlighted alternative policies, which however have hardly been implemented.

Two more academic Atlases of Lebanon can be mentioned: the first one, published in 1998 by Saint Joseph University Press, in French, and the second, authored by Ali Faour, in Arabic (2007). Despite numerous differences in their content and sources, they primarily targeted secondary school and university students. Based on disparate data, they offered a largely static and smooth vision of the country, with few reflections on the historical and political processes that have shaped it, such as external interventions.

Against this backdrop, the present book results from a research endeavour aiming to produce new data in order to understand the territorial structures and the forces that shape spatial changes, at various scales from the local to the global. In this respect, this book is part of a trend that has spectacularly introduced geographical insights into the French editorial landscape. An academic genre first popularized by Roger Brunet and the GIP Reclus team based in Montpellier, geographic thematic atlases have become popular and offer elegant and convenient handbooks to understand political and contested social issues. Commented maps, charts and other infographics, with selected pictures have become easy shortcuts to decipher complex geopolitical and social situations, away from the reified vision supported by states and political powers.

In this book, far from performing or even reproducing the point of view of the State, we propose a critical approach of the geographical dynamics that shape Lebanon, informed by social sciences questions and research. We focus on space and territories as contested resources for acquiring wealth and exercising political control. The Lebanese State, obviously, doesn’t have the monopoly over territorial action. It is contested by, and sometimes allies with, business actors, as well as political forces exercising hybrid sovereignties, which have openly challenged the State during the Civil War and, in a renewed way since 2005. We also account for municipal and supra-municipal authorities. Despite many limitations and failures, these authorities plan and manage the territory. In addition, the atlas focuses on civic mobilisations that contest State, business or infrastatal organizations’ projects. Not only is the governance diverse and contested, but the State has no monopoly on the production of information regarding the territory. In the atlas we use data processed by other actors, including NGOs, that document their claims and result in an alternative and critical vision of space. By documenting controversies and unachieved or failed projects, we make the contradictions, negotiations and conflicts over space visible.
Methodological challenges

Our sources and methodology are in line with these premises. The difficult access to and the lack of reliability of State produced geographical information and statistics in Lebanon is notorious. This is strikingly the case regarding the population living in the country, since there has been no census since 1932. Even if it is less known, the territory itself is poorly delineated both when it comes to the external borders and the internal administrative limits. Our attempt at establishing a reliable and scientific geographical database revealed a series of loopholes. Even the claimed 10452 km² do not fit the scientific data (the digitized surface is about 10250 km²). Despite numerous issues, some data however exist and our team has struggled to gather the ones relevant to this project, surveying various dispersed and unpublished administrative reports to capitalize on the information they conceal. This task proved more difficult than at the beginning of the 2000s, as the National Masterplan project stirred a dynamic of collaboration among administrations that resulted in an exceptionally rich data harvest (for Lebanon).

We also used private, civic and international data sources, the latter being very useful to compare Lebanon with its neighbours. In addition, our team has produced specific data (for instance through the processing of satellite imagery) or used already existing academic sources, such as in the data base constituted over more than twenty years at the Center for Remote Sensing at the National Council for Scientific Research of Lebanon regarding land use and environment. Our methodology consists in a multiscale reading of space, consciously zooming out and zooming in, to illustrate how phenomena occurring at local, national, regional or international levels can shape territorial dynamics. The analysis of dynamics involves constructing series of historical data, a task hindered by pitfalls similar to those confronted to gather contemporary information. In the atlas, only a few specific examples illustrate this approach, which was more present in the 2007 edition. Maps infographics and comments, which were kept very short, synthetically combine in thematic pages in order to offer the reader a quick appraisal of the issue at stake.

Our team has also accumulated information thanks to fieldwork surveys. It was particularly the case regarding the infrastructural crises, real estate dynamics in Beirut as well as issues of local governance, involving data on municipal policies. This was undertaken by young researchers in the framework of their masters or doctoral studies, as well as part of a collective research initiated by the Urban Planning department of the Lebanese University under the guidance of Prof. Jihad Farah.

A short reference list offers the curious reader with an access to the sources or to a first set of works that will help deepen the understanding of the issues at stake.

Book structure

This book comprises seven chapters. The first one articulates the difficult territorial formation of the Lebanese State with the territorial decompositions and recompositions and unfolding geopolitical tensions in the region, with a focus on the last fifteen years. Chapter two confronts the difficult task of analyzing population trends, relying on scarce, uncertain and imprecise data. It specifically addresses the arrival, spatial distribution and conditions of living of the Syrian refugees in the country. Chapter three deals with the Lebanese economy, highlighting its dependency on foreign investments, specifically the Gulf countries. It also discusses the breathlessness of the economic model promoted by the Lebanese government after the Civil War, which relied on real estate, banking and tourism. Increasing inequalities at all scales and steady out migration that result from this situation are worrisome. The next chapters successively examines the urbanisation trends in the country and its lack of regulation, then the environmental changes that this is causing, discussing its links with global trends such as the climate change. It also documents the risks that threaten the population because of these environmental changes. Chapter six deals with the infrastructural crisis that affect the country with an in-depth focus on the water issue. The last chapter is dedicated to the governance of these issues, and emphasizes the ascent of municipal authorities on the wake of the state roll back.
Figure I-1: The Southern Lebanese border at Kfar Kila. The border system has recently been reinforced and opacified with a concrete wall replacing a wire fence. It is covered with paintings representing the fallen resistance fighters (locally called “martyrs”) and slogans extolling the fight against Israel and the will to reconquer Jerusalem. In addition to the flags of Lebanon and Palestine, there are also those of Hizbullah and Amal parties, which dominate the political representation of the Shiite population, the majority in this region. Surveillance towers of the Israeli army stand in the background: if the place has a festive and tourist dimension (which the empty kiosk in the foreground in the left highlights), it is also a lively border, which has inflamed in 2006.
(© Gbaleh Faour, 2018).
Since its creation in 1920 in the aftermath of the Ottoman Empire’s collapse, Lebanon has evolved in troubled regional geopolitics marked by massive population displacements and repeated wars. Whereas the emerging new State sought to establish its territorial sovereignty against powerful neighbors, it also had to recognize and manage the strength of local forces such as clans, sectarian groups and business interests. The Civil War (1975-1990) was a dramatic peak of its history.

After a few relatively peaceful years, the country is nowadays fully confronted with the consequences of two major geopolitical upheavals: the invasion of Iraq by the United States in 2003 and the Arab Springs in 2011. The invasion of Iraq jeopardized the regional order set in place at the end of the Cold War and of the Gulf War. Established at the end of the Lebanese Civil War as the basis for peace and reconstruction, the Syrian tutelage over Lebanon was contested, prompting the departure of the Syrian Army in April 2005. Following the assassination of former Prime Minister Rafiq Hariri in 2005 and the war led by Israel in Lebanon in 2006, the return of political violence led to political polarization and the growing influence of Hezbollah. After the fall of the Tunisian, Egyptian and Libyan regimes, and the unrest in several other Arab countries, the protest movement against the Syrian regime evolved into a civil war amid ever-increasing repression and militarization. Since then, millions of Syrians have been displaced and fled to neighboring countries, including Lebanon, where the massive arrival of displaced populations stirred up internal tensions and unsettled the social and political equilibrium. In Lebanon, the profound cleavages surrounding these issues translate into political stalemate. This further complicates the political situation, which is structurally characterized by communitarianism, the influence of national and local leaders, and the collusion between business elites and the political class.
From the 16th to the 20th century, the regions composing what has now become Lebanon lived under the authority of the Ottoman Empire. Pashas and emirs ruled their constituencies with various and changing levels of autonomy, but all paid taxes to the Sublime Gate. Inside the Ottoman territory, circulation was fluid and administrative divisions shifted frequently. In the aftermath of the First World War, upheavals and the gradual formation of new states superimposed borders on the region and triggered massive population displacements. Lebanon bears the imprint of these transformations.

Lebanon and the transformation of the Middle East

In 1920, France proclaimed the establishment of the State of Greater Lebanon, which was to include the Mount Lebanon region but also the southern Jabal Amil, the Bekaa Valley in the East, and Tripoli and the Akkar in the North. The French Mandatory power was thus giving in to the demands of the Maronite Patriarch, who attended the Versailles Peace Conference. Nonetheless, both the Mandate and the new borders collided with the aspirations of large parts of the population, including among Muslims and Orthodox Christians communities. Meanwhile, Syria was divided in
several autonomous states following sectarian lines: the Alawite State with Latakia as its capital, and the States of Aleppo, Damascus and Jabal al-Druze.

Between 1943 and 1946, independent political institutions were set up in both Lebanon and Syria. The date used as a reference for the Lebanese independence, 1943, refers to the year of establishment of the National Pact, an unwritten power-sharing agreement between Christian and Muslim political leaders. Accordingly, the President was to be a Maronite Christian, the President of the Council of Ministers a Sunni Muslim, and the Speaker of the Parliament a Shiite Muslim. Ministerial positions and seats in Parliament were allocated on the basis of a similar logic.

The creation of the State of Israel in 1948, rejected by the Arab States and enforced through war, constituted another major change in the regional map. Israel and its neighbours were at war in 1956, 1967, 1973 and 1982. The confrontation between Israel and the Palestinian forces escalated at the end of the 1960s and played a major part in the Lebanese Civil War.

Population movement and population growth

Both these regional phenomena provoked massive population movements that fueled the demographic growth in Lebanon.

After the First World War, the new state boundaries were partly set up based on the Wilsonian concept of national self-determination. However, religious and ethnic affiliations did not necessarily lead to the emergence of homogeneous territories and have never been the only components of social and individual identities. Moreover, some groups, such as the Armenians and the Kurds, did not benefit from the creation of any State. The number of refugees in Lebanon and Syria in 1925 is thus estimated to be 125,000, including 100,000 individuals having fled the massacres of the Armenian genocide. If all the refugees registered on Lebanese soil in 1924 obtained Lebanese citizenship, the migrants that moved later to the country remained without clear legal status for most of the century. Only in 1994 did the Lebanese State issue a decree aimed at settling those cases.

In turn, the creation of Israel and subsequent wars prompted the exodus of Palestinian refugees in all bordering countries, including Lebanon where they were about 129,000 in 1950 and 270,000 at the beginning of the 2010s. The integration of Palestinian refugees has been subject to contrasted policies in the Arab States, even though none of them recognized the State of Israel until 1977 and all have supported the right of return. In Lebanon, starting from the 1960s, Palestinian refugees were at the center of internal political debates, as the Lebanese society was experiencing a growing divide between “Lebanonist parties”, mostly composed of Christians, and progressive and pro-Palestinian parties, gathering representatives of all the communities. Up until today, Palestinians living in the country have been denied social rights and unrestricted access to the labor market.
Since its independence, the construction of the Lebanese State and the enforcement of its sovereignty have faced continuous challenges if not long-lasting disruptions. This culminated during the Civil War between 1975 and 1990, as internal forces, supplemented by foreign interventions, almost totally sidelined the State. The way the State has mapped its territory and the various steps of this endeavor reflect these difficulties.

**Territorial divisions and state control over the Lebanese territory**

During the Mandate, the French authorities started the establishment of the land registry, based on cadastral zones, but left the process unfinished. Since 1943, the Lebanese State has not completed it either. Therefore, some areas have never been delineated, while in others the survey of land parcels has never been validated or officially registered. As the map shows, some areas are also still subject to disputes. This is the result of the conflicting logics of the numerous actors which have been involved in this process: public administrations (judiciary, army), landlords, communities, etc.

Far from revealing the systematic implementation of a territorial grid, this process seems to have answered the immediate needs of the colonial power and its interest for the most valuable lands: the vast agricultural zones, the Bekaa Valley and coastal plains, and the main urban centers. The resulting map provides an opportunity to reflect upon a process that leaves out entire areas of the country. Not being attached to any locality, these left-out regions still experience a legal limbo when it comes to land transactions, which widens margins for interpretation, contestation and circumvention by various actors.

Moreover, the superimposition of the official border demarcation, as set by the Lebanese army, and the limits of the registered cadastral zones reveal a number of areas with unclear status: areas attached to Lebanese cadastral zones but located beyond the border, Syrian areas located within the Lebanese borders, and even areas that are Lebanese according to both sources but considered as its own by Syria. The most controversial point concerns the Chebaa Farms: mistakenly located in Syria by the French authorities, the area appears to be inside Syrian territory on a number of maps, despite official claims by the Lebanese authorities, backed by evidence that the lands are owned by Lebanese farmers. Israel has occupied this zone since it seized the Golan Heights in 1967. A joint Syrian-Lebanese committee must still officially delineate the border.

**Territorial administration and decentralization**

The successive changes of territorial divisions in Lebanon reflect the transformation of its administration and the territorial issues the new Lebanese government is facing. The administrative framework comprises two territorial levels. On the one hand, most State administrations run services at the muhafazat (district) level under the authority of the muhafez.
On the other hand, some administrations operate at the caza (sub-district) level, under the authority of the caimacam.

After the independence, a series of new caza were created with a twofold objective. First, these bodies provided new jobs in administration. Second, this breakdown in a bigger number of caza further improved the representation of the various communities within each administrative division, and thus developed the redistribution schemes of the resources each community could benefit from. The division of South Lebanon in two muhafazat in 1975 is a good illustration of the State’s objective of reinforcing its presence in this long-abandoned region, considered the poorest of the country.

The establishment of separate muhafazat in the North and the East in 2003 answered the claim for balanced development, a principle inscribed in the Taif Agreement which ended the Civil War. The objective was to make State services more accessible in populous areas which were not well connected with the centers of the former muhafazat (i.e. Tripoli and Zahleh). However, this decision was also taken with sectarian balance in mind: make Baalbek the center of a mostly Shiite area, while this region used to be attached to a mostly Christian city (Zahleh). The setting up of a tighter territorial grid must not only be seen as a sign of growing State control over the territory: it has been as much, if not more, a tool for the State to acknowledge local social groups, major families and religious communities.

The importance of State centralization can be verified when one looks at the process for the establishment of municipalities. In Lebanon, the creation municipal entities results of a request made by the inhabitants of a specific area. Contrary to countries where municipalities are the basic administrative entity, the Lebanese territory is not entirely divided into municipalities. Started during the second half of the 19th century, the municipalization process was quite slow and uneven until the 1960s and the Chehab presidency, when a great number of localities became municipalities. However, no municipal elections took place between 1963 and 1998 and a lot of municipalities were unable to function during the Civil War. The 1998 and 2004 elections marked the relaunch of this process and, nowadays, more than three quarters of the national territory are covered. However, municipalities still face a variety of challenges (see part 6).
Violent episodes and wars rooted in regional geopolitics have marked Lebanon’s recent history and have had lasting effects on its population and territory. The successive and concomitant interventions of several foreign countries had a major impact on the Civil War, the various conflicts and alliances involving Lebanese groups. More recently, and on a different time and spatial scale, the war with Israel in 2006 had dramatic consequences.

The objective here is not to present in detail the various phases of the conflict but to mention some of its main spatial aspects. The first one is the gradual political fragmentation of the territory. A central area, dominated by Christian militias, especially the Lebanese Forces, covered the northern and eastern suburbs of Beirut, Jounieh, Jbeil and their hinterlands. The rest of the country was divided and under the shifting control of various militias. Originally dominated by progressive pro-Palestinian militias, West Beirut imploded and was broken down into micro-territories after the Israeli invasion in 1982 and because of the conflicts opposing the Amal movement and its Shiite rival, Hezbollah, the Progressive Socialist Party of the Druze leader Walid Jumblatt and other organizations. In the South, the end of the Palestinian control after 1982 also gave way to a fragmented landscape where Amal and Hezbollah took the lead in the fight against Israel and the Christian militia working for it, the South Lebanon Army. After its 1976 intervention, Syria’s presence in the country was formalized by the Cairo Agreement and reinforced, except in the South and the central areas controlled by Christian militias. Between the end of the 1970s and the end of the 1990s, both Syria and Israel frequently intervened on Lebanese soil. Iran, Iraq and several western powers, including the United States and France were also involved in the war, either with troops on the ground or through support given to multiple Lebanese groups, in relation to existing and shifting alliances.

The war, which caused more than 150,000 deaths, was mostly urban. Fights were often concentrated along the different

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**Figure I-9 and I-10: Demolitions in Lebanon and the Greater Beirut**

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Percentage of affected buildings
0%  0.5%  5%  10%  15%  20%  100%

Sources: OGER Int’l, Damage Assessment, 1994 and CAS, 1996-97
demarcation lines. The weaponry used became increasingly heavy and sophisticated: the fights taking place between 1989 and 1990 were in comparison more destructive than the earlier ones. Despite the lack of reliable statistical sources about the damages, surveys of damaged buildings showed that nearly 10% of the buildings in the region of Beirut were destroyed, more than 25% in some areas. Outside the metropolitan area, the most affected zones were located along strategic axes and marked by religious diversity. The war also resulted in massive population movements, outlined in the second chapter.

The 2006 war

The end of the Civil War did not mark the end of the conflicts involving Lebanese and foreign actors in Lebanon. During the summer 2006, in retaliation for the kidnapping of two of its soldiers by Hezbollah, Israel launched a massive military operation in Lebanon. The fate of Lebanese prisoners in Israel and the issue of the Chebaa farms acted as the immediate justifications for this new confrontation. However, it resonated with the context of growing regional tensions. The occupation of the Palestinian territories had long fueled a feeling of revolt in Lebanon, which was constantly summoned by Hezbollah.

The United States, an ally of Israel, justified its operation in the name of the global fight against terrorism. The anti-Zionist declarations of the Iranian authorities, who politically and financially supported Hezbollah, were an additional source of worry for Israel and its allies. Showcased as a victory by Hezbollah, who led the fight against Israel, the war lasted long enough to cause about 1,100 deaths and provoked the displacement of more than one million individuals. It also resulted in heavy material damages, mainly concentrated in the South and the southern suburb of Beirut.

The bombings damaged more than 100,000 housing units and the overall economic loss was estimated to be 2.8 billion dollars, including 1.7 related to the destruction of housing units.
The concept of “buffer state” developed by George Corm perfectly fits Lebanon, with which all the conflicts taking place in the area resonate. In a system structured by institutionalized communitarianism, decisions made in the political sphere are very much shaped by the regional power relationships and the interventions of both regional and external patrons (Iran, Saudi Arabia, Syria, USA, Russia).

Lebanon at the heart of regional tensions

Lebanon is at the center of tensions fueled by the Arab-Israeli conflict, of which the Israeli-Palestinian component is now the essential part, and by the conflict between Iran and Saudi Arabia, which increasingly overshadows the former. Western powers, including the United States, back Israel and Saudi Arabia. The American invasion of Iraq has unsettled the previous equilibrium. Lebanon is facing their resulting after-effects: the assassination of Rafiq Hariri in February 2005, the withdrawal of Syria and the beginning of a new cycle of violence.

Southern Lebanon remains the last active front line between Arab and Israeli actors, except for the Gaza Strip. The other borders are stabilized, including the one in the Golan Heights, even though the latter could once again be the subject of clashes as a result of the Syrian Civil War. It is imperative for Iran to maintain the tension with Israel through its allies. It has enabled the authorities to negotiate the lifting of the economic sanctions the country has been facing. Consequently, Lebanon suffered several Israeli attacks aimed at eliminating...
Hezbollah, which the Hebrew State sees as the armed branch of Iran on its border. The 2006 war constituted the most violent episode of this confrontation. Hezbollah pushed back the Israeli assault and increased its standing thanks to what it considers to be its victory, despite the extent of the damages and the number of victims.

The Syrian issue

Disagreements about how to deal with the aftermaths of the 2006 war were added to older points of contention about the relationships with Syria. Since then, the Lebanese political class has been divided between two cross-community alliances, named after the 2005 protests for and against the Syrian withdrawal. Michel Aoun’s Christian party has joined the “March 8 Alliance”, led by Hezbollah and Amal. The “March 14 Alliance” gathers the mostly Sunni Future Movement and various Christian parties and groups. Other political organizations choose intermediate and changing positions.

The Syrian issue is so important on the Lebanese political scene that the Civil War in Syria could only but dangerously weigh in on Lebanon. Regardless of its internal roots, the Syrian crisis can be related to the antagonism between Iran, a sponsor of the Assad regime, and Saudi Arabia, which wishes for its fall. Since the militarization of the conflict, Assad’s opponents have used Lebanon for transferring weapons, recruiting men and as a refuge. In 2012, Hezbollah began sending forces in the field alongside the regime’s army and against opposition groups, in order to protect Shiite villages related to the Shiite tribes living in the Bekaa Valley. The intervention then got bigger with the support of Iran and the efforts made to protect Damascus, a strategic point between Iran and the Shiite party. The recovery of al-Qusayr by Hezbollah in May 2013 was followed by battles in the Qalamoun Mountains, which were aimed at stopping infiltration and attacks on Lebanese soil. On the other hand, various Lebanese Islamist factions support the Syrian opposition and organize assaults against the army and Hezbollah, including in Lebanon. The involvement of Lebanese armed groups in the Syrian conflict reflects the political and sectarian cleavages and threatens to severely destabilize Lebanon.

Figure I-14 : Le Liban et la crise en Syrie
The Taif Agreement (1989) reformed the political system by introducing a new power balance, implemented during the 1990s in the shadow of the Syrian presence. However, since 2005, regional tensions and their internal ripple effect have repeatedly blocked the decision-making process. As a result, the presidential and parliamentary elections have experienced several delays. The ensuing political vacuum has aggravated the shortcomings of the system, marked by sectarian and clanic dimensions and closely related to business interests.

Gridlocked institutions

The post-Taif practices have imposed consensus as a requirement for major decision-taking, a principle that has become harder and harder to secure since the mid-2000s. In 2004, the disagreement on the 3-year extension of the presidential mandate of Emile Lahoud, backed by Syria, stood as the origin of a new cycle of violence experienced by Lebanon. In 2007, in the context of the severe tensions subsequent to the 2006 war, the inability of the Lebanese actors to find a successor to Emile Lahoud led to a presidential void. The election of Michel Sleiman, a former head of the Lebanese army, was made possible by the agreement reached in Doha in 2008 after violent clashes opposed various groups, in May of the same year. At the end of his term, in May 2014, the lack of consensus induced another long vacancy, filled only with the election of Michel Aoun in October 2016. In the meantime, the government was often partially or completely prevented from acting, either because of lengthy periods of consultation for the appointment of a Prime Minister (charged of establishing caretaker governments) or because of the resignation of some government members. Finally, the parliamentary elections scheduled for 2013 were delayed on many occasions due to the lack of agreement on an electoral law. This institutional deadlock is the political manifestation of the internal cleavages arising from Lebanon’s stance in the Syrian Civil War and reflects some of the relationships its various political factions sustain with regional actors. It results in the postponement of every decision, such as the designation of high-ranking officials. Likewise, no budget has been passed since 2004. In June 2017, the Parliament approved an electoral reform and elections have been planned for 2018, possibly paving the way for improvement.

A rigid system based on religious and clan affiliations

Regional factors may explain the paralysis of the Lebanese political system, but its lack of flexibility also resides in the sectarian logic governing the distribution of key offices (Christian President, Sunni President of the Council of Ministers and Shiite Speaker of Parliament). Besides, the Members of Parliament are elected by the citizens of each constituency, taking into account their religious affiliation to ensure a fair representation of the country’s religious diversity. Nonetheless, the voting system has been questioned every time there is an election due to sectarian interests.
However, this sectarian logic should not conceal other power relationships. Beside the political divisions, including the competition between the March 8 and March 14 Alliances, the process of voter registration fosters clan-based and localist rationales proper to villages and small towns: voters are indeed registered mainly in their villages of origin, not their residence area. As a result, 31 out of the 128 MPs have at least one close relative who sat or still sits in Parliament (father, mother, uncle, grandfather). This observation reveals the influence of families, which persistently occupy positions of power. The Hariri, Gemayel, Jumblatt and Frangieh families are well-known examples of this. The 2017 legislative reform introduced elements of proportional representation but does not change the underlying principles of the voting system.

The collusion between political and business elites

In addition to this turnover issue, the Lebanese political elite is characterized by very strong links with business actors, whether involved in real estate, banking, trade or industrial sectors. Recent data on share ownership and composition of the boards of banks provide clear evidence of these linkages. In 2013, 29% of the shares of 7 banks were held by eight families including a politician, sometimes even a leading one. One can thus earnestly question the independence of governmental bodies when it comes to policies related to banks’ and shareholders’ interests, for example regarding debt alleviation. Debt service amounts to 36% of the government budget. Yet the dividends arising from the Treasury bonds add up to 280 million dollars, i.e. 31.8% of all the revenues generated by the banking system. Significant debt-reduction policies would therefore result in the diminution of these political leaders’ incomes.

Figure I-17: Control maintained by the political establishment over the assets of Lebanese banks
A Decade of Violence
Fabrice Balanche and Éric Verdeil

After fifteen rather peaceful years, devoted to its economic reconstruction in the shadow of the Syrian tutelage, the country has entered a new cycle of violence in 2005. Militias and armed groups have reappeared in broad daylight in territories they have taken control of. Standing at the ready, the Lebanese Army has been struggling to step in while remaining the last symbol of national unity.

The resurgence of political violence

Since 2005 and the assassination of the former President of the Council Rafiq Hariri, the surge of violence has been multifaceted: political assassinations and attacks in public places, the 2006 war, and localized armed conflicts such as in 2007 in Nahr el-Bared (Northern Lebanon), then in 2008 in Beirut, at the border of the southern mostly Shiite suburb and mostly Druze areas of Mount Lebanon, in the Bekaa Valley and in Tripoli. The capital of the North governorate has become a chronic hotspot, agitated by intermittent fights. So has Saida, where violent clashes have taken place, especially in 2013. Moreover, the situation at the border has flared up. Beside the permanent hot spot linked to the Chebaa farms, sporadic and limited launches of missiles have occurred, sent by Israel and various groups, which have sometimes been hard to identify. The North and the Bekaa Valley have also been concentrating fighters involved in the Syrian Civil War who have been coming and going across the border, clashing with one another, including in the Sunni area of Aarsal.

The 2006 Israeli attacks were by far the most murderous as they resulted in more than 1,100 Lebanese military and civilian victims (as well as in the death of 120 Israeli civilians and 118 soldiers). However, the outbreaks of violence recorded in 2007-2008 and from 2012 to early 2015 amount to a total of deaths, which is almost equivalent: an imperfect survey based on Wikipedia reveals that they may have cost the life of 1,000 individuals.

Figure I-18: Distribution of events linked to political violence in Lebanon (2005-2014)

Figure I-19: Deaths due to political violence in Lebanon (2005-2014)
The return of militias

Over the years, Hezbollah has become a leading actor of the Lebanese political scene and now dominates the southern area of the country, the southern suburb of Beirut and parts of the Bekaa Valley. But beside the rise of the “Party of God”, the major feature of the period is the return of armed parties. In 2008, at odds with a governmental decision threatening its communication system, Hezbollah and its allies took control of several neighborhoods located in West Beirut that the fighters linked to the Future Movement turned out to be unable to defend. The conflict affected other regions, including the Chouf and Aley areas, where Hezbollah fought Druze militiamen, and in Tripoli, where clashes opposed Alawite militiamen and local Sunni groups.

In 2007, the Islamist organization Fatah al-Islam had already occupied the Palestinian camp located in Nahr el-Bared and initiated a long fight against the Lebanese Army. It lasted more than three months, led to the destruction of vast parts of the camp and the deaths of 163 soldiers, 222 fighters of the Islamist group and 22 civilians. In the Palestinian camps, which are not subjected to Lebanese sovereignty, the nationalist groups are now confronted with an upsurge of jihadi organizations. The war in Syria and the regional actors involved in it reinforce these jihadists ideologically, financially and materially (with weapons). The latter have been carrying out operations, including in Tripoli and Saida, where they have been fighting either other Lebanese political armed groups or the army.

Faced with this resurgence of violence, the Lebanese army played a key role by stepping in to prevent the fights from expanding in Tripoli and the Bekaa Valley, including in Aarsal where radical Islamist groups tend to settle durably and capture Lebanese hostages, killing some of them. Yet the army lacks resources and depends on foreign aid for its equipment (American, Saudi, French). Nonetheless, it stands as a symbol of national unity. The actual and the two former Presidents held positions in it. The subtle balance achieved by the careful appointment of high-ranking officers prevents the grip of one party or another over the army and turns it into a fragile bulwark against the threat of a collapse.

Figure I-20: A divided country, the distribution of militias across the Lebanese territory

Source: Balanche and Verdeil, 2015
Figure II-1: An unofficial campsite inhabited by Syrian refugees in the Bekaa Valley
(© Russell Watkins/Department for International Development, November 2013)
The lack of reliable and extensive data about population in Lebanon is a challenge for social sciences. It forces the researchers to rely on estimates that harden time comparison and geographical analysis. For a century, rural population has flocked to the main urban areas, mostly located on the coast, emptying many rural and mountainous regions from their blood. The war-induced population displacements during the Civil War somehow prolonged this exodus and led to sectarian homogenization in many regions and urban sectors.

Population growth in Lebanon seemed to have smoothed until the recent wave of Syrian refugees. This can be explained by a decrease of the fertility rate and steady out-migrations, the epicenter of which has shifted from America to the Arab Gulf countries since the Civil War. Conversely, Lebanon is also a country of immigrations, receiving a blend of Arab, Asian and African workers.

The settlement of over one million Syrian refugees represents a social, political and geographical upheaval, which is mostly felt in the northern and eastern districts of the country, already considered as the poorest. Even if only a minority of Syrians live in camps, their lives are very precarious and their access to work, infrastructural and social services is limited.
Of all the uncertainties surrounding statistics in Lebanon, the one related to the Lebanese population is certainly one of the most sensitive and challenging. While no census has been conducted since 1932, the civil registry is usually kept in the locality of origin, not in the individuals’ current place of residency, be it in Lebanon or abroad. The last Census of Buildings, Dwellings and Establishments dates from 2004. Other surveys were then conducted in 2007 and 2009 and enabled the Central Administration of Statistics to suggest an estimation of the number of residents by muhafazat (only expressed as a percentage for 2009). These figures reveal a decrease from 1997 to 2004, followed by a period of stagnation. This is surprising because despite a decreasing fertility rate, the natural growth rate is still quite high due to the number of young people reaching adulthood. Therefore, observers have challenged the reliability of these demographic estimates, even more so that other issues remain unclear.

The first is about emigration, which is little documented in official data. It seems to counterbalance the natural growth. The figures regarding border crossings show a negative balance amounting to 40,000 to 50,000 Lebanese residents per year. Only independent studies, such as the ones published by Saint Joseph University, provide in-depth analyses, including about outbound destinations (see hereinafter). The knowledge of the foreign population settled in Lebanon also remains limited. According to independent estimates, 700,000 foreign residents could be accounted for in 2011. Official data display a positive balance related to entrances since 2011. Beside the massive influx of Syrian refugees, the number of residents also grows with the inflow of foreign workers. Apart from Syrian citizens, the number of people coming from Arab countries has decreased since 2011 but the number of workers, especially female workers, coming from Asia and Africa has steadily increased.
Uncertainties about the resident population and its nationality become considerable when one wants to grasp its spatial distribution. Spatial data about foreign residents are scarce, except when it comes to Syrian refugees, in relation to whom very detailed information is collected. A 2011 survey about Palestinian refugees has revealed a major discrepancy between the number of registered individuals (about 450,000) and the number of people actually living in Lebanon (270,000 in 2011). There are no regional data series on the average household size that are precise enough to be used as a reference for local estimates of the resident population, as done in the National Master Plan report in 2002, which we used in our 2007 Atlas of Lebanon. Such estimates would be outdated in any case. We therefore settled for an estimate which excludes Syrian and Palestinian refugees and is based on natural growth and average hypotheses about emigration, resulting in a population of about 4.2 million inhabitants without refugees. We then distributed it across muhafazats based on the regional structure released by the CAS in 2009, in order to be able to compare it to the refugee population (see hereinafter).

Likewise, studying urban population is a delicate matter. For information purposes, we mapped the estimates provided by Geopolis: these are based on a coherent methodology, which includes taking into account building density and an estimate of the population by local units, even though these figures could be criticized when examined in detail. According to this estimate, in 2010, 80% of the population lived in one of the 17 urban centers of more than 10,000 inhabitants, including about 2 million in the metropolitan area of Beirut and its suburbs.
Far from having a static distribution, the population in Lebanon has experienced major movements of internal migration, related to specific contexts, the most prominent being the Civil War, and medium-term trends.

It is estimated that two thirds of the Lebanese changed places of residence between 1975 and 1990 and that one third did not come back at the end of the war. Forced displacements, caused by a climate of insecurity, eviction efforts and sometimes massacres, resulted in a sectarian homogenization of the territory, more or less severe depending on the regions. A map, produced by Saint Joseph University and Laval University in 1987, shows the main flows at that time. During the first phase of the war, major population movements were registered within the capital city, especially in 1976 when the poor mostly Muslim neighborhoods, including the Palestinian camps located in East Beirut, were besieged and emptied of their population by Christian militias. In retaliation, several groups massacred Christian inhabitants in some areas, including the PLO forces in Damour, provoking further movements. Starting in 1978, several waves of refugees fleeing the Israeli advance in the South arrived in the capital and its suburbs, especially the southern one. Starting in 1984, the anarchy in West Beirut further aggravated the situation of the Christian residents still living there, who had constituted about half of the population before the war. Their flight toward the northern and eastern suburbs accounts for much of the growth of these areas, especially in large subdivisions.

This sectarian homogenization translated into new territorialities: daily movements were very limited and the spaces of everyday life reduced to routes linking residences to workplaces and schools. The resulting partitioning was still very much pervasive at the beginning of the 1990s: an analysis of daily movements produced in 1994 shows the persistent...
These context-specific movements interplay with long-term trends such as rural exodus. Data on internal migration is scarce but a localized comparison between the number of residents and registered voters offers a reflection of major departure areas and new residential locations (once age structure is adjusted). The areas benefiting from internal migrations are mostly the urban ones, located along the coast or in the inland regions. Conversely, mountains and rural areas display population decline. Despite having been a receptacle of rural to urban migration for over a century, Beirut appears among the deficit areas because of two factors. The population registered in the capital city is composed of several communities for which emigration is a frequent choice, like the Armenian, Protestant and Jewish communities. Second, the city of Beirut has been experiencing population decline since the 1970s because of a decreasing average household size and of departures to the suburbs, including during the Civil War. Figures provided by the Central Administration of Statistics reveal a noticeable increase in population between 1970 and 1997 in the peripheral regions, the North, South and Nabatieh, and the Bekaa Valley. This might be explained by a fertility rate that is higher than in Beirut and the Mount Lebanon area, but also by intraregional redistribution during the war and the growth of middle-size provincial cities.

Figure II-5: Resident population and registered voters

A region with a ratio inferior to 1 is a place characterized by emigration. On the contrary, one with a ratio above 1 can be considered as a place where migrants settle. The areas where the ratio is close to 1 may experience movements of departure and arrival which counterbalance one another.

Sources: estimated population data for 1997 based on CAS data; registered voters in 2000, Ministry of Interior and Moukhtarat
International Migration and the Lebanese Diaspora
Éric Verdeil and Bruno Dewailly

There is no reliable source on the number of Lebanese living outside the country, a phenomenon which is hard to grasp as it encompasses various situations: Lebanese citizens permanently residing abroad, descendants of Lebanese families who do not have the citizenship but maintain links with the country, migrants coming back for long periods of time every year, etc. Estimates vary widely but a figure of 3 to 4 million Lebanese abroad is often cited.

A numerous group disseminated across the world

Historians distinguish several waves of migration over the last 150 years. A first one reached its climax at the end of the 19th century. The consequences of the severe famine caused by the Ottoman blockade during the First World War and the establishment of the French Mandate provoked a second rise in the number of people leaving the country. During the first half of the 20th century, the diaspora was mainly concentrated in two regions: North America, especially the United States, and South America, where Brazil and Argentina were the main settlement countries. Egypt was a secondary destination, as many Christians found a safe haven there after the 1860 massacres.

The Civil War resulted in a third wave of migration, quite different from the earlier ones. Contrary to South American countries, which faced economic issues, North America remained attractive but Canada became the top destination. Australia also emerged as a major destination. However, the biggest novelty lied in the growing number of Lebanese emigrating in order to work in the Gulf countries, mostly in managerial and technical positions. The diaspora also extended its reach to Western Europe and, to a lesser extent, Eastern Europe and Africa. Nowadays, these four regions host more than 70% of the Lebanese citizens living abroad.

Emigration: an obligation, an opportunity?

Emigration is sometimes perceived as a forced decision and a stopgap solution in a dysfunctional Lebanese economy, but it also stands out as an opportunity and a source of income for many households. The number of graduates having studied overseas hints at the individual strategies implemented to improve one’s prospects: up until the beginning of the 2000s, about 39% of the engineers and 60% of the physicians obtained their degrees abroad. A survey focused on young Lebanese migrants in the OECD countries, analyzed by Françoise De Bel-Air, reveals their high level of education: in 2011, 44% of them were highly educated to 23% of the young adults living in Lebanon. However, this proportion varies from one destination to another. Australia, Germany and Sweden have received comparatively less educated individuals as they have welcomed poorer migrants from South Lebanon and Palestinian refugees migrating through humanitarian channels.
On a different scale, the existence of the diaspora also constitutes an economic, political and social issue for various Lebanese actors. Controlling the expatriate communities, as much as is possible, is a challenge that warrants an original international deployment. Among others, the Lebanese State sees the diaspora as a resource and a potential source of investments in Lebanon. Compared to the small size of the country, the Lebanese diplomatic network is remarkably widespread and marked by the importance of the diaspora, noticeable in the existence of numerous honorary consulates. This responsibility is commonly handled by binational Lebanese citizens in their country of settlement, where they represent Lebanon’s interests and perform some administrative tasks, at a very low cost for the State. In return, the consuls gain influence over their communities. The map of the diplomatic network appears as the result of two combined rationales: one related to geopolitical issues and the other a partial reflection of the migration history of the country.

Figure II-7: Lebanese graduates abroad

Figure II-8: The Lebanese diplomatic network at the beginning of the 2000s
The arrival of more than 1 million Syrian refugees in Lebanon constitutes a demographic, economic and social upheaval for Lebanon. Two thirds of them have settled in the North and the Bekaa Valley. Forming a younger population, refugees outgrow the resident population in many localities. They live in very precarious conditions, even though only 20% of them settle in camps.

A spatial and demographic upheaval

Upon request from the Lebanese government, the UNHCR has suspended new registration since May 2015: producing precise estimates regarding the number of refugees has thus become difficult. The inflow of Syrian refugees in Lebanon intensified in early 2013. A peak of nearly 1.2 million individuals registered by the UNHCR was reached in 2015. In addition, many newcomers were not registered even then (about 200,000) and it is estimated that 200,000 Syrian citizens were already living in Lebanon in early 2011. This chronology reflects the intensification of fighting in Syria. Refugees mostly come from the central parts of the country, especially those affected by the fights, from Daraa to Aleppo, the suburbs of Damascus, the Qalamoun region, Homs and Idlib.

The main settlement areas in Lebanon are the central part of the Bekaa Valley, the Anti-Lebanon Mountains (Aarsal), the Akkar and Beirut’s suburbs. However, the refugees gradually settle across the whole territory, including in the South, although they are still fewer than the Palestinians which have been residing in the area since 1948. In the central part of the Bekaa Valley, the number of refugees exceeds that of the Lebanese residents. This results in a major spatial and social upheaval, the population growing by 30% on average and up to 100% in some localities.

The rationales behind destination choices vary: while some of the wealthiest settle in Beirut, most refugees chose their places of settlement based on the location of family members already installed in the country or work connections, as in the Bekaa Valley and the Akkar, which are areas marked by seasonal agricultural labor. A preference for predominantly Sunni areas is noticeable, as hinted at in the map of their geographical presence in the Akkar, but no systematic feature of communal regrouping has been observed.
Housing

Refugees settle in very precarious conditions. At the end of 2014, about 60% of them lived in apartments or permanent houses and 40% in camps, garages, warehouses, construction sites, etc. As the situation lingers on, paying the rent becomes increasingly difficult. Three quarters of the families are forced to live with other households and endure overcrowding and promiscuity.

The camps, mostly small, are located mainly in the Bekaa Valley and the Akkar, where networks had already been built by seasonal migrants who had been coming in these regions on a regular basis. In coordination with the municipalities, NGOs and international organizations install basic sanitary facilities. When available, the power supply is illegally set up. Domestic fires are common.
The Integration of Refugees in Lebanon: A Highly Precarious Situation
Fabrice Balanche and Éric Verdeil

Whether one looks at access to housing, employment, or schooling, the integration of Syrian refugees is precarious and leads to massive impoverishment, even though there is every indication that their presence in Lebanon is going to last. The Lebanese government has toughened its originally generous policies, as the impact on the Lebanese society has become heavier. International aid has been considerable but tends to wane, leaving the future shrouded in uncertainty.

Employment and education

Despite a common language, access to the job market remains very difficult and is limited to informal employment because of a legal ban preventing refugees from working. For lack of a proper residence permit, a lot of Syrians cannot move about to look for work, especially in the peripheral regions where there are few opportunities outside of the agricultural sector. Moreover, the work market in Lebanon has itself not been buoyant. Syrians, the majority of which are low-skilled workers, mostly find jobs in the construction sector and secondarily in the agricultural and industrial ones. By accepting very low wages, without access to social welfare, they compete with other Arab migrants (from Egypt, Sudan), the number of which has decreased, and with low-skilled Lebanese workers. Even the more qualified refugees have difficulty finding a job for lack of social connections.

The refugee population is also marked by its youthfulness. For these children, teenagers and even more these students, access to education is a major issue. While the Lebanese government has opened public schools to refugees, including through the alternating use of buildings, the curricula differ, in part because of the importance given to foreign languages in the Lebanese curriculum. First and foremost, many refugees cannot pay for even minimal school-related costs. The education of an entire generation is sacrificed, especially when it comes to girls. Numerous weddings involving very young girls have regularly been reported in the press.

Admittedly, the arrival of more than one million refugees has a ripple effect on the economy as it boosts food and consumer-goods production. Furthermore, international aid generates major financial flows which fuel the local economy. But the presence of the refugees can also lead to strong competition and social downgrading for the less affluent Lebanese citizens. The Syrian Civil War has a part in the stagnation of Lebanese exports while local instability weighs on tourism and investments, especially from the Gulf region. Macroeconomic studies conducted in 2014 revealed that the overall impact has been rather negative on the country’s economy.

Figure II-14: Employment by business sector in Lebanon in 2014

Figure II-15: Age distribution among Lebanese citizens and Syrian refugees in 2014
A changing policy context

At first, the reception of Syrian refugees took place easily, in the continuity of past experiences with migrant workers, and no visa being required. The first refugees were welcomed with a vast movement of solidarity, in the remembrance of the welcome received by Lebanese refugees during the Civil War and in 2006.

However, worrying about the infiltration of terrorists, the Lebanese government opted straightaway for a security-oriented approach. For fear of reproducing what happened with the Palestinian refugees, it has opposed the setting-up of large-scale camps, unlike Jordan and Turkey. As a result, it has been up to the families, NGOs and municipalities to deal with the concrete issues related to their arrival: food provision, infrastructures, schooling. Since June 2014, internal political one-upmanship and the increasing impact of the refugees’ presence has led to hardened stances. Syrians now need to get a visa, they lose their refugee status if they travel to Syria and some have to pay $200 every year for their residence permit, an amount far too large for most of them.

Assistance has been given by municipalities and NGOs in the form of money transfers and in-kind donations. Parts of it have been handed out to host communities, on the basis of the observation that large portions of the Lebanese population have also been affected by poverty and with the objective of improving housing conditions (for example by extending housing units) and infrastructures (water network, sanitation). In 2013, international aid transferred through the United Nations exceeded one billion dollars. In addition, some Arab Gulf countries have also been providing assistance but in a more scattered manner; these flows have been harder to trace, leading some observers to say that they have sometimes benefited armed groups connected with the Syrian opposition. However, the intensity of the international effort has been dwindling. In 2014 and 2015, the funds received and distributed by the United Nations decreased. Money transfers also fell off from 30 to $21.6 per person and the eligibility conditions have been limited, making the refugees’ situation ever more precarious. Only 55% of them benefited from them in 2015, as opposed to 75% in 2014.

Despite the hardened stances, the tensions linked to the involvement of Lebanese actors in the Syrian civil war and to its local impacts, the shock related to the inflow of Syrian refugees has been absorbed for now, without any major conflict. Faced with a deadlock in Syria and the temporary opening of some European borders, many Syrian refugees (and some Lebanese citizens) have tried their luck and emigrated to Germany, as well as, to a lesser extent, Scandinavian countries.
Figure III-1: The central part of the Bekaa Valley as seen from the heights of Zahleh: mixed-used development blending residential, industrial and agricultural uses (© Eric Verdell, 21/10/2006)
A small country, Lebanon is characterized by a service-based economy and a level of human development that positions it between the southeastern parts of Europe and the other Near-Eastern countries. It is strongly dependent on the Arab Gulf countries, to where it exports its qualified workforce and from where it receives financial flows and investments that keep its economy running, especially its financial and banking sectors, coupled with real estate and tourism. Its balance of trade is distinctly negative: imports greatly exceed exports, which the frequent closing of the border with Syria have jeopardized, resulting in difficulties to reach the markets of the Gulf countries by road. The industrial and agricultural sectors are left aside as the promoted development model relies mostly on services, which results in entire areas of the national territory being neglected. These economic imbalances lead to rising inequality: the increase in wealth of the most affluent, who use outward-looking strategies, goes hand in hand with the impoverishment of a growing section of the population and the weakening of the middle class. The peripheral regions, including the North, are particularly affected. Despite appearances, gender equality is still the subject of an unfinished quest and gender inequality remains intertwined with disparities based on socio-economic status, nationality and citizenship.
On the western edge of the Fertile Crescent, the land of Lebanon has for centuries been a crossroad and an interface between the West and the Near East and beyond. Open to many influences, the Lebanese society has developed demographic and economic specificities that have stimulated services and secured a major regional position for the country (finance, media, advertising, tourism) until the 1970s. However, its former attractive features have lastingly been jeopardized by its loss of competitiveness following the Civil War, the autonomous development of the Gulf actors, an increase in outbound mobilities, and the dematerialization of exchange flows. This invites the Lebanese society to question and redesign its future.

An early and uneven demographic transition

Lebanon’s demographic profile is rather similar to the ones of its European neighbors (Cyprus, Greece). The Lebanese population entered its demographic transition earlier than those of the other Arab countries. In 2013, Lebanon’s fertility rate was only of 1.49 (3 in 1990 and 2.23 in 2000). Admittedly, every country located in North Africa and the Middle East has seen its fertility rate drop down for the past 50 years. However, this diminution has been the greatest in Lebanon and the United Arab Emirates (74% since 1960) while this rate has only decreased by 54% on average over the same period in the rest of the Arab world. Even if there are no regional data series on fertility, we know that these average figures hide deep disparities linked to socioeconomic status and location. Indeed, in 2009, the average household size was 5.3 in the peripheral and poorer cazas like Minieh-Danniyeh and the Akkar, to 3.3 in Beirut. The aging of the Lebanese population has been accelerating, reinforced by a longer life expectancy and sustained emigration among people below 30.

A service-based and rentier economy

Like in the other Near-eastern countries, Lebanon’s economic activities are mainly service-related (trade, financial services). Depending on the classifications used, they account for two thirds or three quarters of the added value. The activities of the construction industry dominate the secondary sector, which has been weakened by a continuously unstable international situation. Contrary to the two other rentier states of the Middle East, Israel and Cyprus, off-shore fossil fuel resources have not yet been exploited. Declining since the 1960s, Lebanon’s primary production does not carry much weight but stands as a promising sector for the future. Currently, the country’s economic profile comes down to four
A level of human development concealing wide internal disparities

Ranked eleventh in its sub-region and first among the countries that do not produce fossil fuels, Lebanon has a relatively high Human Development Index score equal to 0.765 in 2014. It mostly rests upon a long life expectancy (79.4 years in 2015 according to the WHO) and high scores for the education-related sub-indicators (despite a criticized public school system). Nonetheless, the Lebanese society is marked by dramatic disparities in wealth and education, rather representative of the extremes observed in the region. Thus, in 2014, its score for the Inequality-adjusted HDI equaled 0.606 (-30% because of the disparities in income and -24% because of the ones in education).

Figure III-5: Human Development Index in the Eastern Mediterranean and the Middle East in 2013

Figure III-3: Total and composition of GDP in the Eastern Mediterranean and the Middle East in 2014

Figure III-4: GDP per capita in the Eastern Mediterranean and the Middle East in 2014

About 10,000 US$ in 2014 and conceals tremendous disparities in wealth distribution. These difficulties call into question the sustainability of Lebanon’s model for socioeconomic development.
Lebanon and the Gulf Monarchies: An Increased Dependance
Bruno Dewailly

For the past 50 years, relationships between Lebanon and the Arabian Peninsula have been considerably strengthened and numerous Lebanese citizens have found jobs in the region, some making considerable profits. Conversely, for Arabs from the Gulf, Lebanon is a haven for tourism and investment, especially in the real estate sector. These intense connections raise the question of an increased economic dependency, subject to changing oil prices and geopolitical contingencies.

Intensifying migration to the Gulf countries and remittances

For the past 40 years, the destinations favored by Lebanese emigrants have distinctly evolved. Three quarters of the migration flows may have been directed toward members of the Organization for Economic Cooperation and Development (OECD) during the Civil War but emigration to the Gulf countries has been increasing since 1960. From the mid-1990s onwards, the Arabian Peninsula has become the favorite destination of Lebanese professionals. The Gulf monarchies now attract nearly 50% of the Lebanese migration flow. Among them, Saudi Arabia and the United Arab Emirates rank first. But these migrations seem to have reached a ceiling because of the political tensions due to the Syrian civil war and the slowdown impacting the oil economies.

Meanwhile, since the 1950s, the visitors coming from the Gulf have composed the largest clientele of the country’s tourism sector (more than 50% between 2000 and 2010). However, their number has been decreasing, from 384,000 in 2010 to 98,000 in 2014.

Over the past 10 years, the annual total of remittances sent by the diaspora has varied from 5 to 7.5 billion US$, amounting to 14% to 26% of the GDP. Yet, since 2004, this percentage has been dropping: since 2009, this annual total has reached a ceiling equal to about 6.5 billion US$. From 2009 to 2013, about two thirds of these remittances came from countries that were members of the Gulf Cooperation Council (GCC), with variations partially correlated with those of the oil prices.
Predominance but decline in investments from the Arab Gulf countries

From 2005 to 2014, foreign direct investment (FDI) in Lebanon has experienced strong variations: it has increased from 3.3 billion US$ to 4.4 billion in 2009, before dropping to 3 billion in 2014. In 2005, it amounted to 67% of total remittances, while, ten years later, it was only equal to 41% of their value. Overall, since 2000, 80% of the FDI has been coming from the Gulf countries, with a particular focus on real estate.

Since 2007, the real estate sector has attracted the vast majority of foreign funds. Between 2010 and 2015, it concentrated more than 85% of the total FDI (90.1% in 2014). Predominant in the 1990s, the Emirati and Kuwaiti investments have been dwindling, while the Saudi ones reached their highest level in 2010–2011. Since 2011, other Arab investors have taken on a bigger role, including Syrian and Jordanian ones. Meanwhile, one may observe a withdrawal of real estate investors from the Gulf, who try to sell parts or all of their properties.

These elements show the intensity and importance for Lebanon of its economic relationships with the Gulf States. The decreases observed in some sectors these past few years may result in an economic slowdown but also make Lebanon more independent from this regional center. These countries may constitute major economic partners but Lebanon probably should not build its model of development only on the sectors they favor, in order to avoid shocks and pressures resulting from this dependency but also because of the socioeconomic effects such a specialization could have.
Service-related activities compose 70% of Lebanon’s GDP. Old and renowned, the banking and financial activities yet only accounted for 8% of the GDP (4.4 billion US$) in 2013, i.e. less than half of the amount of trade activities and less than the industrial production. In early 2015, they included 70 banking establishments (including 16 merchant ones), 10 representative offices of foreign banks, 53 financial establishments, 324 currency exchange offices and 40 credit institutions. The financial center that is Beirut has been strongly affected by Civil War. Its regional supremacy and role as an intermediary have been challenged, including by some Gulf cities. However, the qualities of its banking sector, guaranteed bank secrecy, and tax exemption for investment income still attract large amounts of foreign capital. This has become the necessary condition for sustaining a tremendous level of public debt (70 billion US$ mid-2015, 145% of the GDP) thanks to the investments in Treasury bonds.

A small link in the Arab and Western financial networks

The majority of banks operating in Lebanon are of Lebanese nationality. Their number has been gradually decreasing (82 in 1982 to 53 in 2015), which may reflect either a form of fragility (bankruptcies, departures) or the consolidation of the sector (mergers). Above all, examining the shareholders reveals the highly international outreach of these banks, among others marked by the presence of Arab and Western investors, which illustrates the connections with the Gulf monarchies and Lebanon’s insertion into the globalized world. In 2014, all the shareholders coming from the OECD and who owned more than 20% of the shares of an institution were based in tax havens (Virgin Islands, Switzerland, Luxembourg, Delaware, etc.).

International expansion of the banking sector and offshore finance

Investments oriented toward the production of tradable commodities have received limited support from the banking sector. The regional context, the need for funds used to sustain the debt and the stagnant level of wealth of the Lebanese residents have led the main banking institutions to develop a diversification strategy. For the past 10 years, several of them have expanded internationally, preferentially in other tax havens to improve their service-offering, or in countries with a strong diasporic presence to attract savings and increase their equity, among others. This renewed interest in the diaspora groups echoes the growing political considerations that have
emerged regarding them (voting rights, naturalization, etc.). The State and the banking community have long had a symbiotic relationship, characterized by respective obligations, and which has dominated and influenced the entire economy.

**Restructuring and development of the national banking sector**

Deprived of its Central Business District, the international financial center of Beirut emerged weakened and divided from the war (new districts emerged in Hamra, Dora, and Ghobeiri). However, the provision of banking services has increased, and the corresponding networks have become denser (from 424 branches in 1981, including 39% in Beirut and 22% in its suburbs, to 964 in 2014, including 25% in Beirut and 27% in its suburbs).

This expansion indicates a growing access to banking services among the resident population in Lebanon (32% in 2010, 50% in 2015). For the past 20 years, this access has been boosted by the spread of ATMs and electronic payment terminals, mostly in Beirut and Mount Lebanon.

![Figure III-12: Evolution of the banking network in Lebanon 1981–2015](image)

Meanwhile, the current value of the debt of the Lebanese private sector (companies and households) has tripled since 2007. This increase is due to capital inflows, lenient credit standards and the three stimulus packages implemented by the Central Bank since 2013, which have constituted major incentives to get mortgage loans and increase consumption expenditures. Businessmen and politicians themselves have engaged in speculative real estate investing. As of now, at least 42% of the volume of loans are devoted to activities related to real estate while investments in the industrial and agricultural sectors remain very limited.

![Figure III-13: Evolution of the sectorial distribution of bank credit from 2007 to 2014](image)

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*Except real estate services from 2010 onwards **Real estate loans included until 2009*
Lebanon is a country oriented toward commerce, including through its diaspora. However, it is marked by a highly negative balance of trade, even if the deficit has been decreasing over the past 15 years. The war in Syria has jeopardized this commercial dynamism.

The hypertrophy of the Beirut hub

On a national scale, the most striking feature linked to foreign trade is the extreme predominance of Beirut compared to other points of access to the Lebanese territory. As of now, 85% of the imported and exported goods pass through the port or airport of the Lebanese capital. Before 2014, the trade routes were more diversified, more than 30% of the export volume leaving through Syria. But because of the war, the percentage of exports passing through the Syrian border decreased from 20% to 10% between 2010 and 2013, while imports have nearly stopped. The concentration of trade flows in Beirut contributes to congestion in the capital region. The regional ports of Tripoli, Saida and Sour attract little traffic and remain marginalized logistics hubs, which a balanced planning policy could help develop.

A strong dependence on the imports of tradable commodities

Lebanon produces few tradable commodities. Since the independence, the Lebanese balance of trade has consistently been negative, reaching excessive levels in some occasions. Since 2012, the total value of exports has decreased by 25% (from 4.7 to 3.5 billion US$), while the value of imports has stagnated since 2011. This is partly explained by the growth of the internal market due to the inflow of refugees. Overall, the exports are not much diversified and their added value is limited. Jewelry accounts for the most exported goods (23%) and a significant part of the imported ones (6%).
sector relies mostly on an old and renowned expertise and on diasporic networks for access to raw materials, including in West Africa via the main global trading hubs (Antwerp, Dubai, Geneva, Mumbai, Bangkok). Machine tools and electrical equipment stand as other significant exported commodities (14%). These exports are strongly linked to the production of thermoelectric generators (23%), various electrical materials (23%), parts and machine tools (22%), and household appliances (12%). Lebanon also exports repackaged commodities (vehicles, spare parts) and recycled materials (metals and plastics). As for imports, minerals and refined commodities account for almost 30% of the total amount and food products for 16%, which reveals a strong dependency on food imports. As its industrial sector remains little developed, Lebanon massively imports machine tools (for the construction industry), chemicals (pharmacy), vehicles, household appliances and metals.

The geography of Lebanese trade

The portion of commodities imported from China, mostly consumer goods, keeps increasing (11%). In 2013, this country became Lebanon’s main supplier, among others of refined oil products and automobiles, ahead of Italy, France, the United States and Germany. The Middle East constitutes the primary outlet for Lebanese products and the second source of supply. In 2013, 50% of the commodities were exported to this region (22% to Syria, 17% to Saudi Arabia, 14% to the UAE) and 18% imported from it (4.5% from Turkey, 3.4% from Egypt, 2.4% from Saudi Arabia). The African continent also appears to be a prominent trade location for Lebanese products. Notably, the presence of the diaspora facilitates the distribution of the goods in the region, especially in West Africa. Europe is Lebanon’s third outlet. However, the trade relationships are distinctly asymmetrical. In 2013, goods worth 1 billion US$ were exported to the former while commodities worth 11 billion US$ were imported from it. Primary recipients of commodities exported from Lebanon, Switzerland and South Africa are two specific clients. In 2013, Switzerland imported 450 million US$ worth of jewelry, precious metals and gemstones (43% corresponding to jewels, 35% to gold, 19% to diamonds). Since 2010, South Africa has been yearly and almost exclusively buying between 340 and 680 million US$ worth of gold.
Distinctly service-oriented, the Lebanese economy is characterized by a limited production of tradable commodities despite several potential competitive advantages (location, geographic diversity, high level of education, low labor costs, powerful diaspora, etc.), which could boost the international competitiveness of its companies. The regional and national instability, the failures of public infrastructure (power supply, water, etc.), as well as a clear preference for speculative investments lead to and show a lack of trust from local economic actors in undertakings that could help achieve a more sustainable wealth growth.

An increasingly service-based economy and the predominance of non-tradable goods

Lebanon is known for having developed early on an economy based on trade and services. Overall, 77% of the production value comes from the tertiary sector, which accounted for 72.6% of total employment in 2009. The service-related activities are diverse (health care, finance, real estate, urban services, etc.) and some, which are quite old (banking, education, tourism), benefit from a significant regional and international reputation. Consequently, the portion of the total value related to the primary and secondary sectors (respectively 6 and 21% of the employees in 2009) has strongly decreased over the past 40 years. They only made up for 4% and 19% of the total value in 2013 while the added value of the products remained low. This economic orientation indicates that the political class has had little interest in these sectors despite their potential.

The classification system used for statistics hardly shows the preponderance of the activities related to real estate development, which is distributed over several sectors (quarries, building industry, real estate, banking). By definition, the corresponding goods are mostly non-tradable. They attract some foreign capital flows but are mostly inscribed in an economy which is marked by short-termism and speculation, and generates excessive external costs (inflation related to real estate, bypassing or failure to respect planning and building regulations, environmental damage, etc.). This economic rationale and its costs considerably slow down the sustainable development of the country and, among others, contribute to brain drain and recurrent instability.

Agriculture, industry and tourism: under-exploited potentials

In 2014, animal production accounted for 39% of the value related to the agricultural sector (including aviculture, 47%, and milk production, 21%). Arboriculture amounted to 19% (apples, bananas, citrus fruits, table grapes). However, in terms of food production, Lebanon is not self-sufficient, despite the fact that the country benefits from considerable geographic advantages (climate, resources, ecological diversity, location,
etc.). In addition, its skill set could facilitate productions on a larger scale and with a higher added value, such as vine-growing, one of the rare crops (along the illicit ones) for which the planting area has been increasing. Since 2010, the growth in value of the main agricultural products has mostly relied on cumulative inflation (21%) and on an increase in the demand for basic goods due to the inflow of refugees.

The relative share of the industrial activities in the GDP has been growing more slowly than the latter. In 2014, industrial employment only accounted for 85,000 employees spread across approximately 8,000 entities. The Lebanese industrial fabric is thus mostly composed of SMEs, which hints at a true entrepreneurial culture. The medium-sized enterprises are mostly located in the center of the country (Greater Beirut, Zahleh) while the urban areas of Tripoli, Saida and the peripheral regions host mainly micro-entities. At the end of the 2000s, the four main sectors (food production, non-metallic mineral materials, metallic materials and products, repairs) employed 66% of the workforce but only accounted for 55% of the created added value.

The tourism sector also suffers from changing context, lack of diversification, and international competition. In 2013, it amounted to 6.5% of the GDP, including 2.5% related to the hotel trade and restaurant industry (to 3.1% in 2007). Usually boosted by hotels and restaurants targeting business travelers, the diaspora, and clients from the Gulf region, the sector has been experiencing a decrease in the number of clients since 2010. However, the demand for hotel rooms started to increase again in 2013 and has since stabilized thanks to a stronger domestic demand and the inflow of refugees.
The Worrisome Growth of Inequality and Poverty
Bruno Dewailly

Highly impoverished and weakened by the Civil War, the Lebanese population could have hoped for improvement after the conflict ended. However, 25 years later, this long-awaited improvement is still to come for a majority of residents. Overall, social inequality has increased and poverty has spread, especially in the peripheral regions. Groups with a medium standard of living have seen their demographic and economic importance decline.

Growing wealth inequality, overall impoverishment and increasing indebtedness

On a regional scale, no society is more marked by inequality than Lebanon. With a Gini Index score of 0.848 in 2014, the country has been ranked among the ten most unequal countries in the world in terms of wealth distribution (wealth being defined in a study published by the Credit Suisse Group as the trade value of assets, financial ones and other, minus debt, excluding figures related to Syrian refugees).

Between 2010 and 2015, Lebanon’s total wealth distinctly decreased, as did the average wealth per adult, dropping from 35,529 US$ in 2010 to 30,207 US$ in 2015. This downward trend is largely due to the rise of private debt. Since the beginning of the 2000s, the average debt per adult has almost tripled and has highly increased since the 2008 financial crisis (12,697 US$ in 2015). It has to be noted that, according to the Bank of Lebanon, these estimates do not include 450 undeclared credit institutions. Meanwhile, the value of the median wealth per adult has been decreasing since 2007. In 2015, the latter amounted to 5,340 US$, the equivalent of what it was 20 years earlier. This evolution reveals a growing wealth concentration among the most affluent groups (20% of the population consume 45% of the goods) and a spread of poverty.

As of now, two thirds of the adult population own less than 10,000 US$ worth of property and 30.2% between 10,000 US$ and 100,000 US$ (to respectively 60.5% and 38% in Jordan). The continuous decline of the size of the groups earning medium incomes could lead to social conflicts and departures.

In 2008, poverty (less than 4 US$/day/person) affected 28.6% of the total Lebanese population (1.07 million inhabitants) and extreme poverty (less than 2.4 US$/day/person) 8% (300,000 inhabitants). Over the years, the spatial distribution of household income and unsatisfied basic needs...
Tripoli: heightened inequality and increasing poverty

Due to its marginalization, the loss of its connections with the Syrian hinterland, and the concentration of assets in real estate, the continuous decline of Tripoli’s economy has led to the growth of poverty and has been devastating for a whole section of the population. Only 8% of its inhabitants were not reported as being disadvantaged in 2011. The last available studies show the spread of poverty; many neighborhoods have experienced an increase in the number of poor residents (Kobbe and Tell-Zahriyeh, respectively 18% and 8% of the disadvantaged households). Above all, situations of extreme poverty have become more and more common in recent years. In 2014, 32% of the population were considered extremely disadvantaged. When compared with others, the residents of Tripoli have not so much been affected by an acute lack of access to basic services (health care, education, housing) as by the need for monetary resources. Given that the local elites seem incapable of implementing a comprehensive and sustainable development strategy, which would serve every segment of the population, this situation could last, or even get worse.

Since 2008, no study has been conducted to provide an updated analysis of poverty on a national scale. Some indicators seem to hint at its evolution, at least between 2009 and 2014: decrease in total wealth, consumer price inflation equal to 23% (IMF, 2015), unemployment rate increasing from 6.4% to 21% (334,000 individuals) and to 34% among people aged 25 or less, etc.
A significant presence of women in public spaces, rising mobility and apparent liberal social mores in some sections of society may lead one to believe that the situation of women is better in Lebanon than in other countries in the region. However, in terms of gender equality, Lebanon has been ranked 123rd among 136 countries examined by the World Economic Forum. Aware of this ranking, numerous associations defend the rights of women and sexual minorities. They try to obtain improvements in a legislation deemed archaic and demand the translation into concrete measures of seemingly good results in terms of education, economic capacity, and political representation, among others.

Access to education and higher education

The restructuring plan of the educational system drawn up in 1994, which established 12 years of compulsory education, has helped significantly decrease the number of illiterate women among the population under 20 years of age. On a national scale, according to UNICEF, the enrollment rate in primary education amounted to 97.1% over the 2008–2011 period. These efficient results should not conceal major generational and geographic disparities: the lowest female literacy rates are found in the most rural areas.

As far as higher education is concerned, the indicators for Lebanon, the Arab world, and the world tend to converge. More present in universities, women accounted for 54.2% of the student population in 2014, that being about 60% of an age group. This good result is related to high levels of student mobility, mostly among male students: 14.5% of the men, to 8.6% of the women, went abroad for a part or the whole duration of their studies. If women were well represented in programs focused on health, human sciences, law and trade (respectively 69%, 61% and 54% of the students), they only accounted for 29% of the students in engineering and construction. Nevertheless, the good access to primary, secondary and higher education that women benefit from has not yet led to a fair economic situation and equal access to employment. Indeed, women only constitute a quarter of the employed population and, in 2009, 61% of them earned less than 500 US$ per month, to 30% of the male employees.

Figure III-25: Generational and regional disparities in terms of female illiteracy in Lebanon

Figure III-26: Ratio of females to males in higher education in Lebanon, the Arab world and the world in 2012
Political under-representation

Women have had the right to vote and been eligible since 1953. However, their presence in the political life remains marginal, in terms as much of representation as of involvement in a political party. Moreover, more than half of the female politicians in Lebanon got a position thanks to heredity. Only 3% of the seats in parliament are today held by women. On a local scale, women are not better represented. In the 2004 municipal elections, 552 female candidates ran for positions on municipal councils, and 248 were elected (2.67% of total of elected representatives in Lebanon), the number of elected women changing from one governorate to another. At every territorial level, the low participation of women in politics is linked to the various representations of a woman’s social roles which exclude her from political affairs. The significant cost of a political campaign also constitutes a major obstacle to political commitment. Women’s mobilization mostly takes place in non-governmental organizations, which both shows their participation in civil society but also ensures their marginalization on the political stage. NGOs fighting for a better representation of women in politics are pushing for a quota system (a minimum of 30% of female MPs, that being 38 seats), a measure to this day rejected by Parliament.

Figure III-27: Women in the 2004 municipal elections

Women’s and women’s rights mobilization

Well represented in NGOs, women find a job (paid in half of the cases, according to the CRDT.A in 2006), a cause, or support in these entities. Associations focusing on women’s rights can be divided into three categories: charitable organizations, promotion of research activities implemented by and for women, and mobilization for gender equality and against violence toward women. To those can be added the associations defending the rights of sexual minorities, such as Meem and Helem. Among others, their activists have been demanding the abrogation of laws such as Article 534 of the Penal Code, which condemns sexual relations that are labeled “unnatural”. The impossibility for a woman to pass her citizenship on to the children she has had with a foreigner is also problematic and has been a major and unifying issue for women to rally around. So have been several other concerns: the repeal of law articles setting reduced sentences for honor killings and better protection for women victims of non-consensual sexual intercourse within marriage. Protecting underage children has also been part of the goals of many associations, including with the demand of setting a legal minimum age of marriage at 18. Finally, large-scale awareness campaigns have been launched by Lebanese NGOs to prevent violence against women and promote a change in gender representations.
Economic domination

At the beginning of the 2010s, women accounted for 25% of the labor force nationwide. Most of these women (59.8% of them) have been working in Beirut or in Mount-Lebanon, regions which concentrate 44.5% of the Lebanese workers. As a minority on the labor market, the employed women are mostly young and often single: marriage, which occurs quite late in Lebanon, remains a major step in their biographical path and often corresponds to the end of paid activities. The professional status of women is in general inferior to that of the men: rarely self-employed or at the head of a company, most (75%) are employees and the pay gaps are still significant.

These figures must not conceal the importance of the informal economy, defined as the economic activities which are not controlled by state institutions and, thereby, not subjected to taxes nor included in the GDP. By definition hard to quantify (according to a 2011 IMF report, it could account for 37% of the GDP), this sector employs many women. Women thus represent a significant labor power but their access to positions linked to decision-making and implementation, as, more generally, to stable employment, remains uneasy.

**Figure III-30: Distribution of the female and male workforce by professional status**

**Figure III-31: Gender pay gap by business sector**

<table>
<thead>
<tr>
<th>Business Sector</th>
<th>Average Salary (in thousands of LBP)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Services, insurance, postal services, telecom</td>
<td>Men: 650</td>
</tr>
<tr>
<td>Trade</td>
<td>Men: 800</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>Men: 850</td>
</tr>
<tr>
<td>Agriculture</td>
<td>Men: 700</td>
</tr>
</tbody>
</table>

Source: Labour Market Survey, 2011
Female migrant workers in Lebanon, between oppression and diversified paths

Not including the refugee population, the Lebanese migration landscape is characterized by a significant female population. According to the UNHCR, there may be about 250,000 domestic workers mostly from Ethiopia, Sri Lanka and the Philippines. They arrive in Lebanon via employment agencies and work for their employer who is also their kafial or legal sponsor. The latter determines work hours and controls mobility—often going so far as to take away their passports. The restrictions on freedom of movement, isolation and violence they are subjected to make these workers vulnerable. Mobilizations, like Worker’s Day, have trouble obtaining better legal protection for them. In recent years, migration paths have started to vary, upon the arrival in Lebanon (by using preexisting migration chains) or after a first employment contract. Some migrants stay in Lebanon to become freelancers, with or without a residence permit, while others flee the domicile of their employer. This diversification goes along with a gradual integration into the urban fabric via the opening of shops or of restaurants.

Figure III-32: The diversification of the paths of female migrant workers in Lebanon

According to the works of A. Dahdah, 2012
Figure III-1: A beach in Jbeil, a medium-sized city located in the northern periphery of Beirut, one of the only few accessible to the public, in a very urbanized environment
(© Éric Verdeil, 2015)
If the post-war period was first and foremost devoted to the reconstruction of the affected areas, many damages remain visible, in Beirut, as well as in the Chouf, the South, and since 2006, in other areas hit by the Israeli attacks and internal fights, such as in Tripoli and Nahr el-Bared. These post-war years have mostly been marked by intense urbanization, around Beirut and along the coastline, but also along the main transport corridors, near Nabatiyeh in the South, Halba in the Akkar and in the central parts of the Bekaa Valley. In the form of continuous areas, ribbon, or leapfrog development, the urbanization process has been spreading to every region: it shows the rise of a new way of life linked to the diffusion of automobility and forms of housing which are characterized by low density and have not been subject to much regulation. This sprawl also results from the search for affordable land led by city dwellers who are forced to move out of the capital because of speculation and the renewal of the urban fabric. Close to Beirut, Mount Lebanon offers a condensed view of these transformations. However, the available data series are not yet precise enough to grasp the other evolutions in land use, be they affecting agricultural land, forest land or natural areas. What we know for sure is that the urbanization process has become a subject of debate and protest, as the conflicts rising over the illegal occupation of coastal lands show. New actors producing data and demanding uses more respectful of the law and the public are emerging.
Urbanization, which can only be grasped in Lebanon by using satellite imagery because of a lack of recent statistical data, has almost doubled over the past 20 years. It is concentrated in the central region, but the growth of urban areas has also been significant in the peripheral areas, often in low-density forms, along transport corridors, as observed in the North of the country, from Tripoli to Halba.

The analysis of high-resolution satellite imagery constitutes the most appropriate source to study urbanization. The NCSR-Lebanon has made a systematic assessment for the years 1994, 2005 and 2013. On a national scale, built-up and urbanized areas have grown by 80%, from 472 to 858 sq. km, covering 8% of the territory. Apart from Beirut, where the administrative unit covers the whole urban area, the proportion of built-up areas is the highest in Mount Lebanon, followed by the muhafazat located in the South of the country (9 and 10%). North Bekaa remains the least urbanized region.

Across the country, the 1994-2005 period was the most intensive in terms of construction, which attests the favorable context of the reconstruction years, when the inflow of private funds was encouraged by the development of road infrastructure.

Urban growth remained significant in the following period, especially in the peripheral regions. Akkar and Minieh-Denniyeh, as well as the Nabatiyeh-Saida axis, have experienced a strong dynamism in this regard. However, in every part of the country, urbanization was more limited in the 2005-2013 period than before, even in the South and the area surrounding Nabatiyeh where post-2006 reconstruction projects have proliferated.
Taking into account altitude thresholds helps one relativize the idea that the mountains may be invaded by urbanization. More than 50% of the urban areas are located under 500 m and this proportion has not changed much over the period. 30% of the urban areas are located between 500 and 1,000 m and 18% above 1,000 m. Moreover, by definition, the Bekaa Valley is entirely located within these thresholds.

The analysis of satellite imagery shows precisely the new forms of urbanization in the North of the country, which is one of the most dynamic regions, even though it is marked by growing poverty. The urban area of Tripoli is experiencing a continuous spatial extension, with the urbanization of the western gardens and many olive plantations located in the eastern and southern suburbs, and the densification of the central area. This goes along with intense suburban urbanization. Around Zghorta in the South-East, Koura in the South and along the south-western coastline, it is mostly taking place along road trunks. Around Minieh and Halba, urban growth is characterized by horizontal densification in existing villages and towns, and leapfrog development in the agricultural areas. This form of growth can also be found in small hills and mountainous areas. This shows the lack of regulation regarding construction and the strong local demographic pressure, while migration to Tripoli has been hindered by the absence of employment opportunities and high land prices. This low-density urbanization changes the organization of rural spaces and leads to the occupation of agricultural land, the productivity of which is too low to prevent their transformation into built-up areas.
As urbanization has been spreading across the country, rural and natural areas have increasingly been under pressure. Characterized by the presence of forest land and agricultural terraces attached to its impressive slopes, the central region of Mount Lebanon and Beirut, nowadays inhabited by nearly 2.5 million residents, refugees included, has become more and more urbanized. Dense urbanization has come along with the urbanization of rural areas, through the growth of villages, along the roads and in the form of leapfrog development in natural and agricultural zones, which indicates a growing integration between these and the capital region.

**Urbanization in the mountains and rural areas**

In addition to identifying built-up areas, the Center for Remote Sensing of the NCSR-Lebanon has undertaken a mapping of land uses, the results of which are presented here for Mount Lebanon. This central region extends from the sea to summits above 2,600 m. Benefiting from a humid climate in winter, it is the most wooded region in the country with 650 sq. km of forest land, which may sometimes be found on former uncultivated fields, and account for half of the Lebanese natural land. Because of steep slopes, rural to urban migration and urbanization, agricultural land only covers 250 sq. km. The two main crops are vegetables and fruit, especially bananas, in coastal areas (including in the plain located around Damour, south of Beirut) and orchards at higher altitudes (successively olive trees then apple trees and other fruit trees).

These agricultural and natural lands have come under heavy urban pressure. In addition to the typical urbanization of the town center and along the main roads, urbanization has been observed in the growth of villages. Since the end of the Civil War, these residential suburbs have
Located half-way between Saida and Sour, Sarafand has experienced the same evolution and trends as many other Lebanese coastal cities. These have been under growing urban pressure at the expense of fruit crops and natural land.

The historic part of Sarafand is located on a rocky hill which dominates the agricultural plain, where banana trees have replaced the less profitable citrus fruits. Distant from the zone occupied by Israel and mixed areas, it was relatively preserved from the fights during the Civil War. The mapping of built-up structures in 2002 shows the intensity and the various forms of the urbanization process: along the transport corridors, especially the coastal road between Sour and Saida, and around the periphery of the village, including in the form of leapfrog development and private housing projects, which are little integrated in their environment.

The war caused major population displacements toward safest cities. It turned Sarafand into one of the places to stay along the road for refugees which were mostly Shiite as was the population of the area. The Amal party facilitated their settlement on the maritime public domain. The administration has remained powerless after the war, which has resulted not only in the persistent occupation of the maritime public domain but also in the recurring construction of buildings and housing projects without any preliminary permit.

The war and post-war years have also been marked by the diminution of the influence exerted by ancient Shiite families to the benefit of a new leadership (Amal and Hezbollah) and a new social elite, namely the Shiite citizens who had done well abroad, especially in Africa, and come back. The structure revealed by a study of land ownership partly shows these social transformations as they could be observed in 2002. At that time, the large agricultural plots (in green) mostly belonged to owners who were not from the area, wealthy Shiite families from South Lebanon for whom intensive agriculture remained profitable. The smaller built-up plots (in yellow), located along the roads and around the central part of the village, belonged to people from Sarafand and concentrated most of the new buildings. The category in purple encompassed various situations: waqf land (religious or family-related), municipal and State-owned land, public domain. No recent survey or assessment has been conducted in this area, but the available satellite imagery does not show any reversal of the trends observed at the beginning of the 2000s.

*Figure IV-9: Urbanization and land ownership in Sarafand (2002)*

Coastal areas: the example of Sarafand

Benefited from a better road network. In the heights of Jbeil, the areas of Kesrouan-Ftouh, Aley and Iqlim el-Kharroub, a true patchwork has been emerging. In the absence of restricting plans, as land opportunities appear, constructions are being built on agricultural plots and in wooded and natural areas. This leapfrog development accounts for about 25% of the continuous urban areas in Mount Lebanon.
The urbanization process is concentrated in the coastal areas, especially along the coastline: the maritime public domain is subject to intensive exploitation, often illegally or in a way contradicting the general principles supposed to rule it. This occupation has been known precisely and documented by state services, even though it is in fact tolerated and sometimes facilitated. This attitude has become more and more controversial and denounced by civil actors who have been fighting private claims over public spaces, the environmental damages in which they result, and the financial speculation to which they are linked.

The maritime public domain, delimited by the high-water mark, is owned by the State. Its exploitation is in theory only temporarily possible through authorizations and in return for payment. However, in reality, various laws and decrees have authorized uses related to tourism and other activities, covering an area of more than 2.5 million sq. m. Nonetheless, a recent survey conducted by the Ministry of Transport, which is in charge of the maritime public domain, shows that violations to these rules account for a surface area which is equal to the authorized one.

The highest number of violations has been recorded in Mount Lebanon and, secondarily, in South Lebanon. However, Mount Lebanon and North Lebanon are characterized by the largest illegally occupied surface areas, with a distinct predominance of tourism uses, in the form of “chalets” (complexes of small apartments) and artificial beaches with restricted access. These have been fueling segregation and real estate speculation. In the South, these illegal occupations are mostly oriented toward industrial activities. Various draft laws aimed at regularizing these illegal uses in exchange for taxes and fines benefiting the State have been discussed but never passed because they could have hurt powerful interests, several politicians being directly involved in this kind of practices. Law 64/2017 recently introduced a measure that aimed to change the situation.

Beirut is one of the most emblematic cases of this illegal occupation of the maritime public domain, even though the surface areas in question seem limited. Indeed, the coastal areas in the capital have been largely built up and, most of all, have increasingly been claimed by private companies or exploited for private uses.
Though the maritime public domain is one of the only public spaces in a city that is very dense and almost deprived of green spaces (apart from Horsh Beirut), public access to the sea is very limited. Several ongoing private projects are likely to further restrict its use. In light of this situation, several protest movements have emerged. The initiative led by the Dictaphone Group seems exemplary for several reasons. First, faced with the lack of transparency regarding the legal status of many coastal properties and the transactions they are the subject of, the collective has conducted a survey aimed at drawing up an inventory. The latter shows grey areas in some public decisions regarding authorizations given to specific projects and the involvement of capitalist enterprises which have direct connections with political families, of which several members have held the position of President of the Council of Ministers. This is particularly true of the projects implemented in Dalîyeh, a vast rocky area, very popular among fishermen, walkers and bathers, and close to Raouche, a limestone prominence that has become one of the symbols of the city. Other places have already been claimed for private uses, such as the area rebuilt by Solidere and its marina, as well as the Bain Militaire, an artificial beach accessible only to military men and civil servants. The beach of Ramlet al-Bayda has also been a subject of controversy, as private investors owning nearby plots in conditions that have been debated, have threatened to block access to it. Second, the collective has raised awareness among the public through various means: an on-site theater play, an original iconography, and videos, which all demonstrate the will to reach the most affected individuals, the city’s inhabitants.
Since the end of the war, the Lebanese economy has been increasingly marked by the importance of rents, supported by consumerism, external subsidies and capital flows. The country’s economic policy being focused on reconstruction and macroeconomic stabilization, these assets have been invested in short-term banking deposit, as well as in land and real estate, thus fueling consumption and contributing to the upsurge in land prices.

After a short period of recession between 1998 and 2000, the real estate market was dynamic again until 2008, a year marked by the peak in the prices per sq. m recorded in Beirut. Despite the slump characterizing 2005 and 2006, which followed the assassination of R. Hariri and the 2006 war, real estate investments did not stop. Demand was sustained by a favorable economic situation: the immunity of the banking sector, always supported by the Central Bank, a stable and promising political context after the Doha Agreement, and a strong demand from external actors (often Lebanese expatriates and nationals from the Gulf countries). This translated into a tremendous rise in prices. Thus, from 2007 to 2008, the prices of land plots and apartments respectively increased by 15 to 25% and 15 to 35%. After 2008, the market entered a period marked by saturation, visible in the decline of the recorded surface areas. This stagnation went on as the war in Syria started: the recorded surface areas decreased until 2014. However, despite the stagnation of the real estate market, prices have remained relatively high. In 2013, Lebanon was ranked third among Middle-Eastern countries for real estate prices, after Israel and the United Arab Emirates. While the average price in Beirut amounted to 2,000 US$ in 2008, it reached 4,300 US$ in 2014. The city center and seafront constituted an exception on the market, with prices over 7,000 US$ per sq. m.

The land dynamics have generated changes in Beirut’s urban fabric. Thus, the physical transformations of the built structure (demolition of ancient houses, construction of towers, transformation in the skyline) have come along social mutations (renewal in the population, development of new economic activities, etc.). This phenomenon, called gentrification, can be illustrated by two examples: Furn el-Hayek (residential gentrification) and Mar Mikhael (gentrification of a commercial area).
Gentrification in Furn el-Hayek

Since the 1990s, the Furn el-Hayek neighborhood has been affected by an intense gentrification process, which has radically transformed it, whether one looks at its social or physical features. Socially diverse at the end of the Civil War, this neighborhood has quickly been emptied of its less affluent residents because of real estate transactions. More than 300 families have been evicted over the past 20 years. They have moved to more affordable neighborhoods in the suburbs, or even to areas located up to 50 kilometers from the capital. The new residents are mostly wealthier Lebanese and expatriates. This change in population has been accompanied by a radical transformation of the built structures. The majority of the buildings dating back to the first half of the 20th century have been demolished and supplanted by residential towers. The commercial spaces often found on the first floor have disappeared to be replaced with fences, surveillance cameras and private security features.

Gentrification in Mar Mikhael

Mar Mikhael is a neighborhood hosting a wide range of activities in the eastern periphery of Beirut. Since 2008, new cultural and entertainment activities as well as real estate projects have been developed in the area. « Magic neighborhood » experiencing major changes, a formerly marginalized working-class area, Mar Mikhael is turning into a trendy neighborhood, described as the « Marais of Beirut » or the « New Soho », to the detriment of the traditional built structure. The neighborhood's attractiveness has been increasing, which is reflected in the rise in land prices. While the price per sq. m was about 1000–1200 US$ in 2007, it rose to amounts ranging from 2500 to 2700 US$ per sq. m in 2009, 2900 to 3000 US$ per sq. m in 2010 and 3000 to 3500 US$ per sq. m in 2011, for buildings located along the main road. This has naturally led to an increase in rents, causing discontent and the departure of a number of the original inhabitants.
Figure V-1: Mass movement and rock falls near built structures in Kfar Nbrakh, Mount Lebanon
(© C. Abdallah, March 2015)
When one examines climate change, it is clear that Lebanon has been experiencing significant but contrasted trends. An increase in average temperature has been recorded on the national scale as well as in some urban areas such as Beirut. The average rainfall does not seem to decline but torrential rains have become more and more frequent. These phenomena contribute to increased hazards and risks, which have already been documented across the country, and have reached high levels over the past years because of poorly controlled patterns of urban growth: forest fires, mass movements and floods are some of them. Recent studies have also shown the danger which the seismic activity represents for the country, including for its capital city. These trends have been more and more studied in recent years, among others by the National Council for Scientific Research. Programs have been launched to better understand them and set up adapted mechanisms of prevention and response. However, still being developed, these appear to only partially involve local actors and do not all benefit from sufficient financial resources, while most of the regulatory and legal texts prepared on these issues have not yet been officially adopted nor been implemented.
Climate Change: Contrasted Trends?
Amin Shaban and Claire Gillette

The lack of meteorological records makes the study of the climatic trends experienced by Lebanon in the medium and long term extremely difficult. The measures dating back to before the 1950s are rare and many stations stopped working or were damaged during the Civil War. The impact of climate change, which has become a major environmental issue worldwide, is thus hard to determine. However, existing data series reveal several climatic trends, certainly partly intertwined and linked to regional and global tendencies.

Contrasted climate trends nationwide

Overall, average rainfall recorded for the Lebanese territory has not known any major change over the past 50 years. It has strongly declined in regions that were already among the driest, especially in northern parts of the Bekaa Valley, while it has increased in the North and South-East of the country. The main change observed on a national scale is the multiplication of torrential rains. In addition, temperatures have distinctly evolved.

![Figure V-2: Rainfall in Lebanon between 1950 and 2013](source)

![Figure V-3: Temperatures in Lebanon between 1974 and 2011](source)

![Figure V-4: Discharge recorded for several wells in Lebanon in 1984 and 2013](source)
The average temperature has increased by 2 °C in 30 years and the difference between the minimum and maximum temperatures has also risen, a trend which contributes to desertification but the impact of which still has to be ascertained.

These escalating temperatures participate in the acceleration of the melting rate, but the records gathered these past few decades do not show whether the average surface area of the snow cover has significantly evolved or not. Combined with an insufficiently regulated exploitation of water resources, these trends lead to a depletion of the aquifers and a dramatic decline in the discharge of wells and rivers: the average annual discharge recorded for the Litani has thus decreased from 275 to 125 million cubic meters between 1965 and 2011.

A growing urban heat island effect?

One of the most noticeable trends observed in Lebanon is the elevation of the temperatures recorded in Beirut. The average temperature has likely increased by 4 °C since 1964. The CIRCE program has established that the records of the Beirut airport reveal a rise equivalent to 0.1 °C per decade in the maximum temperatures and to 2 days per decade in the number of summer hot days. These changes have major consequences on the urban environment and its inhabitants, for example on the pollution levels and in terms of public health. They result in an intensive use of air conditioning, thus in an increase in energy consumption and gas emissions, including from power plants.

These changes seem mostly related to the urban heat island effect. Urban areas are darker than others: they reflect less sunlight and absorb more solar radiation, which leads to an increase in temperature. On the contrary, vegetation cover, which is very limited in the capital, helps maintaining lower temperatures, thanks, among others, to the evapotranspiration process. The link between these trends and the ones observed at a smaller scale has yet to be established but an increase in average temperatures reinforces this phenomenon. The latter seems particularly marked in Beirut, as the temperature in Tripoli does not seem to have increased by more than 2 °C between 1964 and 2004. In the absence of constraining legislation and regulation, the proliferation and concentration of newly built structures in the country’s biggest urban center has certainly played a significant role in this.

Figure V-5: Temperatures recorded at the airport of Beirut between 1971 and 2000
Several types of risks have been under growing scrutiny in Lebanon, among others because the on-going climatic trends could greatly increase their number and scale. Torrential rains may thus lead to an increase in the number and impact of the floods and mass movements which already affect the country, while a rise in temperatures and drought episodes are strongly associated with an increase in the number and scale of forest fires.

From forest to suburban fires?

Between 1960 and 2010, 35% of the wooded area may have been subjected to significant degradations. The activities of forest clearing may have played a major role in this, but forest fires have also contributed to it, attracting attention from public institutions and the NCSR, which has launched several studies on this topic. The only available data series containing records over a long period are the ones gathered about the missions of the Lebanese Civil Defense, their number per Civil Defense center and information about the type of affected areas, as well as some attempts at mapping burnt areas based on satellite imagery. It is thus not possible to precisely map the locations of forest fires over a long period, but these data series still reveal some trends.

Each year, between 8,000 and 16,000 interventions are conducted by the Civil Defense in relation to forest fires: according to an estimate produced by the NCSR, on average, 1,200 hectares are burnt yearly, that amounting to 0.1% of the Lebanese territory. Areas covered by low vegetation have been the most affected. In Mount Lebanon, the country’s most wooded region, fires have more often affected forest land. In the southern, eastern and northern regions, particularly in the Akkar, the teams have had to intervene in agricultural areas on more occasions. Several factors may explain the recurrence of these fires, especially overgrazing, wood gathering, urbanization in the form of leapfrog development affecting rural areas, and the reduction of agricultural areas to the benefit of low and dry vegetation, attesting the role played by human activities in the rise of these phenomena. The mapping of the areas exposed to fire hazards produced by the NCSR in 2015, presented here by caza, brings to light the fact that the most affected areas are located in the periphery of the urban areas of Beirut and Tripoli. This leads researchers to warn of a new danger: the occurrence of fires in suburban and urban areas.
Mass movements have not been mapped on a national scale, but several studies have shown the scope and diversity of these phenomena. More than 3,500 landslides and 6,000 block, rock and debris falls have been recorded. On average, they may cause financial losses approximately amounting to 10 to 15 million US$ per year. These movements have sometimes been devastating: in March 1992, an avalanche caused a landslide that destroyed several houses and killed 20 people in Hazerta, near Zahleh. The example of Fater in Mount Lebanon shows that these hazards are concentrated in specific places, including near housing units and diverse built structures.

Various factors contribute to the occurrence and multiplication of mass movements. They are sometimes linked to exceptional events like avalanches and earthquakes such as in 1956. They may also be caused by torrential rains, the number of which has increased, and by human activities. The construction of roads and buildings, quarrying and the development of irrigation systems, which change the water flow and flow regime, may all contribute to them and have not yet been the subject of any regulation taking into account the issue of mass movements.
Nearly two thirds of the reported damages have affected agricultural activities and infrastructure, especially roads. During several intense episodes, entire crops were lost, including in the Akkar and the Bekaa Valley in 2003, and the road network became unusable on several occasions, even leading to schools closing for three days in January 2013. More than 15% of the reported damages affect houses and the number of casualties, 41 since 1975, shows that these events are also deadly, even if this figure remains low compared to what it rises to elsewhere. The consequences of these floods are all the more significant as the Lebanese government is not able to provide sufficient compensation packages, while the affected population is sometimes composed of low-income families, such as in the Akkar.

These findings have led the Lebanese NCSR to launch a program aimed at assessing flood hazard, in collaboration with the UNDP. All the risk areas located in the watersheds of perennial rivers, particularly vast in the Bekaa Valley and the Akkar, have been mapped in detail with a focus on three issues:
land use, damages to the built structure, and to agricultural land. For 10-year floods happening between December and February across the Lebanese territory, it has been estimated that losses caused by damages to agricultural land could amount to 3 million US$ and the ones caused by structural damage to 60 million US$. 748 km of roads would be impacted. For 50-year floods, 82,000 individuals would be affected. The examples of Ghadir and Ras Baalbek clearly show the effects of the growth of built-up areas and the presence of agricultural land and industrial facilities in the heart of flood-prone areas.
Lebanon is a country characterized by a low to moderate seismicity and the presence of major faults which have generated devastating historic earthquakes. Several factors have turned Lebanon into one of the most exposed Mediterranean countries when it comes to seismic risks: extremely marked urbanization on the coastal strip, including in Beirut where more than 40% of the Lebanese population lives and where most of the economic, political and administrative activities are concentrated, and an embryonic building code when one considers anti-earthquake measures.
Major faults, moderate seismicity but destructive historic earthquakes

Lebanon is located over the massive “Levant fault”, which is 1,200 km-long and stretches from the Gulf of Aqaba to Turkey. In Lebanon, this fault is divided into three major sections which have already generated numerous devastating earthquakes characterized by a magnitude above 7: among others, the 551 earthquake and tsunami which happened over the Mount Lebanon thrust (at sea) and the 1202 earthquake which happened over the Yammouneh fault. The information given by the speleothems found in the caves of Jeita and Kanaan (north of Beirut) confirms that severe earthquakes, with a peak ground acceleration of 0.2 to 0.6 g, can be observed in the region. Even though the seismicity recorded in recent years has only been moderate, paleoseismic studies have shown that the faults linked to the Yammouneh one and the Mount Lebanon Thrust could now rupture again.

A real seismic vulnerability

Since 1990, the reconstruction of Beirut has boosted a vertical form of urbanization. During the 2008–2012 period of the real estate boom, the administration yearly granted building permits mentioning areas which approximately amounted to 80% of the city’s gross area. Nowadays saturated, Beirut is composed of a heterogeneous cluster of buildings of various heights and ages. The practice of building on stilts, the overcharge of water tanks located on roofs, the addition of floors to preexisting buildings, sometimes mediocre soil quality, and construction on unstable embankments considerably increase the risks of damage in case an earthquake occurs. The survey of nearly 8,000 buildings has allowed for a first assessment of the harm which could be caused by a seismic solicitation of 0.25 g: it reveals that half of them would be very much damaged. Socio-demographic, economic, anthropologic and psychological studies have brought to light the high vulnerability of Beirut’s residents to earthquakes and the urgency of setting up efficient protection and prevention policies, adapted to the Lebanese context.

Figure V-13: Damages estimated with the FEMA method for a seismic acceleration of 0.25 g
For now, few comprehensive strategies have been implemented by the public authorities as far as prevention and adaptation to climate change and risk management are concerned. These phenomena may be more and more studied in Lebanon but the legislative provisions and the measures that could ensure their enforcement have only partially been determined and implemented.

Climate change, an emerging issue

Since the end of the 1990s and the beginning of the 2000s, as climate change has become a major issue on the international stage, it has been at the center of a growing number of studies in Lebanon. Most of these initiatives have been launched by Lebanese national public institutions, especially the Ministry of Environment, and international organizations, such as the UNDP. The topic of climate change was first considered as one issue among others and studied in projects focused on general themes before specific programs were devoted to it, including so that it would be taken into account in every institution. In this context, the National Action Programme to Mainstream Climate Change into Lebanon’s Development Agenda was launched in 2013. Coordinated by the UNPD and implemented by the Ministry of Environment, it benefits from a 500,000 US$ budget provided by the government. Its goal is to promote development strategies which help limit global warming, and to make public and private actors adopt measures which could contribute to a decline in greenhouse gas emissions.

Despite the ambition which fuels these initiatives, their implementation remains subject to control mechanisms that are yet to be set up. Local governments and actors still seem largely excluded from these projects. Their impact thus still has to be assessed. Moreover, the trends observed on a local scale, such as the intensification of the urban heat island effect, are not considered within the framework of projects which might help regulate it: following a study published in 2005 by the Ministry of Energy and Water in collaboration with the UNDP, a legislative text defining thermal standards for buildings was prepared but has still not been approved by the Council of Ministers.
Risks: the gradual implementation of various projects

Despite the destructive effects of phenomena such as mass movements, which have been more and more examined, no prevention and risk management plans have been implemented on a local scale. Most of the projects launched in the concerned areas consist in minor interventions limited to specific locations, for example in the construction of embankments and retaining walls aimed at reducing the impact of mass movements and debris falls.

However, since the mid-2000s, several initiatives have been launched in this field. The Lebanese State endorsed the Hyogo Framework for Action (2005–2015), subtitled “Building the Resilience of Nations and Communities to Disasters”, which was adopted by the World Conference for Disaster Reduction in January 2005. It led the Prime Minister’s Office to work in collaboration with the UNDP on a project called “Strengthening Disaster Risk Management Capacities in Lebanon”. A Disaster Risk Reduction and Management Unit has been set up and a national response plan prepared. Public institutions, including the Ministries of Education and Social Affairs, have been encouraged to integrate the issues related to risks in their activities. A platform managed by the NCSR has also been created to improve risk assessment. Various actors are involved in the project to allow for large-scale data collection, including in real time, and to ensure better analyses. One of its objectives is to enable the public authorities to implement the necessary measures in order to better prevent risks and better manage disasters when they occur. Yet, at the moment, besides these initiatives, no specific budget has been allocated to risk management within public institutions and local actors are only partly involved: in 2015, only 3 out of 8 muhafazat benefited from risk reduction plans.

A building code at an embryonic stage

A major risk factor is the absence of constraining rules regulating urbanization in areas exposed to natural hazards or a lack of implementation of the existing rules, as the anti-earthquake arrangements illustrate. Even though a first attempt at spreading anti-earthquake measures through regulation was made in 1997, it was not before 2005 that a decree imposed assessments conducted by engineers and the use of a horizontal acceleration amounting to 0.2 g as a reference on rock. Many provisions included in the 2005 decree have remained mere recommendations, for lack of clarifications regarding technical controls. The 2012 decree made an anti-earthquake assessment of new buildings mandatory but gave the real estate sector time to adjust, until 2017–2018, before the application of the measure to every newly built structure. For lack of national references, this public policy de facto formalized the adoption of renowned foreign standards (American or French ones) provided that only one building code is used as reference per structure. Only adaptation to the Lebanese context, the decree mentioned a horizontal acceleration of 0.25 g as the reference on rock to use, higher than the one announced in the 2005 decree, which was never enforced.
Figure VI-1: New water treatment plant in Nabatiyeh, at the time under construction. It has been active since 2013, but used under-capacity as the sewers have not all been completed. It was funded by a French loan and is managed by a branch of Veolia Environment (© E. Verdeil, 2009)
Public services, theoretically ensured by national and regional public agencies or delegated to private companies, have been stricken by a major crisis in Lebanon. In this mountainous and relatively water-rich country, water supply is irregular, insufficient and unequal. Despite the existence of conflicts on the border, the main reason of this is to be found in poor management on a national scale. The efficiency and costs of the projects involving the construction of dams are debated. Energy and especially electricity are other major issues. The strong dependency on hydrocarbons is reinforced by growing consumption levels and the rising number of cars, which cause high pollution levels in the cities and heighten traffic congestion. The production of electricity remains lower than the demand, which leads to shortages that are very unequally distributed and to the use of expensive alternative systems. The spectacular crisis that exploded during the summer 2015 in relation to household waste collection and treatment is the symbol of a technical failure but most of all of a shady centralized management system, vocally rejected by the Lebanese.
Water in Lebanon is strongly linked to identity issues. The contrast between its green mountains and the aridity of the Syrian plains has indeed allowed it to affirm its specificity in the Near-East region. In the period of post-independence nation-building, Lebanon was proclaimed a “gift from the Litani” and its watery mountains the “skeleton of the Lebanese unity”. However, this abundance is nowadays threatened by an increase in needs, especially domestic and agricultural ones. Only drastic measures aimed at limiting waste and losses will make it possible to maintain the balance between available resources and exploitation in the decades to come.

**A relatively water-rich country in the region**

As the average rainfall is close to 855 mm/yr, Lebanon is a relatively water-rich country in the region, which contributed to its reputation of being a water tower. Its “Levantine” climate, marked by rains mostly occurring between November and April and a strong summer season, has given birth to about 40 main watercourses, only 17 of which are perennial. They are distributed in two major groups. On the one hand, three big watersheds account for nearly 44% of the country’s surface area: the Litani (2,140 sq. km), the Orontes (1,720 sq. km) and the Hasbani (680 sq. km). On the other hand, several coastal watercourses come out of sources located in Mount Lebanon to reach the Mediterranean Sea.

In addition, groundwater amounts to about 18% of the country’s resources and ensures that numerous watercourses remain perennial, fueled by the karst sources which are located across the territory. Rivers and sources are greatly affected by intra-annual irregularity: 75% of the river discharge occurs between January and May, 16% between June and July, and 9% between August and October. As for the sources, only 17% of their total annual discharge is available during the summer.

All the hydrological data series are to be taken cautiously. The stations were only partially renovated after the Civil War and their number of employees is not high enough to ensure an efficient monitoring. The assessment of the resources is often based on data series dating back to the 1960s and 1970s and may distinctly change depending on the authors read. We most often chose to use data published by the Ministry of Energy and Water.
A risk of water scarcity?

The relatively abundant rainfall should not conceal a situation that has become rather difficult. The available freshwater resources per capita still make Lebanon one of the most privileged countries in the region but, since 2014, the “water tower” has exceeded the threshold used by the UN to identify cases of water shortage.

A comparison between water demand, exploited volumes, and renewable resources nonetheless reveals a more nuanced situation. The current demand is indeed far below the exploitable resources but the balance seems precarious. The optimistic projections published by the Lebanese Ministry of Energy and Water regarding the evolution of water demand until 2030 rely on a forecasted moderate population growth and on the implementation of public policies aimed at improving the efficiency of drinking water supply systems and irrigation techniques. Without these measures, Lebanon is likely to consume more than 100% of its water resources by the mid-2020s according to the World Bank. Moreover, the water supply is currently barely sufficient to satisfy the demand and does not do so in a sustainable way.

At the moment, the consumption of surface water is very limited and the needs are largely satisfied by a massive use of groundwater resources. They currently cover 50% of the needs in the agricultural sector and 80% of the needs in drinking water. Partly uncontrolled, this exploitation has already led to a decrease in the aquifers levels and to major intrusions of salted sea water in the most densely populated coastal areas.
The issue of water shortage in Lebanon also has to be tackled in terms of water quality. The absence of wastewater treatment represents a serious sanitary risk to a population that does not always have access to drinking water. In a context where water public services are deficient, access to drinking and domestic water is a clear indicator of social and spatial inequality in the Lebanese society.

The degradation of water resources

The almost complete absence of wastewater treatment facilities has become the main factor of water pollution in the country. A scheme planning sanitation systems serving the whole territory has been prepared as early as 1982 but only 18% of the used water generated in Lebanon seem to be currently treated. Ten treatment plants have been brought into operation, including 6 of them between 2012 and 2015, which shows a recent improvement of the situation. It took six years for some plants to be opened, including in Tripoli and Nabatiyeh, because of delays in the construction of the sewer systems and uncertainties regarding their management. However, these facilities do not operate in full capacity (10% of their capacity was used in Tripoli and Nabi Younes in 2014, for example). The main plants, located along the coastline, like Ghadir in the southern suburb of Beirut or Saida, only provide a pretreatment (elimination of the biggest materials, stones and sands, etc.). In addition, about 60 municipal plants have been built thanks to international aid. Many of them are not functioning as the municipalities' limited financial resources have hindered their long-term exploitation. In the areas served by a sewer system, most of the wastewater directly flows into the sea or into valleys, depending on the location of the urban centers.

Consequently, the levels of water pollution have become extremely alarming, notably on the coast. The surveys conducted at the mouth of some coastal rivers and on beaches have sometimes revealed bacteria rates that are significantly above sanitary norms, which can be explained by the high concentration of wastewater. This pollution constitutes a danger for the bathers and the coastal ecosystems.

Figure VI-6: Factors and indicators of water pollution
Unequal access to drinking water

Despite the large-scale reconstruction initiative launched after the end of the Civil War, more than 20% of the Lebanese households still do not benefit from an access to a drinking water supply network. The rural areas of the Bekaa Valley, and even more of the North, are the worst off. In these regions, dispersed housing units, underdevelopment and delays in the renovation of the networks are combined and lead to situations where coverage rates sometimes barely reach 40% (cazas of the Akkar and Bcharreh).

The central region is the one experiencing the severest shortages. Water is supplied only three hours per day during the summer and even not supplied at all in some western neighborhoods of Beirut from September to December. If water production may sometimes be insufficient, the losses occurring on the network also have to be challenged in a context where 45% of the systems used for transfers and 33% of the ones used for distribution are more than 30 years old.

The use of alternative solutions is thus unavoidable. The purchase of bottled water, the delivery of water by tanker trucks, and private wells supplement or replace a deficient public supply system. 307 million US$, that being 1.3% of the GDP, are annually spent in the water sector in addition to the subscriptions to the public service, accounting for more than three times the total amount of the yearly government expenditures in the sector (0.5% of the GDP). Far more expensive than the public service, these solutions can greatly impact the budget of the poorest households without ensuring supply from a qualitative point of view. Thus, out of the nearly 800 companies providing bottled water, only about 10 of them have been accredited and the Ministry of Health declared in September 2015 that many of them were selling water considered unsuitable for consumption.
Since the end of the Civil War, many projects have been launched in order to improve access to water for the population as well as for agricultural activities while making the management of these services more efficient. However, for now, few concrete results have been observed and the attempts at reforming the sector, which have been conducted under the pressure of international funding agencies, have only rarely led to a real improvement of the service.

An unfinished reform

During the 2000s, an institutional reorganization of the water sector was implemented. Like many reforms in countries from the “Global South” since the beginning of the 1990s, it was in line with the structural adjustment programs promoted by the World Bank and the IMF. It was aimed at transferring a transnational water management model defined in the more general context of the promotion of sustainable development and “good governance” to Lebanon. It relied on three pillars: decentralization and user participation, integrated management of the water cycle, and full cost-pricing. This reorganization of the water sector was also more generally based on the commodification, even the privatization, of urban water services. Its implementation in Lebanon led to the amalgamation of twenty-one water agencies and numerous local committees into four regional establishments in charge of services supplying drinking water, sanitation and irrigation, all at the same time (except for the establishment of the South).

Ten years after their creation, none of the above-mentioned principles has really been applied: only the Water Establishment of Beirut and Mount Lebanon is financially self-sufficient, the missions related to sanitation and irrigation have only rarely been transferred to the establishment, prices have increased but the collection rates have remained low. The reform led to many innovative management experiments conducted by actors linked to the international cooperation sector (public-private partnerships, setting-up of monitoring devices, watershed management, participatory management, etc.), most of which have not been successful. Despite the efforts made by the new establishments, their fragility, due to their lack of both financial and human resources, has prevented them from achieving their basic objectives over the whole territory, including the maintenance of the drinking water supply systems.
The revival of large-scale projects

While only one dam had been built in Lebanon between 1954 and the end of the 20th century (the Qaraoun dam), the government reactivated several large-scale hydraulic projects in the 1990’s. They aimed at solving the current and future problems inherent to the supply of drinking water but also at enabling the expansion of irrigated perimeters. Eighteen dams as well as several reservoirs have been planned to improve the storage capacity of surface water. In addition, several large-scale projects based on the diversion of the Litani River dating back to the 1970s have been re-launched at the beginning of the 2000s: the Awail-Bisri project, aimed at providing Beirut with drinking water, and the Canal 800 project, which should ensure the irrigation of 15,000 hectares of land in the South of the country. Only the Chabrouh dam has already been brought into operation. With a capacity of 8 million m³, it only accounts for barely 1% of the total expected reserves. Moreover, these projects have faced strong critics. The ability of the Litani River to cope with these multiple extractions but also the relevance of a supply-side policy in a context where the losses on the network (leaks and frauds) amount to 48% of the produced volumes are all issues that lead one to doubt the efficiency of these new facilities.

Figure VI-12: Large-scale projects on the Litani river
Since the independence, the Lebanese authorities have regularly called upon the unity of all citizens behind their water resources. The discourse of the Ministry of Energy and Water, which subtitled the National Water Sector Strategy: “A right for every citizen, a resource for the whole country”, testifies to this. Yet, signs of conflict frequently appear. The implementation of large-scale hydraulic projects triggered major disputes between local communities, environmental associations and the central State. The new power distribution promoted by the water reform has not been immune to tensions either. When it comes to water management, unity in Lebanon can mostly be found in the approach of the issue of shared transboundary waters, especially in front of Israel’s hegemonic attempts over the waters of South Lebanon.

Land and management-related conflicts

The projects implemented by the Lebanese State regarding land-use planning and water management lead to many conflicts. Defended by the Ministry of Energy and Water as the best solution to the irregularity of the rainfall, dams are systematically subject to mobilizations of the civil society, especially of environmental associations like IndyAct, Green Line, or Lebanon Eco Movement. Their discourse questions the efficiency of such facilities (highly permeable soil, waste of the already exploited resources, existence of cheaper alternative solutions) and emphasizes the damage this type of infrastructure may cause to the environment (destruction of local ecosystems, groundwater pollution) and to the local population (increasing seismic risk, expropriations).

The institutional reorganization of the water sector is itself subject to the resistance of some local committees in charge of water management. Composed of inhabitants and often closely linked to local powers, about thirty of them have refused to transfer their prerogatives in compliance with the reform and have kept on supplying the population at a rate that is far lower than the one applied by the water establishments. These defiant committees have particularly been in force in the Akkar and Bekaa Valley, which have been underequipped in terms of drinking water supply networks. But a similar situation may be found in some urban centers located in Mount Lebanon, such as Damour or Deir el-Qamar, where the municipalities, which installed the water supply networks, have refused to transfer them to the Water Establishment. Negotiations about the subscription fee or the improvement of the service have led to the dissolution of some of these committees but conflicts have remained open elsewhere and the establishments along with the Ministry have sued the challenging committees.

Figure VI-13: Invitation to a meeting of the “No Dam” campaign against the construction of the Qayamani dam (© No Dam, 2015; translation: “The Qayamani Dam: problems and solutions”, Hammmana, 06/10/2010)
Sharing transboundary waters

Lebanon is located upstream in three major transboundary watersheds (the Orontes, the Nahr el-Kebir and the Hasbani-Wazzani). If one adds to this the groundwater, it may be estimated that 20 to 25% of the country’s water resources flow beyond its borders.

While the sharing of water resources with Syria was sorted out between 1972 and 2002, the case of the Hasbani River, a tributary of the Jordan River watershed, still needs to be solved. An American plan dating back to 1954, the Johnston Plan, is usually used as a reference for the sharing of the water resources in this area but no official agreement between Lebanon and Israel has ever been found in a context of recurrent conflicts between the two countries. Despite its location in the upstream portion of the watershed, Lebanon only uses a very small amount of water. Indeed, up until 2000, the sources of the Hasbani and the Wazzani Rivers were located in the area occupied by Israel in the South of the country. Since the Israeli withdrawal, some projects have been launched on the Lebanese side (a pumping station on the Wazzani River, among others) but they have been subject to bomb threats made by the Israeli government. Israel tacitly only authorized the supply of water to a few municipalities and the development of irrigation in the area remains unlikely for now. The Israeli dissuasive power in this region, combined with the continuous occupation of the Chebaa farms and the Syrian Golan Heights, ensures that the Hebrew State keeps control over the main sources located on the higher parts of the Jordan River.

Figure VI-14: The disputed waters of the Hasbani-Wazzani river

Figure VI-15: Transboundary waters in Lebanon

<table>
<thead>
<tr>
<th>Watershed</th>
<th>Average discharge</th>
<th>Agreements</th>
<th>Resources exploitable by Lebanon</th>
<th>Current Lebanese extraction</th>
<th>Proposed dams</th>
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<tbody>
<tr>
<td>Surface water</td>
<td></td>
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<tr>
<td>El-Assi (Orontes)</td>
<td>26,530 sq. km</td>
<td>1,200 MM³</td>
<td>Lebanon-Syria 80 MM³</td>
<td>21 MM³</td>
<td>Assi Phase 1:</td>
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<td></td>
<td>8%</td>
<td>1972</td>
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<td>63 MM³</td>
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<td></td>
<td></td>
<td>1991</td>
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<td>275 MM³</td>
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<td>Assi Phase 2:</td>
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<td></td>
<td></td>
<td>2002</td>
<td></td>
<td></td>
<td>15 MM³</td>
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<tr>
<td>Nahr El-Kebir</td>
<td>954 sq. km</td>
<td>377 MM³</td>
<td>Lebanon-Syria 40%</td>
<td>Two irrigated</td>
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<td></td>
<td>26%</td>
<td>1991</td>
<td></td>
<td>perimeter: 1,720 ha</td>
<td>Shared dam</td>
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<td></td>
<td></td>
<td>2002</td>
<td></td>
<td></td>
<td>in Neura El-Tahta:</td>
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<td></td>
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<td></td>
<td>35 – 50 MM³</td>
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<td>Jordan river</td>
<td>18,285 sq. km</td>
<td></td>
<td>Higher parts of the Jordan river: 1954 – Johnston Plan (not ratified by the parties)</td>
<td>Hashbani: 7 MM³</td>
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<td></td>
<td>3,8%</td>
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<td>Ibel Es-Saqi:</td>
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<td>50 MM³</td>
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<tr>
<td>Hasbani-Wazzani</td>
<td>18,285 sq. km</td>
<td>616 MM³</td>
<td></td>
<td>Wazzani spring: 2.45 MM³</td>
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<tr>
<td></td>
<td>3,8%</td>
<td>2002</td>
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<tr>
<td>Groundwater</td>
<td></td>
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<tr>
<td>Lebanon-Syria</td>
<td>Three shared aquifers located in the Anti-Lebanon Mountains</td>
<td></td>
<td>Anjar-Chamnene : 248 sq. km</td>
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<td>Barada : 149 sq. km</td>
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<td>Figele : 658 sq. km</td>
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<tr>
<td>Lebanon-Israel</td>
<td>Volume flowing from Lebanon to Israel: 250 – 350 MM³.</td>
<td></td>
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</table>

Sources: UN-ESCWA = BGR, 2013; MW, 2012; Zeitouni et al., 2012
Waiting for the beginning of the exploitation of the potential oil and mostly gas deposits in its exclusive economic zone, Lebanon remains heavily dependent on imported hydrocarbons, which account for 95% of its primary energy. Its potential renewable energy production is limited and under-exploited, including hydroelectricity and, despite its recent rise, solar energy. The exploitation of wind energy is still in the planning phase. A constant and strong increase in consumption, which generates high levels of pollution, has heightened this dependency. The electricity shortage constitutes a major and recurrent issue.

Increasing uses

In 2013, 96% of the energy consumed in Lebanon was imported, mostly in the form of oil products, and secondarily coal and electricity. This energy is exploited in two ways: on the one hand, as fuel, mainly for transport and, to a lesser extent, for domestic heating; on the other hand, it is turned into electricity, either by the public utility in charge of thermal power plants, or by private generators which are poorly identified in the statistics (38% of the installed capacity in 2006 according to the World Bank). One may notice the importance of this on the above graph with the segment drawn between the oil products and housing, which partly corresponds to this private alternative electricity production.

The annual variations in consumption may have been irregular and partly linked to the geopolitical context (consequences of the 2006 war against Israel) but the increase in demand reflects the population growth due to the inflow of refugees as well as an increase in uses (mobility, electric appliances, etc.) despite a low economic growth.
An automobile-dependent society

On average, transport systems account for 43% of energy consumption. Used in 80% of the movements in Lebanon, cars dominate especially since the offer in public transportation is poorly organized. Trains have been abandoned since the beginning of the 1990s. Even though the idea of a regional train connection between Beirut and Tripoli regularly resurfaced, railways have gradually been asphalted for road traffic or, on the opposite, undermined by coastal erosion. Collective taxis and minibuses, often attached to the informal sector and offering chaotic and quite expensive conditions, provide most of the public transportation.

The public authorities have not been promoting the development of public transportation. On the contrary, in recent years, they have encouraged the purchase of cars through consumer credit, which has led to an unprecedented rise in imports. On average, the latter have more than doubled between the 1997–2007 period and the following years, with a peak equal to 100,000 vehicles per year in 2009. Even if we are not well equipped to calculate the number of vehicles which have been withdrawn from the market, these figures remain considerable: a new car for five inhabitants who were old enough to drive between 2008 and 2014. These imports were mostly composed of small vehicles produced by Asian brands, less expensive than the powerful ones, which the Lebanese market is still fond of. This illustrates the growing spread of car ownership among the middle and working classes.

The rise of the automobile has also been supported by programs targeting the road infrastructure. As massive imports fueled congestion, the authorities reacted by concentrating public investment in the improvement of the transport network, with the construction of a freeway network to the North and the South of the country. The Bekaa Valley still remains neglected. Despite the construction of bridges and tunnels at the main crossroads, traffic jams still paralyze the major roads of Beirut during rush hours, which forces commuters to longer and tiresome trips while parking has become extremely difficult. A high level of pollution is another consequence of the increased car use. The distribution of the NOx and CO gas in the urban area of Beirut exceeds international sanitary levels. It is distinctly correlated with the location of the major roads and highways—even though electricity production, both private and public, also contributes to it.
Power rationing has marked the life of Lebanese citizens since the Civil War and shows the State’s inability to meet the population’s needs in this field. While demand has incessantly been increasing, despite deep inequalities in the access to electricity, the successive governments have not been able to reorganize a poorly managed sector and to maintain the production capacity, which should be increasing. The population has become largely dependent on generators, while solar water heaters and solar photovoltaic panels have been the subject of a limited breakthrough.

A worsening shortage

Power rationing, which had gradually decreased over the post-war years, has again started to increase since the 2006 war against Israel, because of the damages inflicted to the network by bombings, of the increased demand, and of insufficient investment in the necessary renovation works in the existing plants. While the demand is estimated to exceed 3,000 MW, the available capacity amounts to barely 2,000 MW. This may be explained by the delay in introducing natural gas to fuel power plants, inadequate pricing, the persistent technical losses affecting the network, and fraudulent connections (source of about 25% of the losses, the spatial distribution of which has been impossible to determine). All these factors result in massive deficits for the public company Electricity of Lebanon (Electricité du Liban, EDL), which remain the first cause of the level of public debt.

The spatial distribution of power rationing is highly uneven. For a long time, power cuts almost didn’t affect administrative Beirut. Since 2006, they have reached 3 then 5 hours per day. Other regions are far more affected, some even remaining in the dark for half a day. This inequality results from a choice made by the Council of Ministers and confirmed on several occasions, despite demands for a fairer distribution. Because of the large subsidies that have kept the price of electricity unchanged since 1994, this distribution system results in giving a financial advantage to the capital’s residents, who are on average wealthier than the rest of the population.

A rising demand despite consumption inequality

The public company has to meet the demand for electricity from a growing number of subscribers. From 2005 to 2013, EDL recorded more than 200,000 additional subscribers (+17%). While 42% of the customers live in the capital area, the biggest number of new connections has been registered in the Bekaa Valley as well as in the area of Tripoli and in some suburbs of Beirut.

However, the average consumption recorded over the period (an indicator that allows an analysis smoothing the delays in payment and billing) reveals large differences, with a ratio of 1 to 10 between the northern parts of the Bekaa Valley and Beirut. This first reflects the inequalities linked to power rationing and the disparities in standard of living between the center and the peripheries. These inequalities in consumption also probably hint at the existence of significant fraudulent connections in some peripheral regions.
Faced with power cuts occurring frequently and maintained over time, the Lebanese population has developed multiple forms of adaptation. The most spectacular one is the development of alternative networks, at house, building or neighbourhood-levels, that supply electricity from diesel-powered generators, with a variable amperage. According to a 2013 study, 70% of the Lebanese households and 76% of the shop owners have been using this type of solution. Despite a growing control exerted by the municipalities, these systems have remained polluting and expensive, and consequently very unequal.

Since 2011, the households’ equipment with individual solar water heaters and photovoltaic panels has been quickly rising, encouraged by subsidized loans supported by international funding partners and the Bank of Lebanon. However, their spread has remained limited and complicated in the mostly collective housing units located in the cities.
The Greater Beirut waste collection and treatment crisis, which occurred during the summer of 2015, and the popular mobilizations in which it resulted are not only an additional symbol of the State’s failures and its inability to efficiently manage public services, but also an indicator of spatial inequality. If the waste sector has been posing many problems all across Lebanon, local entities have been handling it in uneven ways, sometimes achieving more satisfying results than the capital.

A chaotic but spatially differentiated management

Municipalities are theoretically in charge of managing waste collection and storage. The Civil War dramatically disrupted this sector. Waste was not regularly collected anymore and the obstacles to movement and traffic led to the emergence of unauthorized garbage dumps. The most spectacular ones were those located in the bay of the Normandy Hotel in Beirut, which was subsequently turned into a buildable embankment, and in Bourj Hammoud, which has awaited the same transformation for many years. During the reconstruction years, large-scale landfill sites were used along the coastline in Saida (this one was recently renovated) and Tripoli. Unauthorized dumps proliferated in the darker corners of small valleys.

The public authorities have gradually regained control of the sector. On a national scale, household waste generation is very uneven and reflects the disparities in living standards. Beirut and Mount Lebanon generate waste volumes that are proportionately higher than elsewhere and greatly increasing (+42% from 1999 to 2013). Organic waste accounts for more than 50% of the total. Only 8% are recycled and 11% composted, the rest being buried in landfills. There are deep regional disparities in management systems.

In most regions, a multi-municipal system has been set up. In Beirut and Mount Lebanon, since 1994, the government has gradually entrusted collection, treatment and storage to the subsidiaries of a private company, Sukleen and Sukomi. Their operating costs have sharply increased yet without any significant improvement of the sorting and recycling activities. The Independent Municipal Fund has been covering these costs with the funds allocated to the 255 concerned municipalities. According to the LCPS, the needed sums amount on average to 40% of the municipalities’ shares in this fund. These payments diminish the capacity of the fund to invest in other multi-municipal projects, which is theoretically its objective. The saturation and then the closure of the Naameh landfill, which had served Beirut and Mount Lebanon since 1998, explains the sector’s crisis, while the State, the municipalities and civil society have not been able to reach a lasting agreement neither on the choice of new dumping sites nor on the adoption of more ecological disposal methods. The municipalities, which have proclaimed their distrust toward the government, are afraid of difficulties and a fall in land prices if they create dumping sites in their perimeters. The situation in Beirut and Mount Lebanon is so serious that the government has installed new temporary dumping sites along the coastline and has even thought about exporting waste, while waiting to reorganize the whole sector by drastically limiting waste generation thanks to sorting and recycling and to implement the 2010 governmental decision to use the “Waste to Energy” method. In the other regions, municipalities have usually retained the management of the sector, but without excluding partnerships with private companies.
Since Sukleen has stopped waste collection in July 2015, a lot of municipalities have been forced to improvise solutions. Unauthorized waste incineration is an indicator of the inability of many of them to cope with the crisis. However, some have succeeded in imposing alternatives, in partnership with associations or private companies.

A small town located in the Metn, Bikfaya generates nearly 10 tons of waste per day. At first, like many municipalities, it called in informal actors who “got rid” of waste for exorbitant prices. But with the prolongation of the crisis (until March 2016), the municipality chose to impose sorting, the only sustainable solution. First, in addition to an intensive communication campaign, it required the setting up a strict control system to prevent the development of unauthorized dumping sites, heavy fines, and the refusal to collect unsorted waste. Later on, the municipality organized a space for storage and sorting, which has gradually turned into a plant. An association (Arcenciel) handled the recyclable waste. It has also extended its activities since the beginning of the crisis, participating in waste collection and recycling in Beirut and Mount Lebanon. The other types of waste are managed by local plants while the organic waste is delivered to local pig farms.

Municipalities facing the crisis: the example of Bikfaya

Figure VI-28: Collected waste sorted by the inhabitants (© E. Gemayel, Bikfaya, 2016)
Figure VII-1: Tripoli International Fair (© Grace Rihan Hanna, 2006)
Over the past decade, Lebanon has once again faced major challenges in terms of urban and land-use planning, while the governance in this sector has radically evolved compared to what it was during the previous period. These changes are noticeable on three different levels. First, the central State has lost its status as the main, even unique, actor, as much when it comes to regulation as to implementation. Despite the National Physical Master Plan for Lebanon, published in 2004, the political crises, which have been continuous since 2005, have prevented it from coordinating the operations and guiding the new actors entering the stage. The emergence of new levels of implementation and territorial governance is the second major change to have disrupted the landscape of territorial planning in Lebanon. With the 1998 municipal elections, the municipalities’ “comeback” marked an important moment in the revitalization of the local political life. Faced with the challenges of providing infrastructure, facilities and local services, the municipalities have more or less successfully improvised solutions. Calling in local partners, resorting to decentralized cooperation, and taking advantage of the support given by international organizations or the structures in charge of assisting municipalities created by some political parties have been among the means used by municipalities to mobilize the technical and financial resources they need to act in their territories. The multiplication of municipal unions, including after 2005, also attests the new importance of this level of governance and implementation as much for the municipalities as for donors and local actors. These changes in scale have led to a third type of mutation which has affected the tools and practices of urban and land-use planning. Through strategic planning, participatory approaches, or the informal set-up of “alternative” projects focused on reconstruction, service supply or green and public spaces, new actors involved in territorial action have been experimenting new ways of working without limiting themselves to the traditional regulatory tools used in the field of urban planning in Lebanon. Nonetheless, this profusion of actors, scales and projects carries a risk of complexity, conflicts and contradictions that can in some cases lead to inertia.
The Civil War and its consequences have had a major impact on the contemporary spatial transformations experienced by Lebanon. The State has played a significant role, especially in the reconstruction efforts, but one has to keep in mind the diversity of the actors involved and of the interests they represent.

The Chehabist legacy

Between the independence and the beginning of the Civil War, the State launched a series of initiatives in the field of regional planning and infrastructure. The best-known example is the policy promoted by General Chehab between 1958 and 1964. It aimed at ensuring economic development, building the State and uniting the nation, and relied on studies the French International Institute for Research and Training for Harmonized Development (IRFED) had prepared. Based on urban hierarchy, the document determined a series of public facilities and services adapted to each level and thought as vectors of modernity and examples of State action in support of national cohesion. The efforts led to the opening-up of villages, and the provision of drinking water and electricity were emblematic of the period.

Up until today, the Chehab presidency remains a reference for political leaders and the public. It constitutes the background against which policies are debated and evaluated. The notion of “balanced development”, which became a constitutional principle with the Taif Agreement, is a heritage of this period and of the concept of “harmonized development” theorized by IRFED’s founder Louis-Joseph Lebret.

Post-war reconstruction: a multifaceted series of voluntarist measures

The Lebanese government drafted numerous reconstruction plans during less intense periods of the war, including in 1977 when the Council for Development and Reconstruction was created, and in 1982–1983 at the start of the Gemayel presidency. Reactivated in 1991, the CDR was the main agency in charge of the reconstruction. It was commissioned to fix priorities and get funding from international organizations and the Lebanese government. The Council for South Lebanon, created in 1970 to develop the southern part of the country, and the Central Fund of the Displaced, established in 1992 along with the eponymous ministry, mostly operating in Mount Lebanon and the North, implemented projects in their respective regions.
The distribution of the investments made by the CDR until 2004 shows the huge effort undertaken to rebuild the infrastructure that was essential to the economy and daily life: communication and transportation networks, drinking water supply network, electricity grid. In addition to the physical reconstruction of the country, which highlights the State’s effort to heal the wounds, one must not overlook the other implemented policies, especially in the social sphere. According to an overview of the public expenditures published in 2000, physical investments only stood for 11.6% of the committed funds. The policy established to benefit the displaced was a major component of the initiatives launched by the government at the end of the war. In several cities, including Tripoli, the Fund has played a considerable role in urban planning and land development on a large scale as it managed the rebuilding of destroyed neighborhoods. Elsewhere, it has supported the return of families and the rehabilitation of housing units in the villages, with a seemingly uneven success: overall, only 20% of the displaced returned to their original homes.

The reconstruction of Beirut represented one of the most important and emblematic projects. Along with its suburbs, the city suffered considerable damages during the war. Its rebuilding was one of the requirements for national recovery for both symbolic and economic reasons: as a mixed area, in the words of the author Ahmad Beydoun, it belonged to all the Lebanese and it hosted the economic driving forces of the country. The reconstruction of the city center was the icon of its rebirth. It has been entrusted to a private real estate company, Solidere. Its mission is to complete the construction works according to a plan approved by the authorities and to sell the land parcels, except the ones recovered by formers owners and where places of worship had been built. Launched in 1994, the project has resulted in many demolitions aimed at freeing up space to ensure a very modernist redevelopment. It has been subject to many controversies due to numerous expropriations, compensations deemed insufficient, and the scale of the demolitions carried out at the expense of the traditional urban fabric and archeological sites. One of its main architects was Rafic Hariri, who became Prime Minister in 1992, in an atmosphere laden with potential conflicts of interest.

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The Directorate General for Urban Planning (DGU) and the Council for Development and Reconstruction (CDR) have long been the main official actors in the field of urban and land-use planning in Lebanon. However, over the past decade, these two institutions have been facing serious challenges, which they have struggled to handle, and they have had to adapt their practices.

Towards negotiated planning initiatives

Master plans have historically been the main tool used for territorial planning. To be implemented, they need to be approved by a ministerial decree or a decision of the Higher Council of Urban Planning, which is attached to the DGU. The territorial coverage of the master plans has always been limited. In 2000, more than 40% of the urban areas were located within the perimeters of the 183 master plans approved at the time. However, since that year, there has been a considerable rise in the number of master plans. By the end of 2014, there were 568 approved master plans, covering 58% of the country’s urban areas.

This increase went along with a simplified approval process: since 1998, only 9% of the plans have stemmed from a decree, to 85% before that year. More and more, these plans have been prepared on the initiative of municipalities and not the DGU.

This evolution results from the affirmation of the municipalities’ role in the field of urbanism. Since 2005, the recurring political crises have de facto limited the opportunities to publish decrees. This trend also reflects the emergence of new regulatory practices. In the case of master plans that are subject to a decision or under study, the Higher Council retains some prerogatives if there are appeals or exemptions. This opens up

![Master plans in Lebanon, geographic coverage and chronology](image1)

![Change in the distribution of master plans approved via decrees and decisions](image2)
space for negotiation and allows for arrangements, which take
into account the complexity of the actors and interests. The
high number of modifications made to the master plans (about
three per master plan) confirms that trend. The DGU is moving
from the technical and regulatory role of producer of the plans
to the role of negotiator.

A decreasing role in urban and land-use planning

The CDR is the central institution when one considers land-
use planning initiatives led by the State. It was the conductor
of the post-war reconstruction project. It directed the National
Physical Master Plan for Lebanon, the main strategic tool
aimed at orientating ministerial and municipal actions toward
balanced territorial development, officially approved in 2009.
However, since its publication, the country has experienced
major upheavals, which have made a number of orientations
contained in the document obsolete. Moreover, the fragile
and divided governments born of the political crises that have
affected the country since 2005 have hardly been able to develop
innovation and coordination capacities. The CDR’s projects are
regularly called into question. The destruction caused by the
2006 war against Israel and the considerable inflow of refugees
since 2011 have disrupted the priorities, once more focused on
reconstruction and emergency management instead of long-
term investments.

However, the CDR remains a key actor because of its
technical capacities, its link to the Presidency of the Council
of Ministers, and of the relationships it has been building
with the biggest international financial backers for the past 25
years. Most of the large-scale projects receiving international
funds have thus gone through the CDR. The territorial action
directed by this institution mainly concerns the provision of
infrastructure and facilities, and remains dependent on foreign
funds in the form of grants or loans. More than 9 billion US$ worth of grants and loans have been allocated to its projects by
financial backers since 1992, but the investments only accounted
for 2 billion US$ between 2006 and 2013.

The regional distribution of the CDR’s investments has
evolved since 2006. In the previous period, investments were
mostly concentrated in the country’s central region and reflected
the demographic structure as well as the reconstruction policy
of the 1990s, which favored the capital city. Since 2006,
investments in the various regions have been more balanced,
which attests the growing political leverage of the regional
decision-makers.
Reconstruction Efforts: New Approaches
Jihad Farah and Amanie Majed

The 2006 war against Israel and the fights that occurred in Nahr el-Bared in 2007 against the radical Islamist group Fatah al-Islam caused major damages. The reconstruction of these areas differs from the post-Civil War reconstruction. They reveal new uneven power relations, which may explain the contrasted evolution of these projects.

These projects stand out from the 1990s reconstruction because of the involvement of new actors and the withdrawal of the central State for which the inhabitants have shown distrust. Those of the southern suburb found the positioning of the government majority during the 2006 war regrettable and feared a Solidere-like scenario. Those of Nahr el-Bared questioned its will to really rebuild the camp. In this context, other actors have taken center stage.

At the center of the reconstruction of the southern suburb is the Hezbollah, or more precisely Waad, the entity it created for this purpose. Neither a private company nor a public reconstruction agency, which are the only entities authorized by the Lebanese law to implement the reconstruction of a sector, Waad nonetheless succeeded in convincing a considerable number of beneficiaries to delegate the reconstruction of their buildings. In addition to this intervention focused on private property, Waad cooperated with municipalities and the municipal union of the southern suburb, controlled by the party, to organize the public space. This entity received the support of thousands of volunteers and hundreds of engineers and architects, as well as of other entities connected to the party, long specialized in the issues of public works. Waad handled the compensation amounts allocated by the government to the beneficiaries, to which were added funds provided by the party and its political sponsors, all this amounting to 400 million US$. Hezbollah supported the speed of the reconstruction of the southern suburb, one of its main strongholds. Waad achieved the reconstruction of 270 buildings, that being 4,700 housing and commercial units, in five years. However, two issues remained subject to critics: the marginal participation of the population in the process and the lost opportunity to reorganize a very densely populated suburb marked by a disorganized urban fabric as a consequence of the choice of rebuilding by reproducing the original aspect of the neighborhood.

Figure VII-9: Set-up of the Waad Project
In Nahr el-Bared, a local committee composed of displaced inhabitants of the camp, volunteers and specialists who wanted to assist offered an alternative to the governmental project. Prepared by a large Lebanese engineering firm without consulting the inhabitants, the initial plan was completely disconnected from the camp’s geography and history before the destruction. The local committee succeeded in having its project adopted thanks to the backing of UNRWA, the UN agency in charge of the assistance to the Palestinians. It also obtained the support of the population thanks to its participatory approach. The bombing by the Lebanese Army of the fighters hidden in the buildings completely destroyed the camp. Nearly 30,000 residents were evacuated. Yet, the camp being officially an extraterritorial entity, there was no official map of its buildings nor any registration of the existing apartments. The committee consequently engaged in an operation of reconstitution to determine what previously existed based on interviews conducted with thousands of displaced families. It developed a model allowing for the recognition of the families’ “rights” depending on their situations before the conflict, which constituted the base of the planning proposal. The families were involved in the design of their apartments as well as in the planning of their buildings and neighborhoods. Despite difficult negotiations with the army and the DGU regarding security and regulatory issues, the support of financial backers at the Vienna Conference (2008) provided UNRWA with the funds needed to start the construction process. However, as some donors withdrew their promises, the implementation of the project has been greatly slowed down.
Municipalities: New Actors in Local Development

Since 1998, the year of the first municipal elections after a 33-year-long break, municipalities have imposed themselves as essential actors in local development despite burdensome administrative and financial restrictions demanded by the central State. Many of them have found ways to bypass these limitations and have improved their population’s living environment and access to services.

The 1,113 Lebanese municipalities strongly differ from one another in terms of size, resources and dynamism. Let us remind ourselves that the official population figures are based on the civil register, which does not match the resident population. There are no recent and reliable alternative estimates. A first group is composed of municipalities that are densely populated or experiencing population growth. Such is the case of the major cities and their suburbs, which have sufficient resources or can rely on the urbanization dynamics to generate the ones they need to act. However, they are faced with considerable social, economic and territorial challenges. A second group brings together the municipalities of small-sized localities or regions losing population, including in the peripheral and mountainous areas of the country. According to the LCPS, 43% of the municipalities have fewer than 2,000 individuals listed in their civil register. These municipalities lack resources and thus means of action. Despite these constraints, the networking strategies, incremental interventions and experimentations have improved the living environment and services provided by many municipalities to their population.

The municipality is the only decentralized territorial level in Lebanon. It holds local power and partially avoids the control exerted by the major sectarian leaders. The local foothold enables it to rely on networks of actors or to generate additional financial support. But the affiliation to political leaders or parties often remains necessary in order to benefit from the resources of these parties and of the ministries they control within the central State. The development of collaborations transcending community barriers have sometimes enabled the implementation of projects.

Chiyah: Green and public spaces in a densely populated suburb

Chiyah is located in the south-eastern suburb of Beirut, one of the most densely populated areas in the capital metropolitan area. In 1998, it still held the scars of the Civil War: on the demarcation line, many buildings were still in ruins. The municipal team bet on a deep change in the locality’s image with the creation of public and green spaces. The mayor, an industrialist and local figure, managed to build a network of supporters that included family clans, parishes, local trade and youth associations. Its strategy was threefold. A municipal decision authorized the temporary exploitation by the municipality of every unbuilt plots as gardens, green spaces and play areas. The municipality also set up some gardens and green spaces as well as a community center. Finally, it encouraged other actors of the network to invest in additional spaces and services (gardens, sports fields, playgrounds and coffee shops) and to participate in the life of the municipal spaces.

![Figure VII-12: The development of green and public spaces in Chiyah](image-url)
Ghobeiri: Providing services in informal settlements

Ghobeiri is one of the major municipalities won over by Hezbollah in 1998, and the party wanted to turn it into a vitrine of its municipal action. More than half of the municipal territory is located within the perimeter of the ELYSSAR project, the goal of which is the reconstruction of the south-western suburb of Beirut, which includes many informal neighborhoods, under the authority of the State. Following political deadlocks in 1997, the freeze of the project de facto left the responsibility of these neighborhoods to the municipality. Even though, in theory, it cannot intervene in an informal area, it built a storm sewer system, wells, a local drinking water supply system, levees for an informal neighborhood located along the coastline, launched a pilot project of waste sorting, organized the stands of an informal market... For these actions presented as urgent and temporary, the municipality relied on the large group of associations affiliated to the party but also on the support of international development agencies.

Zahle: A municipal waste treatment plant

In Zahleh and in the Bekaa Valley, unlike other areas, waste has remained a municipal matter. Until 2005, municipalities gathered their waste in open-air landfill sites or buried them. That year, the municipality of Zahleh built a municipal waste treatment plant meeting environmental standards, a first in Lebanon. Today, this unit serves 23 localities in the central part of the Bekaa Valley, an area sitting astride several municipal unions and cazas (Zahleh and Baalbek) and inhabited by various communities. Offered at relatively cheap prices, the services provided by the plant and the sale of recycled and composted materials make it possible to cover the operating costs, the operation being outsourced to a company, and even to generate a profit margin.

Dhour Choueir: A continuous and cheaper power supply

Many municipalities are trying to control the nuisance linked to commercial generators. In 2010, the municipality of Dhour Choueir (Higher Metn) went further and chose to produce and distribute electricity itself. It can thus provide continuous electricity supply, including for street lighting, and decrease the households’ electricity bills by nearly 30%. The support of local figures that helped fund the investment was essential to the implementation of the project.
Municipal unions have come to represent a new level of action and governance. They mobilize both local actors concerned with a more efficient local development, and community-based political parties seeking to reinforce their territorial reach. They also experiment with new tools aimed at strengthening planning and decision-making capacities, such as urban observatories and strategic planning.

The first municipal unions appeared during the war, following the 1977 law which authorized their creation. However, a surge of interest for the unions was only observed after the return of the municipal elections in 1998. There were 53 of them in 2016, against 13 in 1990. The first factor of this increase is the search for a more efficient territorial action based on economies of scale and a significant rise in resources. The second one is the interest and the support shown by donors and actors engaged in decentralized cooperation for these cooperation mechanisms. The third one is the involvement of the main political parties in municipal matters through the creation of specific departments. The latter provide municipalities affiliated to the parties with training, technical assistance, and networks devoted to the exchange of best practices. In the context of the political crisis, which has been hindering state action since 2005, municipal unions have become new political and administrative spaces for these parties to conquer, since their perimeters often fit the contours of micro-territories occupied by specific sectarian communities. They also provide a space for experimenting new planning and management tools, as the creation of urban observatories and the increased use of regional strategic planning attest.

The Tripoli Environment and Development Observatory (TEDO)

The municipal union of Al-Fayhaa, comprised of Tripoli and its area, created the TEDO in 2000 within the framework of a European cooperation project. Its aim was to improve decision-making processes and urban management by ensuring a continuous flow of quantified data. Even though it mainly focuses on environmental issues, the observatory also works on questions related to the development of the urban area. TEDO counts on data dissemination and data sharing with the involvement of the city’s main public agencies, economic and social actors. Its efficiency is less related to the quality of the information and its appropriation by the concerned actors than to its capacity to inspire and support collective reflection on the city and the issues it faces. This experiment actually constitutes the first step of a strategic planning process called City Development Strategy, in which the union engaged as early as 2008.
Strategic planning: Land-use planning and territorial development

Since 2008, about ten territorial and urban strategic plans have been completed or are still under study. Some of the plans may be carried out by municipalities (e.g. Saida) or answer a demand of the CDR (e.g. Akkar) but municipal unions are the main sponsors of this rise of strategic planning. Donors and international organizations are involved in almost all the processes aimed at developing strategic plans. The latter are given various designations and are based on different methodologies. However, they converge in the search for a balance between a stabilized vision of the economic, social and environmental future of the region, the identification of priorities and long-term actions and projects, and the development of a network of actors that can support the strategic plan over time. The strategic plan is thus not so much a planning tool than an opportunity to strengthen governance mechanisms and to make sure emerging territories are acknowledged. This experiment is still recent. If the implementation of some strategic plans has already started, like in Jezzine, most of them are still under review or suspended because of political or financial reasons.

Regional strategic planning in the Akkar region

This Strategic Sustainable Regional Development Plan is part of a development project led by the CDR in the North of Lebanon. It is a governmental response to the fights that occurred in Nahr el-Bared and aimed at countering the rise of radical Islamism. In 2003, a law, which was passed but has not yet been enforced, turned the Akkar into a governorate (muḥafāzah). This initiative is based on a reflection regarding the levers that could be used to trigger territorial development and the forms of governance which may stimulate this process. The plan conceives of the Akkar as a combination of areas characterized by the presence of natural land and human circulation. Reinforcing connections within the territory as well as with the neighboring sectors located in the heights of the cazas of Minieh-Denniyeh and Hermel could activate this potential.
Lebanon is heavily dependent on international aid, which has more and more invested in local development, through multiple actors, channels and categories of intervention (decentralized cooperation, development aid, emergency aid…). This diversity shows the competition and the complementarity between donors in a country they deem strategic.

Many Lebanese municipalities maintain relationships with local entities located across the five continents. Often formal and quite old, they reflect the geography of Lebanese emigration (Latin America, Australia, United States...) or cultural affinities (with French-speaking countries: France, Belgium). Approaches revealing the will for a more ambitious support to local development have recently emerged, in the context of the rise of municipal action in Lebanon, while international organizations consider decentralized cooperation to be a potential tool for development in the developing countries. Personal relationships may play a decisive role in these collaborations. In addition, the networks of local actors and authorities, such as MedCities and United Cities, and Local Governments, as well as some national development agencies (mostly the French and Italian ones), provide a motivational framework for the development of decentralized cooperation initiatives through their communication campaigns and the resources they offer for networking.

As the French-Lebanese decentralized cooperation projects show, various territorial levels and sectors of intervention are involved. This cooperation may be developed between regional and departmental councils, municipalities and municipal unions on the French side, and municipalities and municipal unions on the Lebanese side. Cultural exchanges may account for a major part of these projects but institutional capacity building, territorial planning, the provision of basic services, and agricultural and rural development are on the rise. Because of the required skill-set and technical capacities, the most diverse decentralized cooperation programs and projects mostly take place in the biggest Lebanese cities and the most dynamic municipal unions.

In addition to decentralized cooperation, many agencies and programs linked to the UN and the European Union as well as national cooperation agencies launch local initiatives in very diverse fields. The rural and peripheral regions are here the most targeted.
More recently, in response to the challenges arising from the considerable inflow of Syrian refugees, the UNHCR Inter-Agency Coordination Unit has become an essential vector for the intervention of many international actors, as much when it comes to emergency aid as development aid. The necessity to help host communities has become clear, to improve the assistance provided to refugees and to strengthen the country’s stability. The Inter-Agency Coordination Unit identifies priority areas of intervention through the classification of the “vulnerable cadastral zones”. These localities receive the largest shares of registered refugees and concentrate a high proportion of low-income households. The map of the vulnerable cadastral zones shows which ones benefited from an intervention of one or several agencies until July 2015. The distribution of the vulnerable localities noticeably differs from the geography of the development agencies’ intervention. The rural regions of the North and the Bekaa Valley are the main beneficiaries, because they host most of the temporary refugee camps (tents and flimsy materials). However, the urban areas, which also receive many refugees, are targeted as well.

Figure VII-19: Geography of the development aid provided by USAID, the European Union and the Kuwait Fund for Arab Economic Development, at the municipal level

Figure VII-20: Vulnerable cadastral zones and interventions of agencies linked to the inter-agency coordination of the UNHCR
The downside: Patchwork and inertia
Fahd Farah and Bouchra Toumeh

The decline of centralized State action results in a profusion of local development projects. However, the competition between various actors sometimes leads to an uncoordinated juxtaposition of projects as well as inertia. The cases of Bourj Hammoud and the controversial projects for the International Tripoli Fair illustrate this type of situation.

An urban patchwork: Bourj Hammoud

At the heart of Beirut, the municipality of Bourj Hammoud has been subject to many large-scale projects for the past twenty years, led by actors who have had divergent, even opposed, objectives. The connection of Beirut, including the port, to the southern, northern and eastern suburbs through highways represents a major issue. The overpass which crosses this densely populated and working-class neighborhood illustrates the primacy of a logic focusing on mobility over the urban character of this suburb. The planned waste treatment plant and the water treatment plant reveal a similar functionalist logic of land availability and metropolitan-scale flows. On the contrary, the municipality favors meeting the needs of its original mostly Armenian population. The municipality multiplies facilities, such as the municipal stadium, and leads ambitious projects, like the commercial and residential complex located on the site of the historic refugee camp of Sandjak. In the North of Bourj Hammoud, two large-scale projects are aimed at restructuring this part of the coastal areas located at the eastern exit of the capital: the reorganization of the port and Linor. They are conceived and discussed on a national scale in terms of balance between the political and community forces and involve some of the main

Figure VII-21: Major projects located in the territory of Bourj Hammoud and its nearby surroundings.
actors of the Lebanese political system. The “Solar Snake” of the Ministry of Energy and its thousands of photovoltaic panels installed over the Beirut River illustrates the will to reform the dysfunctional electricity sector. However, this display comes at the price of producing an object totally disconnected from its environment.

Inertia: Tripoli International Fair

Symbol of the political voluntarism of the beginning of the 1960s, designed by the Brazilian architect Oscar Niemeyer, the Tripoli International Fair covers an area of more than 70 ha. Aimed at revitalizing the second Lebanese city, cut from its Syrian hinterland that had made its prosperity, this fair has yet never functioned as planned. It currently hinders the connection of the city with the sea. Since the 1990s, including since the departure of the Syrian army that used it as barracks, multiple proposals have been made for the repurposing of this strategic site, located in a city that is particularly affected by poverty. Some want to use this location for projects conceived as driving forces for the city’s economy. The Administration Board of Tripoli’s Fair (ABTF) has made several such proposals. For some local intellectuals and academics, the fair is above all an element belonging to the city’s heritage, which has to be acknowledged and preserved as such. Eventually, other actors want to take advantage of this available land to build the facilities deemed necessary to the city’s development. This multiplication of controversies mostly reveals the fragmentation of the actors along with the absence of shared visions for the city’s development, and currently leads to inertia.

*Figure VII-22: The projects proposed for the Tripoli International Fair and the involved actors*
Conclusion

As we are concluding this work, we cannot escape addressing the paradox this book embodies. In most contexts, preparing an atlas, understood as a reasoned mapping of a country, happens in moments of State's affirmation. Atlases are indeed symbols of sovereignty through the mapped exhibition of national borders and territorial State's actions. Their realization itself is conditioned by the possibility of access to informational resources, the production of which results from processes of control and management implemented by the State on its territory. This Atlas of Lebanon does not fit this description, even though a public institution, the National Council for Scientific Research, initiated the project.

Since 2005, Lebanon has gone through a period of strong destabilization, both internally and externally. Because of repeated political voids, its institutions have frequently appeared powerless. The major crises in the public infrastructure such as potable water, electricity, and waste collection and treatment mirror this weakness, as does the sloppy and inefficient management of urbanization that triggers pollution, wasting of public goods such as natural and agricultural spaces and the free access to the seashore, as well as the exposure to natural hazards. The State also seems largely powerless in the face of the sudden inflow and the probably long-term settlement of Syrian refugees, that account for between one quarter and one third of the population, in addition to the Palestinian refugees who have been living in the country since 1948. The arrival of this uprooted population, left with scarce resources, aggravates even more the dramatic social crisis, with poverty at its highest.

To confront these evolutions, the State is almost blind, as it lacks the necessary observation tools. Their absence is a mere sign of the disdain the political elites show for these issues. The government indeed keeps on limiting the funds and the programs of the administration of statistics, which depends upon international supports to undertake surveys. Therefore, the State knows little about the inhabitants and their elementary socio-demographical characteristics, and even less about their geographical repartition. This certainly explains the serious limitation regarding information about the country's population in this book. The paradox is that information about the refugees are for more precise, regarding the demographics, the spatial repartition and the living conditions, than the data concerning the Lebanese.

As we finished the first version of this atlas, in 2006, the Israeli war against Hezbollah broke out and left once again the country in ruins and deeply divided. In 2015, as we wrote the second version, we feared Lebanon might be torn apart in the spillover of the Syrian war, as had this country since 2012. However, until now, Lebanon has overcome these challenges thus prompting many commentators to highlight and hail the Lebanese “resilience”. It is necessary at the end of this book to acknowledge those factors and dynamics, the interplay of which has allowed Lebanon to hold on, if not as a State at least as a country.

The management of the Lebanese economy is the first factor to be taken into consideration. The economic and financial integration of the country, at the regional and world levels, and the strong links developed with its diaspora, has ensured the continuity of financial inflows into the country. Whereas out-migrations are the symptom of a run-down economy, they can also be interpreted as a factor that holds the country together. The central bank plays a central role in this mechanism, through the pegging of the Lebanese pound with the dollar, a key element to maintain the level of deposits in the banking system, which in turn helps finance the State. This mechanism has brought a lot of revenue to the economic (and political) elite, thanks to a policy of high interest rates. This once stabilizing mechanism is however a factor of risk because of the increasing national debt. Cutting expenditures will come at a high social price.

The continuous support of the international organizations to assist and aid the Lebanese State in the reconstructions it went through (thanks to loans), and more recently to cope with the Syrian refugee crisis, is another source of the so-called “resilience”. But this coping mechanism is ambiguous because it has not resulted in the building of efficient infrastructures and administrations, but rather in their bypassing and in the creation of parallel, often private, institutions. Hence both factors of resilience have resulted in the sidelining of State institutions, as stated by researcher Jamil Mouawad (2017).

Another source of the Lebanese strength lies in its civil society. Even though this notion is at times unclear, one can observe that, in Lebanon, the citizens have to deal without the State. Therefore, they mobilize various resources drawn from
the multifarious networks they live in, whether professional, militant, scientific, or sometimes sectarian. This enables them to arm their claims and protest against the State or against the groups that monopolize violence and power, as well as to imagine answers and alternatives. These counter-initiatives produce knowledge, which this atlas has drawn upon in order to document and visualize the mobilizations in defense of civic rights, to protect the environment and public goods, and more recently to organize politically. In the face of the forces that seek to enroll the Lebanese population into political and sectarian divisions, vast swathes of the Lebanese society are aware of the errors and deadly drifts of the Civil War and stand up to these trends. These movements are also considered a factor of national stabilization.

Eventually, and acknowledging the risk of overgeneralization, this atlas has insisted on the dynamics that many local governments have shown. It is true that municipal (and supramunicipal) organizations are not without shortcomings. The main one probably being that most citizens cannot vote in the place where they live, but only where their ancestors were registered. This gap is a major pitfall that is leading to the bad management of municipal services, because their budgets do not reflect their real needs, and because local elites may confiscate public action in their interests rather than dedicating it to those of the actual dwellers and users. Nevertheless, local governments have taken numerous interesting initiatives aiming at solving concrete issues on the ground, by entering into unspectacular partnerships and alliances that might display different logics than accounts of public action in Lebanon that privilege national and sectarian stakes. The closing chapter of this atlas has highlighted these local, modest but concrete initiatives and solutions. By doing so, our team wished to insist on their potential and on the necessity to empower these institutions.

Figure C-1: Participatory workshop during the consultations organized in preparation for the reconstruction for the Nahr el-Bared Camp (© Ismael Sheik Hussein, 2008)
General sources, introduction and conclusion

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After fifteen years of reconstruction in a relatively peaceful environment spanning the years 1990 to 2004, Lebanon has experienced successive violent political events resulting from complex entangled internal and external struggles. Since 2002, a collaborative endeavor between French and Lebanese researchers has resulted in producing two versions of the Atlas of Lebanon, now adapted and translated in English. The richly illustrated book displays original maps and infographics to provide a rare vision of the country. It highlights the new main legacy of the civil war and the reconstruction, and underscores the new challenges linked to the unfolding of the Syrian crisis and its consequences on Lebanon, particularly because of the massive influx of Syrian refugees in the country. The atlas assesses the fragile economy, the environmental degradation, climate change and the failures of public infrastructure. The book ends with the analysis of the mutations of the local territorial management, which is marked by the retreat of the state, if not its marginalization, and the rise of other actors, notably municipalities, local powers and also civil society organizations.

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Claire Gillette is a free lance cartographer. She did the mapping, adapted and translated the content of this English version of the two successive versions of the Atlas previously published in French (2007, 2016).