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Habitat III National Report

Final Report

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LIST OF ACRONYMS

ALMEE	Association Libanaise de Maitrise de l'Energie
AMPS	Air Monitoring Programs and Surveillance
AQRU	Air Quality Research Unit
AQS	Air Quality Standards
ARAL	Assistance to the Rehabilitation of the Lebanese Administration
AUB	American University of Beirut
CAS	Central Administration of Statistics
CDMP	Chronic Disease Medicine Program
CDR	Council for Development and Reconstruction
CEDAW	Convention on the Elimination of Discrimination Against Women
CEDRO	Community Energy Efficiency and Renewable Energy Demonstration for the Recovery of Lebanon
CHR	Committee of Human Rights
CHUD	Cultural Heritage and Urban Development project
CKT	Center for Knowledge Transfer
CNRS	Centre national de la recherche scientifique/National Council for Scientific Research
CO	Carbon Monoxide
CO ₂	Carbon Dioxide
CSA	Center for Studies on Aging
DGUP	Directorate General of Urban Planning
EDL	Electricité du Liban
EDZ	Electricité du Zahle
ELARD	Earth Link and Advanced Resources Development
ERML	Environmental Resource Monitoring in Lebanon
ESCWA	Economic and Social Commission for Western Asia
EU	European Union
GDP	Gross Domestic Product
GEF	Global Environmental Facility
GHG	Green House Gases
GIS	Geographic Information System
GNP	Gross National Product
HASAD	Hilly Areas Sustainable Agriculture Development
HCUP	Higher Council of Urban Planning
HRC	High Relief Committee
IAURIF	Institute d'Aménagement et d'Urbanisme de la Région Ile de France
IEA	International Energy Agency
ILO	International Labor Organization
INC	Initial National Communication
IPTEC	IPT Energy Center

LCEC	Lebanese Center for Energy Efficiency and Conservation
LCPC	The Lebanese Cleaner Production Center
LCPS	Lebanese Center for Policy Studies
LCRP	Lebanon Crisis Response Plan
LEDA	Local Economic Development Agencies
LGBC	Lebanese Green Building Council
LMDG	Lebanon Millennium Development Goals
LPDC	Lebanese-Palestinian Dialogue Committee
LRA	Litany River Authority
MoA	Ministry of Agriculture
MoAR	Ministry of Administrative Reform
MoE	Ministry of Environment
MoEW	Ministry of Energy and Water
MoFA	Ministry of Foreign Affairs and Emigrants
MoIM	Ministry of Interior and Municipalities
MoL	Ministry of Labor
MoPH	Ministry of Public Health
MoPWT	Ministry of Public Works and Transport
MoSA	Ministry of Social Affairs
MoYS	Ministry of Youth and Sports
NAP	National Action Plan
NCLW	National Commission for Lebanese Women
NCOD	National Council of Disability
NEAP	National Environmental Action Plan
NEEAP	National Energy Efficiency Action Plan
NEO	National Employment Office
NERC	National Emergency Response Committee
NGO	Non-Governmental Organization
NPMPLT	National Physical Master Plan for the Lebanese Territory
NO2	Nitrogen Dioxide
NOU	National Ozone Unit
NYP	National Youth Policy
OMSAR	Office of the Minister of State for Administrative Reform
PAT	Plan d'Aménagement du Territoire
PHI	Public Housing Institute
PM	Particular Matter
PPP	Public Private Partnership
PPP	Pollution Prevention Plans
PWD	Public Works Department
RTO	Regional Technical Office
SEA	Strategic Environmental Assessment
SME	Small and Medium-size Enterprises
SNC	Second National Communication

SOLIDERE	The Lebanese Company for the Development and Reconstruction of Beirut
TEDO	Tripoli Environment and Development Observatory
TMC	Traffic Management Center
UN	United Nations
UNCCD	United Nations Convention to Combat Desertification
UNDP	United Nations Development Program
UNESCO	United Nations Educational, Scientific, and Cultural Organization
UNFCCC	United Nations Framework Convention on Climate Change
UNFPA	United Nations Fund for Population activities
UNHCR	United Nations HIGH Commissioner for Refugees
UNICEF	United Nations International Children's Emergency Fund
UNRWA	United Nations Relief and Works Agency for Palestine Refugees in the Near East
URC	UNEP Risoe Centre on Energy, Climate and Sustainable Development
USAID	United States Agency for International Development
USJ	Université Saint-Joseph
WaSH	Water, Sanitation and Hygiene
WB	World Bank
WHO	World Health Organization
WWII	World War Two
YFYP	Youth Forum for Youth Policy

PREFACE

Habitat III is the United Nations Conference on Housing and Sustainable Urban Development to take place in Quito, Ecuador in October 2016.

In resolution 66/207, and in line with the bi-decennial cycle (1976, 1996 and 2016), the United Nations General Assembly decided to convene the Habitat III Conference to reinvigorate the global commitment to sustainable urbanization and to focus on the implementation of a “New Urban Agenda,” building on the Habitat Agenda of Istanbul in 1996.

Habitat III will be the first United Nations global summit after the adoption of the Post-2015 Sustainable Development Agenda. It offers a unique opportunity to discuss how cities, towns and villages are planned and managed in order to fulfill their role as drivers of sustainable development, thereby shaping the implementation of new global development and climate change goals.

The Habitat III National report, required of every participating country, is to be prepared in response to resolution 24/14 of the UN-Habitat Governing Council: “Inputs for and support to the preparatory process of the third United Nations Conference on Housing and Sustainable Urban Development (Habitat III),” adopted at its twenty-fourth session.

The report, by the Government of Lebanon, represented by the Council of Development and Reconstruction (CDR), is based on the suggested guidelines and format for the preparation of Habitat III country reports. As such, it addresses the following six themes: (1) Urban and Demographic, (2) Land and Urban Planning, (3) Environment and Urbanization, (4) Urban Governance and Legislation, (5) Urban Economy, and (6) Housing and Basic Services. The report focuses on these themes in relation to the challenges they raise and the ways they are addressed by public policies and stakeholders’ actions; it does not provide recommendations on the way forward.

This report, along with other country reports, will be considered as the basis for discussion during the conference.

INTRODUCTION

Urbanization in Lebanon: Key Factors & Main Actors

With the absence of a recent population census, figures on population in Lebanon are based primarily on estimations. In 2010, according to the World Bank,¹ Lebanon's population was estimated around 4,223,000 inhabitants. Population size has been increasing in the last thirty years with an estimate of 1.5% growth rate from 1980 to 2009. Prior to the Syrian Crisis, Lebanon had a population of 270,000 Palestinian refugees among other refugees and migrants.² Since the onset of the Syrian Crisis in 2011, Lebanon's population has further increased as it has become host to 1.5 million refugees from Syria.

Lebanon, with an area of 10452 km², is a highly urbanized country with more than 87% of its population living in urban areas and 64% living in large urban agglomerations (Beirut and its suburbs, Tripoli, Saida, Zahle, Tyre).³ In the last fifty years, rates of urbanization have increased drastically. Urbanized areas went from 221 km² in 1963, to 465 km² in 1994 and 741 km² in 2005.⁴ Urbanization is expected to reach 884 km² in 2030.⁵ This growth has mainly developed around large cities, especially Beirut. However, in recent decades, secondary cities have become increasingly urbanized, with their populations mirroring this growth.

Urbanization in Lebanon is affected by many factors. For the sake of this report two types of factors are defined: endogenous⁶ and exogenous.⁷

Endogenous factors include, among others, geography, the sociopolitical order or context, real-estate economy, emigration and laws and policies. At the geographic level, Lebanon constitutes a rich territory combining coastal and mountainous characteristics. Port cities still constitute essential components of the country's demography and territory. Mountains, on the other hand, have historically hosted large numbers of

¹ World Bank. (2015). *Population, total* [Data file]. Retrieved from <http://data.worldbank.org/indicator/SP.POP.TOTL>.

² American University of Beirut and the United Nations Relief and Works Agency for Palestine Refugees in the Near East. (2010). *Socio-economic survey of Palestinian refugees in Lebanon* [Report]. Beirut, Lebanon: Chaaban, J., Ghattas, H., Habib, R.R., Hanafi, S., Sahyoun, N., Salti, N., Seyfert, K., Naamani, N. Retrieved from http://fafsweb.aub.edu.lb/aub-unrwa/files/AUB_UNRWA_report_final_draft.pdf.

³ United Nations Human Settlements Programme. (2009). *UN-Habitat country programme document 2008-2009: Lebanon*. Beirut, Lebanon. Retrieved from <http://mirror.unhabitat.org/pmss/listItemDetails.aspx?publicationID=2706>.

⁴ Faour, G. (2014). Evaluating urban expansion using remotely-sensed data in Lebanon. *Lebanese Science Journal*, 16 (1), 23-32. Retrieved from http://www.cnrs.edu.lb/info/LSJ2015/No_1/gfaour.pdf.

⁵ Council for Development and Reconstruction. (2004). *National Physical Master Plan of Lebanese Territories*. Beirut, Lebanon. Retrieved from <http://www.cdr.gov.lb/study/sdatl/English/NPMPLT.PDF>.

⁶ Endogenous factors are defined as phenomena that originate or are produced within a country's borders.

⁷ Exogenous factors are defined as phenomena and situations that initially develop outside the borders of the country but implicate or have important consequences on its development.

settlements which have, in the past, created a dynamic and prosperous economy. As an agricultural hinterland, small and medium towns have developed across Lebanon as points of social and economic exchange operating not only within the county but also as 'relay' agglomerations linking the coast to the deep Syrian hinterland.

As a complex context resulting from the assembly of various communities, Lebanon's socio-political reality has resulted in fragmented urban and territorial development initiatives, leading to the duplication of infrastructures and facilities and to uncoordinated development. A series of wars and inner conflicts, most extreme of which was the Lebanese Civil War (1975-1990), have affected the sociopolitical order leading to urban sprawl, communitarian in nature, in the hinterlands and peripheries of large cities, creating a fragile fabric, and resulting in the destruction of large urban sectors and the reconstruction of new ones.

In this volatile context, real-estate created a "safe" valued commodity in a nearly unregulated market, causing the development of a rentier economy by allowing speculation and putting pressure on the housing market. The prominence of this sector has had various implications on urbanization including: gentrification in some historical neighborhoods; the domination of high-end developments; continuous urban sprawl and the development of informal neighborhoods due to increased pressure from poor income populations seeking access to central areas of large cities.

The real-estate economy has been further fueled by the high level of emigration in Lebanon that has, in turn, contributed to increasing rates of urbanization. Emigration has increased demand on housing, especially high-end housing, for local residence or as a speculative investment, resulting in large compounds, agglomerations and dispersed housing development. Furthermore, several laws and policies, or their absence, have largely impacted development, causing urban sprawl and high densification in particular areas such as Beirut central areas.

The main exogenous factors impacting urbanization include the unstable regional context and globalization. Lebanon is at war with Israel and surrounded by highly unstable countries, particularly bordering Syria. This has caused the: densification of existing refugee camps and the increase of informal tented settlements; destruction of urban sectors and depopulation of certain areas; and the massive displacement of population with a pressure on housing and construction markets, leading to rapid urban sprawl, densification and informal settlements.

Globalization is also a key factor causing large investments in certain economic sectors (especially real-estate, retail, tourism and services), and the influx of foreign workers. This encourages high-end residential, touristic, and commercial developments; development of multi-ethnic neighborhoods; and the sub-division of residential and historic buildings due to higher demands for small affordable housing units.

Actors that largely affect urbanization in Lebanon include: public, private and public-private partnerships. The main public actors are the Council for Development and Reconstruction (CDR); the Directorate General of Urban Planning (DGUP); and Unions of Municipalities (UoM).⁸ Private actors include faith based organizations, such as Waqf, and religious institutions; political parties; non-governmental organizations; academic institutions and research centers, and private developers.

⁸ Unions of Municipalities are formed based on a voluntary municipal effort to join forces and establish a regional political space for development purposes.

I. Urban Demographic Issues

1. Managing Rapid Urbanization

In the past five decades, Lebanon has witnessed consecutive waves of rapid urbanization due primarily to rural exodus, suburbanization, war displacements and an influx of refugees.

Rural exodus had a huge toll on urbanization in Lebanon before and after the Civil War (1975-1990). This trend, which started in the fifties, was the consequence of agricultural decline and the emergence of new lifestyles that privileged urban contexts. Another key factor, national economic strategies privileged investments and developments in the country's central areas. The consequent exodus was massive with the peripheral areas of the country losing more than half their population. Key displacement movements occurred across the country namely: from Beirut to peri-urban suburbs, from the South of Lebanon to Beirut's southern suburbs and from the Southern Mount Lebanon districts to the eastern and northern suburbs and peripheries of the Beirut agglomeration. After the war, rural exodus continued with similar drive and, while the agglomeration of Beirut has been the main recipient of this migration, secondary cities gradually also became host cities; such movements also induced rapid urbanization in destination areas and small towns.

Beyond aspects related to war displacements and rural exodus, more general reasons also contribute to the rapid urbanization of the country. These include: demographic growth, inadequate planning policies in Lebanon, cycles of sharp economic growth, and the precedence of the real-estate and construction sectors.

The Lebanese State has historically adopted a laissez-faire approach in the urban context, with minimal intervention in the urban sector. Except for land regulation and investments in infrastructure, the State has shown a lack of capacity to guide the erratic growth of urban areas in Lebanon. Municipalities in urban areas have also played a part in encouraging scattered urbanization, which represents an important financial resource and serves as a driver of local economic development.

To encourage the return of the war displaced populations, the Central Government established the Central Fund for the Displaced after the Civil War to urge the displaced to return to their place of origin. However, only a few returned permanently to war-torn villages and towns. Another attempt to address displacement as it relates to exodus is the more recent development and adoption of the NPMPLT (2009) by the Lebanese government and the CDR, which not only addresses rural exodus but also aims at orienting urbanization in Lebanon. The NPMPLT promotes strategic land use management approaches in addition to unity and equitable regional development through service, infrastructure and the identification of key strategic regional and local

sectors Lebanon has however, faced a period of fast-forward random urbanization, specifically in urban areas, with the highest rates of applied and accepted construction permits and biggest built-up areas between 2000 and 2010 being in Beirut and Mount Lebanon governorates.⁹

The Syrian Crisis has also had implications on urbanization in Lebanon. By 2015, Lebanon became host to more than 1.4 million Syrian refugees, the highest refugees per capita in the world, with a ratio of 1 refugee to every 3 Lebanese. This influx of displaced population is expected to increase Lebanon's population density by about 37% from 400 to 520 person/km² and will result in many social as well as environmental stresses on the urban setting¹⁰. These refugees are distributed across the country, with 25% in North Lebanon and Akkar, 35% in the Bekaa, 29% in Beirut and Mount Lebanon, and 12% in the South Lebanon.^{11,12} Syrian refugees have resorted to different types of shelter across Lebanon with 59% in apartments and houses, 20% in substandard shelter (garages, worksites, unfinished structures, etc.), 18% in Informal Tented Settlements (ITS), and 3% in collective shelter. 17% of those living in rented apartments and houses live in overcrowded conditions, amounting to 55% living in vulnerable conditions.¹³ It is assumed that the majority of the 82% living outside tented settlements live in urban areas, following the Lebanese urbanization pattern. This has resulted in complex humanitarian and operational challenges for Lebanese authorities and the aid community, with great impact on all sectors in Lebanon. The crisis boosted the demand for housing and put enormous pressure on rents.

In Lebanon, UNHCR and international organizations have taken the lead in responding to the Syrian Crisis, and increasingly involve the Lebanese Government. Since the beginning of the crisis, UN agencies have established response plans and most recently supported the Lebanese Government in the development of the Lebanon Crisis Response Plan 2015-16 (LCRP), a strategy that aims to serve the collective needs of vulnerable host and Syrian refugee populations. The Government also established an inter-Ministerial crisis cell, and facilitated service provision through public institutions. Local authorities such as Municipalities and UoMs continue to play an active role in the response and have been supported by different aid agencies to facilitate response

⁹ CAS, Central Administration for statistics, 2010 construction report

¹⁰ The Republic of Lebanon's Ministry of Environment, European Union and United Nations Development Programme. (2014). *Lebanon environmental assessment of the Syrian conflict & priority interventions, September 2014*. Beirut, Lebanon

¹¹ United Nations Human Settlements Programme and United Nations High Commissioner for Refugees. (2014). *Housing, land and property issues in Lebanon: Implications of the Syrian crisis*. Beirut, Lebanon: Fawaz, M., Saghiyeh, N., & Nammour, K. Retrieved from <http://unhabitat.org/housing-land-and-property-issues-in-lebanon-implications-of-the-syrian-refugee-crisis-august-2014/>.

¹² United Nations High Commissioner for Refugees. (30 November 2015). *Syria regional refugee response: Inter-agency information sharing portal* [Data file]. Retrieved from: <http://data.unhcr.org/syrianrefugees/country.php?id=122>.

¹³ United Nations High Commissioner for Refugees. (2015). *Syria regional refugee response: Inter-agency information sharing portal, shelter working group Lebanon, UNHCR shelter assessment*. Beirut, Lebanon.

coordination and planning while addressing issues such as shelter, service delivery provision, and refugee/host community tensions.

2. Managing Rural Urban Linkages

The “urban” and “rural” are not clearly defined geographic entities in the context of Lebanon on administrative, conceptual, or legal levels. As such, this section focuses on types of rural urban linkages including social, physical, economic, and governance linkages, where they apply.

Social networks are considered to be the strongest type of rural-urban linkages. Most rural and urban areas are well connected through physical linkages, namely infrastructure such as roads. National tourism, a prominent sector in Lebanon, constitutes a major linkage relating urban population to rural contexts and vice-versa. Finally, governance is a common aspect that operates as a link between many rural and urban areas.

Social linkages are created by the commuting patterns of a large population of workers, employees and students to work or study in urban areas, especially Beirut and secondary cities, while their families are still living in rural areas. A prevalent trend among urban residents and returned emigrants is to maintain secondary homes in rural areas. This sense of belonging to rural areas is also evident through electoral lists, whereby many residents of urban areas maintain their voting registration in their rural places of origin.

Agriculture has long created important linkages, particularly because urban areas are highly dependent on rural agricultural areas. However, it is important to note that such linkages have weakened with the decline of this sector in Lebanon. Several projects aim at supporting rural agriculture, combatting desertification, and promoting new methods to address climate change. These projects are either funded by the Ministry of Agriculture (MoA) or by international donors and organizations.

Physical rural-urban linkages are primarily limited to road networks Road projects have been mainly concentrated in central areas, however roads within rural areas, and those connecting rural to urban areas have increasingly become a priority. There are large inter-regional highways and planned railway projects, which are aimed to address international connectivity while also serving as internal linkages.

Existing governance mechanisms, especially at the level of municipalities and UoMs, enable Unions to address rural and urban areas simultaneously; examples include the UoMs of Tyre, Batroun, Byblos, and Baalbeck. The main urban tool frequently mobilized by Unions of Municipalities that address urban-rural linkages is the

Local Strategic Plan.¹⁴ Such a plan mobilizes various social, natural, and economic assets to ensure the sustainability of rural and urban areas within the Unions.

The tourism sector also creates dynamic linkages between urban and rural areas. The strongest form is local tourism, whereby families residing in urban areas of Lebanon, or expatriates, return to their rural areas of origin. Rural areas are rich in touristic attractions, natural reserves, and heritage sites, which also attract a large urban population from various areas. In the last decade, ecotourism has developed as a trend with great potential to develop rural areas and attract tourism at a national level. Ecotourism has been funded and supported by local Municipalities, NGOs, and international agencies. Moreover, the Cultural Heritage and Urban Development (CHUD) project, implemented by the Government of Lebanon with donor funding, has addressed the 3 world heritage sites of Byblos, Baalbek and Tyre in addition to the old cities of Tripoli and Saida.

3. Addressing Urban Youth Needs

Youth, defined by CAS as the population between 15 and 29 years old, are the active and dynamic force of the country constituting 27% of the Lebanese population and 41% of the labor force.¹⁵ In terms of geography, they are distributed almost evenly between rural and urban areas. Youth in Lebanon face many challenges, the majority of which concern school to work transition, employment, and participation in the political sphere.

Lebanon suffers from high rates of migration and emigration that largely affects the youth population. Youth tend to migrate from rural areas to the cities and emigrate to the Arab Gulf, US, and European countries among others to seek better living and working conditions. This is largely caused by high levels of unemployment in Lebanon, reaching a percentage of 34% among those between 15 and 29 years old.¹⁶ Unemployment rates among youth are usually equal between males and females, except for the age group 25-29, where women have a higher rate since they are more likely to leave their jobs for reasons relating to family planning.¹⁷ Youth unemployment is also aggravated by the long duration to find a job, low wages and the lack of work

¹⁴ A local strategic plan can be defined as a participatory and interactive process encompassing all society constituents. It helps decision makers identify future trends based on the current challenges and opportunities. It also provides a tool to devise scenarios for possible solutions related to the spatial dimension as well as the available frameworks and financial capacities. (UN-Habitat Lebanon, 2012)

¹⁵ CAS, Central Administration for Statistics. *Statistical Yearbook – Residents – 2011-2013*.

¹⁶ World Bank. (2012). *Republic of Lebanon--Good Jobs Needed: The Role of Macro, Investment, Education, Labor and Social Protection Policies*. Washington, DC: Robalino, D. and Sayed, H. Retrieved from <https://openknowledge.worldbank.org/handle/10986/13217> License: CC BY 3.0 Unported

¹⁷ Central Administration of Statistics. (2008). *Household Living Conditions Survey 2007* [Report]. Retrieved from <http://www.cas.gov.lb/index.php/all-publications-en#households-living-conditions-survey-2007>.

permanency and protection from exploitation. Two additional factors that affect youth unemployment in Lebanon are the educational system and economic policies.¹⁸

Youth political participation and social integration are issues progressively gaining importance in Lebanon and the region. Youth face very low representation in the political sphere, in addition to discrimination regarding candidature and voting age as per the Elections Law. However, youth movements have recently become very active in demanding their full rights and participation in decision-making. A recent example of youth participation is the creation of the Municipal Council for Youth in Saida. Furthermore, youth are increasingly involved in creating new initiatives and NGOs stemming from their commitment to cause positive change in the society. At this level, successful youth organizations have created programs for youth training on leadership, conflict resolution, team building, participatory action, cultural exchange, and effective social communication.

An important leap in youth policy was the launching of the Youth Forum for National Youth Policy (YFYP) by the Ministry of Youth and Sports (MoYS). YFYP is composed of Lebanese youth NGOs and youth wings of political parties and serves as a meeting space for Lebanese youth from different backgrounds to initiate dialogue that addresses common needs and ambitions, and to demand for a youth policy. YFYP resulted in the formulation of the National Youth Policy (NYP) Project (2007-2012), which aimed at recognizing youth issues and formulating a policy framework to solve them. In following a participatory approach, the NYP was able to bring together youth sections of all political parties, major youth organizations, and a higher inter-Ministerial committee from 13 Ministries. The recommendations were validated by civil society organizations, youth wings in political parties, Ministries, UN agencies (UNICEF, ILO, UNDP, UNFPA and UNESCO), research centers, high schools, and universities resulting in the issuance of decree No. 80/2007 by the Council of Ministers. This decree allowed for the development of the National Youth Policy including its 200 policy recommendations. A key action plan is still being developed by the Youth Forum based on the document's recommendations.

4. Responding to the Needs of the Aged

According to the Ministry of Social Affairs (MoSA) an elderly person is any individual aged 65 and above. The percentage of elderly in Lebanon has increased from 6.7% in 1996 to 10% in 2007, according to MoSA. This increase is mainly due to lower fertility rates and an increase in life expectancy. About 65% of elderly are aged between 65 and 74 with higher percentages among men than women. Geographically, the highest rates

¹⁸ The Lebanese Center for Policy Studies. (2013). *Youth employment in Lebanon: Skilled and jobless*. Beirut, Lebanon: Kawar, M. and Tzannatos, Z. Retrieved from http://www.lcps-lebanon.org/publications/1368538726-youth_employment.pdf.

are in Mount Lebanon (38.6%) and the lowest are in Nabatieh, South Lebanon (6.9%). The disabled elderly form 16.52% of the whole disabled community.¹⁹ According to the UN's Open-ended Working Group on Ageing, actively campaigning for a UN Convention on Rights of Older People,²⁰ the rights of the aged include independence, participation, care, self-fulfillment, and dignity which, when speaking of Lebanon, are not entirely fulfilled.

Elderly in Lebanon face many issues among which are the absence of public nursing homes, social exclusion, lack of involvement in urban life, absence of consideration of the elderly in national planning schemes, and lack of services like subsidized housing, free healthcare, nutrition, and pensions. This leads to the need for more nursing homes with subsidized care. According to a 2010 MoSA survey, there are 49 residential establishments (housing 4,181 residents), 58 daycare institutions and 21 healthcare centers in Lebanon. The majority of these care centers (47.6%) are located in Mount Lebanon, which corresponds with the high number of elderly in that Mohafaza (Governorate) and its overall higher development rate. The private sector and NGOs are responsible for all nursing homes and care centers for the elderly in Lebanon; they are supported by the MoSA and MoPH.

The Ministry of Social Affairs and Ministry of Public Health are the main public authorities responsible for dealing with issues of the elderly. A National Commission on the Ageing was established in 1999 by the MoSA to provide consultancy on elderly matters. The Commission has submitted draft laws to the Council of Ministers for legislations; among them are reforms on pension schemes, health coverage, and medical support and financial support for the elderly.

Access to health care is the most essential service needed by the elderly. A survey by the MoPH and the World Health Organization shows that, despite the fact that the elderly constitute less than 10% of the population, they consume over 60% of health care resources.²¹ Following the Lebanese Civil War, the MoPH introduced the 'Chronic Disease Medicine Program' (CDMP). This program is financed by MoPH and funds the distribution of medicine among low-income households across the country. The process takes place through 440 outlets and clinics owned by the public sector and managed by the civil society. With the program's inclusivity of all ages, the elderly comprise 60% of beneficiaries.

¹⁹ The Republic of Lebanon's Ministry of Public Health, World Health Organization, Université Saint-Joseph de Beyrouth. (2012). *National health statistics report in Lebanon*. Beirut, Lebanon. Retrieved from <http://www.igsp.usj.edu.lb/docs/recherche/recueil12en.pdf>.

²⁰ United Nations Open-Ended Working Group on Ageing, *Strengthening Older People's Rights: Towards a UN Convention*. (United Nations, 2010), available from <http://social.un.org/ageing-working-group/documents/Coalition%20to%20Strengthen%20the%20Rights%20of%20Older%20People.pdf>.

²¹ The Republic of Lebanon's Ministry of Public Health. (2001). *National household health expenditures and utilization survey 1999, Volume 3*. Beirut, Lebanon. Retrieved from <http://www.moph.gov.lb/Publications/Documents/enquetenationalevol32001.pdf>.

5. Integrating Gender in Urban Development

Lebanon has come a long way in achieving gender equality in most sectors. While it has achieved a high level of eliminating gender disparity in the educational sector, there remain gaps in the political, economic, and legal sectors concerning women's access to equal rights and representation. Today, there is increased awareness in Lebanon of such issues, reflected by greater lobbying for improved rights for women and improved ways of achieving those rights. Female enrollment at all levels of education show higher ratios of female enrollment to male enrollment and women's achievement in the educational sector is equivalent to that of men. On the economic level, the number of women participating in the labor force has shown an increase in the past decade; where the rate peaks at 47% for 25-29 year olds, it decreases at higher age ranges, indicating a high number of women leaving the work force for domestic responsibilities.

Of employed women, 73% are wage employees and 26% have their own businesses however only 1% are employers.²² Unemployment rates are higher among women than men, at a rate of 18% in 2010,²³ due primarily to family responsibilities. Women have been found to occupy very few high positions in the labor force. Likewise, their representation in decision-making positions is low. Women are rarely members of unions and form 3.1% of the parliamentary body - only 4 out of 12 female candidates were elected.²⁴ The 2006 Commission for Electoral Reform proposed an increase in the quota for women in the parliamentary elections to 30%, however there has been no agreement on the proposed reform and no elections to date.

Local and international NGOs have played a significant role in women's empowerment and enhancing women's role in the economic and political spheres. Lebanese women have been more involved in civil work than in politics, creating strong activism in lobbying for women's rights and fighting against gender discrimination. In 2013, after five years of lobbying, civil movements, supported by local NGOs, were able to achieve parliamentary approval over a draft law granting women protection against domestic and gender-based violence. While the draft law was modified from its original version, domestic violence remained under the jurisdiction of criminal courts. Efforts have also been made by the National Commission for Lebanese Women (NCLW), the official national mechanism responsible for realizing women's advancement and gender equality according to Law 720.²⁵ NCLW has worked alongside NGOs and select ministries

²² Central Administration of Statistics. (2011). *Statistical yearbook 2010*. [Report]. Retrieved from <http://www.cas.gov.lb/index.php/statistical-yearbook>.

²³ World Bank. (2012). *Republic of Lebanon--Good Jobs Needed: The Role of Macro, Investment, Education, Labor and Social Protection Policies*. Washington, DC: Robalino, D. and Sayed, H. Retrieved from <https://openknowledge.worldbank.org/handle/10986/13217> License: CC BY 3.0 Unported.

²⁴ All 4 elected female representatives replaced male representatives from their own families, indicative of the complexity of the socio-political and legislative systems in Lebanon. (United Nations Development Programme, 2014)

²⁵ National Commission for Lebanese Women. (2014). *Annual report*. Retrieved from National Commission for Lebanese Women: <http://nclw.org.lb/pictures/PDF/NCLWAnnualReport2014.pdf>.

to draw a National Strategy to follow up on the below amendments regarding existing social and economic legislations:

- The right of Lebanese women to transmit their nationality to their families.
- Lebanese women's right to benefit from a temporary special measure in the electoral law known as quota.
- Protection of Lebanese women from domestic violence.
- Laws that have an economic and social impact on women such as the social security law, the labor law, and the commercial and bankruptcy law.

In 2013 NCLW, in collaboration with UNFPA, detailed an Action Plan to implement the strategic goals of the National Strategy. This Action Plan, developed in a participatory manner, outlined a set of indicators to allow for monitoring progress in the implementation of the National Strategy. NCLW has prepared the official Lebanese report on the implementation of the Convention for the Elimination of All forms of Discrimination against Women (CEDAW). Furthermore, it has contributed to launching a draft bill for the protection of girls against early marriages, which was adopted by the Committee of Human Rights in the Lebanese Parliament and submitted to the Administration and Justice Committee.

With the support of a European Union grant and in collaboration with the Lebanese Government, the Economic and Social Fund for Development (ESFD) has developed an agenda for job creation. The agenda's goal was to create jobs through micro credit programs provided by commercial banks to vulnerable people, where 30% of interventions targeted women.

6. Challenges and Lessons Learned

The last decades have been marked by large demographic transformations namely due to rural exodus, changes in the urban character of the country, and massive repetitive waves of displacement and refugees' influx and emigration. These have had a great impact on Lebanon on the individual and collective levels, raising considerable challenges to the capacity of the state and other stakeholders to ensure social cohesion, development and stability.

These dynamics place Lebanon, a country already destabilized by a long Civil War, in a situation that challenges its historical demographic, communitarian and territorial organization and social solidarity patterns. Such demographic changes raise the need for social and territorial policies to address inclusion and cohesion and challenge the capacity of governance frameworks to convey political coherence in increasingly complex and socio-spatially fragmented urban contexts. For instance, recurrent displacement and demographic changes have resulted in increased numbers of vulnerable communities. Such communities which were traditionally taken care of

through social structures (family, extended community etc.) have now become the responsibility of the existing institutions.

On the social policy level, challenges on the level of human and financial resources and institutional fragmentation, limit the capacity of public institutions to respond to social issues. This is exacerbated by the overlap of projects by various ministries addressing the same issues. In the last decade new social policy approaches and tools, have been implemented on the national level, often in partnership with local and international organizations. Local authorities, communities and NGOs, despite their limited capacities, have also established their own services and tend to collaborate with national and international actors to address social issues.

These changes also exert pressure on the level of governance, especially on public actors. The influx of multiple communities also adds another layer of complexity in a communitarian system. This further polarizes Lebanese politics and undermines national and local capacities to deal with the multitude of territorial and social issues. Displaced populations are also excluded from levels of local governance, whereby mainstreamed mechanisms to involve local authorities are lacking. The absence of legal and institutional mechanisms to establish metropolitan governances also limits the possibilities of ensuring cohesion between social groups in heavily fragmented urban areas.

The situation also differs considerably between different types of areas. In Beirut central areas (Beirut municipal city and its first suburbs), rapid urbanization has taken three forms: (1) the flow of urban poor populations into informal neighborhoods, including foreign workers, refugees, and rural migrants; (2) the development of high-rise towers in central core areas; (3) the densification of popular neighborhoods with more youth coming into these areas to seek better job opportunities. It must be noted that this urbanization is still marked by the war communitarian segregation dynamics. This urbanization has positive impacts as it contributes to the dynamic urban life through cultural activities, activism and social mobilization. It is also in this urban context that women in Lebanon have more opportunities of gender equality with increased participation in education, economic and social activism. However, this urbanization has significant implications on traffic congestion, smog and intensification of security issues. Furthermore, the lack of adequate employment opportunities and the rise in school drop-out rates, especially in poor neighborhoods, are contributing to rising delinquency.

The Beirut suburb is also witnessing important urbanization dynamics with an influx of middle-class families commuting to work in central areas. However, this population generally maintains an alienated attitude toward social and political structures at the local level. Other large cities in Lebanon are facing similar challenges in terms of population influx. Moreover, it is in these areas, and in the central areas of the Beirut agglomeration, that the largest concentration of refugees resides (outside informal tented settlements). This is the case for Palestinian camps and, more recently,

for Syrian refugees. A key challenge for addressing refugees in urban areas is that they are difficult to locate and provide services to.

Peripheral areas of large urban agglomerations also face an influx of population; their populations are simultaneously decreasing as people move to central areas or emigrate. This has several consequences especially in areas at the borders of old village cores, where social tensions have risen between new and host populations. Emigration on the other hand causes the loss of youth, which leads to the aging of the population. This is particularly problematic with elderly living alone with little access to services and weak social ties.

On the socioeconomic level, in all large urban agglomerations in Lebanon, strong changes can be observed. Upper and middle class households tend to increasingly leave central city areas towards peripheries witnessing new developments. On the other hand, poverty tends to concentrate in central areas of these agglomerations, especially in core city centers. Furthermore, central areas in Beirut have been witnessing gentrification processes through the development of high-rise buildings and the transformation of historical neighborhoods. Such segregated socioeconomic processes accentuate the socio-spatial fragmentation of the city. Secondary cities are generally facing the same challenges as urban peripheral areas. However some secondary cities have dynamic municipalities with resources to develop local social actions.

7. Future Challenges

Continuous urbanization, beyond its direct effects on the environment, has profound impacts on the territorial and economic structure of the country. With continuous urbanization marking all central areas in Lebanon and concentrating economic activities there, other large cities and secondary towns will increasingly lose their economic roles and character to become more residential and secondary service areas. In this context, the NPMP and other local strategic plans and tools may play a role in countering the negative effects of this sharp metropolization. However, these plans are affected by lack of adequate capacities for their implementation.

Communitarian dynamics represent a major challenge for a multi-communitarian country like Lebanon. These now deeply established dynamics are not likely to subside in the near future and have also affected upper and middle class neighborhoods, which usually tend to be more mixed areas. Hence, a more equitable and integrated approach to territorial development becomes more urgent at the local and national levels.

Migration of youth is the most significant challenge to development in Lebanon. It will continue to impact the demographic, labor, social and health sectors and thus needs to be addressed. Youth migration is leading to an ageing Lebanese population, a higher demand on social and health services, and a need for a larger immigrant labor force. Similarly, the Syrian crisis is projected to have long-term effects especially with the crisis

taking a protracted form. Furthermore, the population in Lebanon reached 5.3 million, which is the projected population by the NPMPLT for 2030 and which is bound to have significant implications not only on urbanization but all sectors in Lebanon.

At the level of social policies, recent trends changing the role of State have important present and future impacts on social service delivery. Roles of concerned ministries are shifting from social service providers to regulators of their sectors. This is evident for example in the National Social Development Strategy. It encourages NGOs to take over many of the responsibilities of the Ministry of Social Affairs, so the latter can focus on developing policies and regulations in order to improve the sector. However, this raises the need for capacities for coordination and guidance that is difficult to ensure. Moreover the limited budget of both MoSA and NGO actors in Lebanon undermine the potential of such strategies and initiatives.

II. Land and Urban Planning Issues

8. Ensuring Sustainable Urban Planning and Design

Many demographic, economic, political, and administrative realities challenge the sustainability of urban planning processes in Lebanon. The country is considered one of the densest countries in the world, with high rapid urbanization rates, cyclic economic crises, local and regional political instability, and public administrations with limited capacities. These factors considerably limit the capacity of urban planning actors to ensure coherent long-term planning processes.

Moreover, the large number of actors and actions within the realm of urban planning in Lebanon remain quite fragmented, which undermines the sustainability of efforts and the capacity to positively and coherently influence the territorial evolution of the country. The government and its institutions are addressing different territorial scales, issues and sectors, using diverse tools and mobilizing distinct – sometimes competing – networks. In terms of actions, one of the main tools adopted at the national level is the NPMPLT which aims to provide a strategic reference representing the backbone of territorial and urban planning in Lebanon. However, the key gap on the local level is the lack of sufficient budgets to prepare studies, for the preparation of Master Plans for the areas without Master Plans, and the review of the existing Master Plans in light of the recommendations of the SDATL..

The sustainability discourse is not absent from territorial and urban planning in Lebanon today. On the contrary, urban planning documents tend to insist on the necessity of sustainable planning; many even claiming it in their titles. Sustainability in these documents tends to focus mainly on issues related to natural resources management and protection. This is the case for the NPMPLT as well as the numerous urban planning documents and strategies produced by the Ministry of Environment which address, for instance, management of protected areas, integrated management of marine and coastal ecosystems, and rehabilitation of quarries, among other issues. However, such strategies are ineffective because they are not in correspondence with existing, mainstreamed Governmental policies.

At the level of urban design, in the last fifteen years, Municipalities have considerably contributed to the production of green infrastructure, especially in urban areas. These include gardens, parks, trees, and greenery plantation along roads. In many such projects, reduction of water and energy consumption is taken in consideration. Yet, sustainability in terms of maintenance of many such facilities and initiatives is not always adequately addressed and ensured. This could be attributed to the lack of Municipal capacities in terms of management and human and financial resources, often leading to the neglect or even closing of these facilities.

Sustainable urban transport interventions have not been integrated into road design and transport policy in Lebanon. The focus remains on car mobility, leading to the marginalization of public transport and soft mobility. In this regard, the green spaces and soft mobility project (Liaisons Douces) by the Municipality of Beirut represents an exception and a pioneering project. It articulates the creation of different scales of public and green spaces, greening of city streets, and the provision of safe pedestrian and cycling tracks along main axes in the city. However, the project has not yet been implemented to date.

Recently, and under the influence of international sustainability standards for neighborhood development, some developers have been addressing sustainability concerns in the production of large housing or urban development projects with the support of the Lebanese government. Under Law No. 646/2004 and its applied Decree No. 15874/2005, for development projects exceeding 10,000m² these standards are mandatory and binding. For smaller projects, adherence to standards remains voluntary and such standards mostly serve the marketing and promotion of such developments, especially high-end projects. Lebanese public administrations have yet to address these issues or put into place any mechanisms enforcing developers to comply with such standards.

9. Improving Urban Land Management, Including Urban Sprawl

In Lebanon, “land” carries various meanings. It is first and foremost considered a “refuge” economic value in a country faced with recurrent crisis; it also has heavy social and political connotation in the context of Lebanon’s communitarian system. This results in challenges for public urban land management, especially with the need to guide urbanization in a country that has known phenomenal urbanization since the 1950s, and the need to cater at once to the economic, social, and political dimensions related to land propriety. Furthermore, in this context, land/property ownership is sacred as included in the constitution.

The Directorate General of Urban Planning is the public entity in charge of urban land management in Lebanon. Urban Planning Code no. 69/1983 provides three categories of urban tools related to three scales of planning:

- 1) The territorial land use plan (Article 4): this plan is binding and serves as the main framework for all local urban plans and regulations. However, its issuance came late (2009) whereby no national territorial land use plan was ever adopted.
- 2) The Master Plan (Article 7): this plan is legally binding solely for public authorities and should function to promote public interest by defining major land use orientations and setting priority issues for planning.
- 3) The Detailed Master Plan (Article 8): this plan is conceived at the scale of the plot and is legally binding for all citizens. It is the main tool mobilized by public institutions in Lebanon to control urban sprawl whereby, in 2014,

there were 568 active Detailed Master Plans, in addition to the development of 244 new Detailed Master Plans in the preceding decade. That said, public administrations commonly derogate from the recommendations of Detailed Master Plans, especially in terms of implementation of infrastructure projects.

One of the main gaps of the urban planning code however, is that it did not revoke an existent law allowing construction in all unplanned areas within the country, which has severely undermined the effectiveness of the code in controlling urban sprawl.

Thus, in order to ensure the balanced territorial development inscribed in the Constitution, the CDR was mandated to produce a National Physical Master Plan for the Lebanese Territory (NPMPLT). It was issued and received the approval of the Council of Ministers in May 2009, and an inter-Ministerial committee was established to follow-up on its implementation. The NPMPLT provides orientation in terms of projects, regulations, planning, and institutional reform. However, the implementation of the NPMPLT requires a political and national decision to be complemented with the need to improve local knowledge.

At another level, the mid-2000s witnessed the surge of a new type of planning tool aimed at articulating urban land management and urban and territorial development: the Strategic Plan. Even though this model has existed in Lebanon since the eighties when it was mobilized by the Central Government for the Beirut Metropolitan Region Master Plan,²⁶ it gained popularity mainly with the development of UoMs and the promotion of decentralization. Today there are around 10 adopted or ongoing strategic plans, developed based on different methodologies and priorities. These plans are key to local actors and donors as they provide visions and orientations for territorial development. However, these are not binding.

In 2002, the Lebanese Parliament adopted the Code of the Environment number 444/2002. This Code is increasingly addressed in the formulation of urban planning projects and initiatives. In many ways, the Code, namely in Articles 21 and 22, provides specifications for many urban and construction practices, which are directly linked to project concepts. The above two articles clearly indicate that any planning operation, land pooling/subdivision and construction, has to be the subject of an impact assessment.

In 2012, decrees on Environmental Impact Assessment (EIA), Strategic Environmental Assessment (SEA), and Environmental Compliance were passed by the CoM. Also, in November 2015 the GoL set deadlines for industrial establishments to

²⁶ The Beirut Metropolitan Region Master Plan was produced but never adopted. It is important to note, however, that there is a gap on the level of national policies which would allow for the adoption of plans at a regional level.

obtain certificates of Environmental Compliance. Already a number of development and industrial projects have been modified to account for environmental considerations thanks to the EIA process. Several SEAs were also carried out in the context of national planning, one example being the MoEW 2010 National Water Sector Strategy.

10. Enhancing Urban and Peri-Urban Food Production

In a context faced with pressing issues and daily challenges, ranging from economic, to political, to environmental and health issues, the question of enhancing urban and peri-urban food production does not constitute a priority for the general population or the Government. Moreover, the absence of a national policy, strategy, or other direct initiatives that addresses this objective.

Rapid urbanization in Lebanon constitutes a major threat to agricultural lands. Mainly located in Akkar, the Bekaa, and the coastal plains, agricultural lands are subject to threats related to urban sprawl and densification. Coastal plains such as the Southern plain from Saida to Naqoura, the Akkar plain, and the valley of Abou Ali (Koura), are especially exposed to permanent pressures of urban sprawl. The majority of these lands are attractive for developers especially that they provide benefits if exploited through real estate development.

On the other hand, coastal and peri-urban agricultural lands, being very close to dense urban areas and to a number of highways, are exposed to high levels of water, soil, and air pollution. These aspects have been exacerbated since the beginning of the Syrian crisis with the influx of refugees, since a number of informal tented settlements (ITS) occupy large areas at the peripheries and within agricultural lands²⁷, as is the case in Akkar and the Bekaa. These settlements have also encouraged some farmers to forgo cultivating their lands in return for higher profits resulting from yearly rents paid by refugees.

The NPMPLT has defined agricultural lands, emphasizing their wide national interest, and has recommended their protection; however, this has not been adequately addressed in implementation. As such, lands zoned as agricultural are not entirely protected whereby building in these lands is permitted with a few restrictions imposed on issues relating to on height and density.

Urban agriculture is mainly concentrated in coastal plains. New technologies such as vertical agriculture and hydroponics are implemented, albeit on a very small scale. Agro industries exist in Lebanon and are located in various parts of the country and projects are undertaken by the Ministry of Agriculture in order to support these

²⁷ United Nations Human Settlements Programme and United Nations High Commissioner for Refugees. (2014). *Housing, land and property issues in Lebanon: Implications of the Syrian crisis*. Beirut, Lebanon: Fawaz, M., Saghiyeh, N., & Nammour, K. Retrieved from <http://unhabitat.org/housing-land-and-property-issues-in-lebanon-implications-of-the-syrian-refugee-crisis-august-2014/>.

industries; examples include a project that aims to support the beekeeping sector and another to encourage the rehabilitation and recovery of the dairy sector in the Bekaa Valley and the uplands of Hermel- Akkar.²⁸ However, these projects remain insufficient in addressing such issues and actions and strategies to support agro industries are lacking. It is to be noted that the majority of these initiatives do not necessarily relate to urban and peri-urban areas, and are localized mainly in rural areas.

11. Addressing Urban Mobility Challenges

Urban mobility in Lebanon is mainly concerned with road mobility and the absence of railways or a maritime transportation networks that could constitute the main mobility infrastructure. Rail networks existed in Lebanon in decades past however are no longer functional with the degraded remnants of their physical structures - where present - neglected.

There are many challenges to addressing urban mobility in Lebanon. The majority of roads suffer from physical deterioration, a lack of pedestrian sidewalks, mainly as a result of the wars the country has witnessed, lack of adequate maintenance due to limited local and national budgets, especially over the last decades, and over-exploitation. Recently, the Syrian refugee crisis has also brought an additional load, exacerbating the deteriorated status of roads. The uneven distribution of road projects at the country level is also another challenge, especially in that main projects are often concentrated in Beirut and secondary cities at the expense of rural and peripheral regions. In Lebanon, road projects mainly consist of the construction of bridges and highways, as these are still considered to be the optimal solution to reduce traffic; this approach thus excludes more innovative options and causes more traffic in certain instances. Furthermore, bridges and highways often traverse and hide informal settlements, having a negative impact on the livelihoods and social inclusion of communities.

Having a national unified strategy for road networks is a major step in addressing urban mobility. The CDR launched the Urban Transport Development Project (UTDP) for Greater Beirut, which aims enhancing Beirut's urban transport system on the operational and economic levels. Several new road projects, including rehabilitation works and the construction of tunnels and bridges, have been implemented in the last few years. The UTDP introduced a traffic management organization component with measures implemented and initiatives setup to control traffic. Moreover, potential future projects such as the rebirth of the train network that links coastal cities could be implemented in the near future, however the current project is planned to serve only

²⁸ The Republic of Lebanon's Ministry of Agriculture. (n.d). *Programs and Projects*. Retrieved from <http://www.agriculture.gov.lb/Arabic/ProgAndPro/Pages/default.aspx>.

regional linkages. In a sustainable urban mobility planning workshop, CDR in collaboration with MoPWT presented a proposal for an old railroad alignment for a Light Rail Transport (LRT) that connects Beirut to the North of Lebanon – Tripoli.

In Lebanon, where provision of efficient collective transport is lacking, public and private companies provide collective transport but neither provides organized, efficient bus services with coverage for all regions. Thus, buses are the least preferred mode of transportation for the Lebanese population; minivans however, managed informally, provide a practical collective transport linking peripheral and rural regions to Beirut and secondary cities. Taxi-service is another efficient “collective” or “shared” transport. Taxis have their own syndicate, are relatively organized, and benefit from social security. A Bus Rapid Transport (BRT) project is under study by the CDR for feasibility and implementation with a design concept which proposes a re-configuration of Beirut ring road to include BRT.

Municipalities play an important role in addressing road safety issues, namely through implemented initiatives such as road signals, traffic slowing measures and protecting sidewalks from transgressions. A new traffic law was implemented in 2015, addressing various aspects related to road safety with more strict mechanisms put in place to ensure that citizens abide by this law.

12. Improving Technical Capacity to Plan and Manage Cities

Capacity building initiatives for public and local institutions to engage in planning and managing cities are rare and much needed. At the central public level, the Council of Civil Service, mandated to supervise public service competencies, lacks adequate human and financial resources. Moreover, the Coordination and Programming Department of the DGUP, responsible for staff trainings, is limited to the provision of GIS program trainings.

However, the Lebanese government with the support of many international organizations and UN agencies, is involved in providing capacity building at the level of Municipalities and UoMs. For example, in 2009, training workshops²⁹ were conducted involving the Municipalities of the CHUD³⁰ project for the implementation of environmental management plans in their cities (Tyre, Tripoli, Baalbek, Byblos and Saida). In 2010, the ‘Making Cities Resilient Campaign’ was launched aimed at boosting the local capacities of 249 Municipalities to ensure integration of disaster risk reduction into city planning and local development. In 2012, UN-Habitat also launched a project aimed at building the strategic planning capacities of Municipalities and UoMs.

²⁹ This training program was initiated by CDR with ROCHE HYDROSULT JV in association with ELARD.

³⁰ CHUD aims to preserve the cultural assets of Tripoli, Saida, Byblos, Tyre, and Baalbek so as to spur local economic development

Moreover, the Order of Engineers and Architects in Beirut has formed an Architectural Committee at the level of the Higher Council of Urban Planning (HCUP) to assist the Council in setting the design and quality criteria of proposed planning and architectural projects.

With the absence of databases at the national level, local and regional initiatives were established to address knowledge management, a key factor in developing capacities to manage cities. Since the nineties, local observatories with various scales, scopes, and methodologies have been established in Lebanon. These observatories are important data gathering and treatment tools supporting local authorities. For example, the Tripoli Environment and Development Observatory (TEDO), established by AlFayhaa (Tripoli) UoM in 2000 and monitors key environmental and development issues in Tripoli include an air quality lab for the Beddawi and Al-Mina areas. Furthermore, MedCities has instituted a Center for Knowledge Transfer (CKT) in Tripoli focusing on dissemination of City Development Strategy methodology in Lebanon.

Public administration at the national and local levels in Lebanon lack the resources to ensure provision of technical tools and capacities necessary for urban planning and management. This has increased their reliance on external donors for provision of resources in the context of cooperation projects.

13. Challenges and Lessons Learned

Existing land and urban planning mechanisms remain insufficient in responding to the considerable pressures of addressing challenges of urban sprawl and in providing efficient frameworks for integrated and sustainable development. The considerable and ever-increasing complexity of the urban situation in Lebanon is causing rapid changes at all levels. The globalized economy and influxes affect areas and key cities in the country differently. Furthermore, communitarian, political and administrative fragmentation augments territorial complexity. The absence of a shared and clear territorial development vision among main political actors is another important challenge. Furthermore, yet another difficulty is the emergence of large-scale private developments in different areas, substituting public planning. These private developments produce elaborate master plans and design guidelines that define and orient land use.

National institutional setups to address urban planning also have internal gaps in terms of organization and capacities. These include outdated tools and frameworks, a lack of sufficient human capacities and resources, a lack of systemized databases and the absence of coordination between different planning institutional actors. Public planning tools, which are marked by modernist planning approaches, are defined by a code that has not evolved since the eighties. These tools occult social and private planning initiatives and participatory processes. Limited budgets, relatively low wages, the blocking of recruitment of civil servants and reliance on contractual personnel lead to the lack of sufficient qualified staff. Databases produced by national and local

administrations are not harmonized and rarely shared. In addition to the DGUP, new public actors have increasingly become involved in contributing to urban and territorial planning in Lebanon with little coordination. These actors include, some ministries (e.g. the Ministry of Environment), unions of municipalities and some municipalities. Moreover, many lands are not yet surveyed and many municipalities do not yet have land use master plans especially in rural and peripheral areas. However, some initiatives are taken aiming to provide solutions in response to these challenges. These initiatives are mainly focused on the establishment of local actor networks interested in providing collective visions and tools to address the rapidly changing urban landscape. They rely on new tools such as strategic planning, ad-hoc planning committees and monitoring and observation tools.

Geographic differences are also important, in Beirut and its suburbs for example, there is a clear will on the local (municipal and UoM) level to strengthen urban planning and management capacities mainly through cooperation and investment in local institutions. Some projects also aim to address sustainability issues (e.g. soft mobility in Beirut). Municipalities in central areas face considerable challenges from speculative real-estate pressure. As such, the rise in real-estate property values lead to the implementation of urban development projects contributing to densification and the gradual disappearance of green and agricultural lands. In the second ring of suburbs, similar situations emerge, however Municipalities have fewer resources to address the resulting challenges. Competition between these Municipalities to attract more businesses and residents as their primary source of taxes is often resulting in the amendment of master plans. These amendments tend to raise building ratios and change land use zoning, which often happens at the expense of the conservation of green and agricultural lands.

In the large urban agglomerations, a clear concern for planning can be observed especially through the development of strategic plans. In some cases these strategic plans are developed at the levels of UoMs or Cazas (administrative districts), encompassing urban periphery and sometimes rural areas. In urban peripheries, the major challenge, in terms of planning is the increasing demand to zone agricultural and green areas into residential ones.

As for secondary towns and cities, the situation varies considerably. Most are not active or conscious of challenges brought by urban sprawl, densification (due to the Syrian refugees' influx) and territorial fragmentation. However, in some cases, secondary towns and cities are involved in the development of strategic plans and committees, at the local or UoM level, which provide important solutions.

14. Future Challenges

The multiplicity of planning actors and initiatives today represents an important asset in responding to planning challenge. However, this creates a major future challenge especially that it has allowed for the development and implementation of separate

geographically autonomous localized planning tracks. This raises the need to integrate the different tracks, yet the key national planning actors such as DGUP and CDR are not able to take on this responsibility alone due to the lack of clear governmental policies and the lack of sufficient resources and budgets. Moreover, the existing master plans require revision to become in accordance with the NPMPLT, especially those addressing urban cities. Moreover, the DGUP should allocate sufficient budget to also address the need for studies for Master Plans to be in accordance with the SDATL recommendations and to cover the areas without Master planning (representing around 60% of Lebanon's Territory).

Another important challenge is that sustainability is only mentioned in generic terms in planning documents and strategies. Moreover, although some documents and tools aim at preserving environmental resources and lands, the disconnect among policies addressing economic and social development marginalize their effect and often render such tools obsolete. This particularly threatens the protection of agricultural areas, with possible future repercussions on food security, due to the dwindling of land reserves dedicated to agriculture as a result of urban sprawl.

III. Environment and Urbanization Issues

15. Addressing Climate Change

Lebanon prepared and submitted its Initial National Communication (INC)³¹ to the UNFCCC in 1999, a major advancement based on which a regional model targeting Lebanon was developed. This allowed for the development of climate change impact scenarios in various sectors. Data availability and lack of scientific studies at the general level have, however, limited further advancement in this domain.³²

According to Lebanon's Second National Communication (SNC) to the United Nations Framework Convention on Climate Change (UNFCCC),³³ prepared in 2011, Lebanon is already facing and will continue to face several challenges as a result of climate change; temperatures are expected to increase by around 1°C on the coast and 2°C in the mainland by 2040 and by 2090 they will be 3.5°C and 5°C higher, respectively. At the same time, rainfall is projected to decrease by 10%-20% by 2040 and 25%-45% by 2090. This will lead to substantial detrimental effects in a number of areas, specifically at the level of the country's biodiversity and forestry resources as well as in its agriculture and water sectors.

The most recent account of national GHG emissions and sinks, according to Lebanon's Biennial Update Report, which was prepared in 2015, indicate a gross emissions of CO₂eq. amounting to 24,652 Gg CO₂eq with the most significant greenhouse gas being carbon dioxide, primarily produced from the burning of fossil fuels. The main contributor to GHG emissions in Lebanon is the energy sector with 74% of GHG emissions, followed by the waste sector (11%), and industrial processes (10%). CO₂ removals from the land-use, land-use change and forestry category amounted to 3,369.85 Gg CO₂, bringing Lebanon's net emissions down to 21,283 Gg CO₂eq. Lebanon's GHG emissions have increased by 33.7% since 1994, which represents an average annual growth rate of 1.9%, making it essential to adopt mitigation measures.

The Ministry of Environment was established after the 1992 Rio Earth Summit (Law 216/1993) and its mandate and organizational structure include the coordination of sustainable development issues. The Ministry of Environment is the National Focal Point to the UNFCCC, which was ratified by Lebanon by virtue of Law No. 359 dated 1/8/1994.

³¹The Republic of Lebanon's Ministry of Environment. (1999). *Lebanon's Initial National Communication to the United Nations Framework Convention on Climate Change*. Beirut, Lebanon. Retrieved from <http://climatechange.moe.gov.lb/national-communications>.

³²Haddad, E., Farajalla, N., Camargo, M., Lopes, R., & Vieira, F. (2014). Climate change in Lebanon: Higher-order regional impacts from agriculture. *REGION: The Journal of European Regional Science Association*, 1,9-24. Retrieved from <http://openjournals.wu.ac.at/ojs/index.php/region/article/view/19/5>.

³³The Republic of Lebanon's Ministry of Environment. (2011). *Lebanon's Second National Communication to the United Nations Framework Convention on Climate Change*. Beirut, Lebanon. Retrieved from <http://climatechange.moe.gov.lb/viewfile.aspx?id=19>.

On March 28, 2012, the Council of Ministers issued a Decree (8157/2012) establishing the National Council for the Environment (NCE), made of 14 members representing line ministries as well as non-public entities and including the Order of Physicians, Order of Engineers and Architects, Association of Banks, Association of Insurance Companies, NGOs, and the academic sector. The NCE is used as a platform through which environmental issues, including climate change, are coordinated at the national level.

The Low Emission Capacity Building project, which started in 2013 through MoE, and is part of the EU-UNDP Low Emission Capacity Building Programme, is currently developing the required national capacities to improve Lebanon's GHG inventory infrastructure, develop Nationally Appropriate Mitigation Actions (NAMAs), and design a Measurement, Reporting and Verification system in order to achieve a low emission development.

The above-mentioned climate change related projects and activities concurrently running at the MoE have *de facto* created a Climate Change Coordination Unit (CCCU), which is coordinating and pooling all work in order to pull resources together and maximize the benefits of each of the projects implemented. The CCCU was established through the 'National Action Programme to Mainstream Climate Change into Lebanon's Development Agenda' project, funded by Lebanon's Recovery Fund. The CCCU is composed of officially appointed representatives from 40 different Governmental and non-governmental institutions as well as the private and the academic sectors.

16. Disaster Risk Reduction

Lebanon is subject to a wide range of natural hazards such as earthquakes, tsunamis, and small scale threats like floods, wild fires, landslides, and drought. These are exacerbated by different factors including haphazard housing, uncontrolled urban expansion, and a lack of adequate building codes.

Disaster risk reduction has recently become one of the priorities of the Lebanese Government. However, most efforts are put toward response instead of concentrating on prevention, reduction, mitigation, and control to reduce the impact of disasters. Issues facing disaster risk management policies include the lack of experts, absence of clear methodologies, unclear data, and weak coordination between relevant stakeholders.

The main body responsible for disaster risk management, including both prevention and response, is the High Relief Committee (HRC). In 1997, HRC became responsible for both the prevention and response phases of disaster management as a result of a modification of its mandate. However, other than the distribution of relief material to people affected by disastrous events, the HRC has not carried out any prevention duties

to date.³⁴ Other stakeholders include the MoA, CDR, the Lebanese Army, Civil Defense, a number of universities, private and public laboratories and observatories (LARI, Ksara and others), Municipalities, and various donors. Among these, the MoE is responsible for the establishment of a framework for managing environmental hazards; however, it lacks the capacity to do so.

In response to recurrent national and international disasters, the Lebanese Government established the National Emergency Response Committee (NERC) in 2010. The Committee consists of 22 members representing the different Ministries responsible for the development of: (1) a general framework for combating disasters, (2) a detailed contingency plan to respond to threats from various types of disaster (i.e., earthquakes, floods, forest-fires, landslides, and weapons of mass destruction, wars, and radioactive threats) and (3) an emergency management plan³⁵ when a disaster occurs.

Another project entitled ‘Strengthening Disaster Risk Management Capacities in Lebanon’ was launched in 2009 and implemented through the Prime Minister in collaboration with UNDP. The project aims to help the Lebanese Government develop its disaster management and corresponding risk reduction strategy.³⁶ Furthermore, the Municipality of Beirut, with the support of the World Bank, launched a project in May 2015 which aims at improving Beirut’s infrastructure and making the city more resilient against earthquakes and other natural disasters. This entails the evaluation of the current conditions and the development of a master plan to address the issue of resilience.

In terms of regulations, the design of both buildings and industrial facilities should follow the public safety Decree 14293 for protection against earthquakes and fires. While the decree was passed in 2005, it has not been enforced. This is suggestive of the challenges facing Lebanon in terms of law enforcement as well as the lack of executive procedures and guidelines for implementation.

17. Reducing Traffic Congestion

Lebanon suffers from high levels of daily traffic congestion and vehicular queuing. This is mainly due to high numbers of private cars, absence of adequate public transportation, understudied infrastructure and weak transportation planning, and centralization. Traffic congestion is mainly concentrated in urban areas, especially Beirut

³⁴United Nations Development Programme, *Disaster risk assessments in Lebanon: A comprehensive country situation analysis* (Beirut: United Nations, 2010), available from http://www.gripweb.org/gripweb/sites/default/files/documents_publications/%2A%2A%2ALebanon_CSA%20-%20black.pdf.

³⁵Ibid.

³⁶Sidahmed, Mazin. (2015, May 15). World Bank, municipality agree to make Beirut earthquake resilient. *The Daily Star*. Retrieved from <http://www.dailystar.com.lb/News/Lebanon-News/2015/May-15/298053-world-bank-municipality-agree-to-make-beirut-earthquake-resilient.ashx>.

and Greater Beirut. In 2013, the number of residents of Beirut was 410,000 and that of greater Beirut was 1,300,000.³⁷ Almost 50% of families owned one car and 25% owned two or more cars; 55% of trips were for work purposes with only 10% of these trips made using public transport. The number of registered cars increased from 60,000 cars in 1974 to 1,200,000 cars in 2009. In 2012 there were 343 cars per 1,000 people, which made Lebanon 17th worldwide in number of cars per capita. Regarding the public transportation sector, the use of buses decreased from 8% in 1970 to 1.7% in 2009 and that of the use of taxi-service decreased from 72% to 18% in that same period. Meanwhile, the use of private cars increased from 20% in 1970 to 80% in 2009. The annual traffic growth rate is expected to reach 3.25% from 2011-2016.³⁸

The current condition of Lebanon's public transportation sector does not help with reducing traffic. It is unregulated and marked by a small fleet and a high number of forged plates. Although 30% of daily trips are performed using collective public transportation³⁹, this form of transportation is of low quality and suffers from oversupply in certain routes and undersupply in others. Lebanon also lacks supporting infrastructure for stations, shelters, and pedestrian access. Public transportation also does not have a specified traffic lane, which increases congestion due to the numerous stops and movements from one lane to another.

A main issue of transportation in Lebanon is centrality. There have been no sustainable land-use planning schemes to control or regulate urban sprawl and distribute activities which are central to Beirut. This causes a huge level of commuting into Beirut, resulting in unbearable traffic congestion. The lack of road maintenance and the bad quality of street and highway design is the leading cause of accidents⁴⁰ and traffic due to floods in winter. This is mostly common at the entrances of the city where traffic is already at a climax. Another cause of traffic is the high number of checkpoints and the closure of streets around residences of members of the State and political figures. In an attempt to assist in reducing traffic congestion and inform drivers of the conditions of roads, the national Government has established the Traffic Management Center, created by a partnership between civil society with the Commission of Traffic Management, the Directorate General of Internal Security Forces, and the National News Agency. The Center reports traffic congestion routes, accidents, landslides, floods and bottlenecks. It operates 24 hours a day and receives reports from the civil society and the internal security forces. Other measures were taken in an attempt to manage traffic congestion like the installation of CCTV cameras, traffic lights, street markings, and park meters.

³⁷United Nations Development Program and The Republic of Lebanon's Ministry of Environment. *Mobility cost: A case study for Lebanon* (Beirut: United Nations, 2013), available from <http://climatechange.moe.gov.lb/viewfile.aspx?id=217>.

³⁸Council for Development and Reconstruction. (2013). *Urban transport development project: Project brief*. Beirut, Lebanon. Retrieved from <http://www.cdr.gov.lb/study/UTDP/Final%20brochure%20UTDP.pdf>.

³⁹ *ibid*

⁴⁰ According to Chouieri & Co. (2010), in 2007, accidents cost Lebanon 1.5 % of its GDP.

Transportation in Lebanon has, and continues to cause, serious air pollution problems, especially in the overpopulated cities like Beirut. A study by the World Health Organization (WHO) and MoE shows very high levels of Ozone and other primary pollutants (PM, CO, Pb, NO²), which exceed the ambient air quality standards.⁴¹ The high consumption of gasoline which causes these levels to rise is not only caused by the high number of cars, but also by long trip durations compared relative to the distance of the trips.

In 2000, the Council of Ministers issued Decision 9 for the reform and re-organization of the Land Public Transport Sector in Lebanon and the reduction of the number of public collective transport vehicles from 39,761 to 27,061. The major turning point came with the issuing of Law 341/2001 that presented a legal framework for reducing air pollution as a result of the transport sector by encouraging the use of cleaner fuel. The Lebanese Government and CDR invested around 962.6 million USD between 1992 and 2013 on the maintenance, rehabilitation, and construction of roads and highways.⁴² Road construction and increasing road capacity have been the main policy adopted by the government to target the traffic congestion issue.⁴³ Some NGOs have tried to encourage people to use public transportation and alternative means of transport that would help reduce the traffic problems. Such solutions include bikes, park and ride strategies, and carpooling. In 2009, the Revitalization Plan for Transport in Lebanon was written but not published, and MoPWT is currently preparing a new transport strategy with the support of the EU.

18. Air Pollution

Air pollution is of major significance in Lebanon. The cost of environmental degradation attributed to this *problématique* was estimated at around \$170 Million per year or 1.025% of the GDP in 2002⁴⁴ as part of a wider assessment undertaken by the World Bank. These costs were attributed to losses due to health impacts and decreased quality of life, excluding consequently impacts on vegetation and natural heritage.

⁴¹The Republic of Lebanon's Ministry of Public Health, World Health Organization, Université Saint-Joseph de Beyrouth. (2012). *National health statistics report in Lebanon*. Beirut, Lebanon. Retrieved from <http://www.igsps.usj.edu.lb/docs/recherche/recueil12en.pdf>.

⁴²Council for Development and Reconstruction. (2013). *Urban transport development project: Project brief*. Beirut, Lebanon. Retrieved from <http://www.cdr.gov.lb/study/UTDP/Final%20brochure%20UTDP.pdf>.

⁴³ There is an increase of 6% in number of private cars each year.

IPT Energy Center, The Republic of Lebanon's Ministry of Environment, United Nations Economic and Social Committee for Western Asia. (2012). *National campaign for air pollution reduction in Lebanon through efficient energy use in land transportation*. Beirut, Lebanon. Retrieved from <http://www.iptgroup.com.lb/Library/Assets/29-%20IPTEC%20Campaign%20Brochure%20English.pdf>.

⁴⁴ World Bank (2004): Sarraf, M.; Larsen, B.; Owaygen, M.: Cost of Environmental Degradation, the case of Lebanon and Tunisia. Environmental Economics Series. Paper No. 97. The World Bank, Washington.

Air pollution is mostly affecting urban and peri-urban areas due to smog, particulate matter, and toxic air pollutants. In addition to respiratory problems, long-term exposure to air pollution would cause cancer and damage to the immune, neurological and reproductive systems.

Carbon monoxide which is mainly emitted by traffic⁴⁵ was continuously measured by USJ from May 2004 to June 2006 at Beirut Pine Forest. Results did not show any important concentrations in Beirut background even at peak hours⁴⁶, hence always being compliant with Decision 52/1.

Lebanon has made significant strides in air quality monitoring. A number of initiatives took place since 2001 on that front, however the initiatives remained isolated institutional pursuits that instigated the Ministry's efforts since then. A joint initiative first started between the University of Balamand and Tripoli Environment and Development Observatory (TEDO) to monitor TSP and PM in Urban Community of Al-Fayhaa in Tripoli. Then, in 2003, Saint Joseph University in collaboration with the Municipality of Beirut commissioned a Preliminary Air Quality Monitoring Programme. The program further evolved to encompass the Greater Beirut Area and involvement of the American University of Beirut. Outside the scientific practice of measuring criteria air pollutants, a comprehensive national effort was rather non-existent given the isolated agendas of academic and research institutions. Additionally, air quality instruments were neither harmonized, nor cross-calibrated across the monitoring stations hence disallowing a clear-cut trend analysis of pollutant variation over the years.

In its efforts to improve the understanding of air quality and weather in Lebanon, the Lebanese Ministry of Environment has developed an air quality monitoring programme for the measurement of criteria air pollutants, setting the stage for the first phase of a national Air Quality Monitoring Network in 2013 with the support of the 'Environmental Resources Monitoring in Lebanon - ERML Project,' funded by the Greek Government under the management of UNEP and UNDP. This action came in line with the provisions of national legislation, namely the proposed Draft Law for the Protection of Air Quality. The existing network is currently being expanded through the implementation of a second and final phase consisting of 13 additional real-time monitoring stations to be hosted in various locations by different institutions; function of the Ministry's monitoring objectives with the support of the EU funded Support to Reform- Environmental Governance (StREG) Programme for the enhancement of monitoring at the national level.

Still, it is to be noted that published information and data do not clearly link adverse health effects to air pollution in Lebanon. This is due to limited scope or air quality assessment to present and deficient appropriate medical reporting systems

⁴⁵ Waked, A., Afif, C. and Seigneur, C. An atmospheric emission inventory of anthropogenic and biogenic sources for Lebanon. *Atmos. Environ.* 2012; 50: 88-96.

⁴⁶ Afif, C., 2008. L'acide nitreux atmosphérique: Implications dans la chimie en milieu urbain. PhD thesis, l'Université Paris XII, Université Saint Joseph de Beyrouth, pp 236.

which results in the incapacity of establishing long term epidemiological studies that reflect the health impacts from air pollution on the Lebanese.

19. Challenges and Lessons Learned

Issues relating to sectors overviewed in this section are mainly linked to air pollution, climate change and risks, which are rarely taken into consideration by the population and tend to be excluded on the level of policy-making priorities. This is mainly due to the difficulty in representing and assessing these issues; thus they are kept out of political and social debates.

Traffic congestion is considered to be a pressing problem however other challenges hinder the capacity of institutions and stakeholders to address it. As such, governmental sectorial policies as they stand today would not be sufficient or adequate to address traffic congestion and all issues overviewed in this section. Moreover, weak inter-ministerial coordination structures make it very difficult for the central Government to plan and manage these issues. Prerogatives are fragmented between Ministries, and plans tend to multiply. Furthermore, standards, if existing (such as in the case of air pollution), are not enforced and regulations encouraging more sustainable and climate change-responsive attitudes at the social and economic levels are not yet implemented.

Other environmental considerations are particularly important for sustainable urban development. Owing to the concentration of people and therefore resource use, but also the impact they have on the broader environment surrounding them, through water management, wastewater disposal (treated or untreated), solid waste disposal, land use (and often encroachment) in surrounding agricultural lands, establishment of energy production and transmission grids, and the influx of goods to be consumed by city dwellers, urban agglomerations need to be planned, developed and managed in line with sustainability principles, to be able to respond to the heavy burden on the sustainability footprint of the country.

An Urban Metabolism (UM) approach which is defined as the sum total of the technical and socioeconomic process that occur in cities, needs to be conducted to identify the resulting in resource consumption, growth, production of energy, and elimination of waste⁴⁷. UM is also impacted by certain processes that occur within them including waste recycling, renewable energy capture, water losses and artificial recharge, and economic growth.

⁴⁷ WB, 2012. Mainstreaming Urban Metabolism: Advances and Challenges in City Participation. *In*: Sixth Urban Research and Knowledge Symposium.

A solid basis for environmental governance needs to be strengthened in Lebanon in order to support proper planning and implementation of the principles of sustainable cities. In an effort to facilitate access to information, the MoE published a compendium, 'Paths to Environmental Information' in 2005, with contacts and sources presenting a baseline list of recognized experts, institutions, and websites in relation to key environmental themes. So far, Lebanon has published three "State of Environment Reports", the latest in 2011 constitutes a comprehensive baseline for environmental management and sustainable development in the country.

At the legal front, the Environment Law (No 444 of 2002) constituted a breakthrough for establishing a legal basis for environmental management in Lebanon, several important application decrees were later issued in 2012 including the EIA decree, SEA decree, Environmental Compliance decree and the National Council for the Environment.

While some incentives set by Ministries and public agencies address these issues, they are still marginal and not sufficiently communicated thus having minimal impact. More importantly, studies producing data on these issues are still insufficient. While Ministries today, backed by international organizations and universities, are contributing to the documentation of the Lebanese situation, information remains scattered and limited as they cover only certain territories and issues. While lately some studies have addressed the financial costs of air pollution, climate change and natural disasters, such studies remain fragmented and have not gained enough traction among the general public nor the Government to push toward more responsible policies.

Existing social and economic structures and practices represent another considerable challenge. Individualism at the social level and political support for particularly polluting sectors (e.g. which further encourage energy consumption and car commercialization) led to increased levels of pollution and traffic congestion.

Issues discussed in this section have impacts which vary based on geography. Traffic congestion and air pollution tend to be especially high along main highways, yet they impact dense urban areas more heavily, such as main city cores and Beirut and its surrounding areas. Urban sprawl and commuting in the periphery contribute to this phenomenon with thousands of cars entering urban central areas each day despite pollution and traffic congestion in these areas tending to be of much less magnitude.

As for risks on the level of impacts of climate change and disasters, they are not directly related to the urban typology identified herein. These are more affected by topographic, geological and natural configurations, as well as the distribution of chemical and other hazardous industries. Nevertheless, dense urban cores are more prone to certain types of risk such as flooding due to the excessive impermeability of soil. As for periphery, haphazard urbanization, especially on steep hilly areas, is

contributing to the retreat of the green cover with consequences on ecosystems, climate change and risks, particularly landslides.

20. Future Challenges

This section outlines the four main trends that threaten to be increasingly contributing to large migration and haphazard urbanization, in addition to addressing possible consequences. These trends are (1) ever-weakening public control on land development, (2) accentuated concentration of economic activities in Beirut and Mount-Lebanon, (3) effects of climate change and environmental degradation on major cities, (4) a continuing geopolitical instability at the local and regional levels.

Moving our cities along the sustainable development continuum will require that we address major problems in a systematic and holistic way. From this perspective, the Ministry of Environment identified priority issues to be considered for paving the way for a sustainable urban development; and which need to be adhered to through a consensus among all national players.

Other aspects include the construction sector which is considered a major pillar of the Lebanese economy and private land development has strong support at the social and political levels. The Directorate General of Urban Planning has been historically responsible for controlling land development in Lebanon. However, the lack of administrative resources, the decrease in the capacity to follow up with a continuous increase in demand on land development and the fragmentation of public urban planning (with other actors such as CDR, UoM and municipalities leading planning actions) are considerably limiting the capacity of public institutions to control and orient urban development. This has direct consequences in terms of urban sprawl in peripheral areas and increased densification/overcrowding in central urban areas.

A historical trend of concentration of economic activities in Beirut and Mount-Lebanon is likely to continue in the following decades, especially with weak national and local policies to counter it. This translates through rural exodus and the concentration of populations in areas where economic activities are concentrated.

Finally, efforts need to be focused risks prevention, reduction, mitigation, and control to reduce the impact of disasters. Addressing issues facing disaster risk management policies including the lack of experts, absence of clear methodologies, unclear data, and weak coordination between relevant stakeholders need to be strengthened. An important impact of this rapid urbanization in Lebanon is most likely to take the form of densification of informal neighborhoods, many of which are concentrated in more risk-prone areas.

Moreover, the current pressure on exiting and aging infrastructure, slow technological advancements in addition to unforeseen but unavoidable pressures such as the displacement of Syrians to Lebanon has not helped in improving air quality at the

local and/or national level. Furthermore, upcoming exploration and exploitation of offshore oil and gas resources in Lebanon are prone to increase to the additional release petroleum associated air emissions such as methane, VOC, HAP, CO, SO_x, and NO_x. This only testifies to the increasing need for coordination among actors and line ministries such as the Ministry of Energy and Water, Ministry of Industry, and Ministry of Public Works and Transportation to improve the assessment of air quality, mitigation and prevention of further degradation, in hopes for better management on longer term.

IV. Urban Governance and Legislation Issues

21. Improving Urban Legislation

In this section, urban legislation encompasses legal and regulatory initiatives based on three categories: (1) planning and construction, (2) empowerment of institutional and other planning actors, and (3) protection of urban and territorial commons such as urban heritage, forests, and seashores. Urban legislation in Lebanon is comprised almost entirely in the Urban Planning Code of 1983 (Decree 69/83 of September 9, 1983). The code consists of three parts:⁴⁸

- Urban planning, which focuses on plans, regulations, and relevant planning conditions and possibilities (from article 4 to article 17);
- Urban planning operations in terms of operational arrangements that the Government can use when undertaking a development project (from article 18 to article 24);
- The planning permissions, which focus on building permits and land subdivision (from article 25 to article 44), with the building code containing most of the provisions related to building permits.

In addition to the planning code, a large number of rules and regulations related to land rights and planning procedures are also addressed through various laws. These are also addressed through the new Code of the Environment (law 444/2002) including legislation on public domain, the forest code, the laws on historic sites and monuments, and the special legislation on expropriation, etc.

However, the absence and lack of proper referencing to other laws and legislations within the Urban Planning Code denotes a legal and theoretical blur and uncertainty as to the relationship between the Urban Planning Code and the other existing legislations. Key examples among these legislations are the Municipal Law and the Code of the Environment, mentioned above. The Municipal Law (Decree 118/77) devotes much of the planning competencies to Municipalities; however, the Urban Planning Code, and, in particular, article 11, has considerably restrained the power of local authorities by granting them only a consultative role in the implementation of their urban policies. The Code of the Environment is increasingly used in the formulation of urban planning projects and joint actions with administrations involved in the planning process.

It is also important to note that, since 2005, and in order to counter the effects of urban sprawl, a decision taken by the HCUP has reduced the exploitation ratios

⁴⁸ Dar-al-Handasah (Shair & Partners) & l'Institut d'Aménagement et d'Urbanisme de la Région Ile-de-France (IAURIF). *The Physical Master Plan of the Lebanese Territory (NPMPLT)*. (2004). United Nations Human Settlements Programme, *Reforming urban planning systems in Lebanon* (Beirut: United Nations, 2013), available from <http://www.alnap.org/resource/19861>

(coefficients) on lands not covered by urban plans. Furthermore, historically and continuing to the present, all planning frameworks and tools adopted by concerned institutions in Lebanon have placed more emphasis on land use and zoning issues, with less focus on visions for future development of the different regions.

The protection of urban built heritage is an issue that raises discussions on the legal level resulting in draft propositions and counter-propositions. Urban legislation protecting built heritage in Lebanon goes back to 1933; despite providing a very restrictive definition of built heritage, the legislation has not had significant amendments to date. The legislation focuses on the physical structure of the buildings while neglecting heritage and urban fabric matters. In 2007, a draft law was prepared to increase the scope of protection of built heritage to include a larger variety of buildings and urban fabrics. The draft was reworked in 2008, 2010, and 2015 and has yet to be adopted. As for the Beirut Central District renovation project by the private company Solidere, detailed plans and regulations have been set to protect historical buildings. In the context of the Cultural Heritage and Urban Development Project, focusing on the renovation of five historical cities (Tripoli, Byblos, Baalbek, Saida and Tyre), additional detailed urban regulations were adopted by the DGUP to define uses of buildings and architectural interventions in the core of these cities.

Though forests cover nearly 13% of the Lebanese territory, only 2% of these forests are considered part of natural reserves and are protected by specific natural reserve laws.⁴⁹ In addition, the Forest Code (Law 85/1991) recognizes the need to protect certain types of Evergreen Forests; areas to be protected, however, are subject to Ministerial decisions. In this scope, in 2010, there were 14 protected forests.⁵⁰ For the remaining forest areas, protection is dependent on local master plans.

The Lebanese Constitution considers the shoreline, more precisely the area reached by the highest wave in the winter, to be public domain. In addition, the NPMPLT recognizes a number of coastal areas as having exceptional value and recommends prohibiting any changes to their natural configuration. However, privatization of the shoreline, mainly through touristic resorts and gated beach complexes, has limited access to the shore for the majority of the urban coastline. Much debate has developed since the nineties regarding decisions and decrees that dealt with this issue.

22. Decentralization and Strengthening of Local Authorities

The Ta'ef Agreement (1989), which forms the Constitution of the Lebanese Republic, includes a series of provisions responding to the need to restructure administrative divisions in Lebanon and enhance administrative decentralization. In

⁴⁹ Kouyoumdjian, H. & Hamze M. (Ed). (2012). *Review and perspectives of environmental studies in Lebanon*. Beirut: National Council for Scientific Research.

⁵⁰ Ibid.

practice, according to the Ta'ef agreement, the Lebanese model combines aspects of deconcentration at the level of the eight Mohafazas (Governorates) and the 25 Cazas (administrative districts), with administrative decentralization at the Municipality level.

In this context, a number of administrative decentralization proposals have been presented for discussion since 1995. These proposals, however, lacked a clear demarcation between the Central Government, its regional antennas, and the elected decentralized authorities. However, in 2013 a new decentralization law was drafted, which promotes the strengthening of Cazas and their decentralization to become key developmental actors. The law mandates Cazas to provide a wide range of services as well as provides them with the necessary fiscal resources. It also gives them new responsibilities including launching developmental projects in the sectors of infrastructure, transportation, environment, and tourism, among others. Such functions, previously the Government's responsibility, would be re-assigned to Cazas as said functions are considered to be compatible with geographic areas.

Meanwhile, the only area where administrative decentralization has been applied is at the Municipal level. Since Municipal elections were reinstated in 1998, they have no doubt reinvigorated Municipal life, engaged citizens at the local level and provided an impetus for decentralization in the country. According to the 1977 Decree-Law, Municipalities are entrusted with a broad range of tasks. The law stipulates that any public work within Municipal localities falls under the jurisdiction of the Municipal Council. However, Municipalities remain constrained administratively and fiscally: most of the 1,108 Municipalities, of which 70% are small in size, lack administrative capacities for service provision.⁵¹ Yet, many Municipalities have formed UoMs which have become important actors in the context of decentralization. As of today, there are effectively 53 UoMs, of which 29 were established in the last 10 years. These Unions include around two thirds of the total number of Municipalities and of the resident population of the country. Some Unions have further pooled their resources in order to fund or develop regional development projects.

In the last decade, a large number of programs have been implemented in order to strengthen the developmental capacities of Municipalities and Unions. At the Governmental level, the Directorate General of Local Administrations and Councils at the Ministry of Interior and Municipalities has the mandate to control and support Municipal actions. The Directorate has produced several guides and training programs, with a special focus on financial issues. Similarly, the United States Agency for International Development, USAID, and the State University of New York in Albany, joined forces on a project, launched in 2009, to develop the financial and administrative capacities of Municipalities and Unions. The Directorate General, in cooperation with

⁵¹ The Lebanese Center for Policy Studies. (2015). *Local governments and public goods: Assessing decentralization in the Arab world*. Harb, M., & Atallah, S. (Eds.). Retrieved from <http://www.lcps-lebanon.org/publication.php?id=276>.

UN-Habitat, has setup a number of Technical Offices in UoMs so as to enhance their capacities, especially in the realm of service delivery and urban planning.

Municipalities in Lebanon have a long history of decentralized cooperation which contributes to strengthening local authorities' competencies and capacities. Many include financial technical assistance for local programs in addition to supporting knowledge transfer. International organizations also mostly target Municipalities and UoMs in Lebanon through capacity building. However, in many cases, the short-span of aid programs and their ad hoc nature and funding mechanisms prove to be a challenge for long-term sustainability of such programs.

As local authorities have been at the forefront of dealing with the Syrian refugee influx, Municipalities and UoMs have been facing challenges to provide urban services, management of increased population densities, and ensuring security and social cohesion under limited capacities and resources. Thus, aid organizations devised response strategies with the Government (LCRP), reconfirming the need to support local authorities in their response to addressing both refugee and host populations.

23. Improving Participation and Human Rights in Urban Development

A central idea in encouraging civic participation is to bring the voices of the typically marginalized to the forefront of relevant discussions. In this regard, participation could be seen as a lever to enhance human rights in development. In Lebanon, a relatively liberal-oriented country, urban development is mostly seen as an entrepreneurial economic activity on private land where public involvement is not legitimate or even relevant. Public participation in urban planning and development therefore remains marginal.

Unsurprisingly, channels enabling citizens to take part in contributing to urban development processes are limited. This is, in part, because the voting system leads to a disjointed situation between territories of voting and territories of residency. A very limited number of the population votes in its locality of residence, as voting takes place in the voter's place of origin. More specifically, in planning and development processes, existing legislations do not recognize citizen participation.

However, despite the lack of recognition of participation as an intrinsic component of the urban planning and development processes, forms of participation can be seen especially at the local level. In the last two decades, Municipalities have been involved in basic forms of participatory practices namely through leaflets, publications, websites, town hall meetings, provision of claim boxes, and periodic meetings. Such meetings mostly aim to advertise Municipal action and strengthen relations with the local population, with limited impact on decision-making and urban development.

On the other hand, development projects, often the result of international cooperation agreements, do incorporate a participative approach in their methodology,

a condition often set by donors. The most common form of participation is the involvement of established local actors (private sector, faith-based organizations, local notables, NGOs, etc.), which sometimes amount to partnerships and the pooling of resources for certain projects. In some cases, long-term coalitions have developed between these actors.

An interesting example of the use of the participatory approach in Lebanon in the past two decades was the 'Assistance to the Rehabilitation of the Lebanese Administration (ARAL)' Program, supervised by the Office of the Minister of State for Administrative Reform (OMSAR) and funded by the EU. The aim of the program was to promote new participatory practices of local governance and to facilitate consultation and dialogue between elected officials and partners in civil society in order to establish local development plans. For each of the regions concerned by the program, consultative platforms were put in place to select and prioritize projects for local development.

Urban planning in the Palestinian camps is a special case because these areas do not fall under the exclusive jurisdiction of the Lebanese Government, but various players such as international institutions, namely UNRWA. From that perspective, the case of reconstruction of the Naher el Bared camp in response to the 2007 conflict is considered to be a unique example of participatory democracy in decision making processes in Lebanon, affecting both land regulations and reconstruction operations. With the support of the UN, a series of procedures and participatory mechanisms were adopted, such as the establishment of participatory workshops and the communication of brochures and questionnaires to the population. As a result, a perimeter covering 1600 residential units was the subject of an informal joint and concerted development effort.

24. Enhancing Urban Safety and Security

Both urban safety and urban security are concerned with the reduction of risks and dangers in urban environments. However, food safety is primarily concerned with the reliability of physical infrastructures and organizational structures while security addresses the protection of people, propriety, and the environment from threats of intentional harm like theft, violence, eviction, and destruction.

In terms of safety, many urban environments in Lebanon are vulnerable to natural disaster risks (see section 16). Other health risks come from the condition of urban services' infrastructure. This is the case of water infrastructures in schools, whereby the Ministry of Education recently declared that the majority of schools suffer from polluted or sub-standard tap water quality. The situation of electrical wires of public or private networks,⁵² often serving generators, and chaotically hanging in trees,

⁵² See section 39.

public spaces or across buildings in many urban areas is another example of such a risk. However, due to their frequency, road accidents remain the most important safety concern in Lebanon.

Road safety is undermined by a variety of factors. These include: reckless and wild driving, a large fleet of old or mechanically deficient vehicles, lack of measures that focus on pedestrian safety, the absence of adequate sidewalks, the emissions of pollutant gas from vehicles, and the degraded status and consequent risk of collapse of old structures. To face the rise in road accidents, Parliament passed a new traffic law in 2015. The law considerably raises fees for infractions of the driving code and penalizes polluting vehicles. Municipalities in many large agglomerations are also active in enhancing street quality and road security through the provision of sidewalks, parking lots, and speed bumps, in addition to implementing other measures.

Food safety has always been a concern in Lebanon, during and after the Civil War. In 2014 food security concerns heightened to a point where the Ministry of Health had to engage in a large campaign for food control. This ongoing campaign targeted all phases of food and water production and commercialization including production plants, warehouses, transport, and retail. It led to the temporary and permanent closing of many infracting businesses and facilities.

In the last decade Lebanon has seen a considerable rise in security issues and threats including armed conflicts, terrorist bombings, and organized criminal activity mainly due to political tension and instability. The Lebanese Government has thus invested in the development and modernization of security forces. The Lebanese Army and several internal security agencies have received funding, training, and undergone recruitment campaigns. The Ministry of Interior and Municipalities also instigated a measure in 2013 which urged Municipal Police to support security provision, especially at night. The large majority of security incidents occur in urban areas, especially large agglomerations. It is therefore these areas which witness significant deployment of security forces and devices and where securitized areas are most visible.⁵³ However, as the case of Beirut shows, this has consequences on mobility and contributes to traffic congestion.

Another important concern regarding security is violence and abuse targeting women and children; urban environments are usually seen as more prone to the

⁵³ Fawaz, M., Harb, M., & Gharbieh, A. (21 August 2012). Living Beirut's security zones: An investigation of the modalities and practice of urban security. *City & Society*, 24, 173-195. doi: 10.1111/j.1548-744X.2012.01074.x.

emergence of such situations. UNICEF's State of the World's Children,⁵⁴ focusing on urban settings, identifies trafficking of children from rural to urban areas in large cities or in other countries as a large phenomenon that can be found on all continents. It is likewise predominantly in cities that most vulnerable situations can be found, like those of street-based children.⁵⁵

In Lebanon, the Ministry of Social Affairs, the Higher Council for Childhood, and the Higher Council for Women have produced documents and policies to address these issues. MoSA has developed and implemented a national strategy that addresses violence and abuse targeting women and children. The strategy advances various actions and regulations to ensure better protection and empowerment. Several NGOs are also active in this domain, and are implementing various projects focusing on providing more support to victims or ensuring prevention mechanisms.

25. Improving Social Inclusion and Equity

According to a study by UNDP and MoSA,⁵⁶ 28.6% of the Lebanese population is under the poverty line. The North and Mount Lebanon Governorates alone account for around half of the total poor in Lebanon (23% and 28%, respectively). However, a national multi-purpose household survey was implemented in 2004/2005⁵⁷ that allowed for the elaboration of a poverty profile for the country. After the July 2006 war, a Social Action Plan was prepared jointly between the World Bank and MoSA, and presented at the Paris III Donors' Conference. The Plan called for a number of measures aimed at poverty reduction, such as the establishment of a safety net mechanism (including cash transfers to the poorest households) and reforms in the Ministries of Social Affairs, Education, and Public Health, in order to enhance social services and the implementation of social programs. However, these are still pending measures.

In 2011, Lebanese Parliament passed Law 220/2000, considered essential to improving the living conditions of people with disabilities (PWD) in Lebanon.⁵⁸ The

⁵⁴ United Nations Children's Fund, *The State of the World's Children 2012: Children in an Urban World* (New York: United Nations, 2012), available from http://www.unicef.org/sowc/files/SOWC_2012-Main_Report_EN_21Dec2011.pdf.

⁵⁵ Consultation and Research Institute, International Labour Organization, United Nations Children's Fund, Save the Children, and the Republic of Lebanon's Ministry of Labor. (2015). *Children living and working on the streets in Lebanon: Profile and magnitude*. Beirut, Lebanon. Retrieved from http://www.ilo.org/beirut/publications/WCMS_344799/lang--en/index.htm.

⁵⁶ United Nations Development Programme, *Mapping of living conditions in Lebanon between 1995 & 2004* (Beirut: United Nations, 2007), available from <http://www.lb.undp.org/content/lebanon/en/home/library/poverty/mapping-of-living-conditions-in-lebanon-between-1995---2004.html>.

⁵⁷ The survey provided data on the income and expenditures of households.

⁵⁸ Based on the UN Standard Rules for Equalization of Opportunities and on the World Programme of Action Concerning Disabled Persons.

comprehensive Law addresses the responsibility of the society and Government to minimize social and political obstacles for PWD and eliminate all forms of discrimination against them; Law 220/2000 also created the basis upon which the National Council on Disability (NCOD) was formed. Based on 1990s Governmental policy, and on a voluntary basis, PWD can register with MoSA to obtain a disability card. The National Educational Plan for Persons with Disabilities developed in 2012 by the Center for Educational Research and the Ministry of Education and Higher Education states goals that aim for increased inclusion of PWDs in the education sector. In 2011, an Accessibility Code was adopted by the Government obligating any new public building or space for public use to ensure access for PWDs. However, most government buildings, including some new ones, remain physically inaccessible to PWDs. As an alternative, Municipalities provide PWDs with parking lot certificates.

In terms of the law, it should be noted that existing legal frameworks do not provide practical legal protection to foreign laborers. However, Lebanon is signatory to the ILO's Conventions on Decent Work and the Convention on the Elimination of All Forms of Discrimination against Women (CEDAW). A unified contract was introduced in March 2009 that defined responsibilities for both employers and workers, securing increased rights for the latter.

An additional matter pertaining to social inclusion concerns Palestinian refugees. There are extreme restrictions on Palestinian refugees in Lebanon (officially numbered at 400,000), in terms of access to public schools, property ownership, and even housing improvement and employment. In an attempt to address consequences of their presence, the Lebanese Council of Ministers passed Decision 89/2005 forming the Lebanese-Palestinian Dialogue Committee (LPDC), an inter-Ministerial Governmental body that engages Palestinians and Lebanese in dialogue with the aim of improving the situation for Palestinians and Lebanese alike. Following passage of a bill in August 2010 by the Lebanese Government, Palestinians now enjoy the same rights to work as other foreigners, a step in ending years of discrimination that had restricted Palestinians to the most menial of jobs.

The increase in the number of refugees since the onset of the Syrian crisis in 2011 has had a huge impact on the labor market, exacerbating the pressure on wages and working conditions of the most vulnerable categories of workers, Lebanese and non-Lebanese alike. According to UNHCR, the poorest regions of Lebanon are hosting 86% of the refugees from Syria, causing increased poverty and social tensions between host communities and refugees. This has been addressed through various strategies, namely the LCRP 2015 (a comprehensive national plan developed by the Lebanese government and humanitarian development actors), mechanisms empowering local authorities in the response,⁵⁹ and various projects implemented across Lebanon.

⁵⁹ Mercy Corps, through funding from the British Embassy in Beirut, produced a guide relating successful and effective responses that Municipalities have implemented to manage the Syria refugee crisis.

26. Challenges and Lessons Learned

Urban governance and legislation issues are highly susceptible to issues of local empowerment, social equity, and collaboration mechanisms. As such, an important issue is the empowerment of local institutions to be able to provide services, respond to local challenges and build sustainable urban governance. On this level, the empowerment of citizens and civil society organizations to advocate rights and make their voice heard is also key. Furthermore, ensuring equity and a right to the city is also crucial, and can be achieved in part by improving access to services and collective goods and ensuring the right of individuals to enjoy basic amenities a city should provide. Finally, the networking and collaboration of actors for provision of such urban services, management of collective goods and governing of local institutions, also has great implications on governance.

On the level of governance, a key challenge is the gap in the legal framework with inadequate or outdated legislation resulting in little legal support for many internationally recognized rights and/or insufficient protection of public goods. As such laws securing citizens' participation in urban policies are lacking. Furthermore, the Lebanese law rarely provides frameworks organizing private-public cooperation in providing and managing collective goods or provides sufficient guarantees for either party. Moreover, despite decentralization being a priority in the Lebanese constitution, no such law has yet been adopted. Also, inter-municipal cooperation frameworks are limited and legal bases for metropolitan governance are absent.

The lack of regulations, competencies, and resources of local actors to push toward the improvement of participation, rights, and equity is also a major obstacle. These obstacles are of a technical, organizational, financial, and cultural nature. Though some actors are creative in bypassing legal institutional and financial limitations and in providing new ways of acting in terms of advocacy, networking, and participation, the majority of local institutional and civil society actors are still absent at the governance level. The major challenge, however, remains sociopolitical and cultural in nature. While, in Lebanon, one's right to enjoy his private propriety as he sees fit is still seen as a basic sacred right, socially; and while private enterprise is highly encouraged; social cohesion and solidarity therefore remain fragmented. Such realities present obstacles to equity and undermine the importance of, and access to, collective goods and amenities.

Geographically, mobilization and action to address these challenges differ. In Beirut and its suburbs and large cities, initiatives are based on the efforts of civil society actors. However, these initiatives rarely meet success due to the high political and social stakes usually raised by these challenges. These include tools to appeal to the public and bring accessibility and equity issues to the public debate. They also include devising campaigns and advocacy approaches. Municipalities also have practices of including and involving citizens, yet these differ from the jurisdiction of one Municipality to another. In the second ring of Beirut, and more largely in the periphery and secondary towns,

issues of equity, participation and access to public goods are still brokered outside institutional or civil society frameworks. Traditional social structures (family clans, communities, notables, etc.) play important roles in providing channels of social participation for individuals and access to collective goods.

27. Future Challenges

In a context of growing urbanization, fragmented urban governance structures, lack of serious governmental efforts to initiate real participation frameworks, high risks of marginalization, polarization and confrontation are to be expected in the future. In fact, uncontrolled and unplanned urbanization is leading to growing socio-spatial inequalities between and in urban areas. These inequalities, especially in terms of access to services, provide the basis for political and social claims, and mostly contribute to the development of informal networks and markets to compensate for unmet needs. However, these adaptation processes bear their own risk; in the absence of public and civil assistance, many will not be able to integrate themselves into such markets and networks leading to their marginalization and exclusion. These markets and networks might also contribute in raising communitarianism, clientelism, and security risks.

Urbanization will also put pressure on collective goods and amenities. These in turn will be sources of dispute and confrontation between different social groups in a situation of weak governance and social fragmentation. Physically, this might take the form of further loss of public spaces.

V. Urban Economy Issues

28. Improving Municipal Local Finance

Municipalities and UoMs lack the necessary fiscal resources that would allow them to promote the welfare of their citizens and provide strategic development, ensuring local sustainability. The basic legal framework addressing the allocation of responsibilities and resources between the Central and Municipal Governments is the Municipal Law, Decree-Law 118, issued on June 30, 1977, with a handful of amendments to date. According to the Municipal Act, the Municipality will enjoy a legal personality as well as financial and administrative independence.

Despite the stress placed by the Municipal Law on strengthening Municipal capacities by providing Municipalities with the necessary financial resources to accomplish their duties Lebanese Law⁶⁰ does not guarantee or provide Municipalities with those financial resources. Moreover, laws do not guarantee the direct or indirect participation of Municipalities in the legislation of the distribution of competences, responsibilities, and resources between the central and local authorities, including issues pertaining to the Independent Municipal Fund (IMF) or the reinforcement of Municipal resources. The IMF, a primary source of funding for Municipal authorities, is fraught with problems including unpredictability in transfers and improper distributional criteria, hindering service delivery and exacerbating inequality between regions.

For their income, Municipalities rely on a number of fees and taxes recognized by the Law. It is worth noting that just a few of those fees account for most direct Municipal revenue. Municipal financial statements and budgets show that around 85% of all direct Municipal receipts come from rental fees and construction permits, only two of the 36 types of taxes and fees. In 2011, Municipalities' direct receipts represented 43% of their total revenue, with 31% coming from the IMF and the rest from donations, fines, and revenue from Municipal properties, including the total revenues of public domains, such as rented propriety, related to Municipalities.⁶¹ As for UoMs, IMF transfers account for 70% of their revenue. Other sources of revenue are contributions from members of Municipalities, donations, additional percentages on Municipal taxes, and contributions of the State to certain projects.⁶²

Large differences can be seen between the financial situations of Municipalities and Unions in Lebanon based on size and/or locality. This is mainly true in the case of major

⁶⁰ Exceptionally Decree 9093 of 15/11/2002 allocates financial awards to those municipalities that host landfills (but it is not implemented). The Council of Ministers decision 1 of 12 March 2016 has the same stipulation.

⁶¹ The Lebanese Center for Policy Studies. (2015). *Local governments and public goods: Assessing decentralization in the Arab world*. Harb, M., & Atallah, S. (Eds.). Retrieved from <http://www.lcps-lebanon.org/publication.php?id=276>.

⁶² Ibid.

cities, which usually have considerable revenue. Municipalities of suburban and peripheral localities near major cities also benefit from acceptable revenues, as they also face rapid urbanization and population growth. On the other hand, Municipalities of rural areas, especially those with decreased or decreasing populations, face considerable financial challenges hindering their capacity to plan.

Municipalities and UoMs are resorting to different strategies to develop their capacities to generate revenue. Typically, such strategies include temporary privatization of public domains, which support income generation and reduced maintenance costs. Another common practice is applying service charges. For example, in Zahle, neighboring Municipalities and industries pay a set charge for discharging their waste through the Solid Waste Treatment Plant of Zahle. Another option Municipalities and UoMs can utilize are territorial marketing strategies, which help Municipalities to promote their territorial offerings and attract investment.

International organizations also assist Municipalities and UoMs in their efforts to increase their revenues. This is through the upgrading of Municipal services on the technical and human resources levels in order to increase their capacities to collect fees and taxes and manage their financial assets. Other international programs assist Municipalities and UoMs in their territorial marketing strategies by providing expertise and visibility.

29. Strengthening and Improving Access to Housing Finance

In Lebanon, the recent development of land and housing markets and the sharp rise in land prices have exacerbated the deadlocks, difficulties, and shortcomings of public policies related to land. As land is at the heart of current urban transformations, the sharp increase in urban land values has made it much more difficult for the middle class and people of low-income to access land and property markets in major cities. Access to affordable housing is scarce and the gap is widening between the property market and demand. Today, different types of actors are involved in responding to the housing challenge. These include public institutions in addition to the private sector, local authorities, faith-based organizations, NGOs, and international organizations.

In terms of affordable housing, the State has been historically absent. It did not invest in housing provision and restrained from direct intervention in land markets. However, since the nineties, it has been involved in several schemes aiming at improving access of the middle class to housing. This effort includes the 1997 creation of the Public Housing Institute (PHI). This autonomous public institution was first established to ensure access to housing finance in the context of the ELYSSAR project, a large public development project in the southern suburbs of Beirut which was not implemented. However, since the project was halted at the end of the nineties, PHI developed protocols with commercial banks in order to subsidize housing loans at the

national level. Since 1999, PHI has granted more than 50,000 loans.⁶³ Demand for loans has exponentially grown since 2006. The majority of these loans are for apartment units in Beirut and Mount Lebanon. The demand for loans for housing in smaller areas also reflects rising prices and low household incomes. Therefore, in 2011 and as a direct result of the aforementioned, PHI increased its loan ceilings. Next to PHI, the Housing Bank (10% public) is another major provider of housing finance. It provides loans with higher ceilings to middle class households. These lending schemes do not attend to needs of the lowest income groups or to the majority of the population. This has led PHI to develop other schemes for ensuring a larger inclusion of such populations. A main strategy is to encourage rent-to-own systems, which builds on the Law 767/2006, recognizing and legalizing rent-to-own leasing and on mechanisms to encourage developers to invest in this category.

In the context of the new rental law of 2014, aimed at liberalizing the rental market and terminating “old leaseholds,” specific schemes have been developed to protect renters under these agreements and ensure their continued access to affordable housing. The rental market has been limited in Lebanon, mainly due to a law dating back to 1992 which blocked the increase of rental fees in order to limit speculation and protect renters. The law was amended in 1992 to encourage the development of a new rental market but kept the essential protections given by the previous law to old renters. The consequences of such a liberalization would destabilize, and possibly displace, a large part of these renters who might not be able to rent equivalent housing in Beirut’s rental market. Hence, the new Law stipulated a public social fund with the goal of supporting the most vulnerable households in the anticipated nine-year transition period before complete liberalization of rental contracts. This fund, however, was not established.

The Directorate General of Cooperatives is the public institution mandated to address the housing needs of those with the lowest incomes. However, it has not yet become an important player due to the lack of technical competency and financial resources. Other actors are today filling this gap. For example, faith-based organizations associated with religious institutions are important providers of low-cost housing. These organizations make use of their large real-estate holdings to develop affordable housing offers to members of their communities. Such offers take the form of large housing complexes, mainly in the periphery of the Beirut agglomeration. Some Municipalities and UoMs have also been involved in developing affordable housing offers. This is the case of various Municipalities in the Jezzine area where affordable housing projects have been developed in partnership with the private sector or churches, providing units

⁶³ Center for Mediterranean Integration and the World Bank. (2013). *Revue des politiques de gestion foncière urbaine au Liban*. Beirut, Lebanon: Clerc, V. Retrieved from <http://www.cmimarseille.org/sites/default/files/newsite/library/files/fr/Rapport%20foncier%20Liban%20DRAFT%20FINAL%205%20juillet%2020132.pdf>.

at prices 30-40% below market.⁶⁴ This is also the case for the Khan Al-Askar project in Tripoli. The Municipality of Tripoli, through CDR, was the beneficiary of World Bank funding for the 'Cultural Heritage and Urban Development' (CHUD) project for Tripoli to relocate squatters of Khan Al-Askar monumental building to a new housing complex. Furthermore, the ongoing Camp Sandjak renovation project in Bourj Hammoud also aims to transform the Sandjak slum area into a large affordable housing complex. At the level of NGOs, the case of the fishermen cooperative of Tyre is a housing success: the cooperative secured land and funding from donors and developed an 84 unit housing project near the old port of Tyre.

30. Supporting Local Economic Development

Local economic development is crucial for strengthening the capacity of individual cities and for reviving the Lebanese economy. However, local authorities such as Municipalities face a number of challenges at this level, such as civil unrest and uncertainty, centralized structures undermining the efficiency of local entities, limited national funding, and a lack of needed human resource capacities.

To help overcome these challenges, a number of Municipalities joined forces and gathered under the umbrella of a 'new' administrative structure: the Union of Municipalities. Unions of Municipalities, increasingly active in the last twenty years, are the main actors engaging in planning and territorial development initiatives and directives at local levels. They represent networks attempting to restructure their urban environment and ensure development in their localities. Many UoMs have been involved in developing their own strategic planning frameworks, building on their territorial offerings and moving toward local economic development. Such efforts have been largely supported by international organizations, UN agencies, and the CDR.

At the national level several initiatives have been undertaken in the name of development. In 2003, the World Bank approved the request of the Government of Lebanon to create conditions for increased local economic development and enhanced quality of life in the historic centers of the five main secondary cities: Baalbek, Byblos, Saida, Tyre, and Tripoli. The resulting project, CHUD, aims to preserve cultural assets so as to spur local economic development.

The UNDP-ART GOLD Lebanon program, launched in May 2007 and managed by UNDP in collaboration with the CDR, aims to promote balanced and inclusive local economic development through the establishment of four Local Economic Development Agencies (LEDAs). LEDAs are non-profit, self-sustaining economic bodies aimed at contributing to the creation of a territorial added value chain and supporting the

⁶⁴ Ibid.

relation of small and medium enterprises. ART GOLD Lebanon also supports the implementation of initiatives in a variety of sectors, namely the agricultural, environmental, health, education, and economic development sectors. ART GOLD Lebanon was financed by the Governments of Italy, Spain, and Belgium as well as the Principality of Monaco.

31. Creating Decent Jobs and Livelihoods

In the post-Civil War period, Lebanon has known a turbulent and highly market-driven economy. Periods of rapid growth alternate with stagnation. In periods of high growth, annual GDP evolution has reached 8.5%⁶⁵ which was unequally distributed. In fact, Lebanon has known constant high unemployment rates in past decades, affecting mainly the highly skilled labor force, youth, and populations within peripheral regions, provoking a noteworthy migration of its population. Livelihoods have also been weakened due to households' rising expenditure and debt. The Syrian crisis also brought another challenging layer to the Lebanese economy, with implications on growth, employment, and livelihoods.

A 2012 World Bank report estimates that, in the consequent decade, there will be an average of 23,000 new job-seekers annually while the average number of jobs created between 2004 and 2007 numbered just around 3,400 jobs per year. This creates a major challenge to the socio-economic stability of the country.⁶⁶ It is estimated that while the average unemployment rate was around 11% in 2012, it reached 14% for those who had attained higher education, with 34% being youth and 18% being women.⁶⁷ Employment is mainly in low productivity sectors as well as in public administration, with job creation developing mainly in low-skilled service sectors. Important challenges are facing the development of highly skilled jobs. Self-employment is also considerable representing 36% of the working force. Informality is highly present and takes multiple forms in the Lebanese economy. It accounts for nearly one fifth of employment jobs and a large percentage of self-employed persons. Even in the formal economy, job security and benefits remain relatively low, especially in the case of pensions. Employment is also mainly concentrated in the Beirut metropolitan area where nearly 42% of businesses are based,⁶⁸ thus economically marginalizing periphery regions while contributing to the urbanization of Beirut and Mount Lebanon.

⁶⁵ Economic Accounts Mission, Presidency of the Council of Ministers, Lebanese Republic. (2010). *Economic accounts of Lebanon 2010*. Beirut, Lebanon: R. Kasparian. Retrieved from <http://www.finance.gov.lb/en-US/finance/EconomicDataStatistics/Documents/National%20Accounts/National%20Accounts%20English%202010%20for%20publication.pdf>.

⁶⁶ World Bank. (2012). *Republic of Lebanon--Good Jobs Needed: The Role of Macro, Investment, Education, Labor and Social Protection Policies*. Washington, DC: Robalino, D. and Sayed, H. Retrieved from <https://openknowledge.worldbank.org/handle/10986/13217> License: CC BY 3.0 Unported.

⁶⁷ Abdallah, C. (2013). Les mutations de l'économie libanaise sous l'impact de la crise syrienne. *Maghreb-Machrek*, 218 (4). <http://dx.doi.org/10.3917/machr.218.0009>.

⁶⁸ Central Administration of Statistics. (2005). *Households Budget Survey 2004* [Report]. Retrieved from <http://www.cas.gov.lb/index.php/all-publications-en#household-budget-survey-2004>.

The Syrian crisis has also had a considerable impact on employment opportunities in Lebanon, affecting primarily the lower skilled labor force with competition from Syrian counterparts and increasingly affecting higher skilled positions. The establishment of Syrian nationals-led businesses, especially in the low-services sectors, is seen as competition by Lebanese Small and Medium Enterprises (SMEs), especially in periphery regions where these businesses are developing.

The CAS household expenditure surveys of 2004 and 2012 clearly show a rise in household expenditure averaging to 162% between the two surveys.⁶⁹ This rise is in the category of basic goods: food, clothing, and housing. While historically the more urbanized governorates of Beirut and Mount Lebanon have had higher household expenditure rates, the 2012 survey shows a considerable decrease in differences between governorates, the North Governorate even catching up, across all income categories, with Beirut's expenditure rates. These surveys also highlight the tendency of households to spend more than their income, which applies to all declared income categories. This could be attributed to the fact that many households tend to count on diaspora remittances and social networks' support to bridge the gap between income and expenditure. However, consumption debt is nonetheless on the rise.

Historically, the Lebanese State has had a predominantly laissez-faire approach in terms of economic policies. However, some initiatives in terms of draft laws, policies, and projects by Ministries and public agencies have been implemented, some with the support of international organizations and donors.

The Lebanese government has adopted an important initiative to provide assistance to SMEs. A key project at this level is KAFALAT, a public fund guarantor launched in 1999, that provides guarantees for SMEs' credits. As of June 2015, KAFALAT has already provided more than 1,146 billion Lebanese pounds (LBP) in guarantees for projects in agriculture (2,544 projects), industry (2,388), tourism (980), crafts industry (175), and high technology (1,121).⁷⁰ Most recently, the Bank of Lebanon has focused on boosting the energy sector, by providing 0% loans for the first five years to businesses addressing this issue which has caused the number of companies addressing energy issues to rise from 10 to 30 today. Other projects also contribute to SMEs development with funding from international organizations and international NGOs. The implementation of these projects is mainly through State institutions, but sometimes also through Municipalities, UoMs, and NGOs. Micro-credit mechanisms also exist in Lebanon. This is especially the case of certain faith-based or politically affiliated NGOs.

⁶⁹ Central Administration of Statistics. (2013). *Households Budget Survey 2012* [Report]. Retrieved from <http://www.cas.gov.lb/index.php/all-publications-en#households-budget-survey-2012>.

⁷⁰ Kafalat S.A.L. (2015, June 30). *Kafalat S.A.L. Portfolio of Operating Loans at At 30/06/2015*. Retrieved from http://kafalat.com.lb/loans-statistics?field_category_tid_1=151

On a parallel sphere, the National Employment Office (NEO) is responsible for preparing studies on the employment situation, providing vocational training to enhance the capacity of job-seekers to access the market (with a particular focus on disabled persons), and assisting these job-seekers in finding jobs through the Employment Bureau. However, with limited budget and capacities, and considering the severity of the unemployment situation in Lebanon and its structural causes, it is improbable that the NEO will efficiently reach its goals.

32. Integration of the Urban Economy into the National Development Policy

According to UN-Habitat, the urban economy in Lebanon is dominated by the service sector where most of the country's working force is employed (41.6%), followed by trade (22.6%), industry (13.8%), and agriculture (7.2%). Beirut in particular, which comprises one third of the total population of Lebanon, contributes to roughly 75% of the GDP, according to the World Bank. In addition to having a service-based economy, cities in Lebanon have a sizeable informal economy. In the post-War period, the size of the informal economy in Lebanon was estimated at 34.1% of the total GNP for the year 1999/2000, ranking 7th in Asia.⁷¹ The real estate and construction sector also grew exponentially in the last decade and Lebanon witnessed record investments in its real estate sector and construction by nationals, individuals of the Lebanese diaspora, expatriates, and foreigners, who feared global financial instability.

The NPMPLT, adopted by the Lebanese Government in 2009, defines national policies and tools to promote the protection and use of national territory to promote sustainable economic development. The plan focuses on reinforcing and improving productivity and economic growth, ensuring a balanced and equitable development and rationalizing the use of resources through the improvement of land management policy.

Lebanon's geographic location, resources, and territorial offerings provide favorable assets for economic growth. Other assets include liberal legislations, a high level of education,⁷² and a large Lebanese diaspora with an important role in international trade networks. Lebanon has the potential to exploit tourism, agriculture, publishing, and cultural sectors for international competition and thus the NPMPLT suggests basing Lebanon's future vision on exploiting these promising niches. To face international competition the NPMPLT proposes various responses such as: 1) integrating the region's economy into the economy of Beirut, 2) increasing local productivity, and 3) identifying and developing niche products particular to villages or cities. The plan also proposes adjusting income and production based on different

⁷¹ Schneider, F. G. (2004). The size of the shadow economies of 145 countries all over the world: First results over the period 1999 to 2003, *IZA Discussion paper series, No. 1431*. Retrieved from <http://www.econstor.eu/bitstream/10419/20729/1/dp1431.pdf>.

⁷² This is despite high dropout rates which emphasizes disparities between different segments of the population with regards to academic achievement.

methods to face future challenges and changes on the macro-economic level. Public finances are increasingly becoming a limited resource, which is restrictive to public service improvement and administrative efficiency if not addressed based on pre-evaluated objectives.

The NPMPLT identifies the strength of cities as a main factor behind the general economic performance of the country, thus advocating a structure in which cities play a leading role whereby major agglomerations interact with surrounding villages. The NPMPLT also encourages the integration of all regions into national economic development through

- 1) organizing the distribution of activities with the Central Urban Area,
- 2) concentrating the development of various sectors in North and Tripoli,
- 3) boosting the profile of the two large metropolises of Zahle-Chtaura and Nabatiyeh,
- 4) basing the economic activity of Saida and Byblos on the flow of people and goods,
- 5) developing Baalbeck and Tyre based on their heritage, and
- 6) diversifying income resources of rural areas.

However, since the NPMPLT's promulgation, these orientations have lacked supportive implementation policies and budgets at the level of Ministries and local authorities.

According to UN-Habitat Lebanon, the downward spiral of the economy is highly linked with the main four coastal cities of Tripoli, Beirut, Saida, and Tyre, which constitute 80% of the economy in Lebanon. Three of the key income sectors, (1) the service industry, (2) real estate and, (3) tourism, are concentrated in these urban areas and along the urban coastal belt. The main urban areas in Lebanon currently host a large number of Syrian refugees causing Lebanon's population in 2013 to reach more than five million people, which is the NPMPLT-projected population of 2030; the implications of this on the urban economy and other sectors has not yet been addressed in national development policy.

33. Challenges and Lessons Learned

Challenges to urban economic development in Lebanon are closely linked to access to financial resources for investment in economic activities, access to employment and distribution of the benefits of urban economic activity among different segments of the population, economic sectors and urban areas

Sociopolitical conditions are the main challenges affecting the urban economy in Lebanon. As such, social and cultural adherence to liberal economic principles, primarily individual entrepreneurship and the sanctity of private propriety, diminish support to planned economic development initiatives. This leads to the absence of a vision in the development of economic sectors and in turn translates to weak cooperation between

actors. As such, concentration is placed on activities that have a fast return-on-investment, leading to lack in the production of added value at the level of economic sectors and territories.

High levels of emigration are another characteristic of the Lebanese sociopolitical context with impact on the Lebanese economy in general, and on the urban economy in specific. Emigration is behind large remittances that constitute an important part of the GDP. Remittances provide a vital source of finance for many economic investments. Most importantly, they benefit households of all income levels, contributing to the capacity of low-income households to support themselves and possibly invest in the economy. Emigration also contributes to the development of transnational economic networks through linking diaspora to local development initiatives. Thus, it encourages the integration of global economic dynamics into the Lebanese economy. However, the social and regional segmentation of such networks leads to scattered local investments fueling territorial fragmentation. Some forms of investment by emigrants, especially in the real-estate sector, contribute also to the rise of housing prices and the phenomena of gentrification in some areas.

Though Lebanon witnessed significant growth in GDP in the last decade, such growth has been concentrated in particular sectors, mainly service and real-estate, with minimal contributions to the agricultural and industrial sectors. However, the Lebanese government has made recent efforts to steer finance opportunities toward production and consumption activities. This includes providing credits and support to export-aiming activities through the IDAL Authority (the Investment Development Authority of Lebanon), microcredits through NGOs and newly developed financing structures and programs and subsidized housing credits by the Housing Institute and the Housing Bank, as previously mentioned.

Institutional and regulatory frameworks also face important challenges. Local authorities suffer from a lack of financial resources, especially with legal restrictions hindering their access to credit and considerably limiting their capacity for large investments. However, institutional actors have become involved in developing and linking local economic opportunities. As such, several projects and programs by Ministries have and continue to incentivize and support new or promising economic niches, especially in the agricultural, artisanal, high-tech and energy sectors. Strategic plans by UoMs also encourage cooperation between networks and sectors to work toward economic development in their territories.

Encouragement of entrepreneurship does not, however, always contribute to employment generation and enhancement of livelihoods. In fact, employment in Lebanon is still very far from absorbing the large number of job-seekers coming yearly into the market. The Syrian refugee crisis has sharply exacerbated the situation. While this situation is linked to external issues, it is also fueled by internal issues such as the

weakness of syndicates and the failure of public institutions to actively support employment.

At the geographic level and on the level of urban economy dynamics, sharp differences exist between urban areas. Beirut and its suburbs, as well as cores of large cities, have dynamic urban economic activities. In some of these areas strategic plans aim to link actors and ensure economic development in their territories. However, in practice especially in Beirut, economic added value is still more related to speculative gain in sectors like real-estate and other fast return-on-investment sectors. This activity is concentrated in particular economic niches and networks. This situation raises important questions and challenges on the level of equity.

Though some peripheral areas of urban agglomerations have witnessed the development of local industrial and logistical zones, economic profit remains primarily based on the rise of real-estate value. Moreover, in secondary towns, initiatives are mostly promoting tourism for economic development, with high competition that often undermines profit levels.

34. Future Challenges

The following trends, if maintained on the long-term, might have negative implications on the urban economy in Lebanon: concentration of key economic activities and jobs in the Beirut agglomeration, weak public investment in necessary infrastructure, growing competing regional centers in the Middle-East and sustained regional instability.

The dynamic economic activities that Beirut attracts are behind its rise as an important local and regional metropolis. However, the expansion of the agglomeration is undermining the growth of other major cities. Accessibility to the Beirut market for residents of Tripoli, Saida and even Zahle-Chtaura is leading to those cities becoming incorporated into the polarity of Beirut and the increasing marginalization of their economies. In fact, these cities do not house particular competitive economic sectors that could claim their importance or advantage as local centralities.

At the same time, the diminishing capacity of public institutions to ensure investment in necessary infrastructure for the development of promising economic activity is a major challenge for the growth of the economy of Beirut. This is highlighted by the rise of economic centers in the Middle-East region aimed at attracting businesses at both regional and global levels.

Long-term regional instability, largely related to the Syrian Civil War and its consequences, could have a profound impact on the Lebanese economy. In fact, export and transit activities in many sectors in Lebanon depend on the opening of Syrian

borders. Furthermore, regional tensions lead to lower tourism rates, which could threaten the economy of many Lebanese cities and urban agglomerations.

VI. Housing and Basic Services Issues

35. Slum Upgrading and Prevention

“Slum” is a generic term that might include a range of housing and neighborhood conditions and scenarios. It is characterized by substandard housing, is usually overcrowded, and is wrought by illegality and poor urban services. In Lebanon, slums have a long history dating back to the French Mandate period (1923-1943). Slums further developed in the urban boom of the 1960s and 1970s, and were consolidated during and after the Civil War. Slums primarily serve the need to house large numbers of incoming labor force, refugees, and/or displaced populations.

There are four types of slums in Lebanon. First, slums can take the form of small pop-up gatherings of substandard housing near industrial and agricultural sites. This form of slums has always existed and is present in nearly all urban and rural areas of Lebanon. Second, large informal settlements are present as neighborhoods in central and suburban areas of major cities. In Beirut, there are 24 informal neighborhoods housing nearly 300,000 inhabitants, constituting an estimated 20% of the agglomeration’s population.⁷³ Third, Palestinian refugee camps represent a particular form of slums. Though they may be similar to informal neighborhoods in many aspects, their legal status renders their governance quite different as they are under the responsibility of UNRWA. Fourth are informal tented settlements hosting 17% of Syrian refugees and developing across Lebanon, especially in rural and urban periphery areas.⁷⁴ Whether in the form of tented or shanty housing, they are today the most precarious form of slums in Lebanon.

The Lebanese State has not recognized slums until today, and officially maintains the need for their dismantling. Officially, these areas do not benefit from access to the most basic urban services (water, electricity, and sewage networks), however, in practice, this is not always the case. The government has made efforts to develop projects that are alternative to the informal settlements. ELYSSAR, a public establishment, was created for the purpose of urban development projects that would necessitate the dismantling of informal neighborhoods in the Southwestern suburbs of Beirut. Yet, these projects were not implemented.

⁷³ United Nations Human Settlements Programme and the Development Planning Unit, University College London. (2003) *The challenge of slums: Global report on human settlements 2003* (United Nations, 2003): Fawaz, M. and Peillen, I. Retrieved from http://www.ucl.ac.uk/dpu-projects/Global_Report/cities/beirut.htm.

⁷⁴ United Nations Human Settlements Programme and United Nations High Commissioner for Refugees. (2014). *Housing, land and property issues in Lebanon: Implications of the Syrian crisis*. Beirut, Lebanon: Fawaz, M., Saghiyeh, N., & Nammour, K. Retrieved from <http://unhabitat.org/housing-land-and-property-issues-in-lebanon-implications-of-the-syrian-refugee-crisis-august-2014/>.

The resulting displaced population was to be hosted in planned social housing in the area while the remaining would receive compensation to resettle elsewhere. Controversy and political confrontation around the project led to its halt. More recently, a change of approach toward slums can be seen at the level of State administrations. This is clear in the National Social Development Strategy, produced by the Ministry of Social Affairs and adopted in 2011 although yet unpublished, which encourages slum upgrading through the provision of basic urban services, improvement of their physical environment (buildings and public spaces), and enhancing livelihood conditions.

Local authorities' position towards slums varies from one Municipality to the other. However, some Municipalities have engaged in efforts to enhance the condition of slums within their constituency. This is the case of the Municipality of Ghobeiri that contributed to the introduction of a number of basic urban services in informal neighborhoods within its territory. Political parties, local committees, and NGOs are the main actors responsible for provision of urban services in camps such as the provision of water from wells, the implementation and maintenance of local electricity networks and generators, and local sewage networks.

Regarding Palestinian camps, UNRWA is the main actor legally responsible to contributing to servicing the camps. Its actions focus, however, more on social, educational, and health issues than the physical environment.

Informal tented settlements that developed due to the recent influx of Syrian refugees are the primary target of aid and relief actions by local and international organizations. Operating under UNHCR interagency coordination, they are providing shelter and WaSH services.

36. Improving Access to Adequate Housing

Access to adequate housing is not recognized as a fundamental right in the Lebanese Constitution and national policies on this level are lacking. However, Lebanon has committed to international conventions and declarations that strongly support adequate housing provision, such as the International Covenant on Economic Social and Cultural Rights and Resolution 42/146 dated 07/12/1987 of the General Assembly of the United Nations. Lebanon also recognizes, in Article 1 of its Housing Law of 1965, the need to provide adequate housing for the most disadvantaged populations in urban areas. A 1998 decree defines the beneficiaries of this Law, however this definition is controversial since it limits beneficiaries to those with minimum wage and full-time jobs, excluding many vulnerable categories in addition to limiting foreign beneficiaries to non-Lebanese residing in Lebanon before 1965.

The construction sector has been one of the most dynamic economic sectors in Lebanon after the Civil War (1975-1990). However, many constructions suffer from issues of quality and a lack of adherence to recognized standards in terms safety, health,

and accessibility. This applies to many newly-constructed, low-cost commercial buildings, substandard housing mainly used by refugees, and to old buildings as well.

The building code provides minimum acceptable standards for ensuring ventilated and sunlit constructions. However, in practice, limited inspection and control in post-construction phases allows for modifications to original plans that undermine the Law's aims. Moreover, the Law itself has known relatively few amendments and consequently does not sufficiently integrate new internationally recognized requirements particularly in terms of sustainability, hazardous construction materials, and accessibility for people with disabilities.

Old buildings are not bound by regulations requiring ongoing maintenance, leading to the deterioration of such buildings and possibly heightened risk of collapse. This is largely the case of old buildings with high real-estate value in central areas of Beirut. In fact, land value is more profitable in these areas than the possible rental value of already constructed buildings. Awaiting a lucrative transaction, landlords therefore tend to refrain from renovating these old buildings.

To address limited building construction standards in Lebanon, many actors are mobilizing to widen the scope of requirements in the present building code. In the context of large projects, the Directorate General of Urban Planning (DGUP) tends to impose additional requirements regarding environmental and accessibility issues. The Order of Engineers and Architects has been active in proposing amendments to the code in order to take aspects relating to sustainability and material quality into consideration. Specialized NGOs, like the Lebanese Green Building Council (LGBC) and the Association Libanaise de Maîtrise de l'Énergie (ALMEE), have developed standards for sustainable building requirements specific to Lebanon. Several NGOs are also mobilizing to defend the cause of disabled persons and their right to adapted housing.

The influx of Syrian refugees has placed considerable pressure on the existing housing fabric. While the majority of refugees rent apartments, demand has led to an increase in housing options of very low or inadequate living standards. These take the form of transformed basements and garages as well as informal tented settlements. UN agencies and local and international NGOs, alongside Municipalities, have been leading efforts to enhance housing conditions for Syrian refugees and host communities. Interventions include financing improvements on rented units and their adaptation to provide household or collective utilities. They also include winterization strategies, especially in informal tented settlements. A special focus has also addressed tenure security aspects, especially to support refugees.

37. Ensuring Sustainable Access to Safe Drinking Water

Lebanon is considered an important “water tower” in the Middle East. It benefits from rich water resources including 16 perennial rivers and 23 seasonal ones, more than 2,000 springs, wetlands, and a large dam accumulating to 2-2.7 million m³/year.

However, the actual used quantity is around 1.1 million m³/capita/year, dangerously close to the 1 million m³/capita/year international benchmark of water stress.⁷⁵

The loss of water resources is due in part to the steep topography of the majority of Lebanese rivers pushing most running water to the sea and the overexploitation of underground water resources. Underground water contributes to more than 50% of irrigation water and 80% of domestic water in Lebanon.⁷⁶ Wells are omnipresent with the large majority being illegal. Increasingly, new buildings tend to have their own wells. In fact, public water networks are very deficient in providing domestic access to water.⁷⁷ Water networks suffer heavily from leakages that contribute to the loss of 40% of their capacity. In addition, illegal connection to water networks, especially in informal neighborhoods, is estimated to constitute 5% of the networks' capacity. While 92% of households in Beirut and Mount Lebanon have access to water networks, only 65% of households have access in the North region. In addition, the recent influx of Syrian refugees is putting an extra 8-12% pressure on water demand.⁷⁸

Water quality is also an issue. Groundwater is facing considerable pollution risks due to infiltration of agricultural pesticides, wastewater seepage from septic tanks, and the rise of seawater levels in wells in coastal areas. In addition, public water networks suffer from erosion and risks of contamination from sewage networks in their vicinities. Poor water quality and quantity impact population health as well as household budgets. This is aggravated in the context of the influx of Syrian refugees. Low water quality and quantity is causing households to rely on alternative sources such as bottled water and delivery trucks. This is mostly affecting the urban population, particularly in Beirut, where water expenditures account for 3-5% of the household budget.⁷⁹ Waterborne diseases such as Dysentery, Hepatitis, and Typhoid are recurrently reported all over Lebanon.⁸⁰

The water sector in Lebanon has known important reforms since 2000. Law 221/2000 reconfigured the public water sector. As such, 22 autonomous local water

⁷⁵ World Bank. (2009). *Republic of Lebanon - Water sector: Public expenditure review*. [Public expenditure review (PER)]. Washington, DC: World Bank. <http://documents.worldbank.org/curated/en/2010/05/12550208/republic-lebanon-water-sector-public-expenditure-review>.

⁷⁶ The Republic of Lebanon's Ministry of Environment, European Union and United Nations Development Programme. (2014). *Lebanon environmental assessment of the Syrian conflict & priority interventions, September 2014*. Beirut, Lebanon. Retrieved from <http://www.moe.gov.lb/The-Ministry/Reports/Lebanon-Environmental-Assessment-of-the-Syrian-Con.aspx?lang=en-us>.

⁷⁷ In the summer, providing less than four hours a day in large cities.

⁷⁸ The Republic of Lebanon's Ministry of Environment, European Union and United Nations Development Programme. (2014). *Lebanon environmental assessment of the Syrian conflict & priority interventions, September 2014*. Beirut, Lebanon. Retrieved from <http://www.moe.gov.lb/The-Ministry/Reports/Lebanon-Environmental-Assessment-of-the-Syrian-Con.aspx?lang=en-us>.

⁷⁹ The Republic of Lebanon's Ministry of Environment, United Nations Development Program and ECODIT. (2011). *State and trends of the Lebanese environment 2010*. Beirut, Lebanon. Retrieved from http://www.undp.org.lb/communication/publications/downloads/SOER_en.pdf.

⁸⁰ The Republic of Lebanon's Ministry of Public Health. (2010). *The statistical bulletin*. Beirut, Lebanon. Retrieved from <http://www.moph.gov.lb/Publications/Pages/StatB2010.aspx>.

offices were merged to create four regional public establishments. The law also included waste water management as part of the responsibilities of the water establishments. It also allowed for private-public ventures in order to develop new infrastructure and services. In recent years, the Ministry of Energy and Water Resources planned for a number of dams so as to profit from strong streams and rivers in the western flanks of Mount Lebanon, now flowing to the sea. However, the major challenge to the success of the public sector is the lack of available data on water quality and quantity. A number of projects are therefore led by regional establishments such as the Litani River Authority (LRA, in charge of rivers) to monitor water quality and quantity. Moreover, the Government of Lebanon through donor funding is implementing since November 2015 the Awali Water Conveyor, a project to address the shortage of access to safe drinking water in Beirut and its suburbs (actual population of 1.6 million). Another project is under preparation aiming to address the mid-term and long-term future needs of water supply of this central area of Lebanon is the Bisri Dam project. Furthermore, a number of international organizations support enhancing the capacity of Lebanese institutions (mainly the MoWE, water establishments, LRA, and Municipalities) to address water quantity and quality challenges through the funding of infrastructure, trainings, and technical assistance. Municipalities are also leading actions to minimize water consumption and augment local water reserves. These actions focus on awareness campaigns but also on the provision of new wells. Many NGOs are also involved in water-related projects, especially in vulnerable areas such as informal neighborhoods, informal settlements, and areas hosting large numbers of refugees.

38. Ensuring Sustainable Access to Basic Sanitation and Drainage

Lebanon is facing major challenges in terms of ensuring sustainable access to basic sanitation and drainage infrastructure and services. Existing infrastructure, already not satisfying the minimum sustainability requirements, is facing extreme stress to respond to an exponentially rising demand.

Sewage systems exist all over the country, however differences in coverage exist between regions. Connection to sewage networks is estimated to be around 99% for Beirut City and 65% for all of Lebanon.⁸¹ In addition, differences exist between central and peripheral areas; for instance, in the Beirut agglomeration, nearly all coastal plain areas are connected to sewage networks, yet this is less frequently the case for peripheral hilly areas. Moreover, in many peripheral and rural areas in Lebanon, open-air local canalizations bring domestic wastewater to running rivers and septic tanks are used for many buildings. This situation could be explained by fast urbanization, which marked the War and post-War periods, and the lack of local authorities' resources and

⁸¹ Central Administration of Statistics. (2008). *Household Living Conditions Survey 2007* [Report]. Retrieved from <http://www.cas.gov.lb/index.php/all-publications-en#households-living-conditions-survey-2007>.

capacities to invest in costly infrastructure. All existing types of wastewater disposal systems are major contributors to water pollution in Lebanon with the majority of wastewater running into the sea, rivers, or groundwater through deficient septic tanks.

Drainage infrastructure faces many challenges, most importantly flooding. This is especially problematic in dense urban areas where storm water canalization systems lack the capacity to cope with water rejected by increasingly impermeable surfaces. As such, autumn and winter storms cause main streets and tunnels in cities such as Beirut to flood. Drainage infrastructure deficiency is also an issue in rural areas familiar with anarchic sprawl. In the context of heavy rainwater pressure, road networks and much of the built environment heavily disturb natural water drainage movements leading to occasional flooding.

The CDR, in collaboration with the Ministry of Energy and Water, has implemented a number of sewage networks and waste water treatment plants (WWTP) in coastal & inland main localities: Today 18 WWTP are completed (8 of which are coastal and 12 are inland). Other 32 small inland WWTP was implemented by USAID in consultation with the Municipalities. However, only 45% of these plants are functional. The Syrian crisis has increased the already existing pressure on wastewater and sewage networks, thus making the focus on developing and upgrading these networks a priority for municipalities all over Lebanon. However, many of the implemented WWTPs have not been functional due to high operational costs and absence of connecting networks. Furthermore, several initiatives in Lebanon have been encouraging sustainable river treatment projects; these include the use of Bamboo filtration systems in Bcharre.

The Syrian crisis is estimated to have caused a rise of 8% to 14% in wastewater production, which has primarily affected the Cazas of Zahle, Baalbek, Akkar, and Baabda. It has also impacted natural resources in Lebanon, such as the Litani River Basin area in the Bekaa, where waste water has risen from 12% to 19%.⁸² Furthermore, overcrowding and lack of public sanitation facilities in informal tented settlements have been a major hygiene issue. However, in the last two years, large investments in WaSH projects, led by NGOs and international organizations, have contributed to solutions, especially in addressing informal tented settlements.

39. Improving Access to Clean Domestic Energy

Despite alternative sources for clean energy, such as abundant solar resources, strong sustained winds in its various areas, water sources and other sources of biomass,

⁸² United Nations Human Settlements Programme and United Nations High Commissioner for Refugees. (2014). *Housing, land and property issues in Lebanon: Implications of the Syrian crisis*. Beirut, Lebanon: Fawaz, M., Saghiyeh, N., & Nammour, K. Retrieved from <http://unhabitat.org/housing-land-and-property-issues-in-lebanon-implications-of-the-syrian-refugee-crisis-august-2014/>.

namely municipal solid waste, Lebanon imports 99%⁸³ of its primary energy requirements, and has not yet developed a comprehensive national energy policy or conducted a thorough study of the recent changes occurring with respect to energy and its uses.

However, many initiatives and projects have been implemented to improve access to cleaner domestic energy:

- 1) The Lebanese Center for Energy Conservation (LCEC) was created in 2002 through the support of the UNDP as a subsidiary of the Ministry of Energy and Water, and addresses end-use energy conservation and renewable energy at the national level. LCEC is involved in a range of pilot projects,⁸⁴ including in the solar water heating market; it also hosts the Energy Audit Program and provides financial and tax incentives to consumers to promote energy efficiency. The LCEC has, in cooperation with the Lebanese Standards Institution (LIBNOR), developed Energy Efficiency (EE) standards for the following five household appliances: solar water heaters, compact fluorescent lamps, refrigerators, AC split units, electrical, and gas water heaters.
- 2) The Country Energy Efficiency and Renewable Energy Demonstration Project for the Recovery of Lebanon (CEDRO) was created in October 2007 in partnership with the Ministry of Energy and Water, the Ministry of Finance, and the CDR. The project is part of a larger UNDP program to assist in the country's recovery from the 2006 conflict with Israel.

The aim of CEDRO is to complement the national power sector reform strategy and to support the greening of Lebanon's recovery reconstruction and reform activities. The project focuses on activating end-use energy efficiency and renewable energy applications in public sector buildings and facilities across Lebanon.

To date, major accomplished or ongoing initiatives include the introduction of compact fluorescent lamps, solar water heaters, EE measures in industry, street lighting programs, the development of standards and labels, the development of a number of energy related laws and financing mechanisms, and the first version of 'The National Wind Atlas for Lebanon' published in 2011.⁸⁵

⁸³ According to the REEEP Database, EDL, Lebanon's primary energy company, imports around USD 500 million worth of fuel each year to generate the electricity needed.

⁸⁴ This includes the distribution of 3 million CFL lamps to replace incandescent lamps and developing state-subsidized domestic solar water heaters

⁸⁵ United Nations Development Programme and CEDRO, Country Energy Efficiency and Renewable Energy Demonstration Project for the Recovery of Lebanon, *The National Wind Atlas of Lebanon* (Beirut: United Nations,

- 3) The Policy Paper of the Electricity Sector was launched by the Ministry of Energy and Water in June 2010 as the national plan to upgrade the electricity sector in the country. The policy paper includes 10 strategic initiatives, of which three are dedicated to energy efficiency and renewable energy. Others include the development of a National Energy Efficiency Action Plan (NEEAP), the establishment of the National Energy Efficiency and Renewable Energy Action (NEEREA) as a national financing mechanism, and the development of ESCO (Energy Service Company) which deals with energy audit applications. For photo voltaic energy production (PV), for example, the NEEREA has enabled approximately 20 MW of PV systems in Lebanon in 2015 according to the LCEC⁸⁶ which is the technical arm of the NEEREA operation.
- 4) The National Energy Efficiency Action Plan for Lebanon (NEEAP) 2011-2015 for the Electricity Sector was developed by the LCEC with the support by the EU-funded MED-ENEC project.⁸⁷ The NEEAP was adopted by the Ministry of Electricity and Water in December 2010.

Many NGOs are also active at the level of promoting clean domestic energy such as the Association Libanaise de la Maîtrise de l'Énergie (ALMEE) and the Lebanese Green Building Council (LGBC).

However, without legislative initiatives by the Government, the environment for the RE and EE markets created by projects such as CEDRO cannot be sustainably carried forward, and Lebanon will likely be significantly delayed in reaching its target of 12% renewable energy of its total mix by 2020.

Even though the majority of towns and villages in Lebanon are connected to the electricity grid, the ongoing electricity shortage,⁸⁸ and its implications on reliability and household energy costs, in addition to the poor environmental footprint of the power sector in Lebanon, places the country in an uphill battle in terms of ensuring a more sustainable and clean energy supply to households.

2011), available from

http://www.undp.org.lb/communication/publications/downloads/National_Wind_Atlas_report.pdf.

⁸⁶ On July 1, 2010, LCEC published a National Policy for Energy Efficiency and Renewable Energy. Plans include a project to provide 3 million CFL lights to Lebanese homes, as well as USD 1.5 million in subsidies for solar water heaters.

⁸⁷ By means of consulting and support, MED-ENEC seeks to encourage the use of efficient and renewable energy sources and systems in Southern and Eastern Mediterranean countries.(Med-ENEC, 2016).

⁸⁸ 1,500 MW for 2,300-2,400 MW of actual demand. (Verdeil, 2013)

40. Improving Access to Sustainable Means of Transport

Lebanon does not have a comprehensive strategy for the development of the transportation sector and national public policies do not address sustainable transportation.⁸⁹

62% of cars in Lebanon are over 30 years old, with many dating to the 1970s and 1980s, with 60% of vehicles having large engines (above 2.0 liters). Car ownership is considerably high as the country of 4 million inhabitants is estimated to have 1.3 million vehicles with 1.07 million being private vehicles.⁹⁰ However, car occupancy is low at a rate of 1.2 passengers per car.⁹¹ Public transport, also primarily reliant on old vehicles, is unreliable with no specific routes, schedules, or dedicated lanes. These factors have caused the transport sector to constitute more than 60% of national oil consumption in 2008⁹² and cause more than 25% of CO₂ emissions in 2000.⁹³

Today, there are more energy performing cars on the market than ever before, yet these cars tend to be expensive and thus out of reach for the majority of the population. Moreover, with falling oil prices, the average consumer is less concerned with energy performance when choosing new cars.

Despite the gap on the national level in addressing sustainable transportation, civil society actors have been active in policy advocacy. An example is the Sustainable Transport Campaign initiated by the Green Line Organization, which aims at reducing car circulation and promoting green modes of transport by lobbying for the elaboration and implementation of a National Land Transport Management Plan.

While it is possible to walk and cycle for short distances within cities, the streets do not have dedicated bicycle lanes, which is a key challenge and risk for cyclists seeking to move around the city through hectic traffic. In Beirut, pedestrian-related traffic accidents are considered to be the first cause of mortality for children and youth under 19 years old. Sidewalk design and quality are notably below urban design standards especially in that they are narrow, unmaintained and usually blocked by vehicles.

⁸⁹ Sustainable transportation is defined as transport that makes no use of diminishing natural resources but rather depends on renewable energy (Earth Times, 2011).

⁹⁰ United Nations Development Program and The Republic of Lebanon's Ministry of Environment. *Mobility cost: A case study for Lebanon* (Beirut: United Nations, 2013), available from <http://climatechange.moe.gov.lb/viewfile.aspx?id=217>.

⁹¹ The Republic of Lebanon's Ministry of Environment, United Nations Environmental Programme and United Nations Development Programme. (2012). *Lebanon: Technology needs assessment for climate change*. Beirut, Lebanon. Retrieved from http://www.undp.org/communication/publications/downloads/TNA_Book.pdf.

⁹² International Energy Agency. (2008). *Lebanon: Balances for 2008* [Data file]. Retrieved from <https://www.iea.org/statistics/statisticssearch/report/?country=Lebanon&product=balances&year=2008>.

⁹³ The Republic of Lebanon's Ministry of Environment, United Nations Environmental Programme and United Nations Development Programme. (2012). *Lebanon: Technology needs assessment for climate change*. Beirut, Lebanon. Retrieved from http://www.undp.org/communication/publications/downloads/TNA_Book.pdf.

Transport issues usually surpass Municipalities' capacity of control and intervention. Yet, the Municipality of Beirut with the support of Ile de France has financed the 'Liaison douce' study, developed as part of the Green Spaces and Soft Mobility Project, which encourages increased sustainable transportation and mobility. The main objective of this "liaison" is to create a soft link between Horch Beirut (the pine forest) and the city center via Damascus Street through a mobility strategy providing bus and biking lanes; the project prioritizes linking two major sites of the city, which include high quality public spaces. CDR has also been studying an investment and project prioritization program for sustainable mobility for Al Fayhaa Municipalities in Tripoli, and feasibility studies were prepared for the Directorate of Land Transport and the Railway and Public Transportation Authority on a passenger and freight railway connecting Beirut and Tripoli, a BRT path from Beirut to Tabarja, and a railway from Tripoli to Aboudiyeh⁹⁴.

In the context of historical sector conservation management, some Municipalities, such as that of Byblos, are resorting to electric cars to provide visitors with tours. However, such initiatives remain rare with the primary aim of promoting an image of responsibility and modernity of these Municipalities.

41. Challenges and Lessons Learned

Accessibility, quality and impact on the environment represent the main issues regarding housing and basic services in Lebanon. Various factors challenge the capacity of institutions and stakeholders to deal with these issues.

Challenges mainly arise from the existing organizational and legal structures. In the context of growing urbanization, needs for provision of basic services is increasing sharply, thus exerting further pressure on responsible institutions. Consequently, efforts addressing reform in these sectors and new laws were devised allowing for more flexible and efficient organization of sectors and higher private sector involvement. However, the lack of implementation of these reforms, deficient administration and political paralysis has undermined the capacity of the existing institutions to implement or maintain necessary infrastructure. Thus, key electricity, water and waste sectors have suffered severely despite the development of local formal and informal alternatives. This has also led to an unequal distribution of services across different income populations and regions in Lebanon. Legal and administrative setups create obstacles to the connection of informal neighborhoods and refugee camps to public networks thereby encouraging informality and increasing marginality. Moreover, existing laws and policies do not support possibilities of the development of slum upgrading mechanisms. The lack of institutional controlling and monitoring capacity and tools threaten the

⁹⁴ Elie Helou. (2015). Situation of Sustainable Urban Mobility in Lebanon. Council for Development and Reconstruction

quality of services. This mainly applies to the water sector, in addition to electricity and transport, with negative impacts on health and the environment as well.

Another major challenge is the lack of knowledge and resources among institutions and actors. A key obstacle facing institutional responses to increasing needs is the lack or inconsistency of existing studies and data regarding existing resources (especially for water) and consumption. Furthermore, gaps between current conditions, needs and future projections as a basis for projects and plans, are critical and often detrimental. Under- or over-estimation of needs have consequences on the accessibility of a population to the services. Lack of knowledge of existing resources also hinders the improvement of the quality of the implemented projects/initiatives. Moreover, unmet needs for high investment to maintain and develop infrastructure in these sectors limits their development and contributes to the decreasing of their quality.

Sociopolitical factors such as communitarianism and corruption also affect accessibility and quality issues. Communitarianism has plagued the capacity of concerned institutions in ensuring efficient and equitable service delivery. Controversies are recurrent regarding “balanced” delivery of services among communities which leads to accusations of corruption and paralysis in nearly all sectors. Corruption and the capacity to bypass regulation are in turn present in all institutions, which affect the quality of services delivered and leads to their unequal distribution.

Differences in accessibility and quality are not directly correlated to the type of urban area one resides in, mainly because service delivery policies in many cases remain under the monopoly of central authorities. However, with the growing role of local actors and their involvement in compensating for official service delivery gaps, some areas have seen enhancement in the quality and accessibility of their services.

42. Future Challenges

The major long-term challenge stems from the lack of sustainable organization of basic service delivery sectors. Be it for water, electricity or sanitation, the way sectors are organized favors the squandering and over-exploitation of non-renewable resources. This also contributes to high levels of pollution with dangerous consequences on health and the environment. If neglected, these trends will grow, especially in the face of climate change, which threatens to lead to a retraction of natural resources and accentuation of the negative effects of pollution.

The actual financial situation of the Lebanese state, especially the growing deficit, represents another pressing challenge for these sectors. The inability of the State to finance the development and maintenance of infrastructure will lead to its degradation and possibly to its collapse. This situation will most probably accentuate with growing urban sprawl leading to an increase in costs. Possibilities for alternative private financing are hindered by laws that do not accommodate private-public

partnership frameworks. The actual structure of the real-estate and housing markets has proved to be limited, as it does not support or ensure access to adequate housing, but instead mostly caters to high income populations and encourages urban sprawl and substandard housing. These conditions are further aggravated by local and refugee population growth.

Bibliography

Abdallah, C. (2013). Les mutations de l'économie libanaise sous l'impact de la crise syrienne. *Maghreb-Machrek*, 218 (4). <http://dx.doi.org/10.3917/machr.218.0009>.

Afif, C., 2008. L'acide nitreux atmosphérique : Implications dans la chimie en milieu urbain. PhD thesis, l'Université Paris XII, Université Saint Joseph de Beyrouth, pp 236.

Afif, C., Dutot, A., Jambert, C., Abboud, M., Adjizian-Gérard, J., Farah, W., Perros, P., Rizk, T., 2009. Statistical approach for the characterization of NO₂ concentrations in Beirut. *Air Quality, Atmosphere and Health* 2, 57e67. doi:10.1007/s11869-009-0034-2.

American University of Beirut and the United Nations Relief and Works Agency for Palestine Refugees in the Near East. (2010). *Socio-economic survey of Palestinian refugees in Lebanon* [Report]. Beirut, Lebanon: Chaaban, J., Ghattas, H., Habib, R.R., Hanafi, S., Sahyoun, N., Salti, N., Seyfert, K., Naamani, N. Retrieved from http://fafsweb.aub.edu.lb/aub-unrwa/files/AUB_UNRWA_report_final_draft.pdf.

Badaro-Saliba N, Adjizian-Gerard J, Zaarour R, Abboud M, Farah W, Saliba NA, et al. A geostatistical approach for assessing population exposure to NO₂ in a complex urban area (Beirut, Lebanon) *Stoch Environ Res Risk Assess*. 2014;3(28):467–474. doi: 10.1007/s00477-013-0765-3.

Bou Zeid, E., El-Fadel, M. (2002). Climate change and water resources in Lebanon and the Middle East. *Journal of Water Resources Planning and Management*, 128 (5), 343-355. [http://dx.doi.org/10.1061/\(ASCE\)0733-9496\(2002\)128:5\(343\)](http://dx.doi.org/10.1061/(ASCE)0733-9496(2002)128:5(343)).

Center for Mediterranean Integration and the World Bank. (2013). *Revue des politiques de gestion foncière urbaine au Liban*. Beirut, Lebanon: Clerc, V. Retrieved from <http://www.cmimarseille.org/sites/default/files/newsite/library/files/fr/Rapport%20foncier%20Liban%20DRAFT%20FINAL%205%20juillet%2020132.pdf>.

Center for Studies on Aging. (2009). *Pensions: A right long overdue for the older citizens, policy brief*. Retrieved from Center for Studies on Aging http://www.csa.org.lb/cms/assets/csa%20publications/policy%20briefs%20pdfs/csa_policy_brief_issue2_pensions.pdf

Center on Democracy, Development, and the Rule of Law Working Papers at Stanford University. (2011). *Electricity sector reform in Lebanon: Political consensus in waiting*. Hasbani, K.U. Retrieved from http://iis-db.stanford.edu/pubs/23465/No._124_Electricity_Sector_Reform.pdf.

Central Administration of Statistics. (2005). *Households Budget Survey 2004* [Report]. Retrieved from <http://www.cas.gov.lb/index.php/all-publications-en#household-budget-survey-2004>.

Central Administration of Statistics. (2008). *Household Living Conditions Survey 2007* [Report]. Retrieved from <http://www.cas.gov.lb/index.php/all-publications-en#households-living-conditions-survey-2007>.

Central Administration of Statistics. (2011). *Statistical yearbook 2010*. [Report]. Retrieved from <http://www.cas.gov.lb/index.php/statistical-yearbook>.

Central Administration of Statistics. (2011). *The labour market in Lebanon* [Report]. Yaccoub, N. & Badre, L. Retrieved from http://www.cas.gov.lb/images/pdfs/sif/cas_labour_market_in_lebanon_sif1.pdf.

Central Administration of Statistics. (2013). *Households Budget Survey 2012* [Report]. Retrieved from <http://www.cas.gov.lb/index.php/all-publications-en#households-budget-survey-2012>.

Choueiri, E. M., Choueiri, G. M, and Choueiri, B. M. (2010, June 2-5). *Analysis of accident patterns in Lebanon*. Paper presented at the 4th International Symposium on Highway Geometric Design, Valencia, Spain. Retrieved from http://www.4ishgd.valencia.upv.es/index_archivos/62.pdf.

Consultation and Research Institute, International Labour Organization, United Nations Children's Fund, Save the Children, and the Republic of Lebanon's Ministry of Labor. (2015). *Children living and working on the streets in Lebanon: Profile and magnitude*. Beirut, Lebanon. Retrieved from http://www.ilo.org/beirut/publications/WCMS_344799/lang--en/index.htm.

Council for Development and Reconstruction. (2004). *National Physical Master Plan of Lebanese Territories*. Beirut, Lebanon. Retrieved from <http://www.cdr.gov.lb/study/sdatl/English/NPMPLT.PDF>.

Council for Development and Reconstruction. (2011). *Progress Report: Urban Transportation*. Beirut, Lebanon. Retrieved from http://www.cdr.gov.lb/eng/progress_reports/pr102011/Eroad.pdf.

Council for Development and Reconstruction. (2013). *Urban transport development project: Project brief*. Beirut, Lebanon. Retrieved from <http://www.cdr.gov.lb/study/UTDP/Final%20brochure%20UTDP.pdf>.

Dar-al-Handasah (Shair & Partners) & l'Institut d'Aménagement et d'Urbanisme de la Région Ile-de-France (IAURIF). *The Physical Master Plan of the Lebanese Territory (NPMPLT)*. (2004). United Nations Human Settlements Programme, *Reforming urban planning systems in Lebanon* (Beirut: United Nations, 2013), available

from <http://www.alnap.org/resource/19861>

Economic Accounts Mission, Presidency of the Council of Ministers, Lebanese Republic. (2010). *Economic accounts of Lebanon 2010*. Beirut, Lebanon: R. Kasparian. Retrieved from <http://www.finance.gov.lb/en-US/finance/EconomicDataStatistics/Documents/National%20Accounts/National%20Accounts%20English%202010%20for%20publication.pdf>.

El-Ackhar, E. & Bakhos, W. (2001). Loi de l'urbanisme, loi de la construction. *Centre d'Etude et de Recherches sur le Moyen-Orient Contemporain (CERMOC), Observatoire de Recherches sur Beyrouth et sa Reconstruction (ORBR)*. Retrieved from <http://www.e-corporus.org/eng/notices/68621--Loi-de-l%E2%80%99urbanisme-loi-de-la-construction-schemas-directeurs-du-Liban-.html>.

European Training Center. (2015). *Labour market and employment policy in Lebanon*. Turin, Italy: Abou Jaoude, H. Retrieved from http://www.etf.europa.eu/web.nsf/pages/Employment_policies_Lebanon_EN.

Evans, Michael. (2011, April 11). *Sustainable transport*. Retrieved from <http://www.earthtimes.org/encyclopaedia/environmental-issues/sustainable-transport/#FqRuqVSjK7PcmQ2C.99>.

Faour, G. (2014). Evaluating urban expansion using remotely-sensed data in Lebanon. *Lebanese Science Journal*, 16 (1), 23-32. Retrieved from http://www.cnrs.edu.lb/info/LSJ2015/No_1/gfaour.pdf.

Fawaz, M. (2005). *L'urbanisme au Liban*. Beirut, Lebanon: Institut d'urbanisme/Observatoire académique urbain, Université de Balamand: Académie Libanaise des Beaux-Arts, Beirut, Lebanon.

Fawaz, M., Harb, M., & Gharbieh, A. (21 August 2012). Living Beirut's security zones: An investigation of the modalities and practice of urban security. *City & Society*, 24, 173-195. doi: 10.1111/j.1548-744X.2012.01074.x.

Haddad, E., Farajalla, N., Camargo, M., Lopes, R., & Vieira, F. (2014). Climate change in Lebanon: Higher-order regional impacts from agriculture. *REGION: The Journal of European Regional Science Association*, 1, 9-24. Retrieved from <http://openjournals.wu.ac.at/ojs/index.php/region/article/view/19/5>.

International Energy Agency. (2008). *Lebanon: Balances for 2008* [Data file]. Retrieved from <https://www.iea.org/statistics/statisticssearch/report/?country=Lebanon&product=balances&year=2008>.

IPT Energy Center, The Republic of Lebanon's Ministry of Environment, United Nations Economic and Social Committee for Western Asia. (2012). *National campaign for air pollution reduction in Lebanon through efficient energy use in land transportation*. Beirut, Lebanon. Retrieved from <http://www.iptgroup.com.lb/Library/Assets/29-%20IPTEC%20Campaign%20Brochure%20English.pdf>.

Issam Fares Institute for Public Policy and International Affairs. (2009). *Youth in the Arab World: Public sector can reduce push factors that drive youth emigration* [Policy Memo]. Beirut, Lebanon: Chaaban, J. Retrieved from https://www.aub.edu.lb/ifi/public_policy/arab_youth/Documents/ifi_ay_memo02_chaaban.pdf.

Kafalat S.A.L. (2015, June 30). *Kafalat S.A.L. Portfolio of Operating Loans at At 30/06/2015*. Retrieved from http://kafalat.com.lb/loans-statistics?field_category_tid_1=151.

Kouyoumdjian, H. & Hamze M. (Ed). (2012). *Review and perspectives of environmental studies in Lebanon*. Beirut: National Council for Scientific Research.

Kouyoumdjian, H., Saliba, N.A., 2006. Mass concentration and ion composition of coarse and fine particles in an urban area in Beirut: effect of calcium carbonate on the absorption of nitric and sulfuric acids and the depletion of chloride. *Atmospheric Chemistry and Physics* 6, 1865–1877.

Lamy, S. (2009). *Rapport de recherche sur la démocratie participative en urbanisme*. Institut d'urbanisme/Observatoire académique urbain, Université de Balamand: Académie Libanaise des Beaux-Arts, Beirut, Lebanon.

Lamy, S. (2010). *Le droit de l'urbanisme au Liban*. Unpublished manuscript, Institut d'urbanisme/Observatoire académique urbain, Université de Balamand: Académie Libanaise des Beaux-Arts, Beirut, Lebanon. Retrieved from http://www.gridauh.fr/fileadmin/gridauh/MEDIA/2011/compte_rendu_de_travaux/urbanisme_sans_frontieres/liban/rapport_liban.pdf.

Mallat, H. (2003). *Le droit de l'urbanisme, de la construction, de l'environnement et de l'eau au Liban*. Brussels: Bruylant.

MED-ENEC: Energy Efficiency in the Construction Sector in the Mediterranean. (n.d). *Background*. Retrieved from <http://www.med-enec.com/med-enec>.

Ministry of Environment, 2015. Ambient Air Quality Monitoring Network, operated by the Ministry of Environment.

National Commission for Lebanese Women. (2014). *Annual report*. Retrieved from National Commission for Lebanese Women:

<http://nclw.org.lb/pictures/PDF/NCLWAnnualReport2014.pdf>

REEP Policy Database. 2013. *Lebanon 2012*. Retrieved from <http://www.reegle.info/policy-and-regulatory-overviews/LB>.

Saliba, N.A., El Jam, F., El Tayyar, G., Obeid, W., Roumie, M., 2010. Origin and variability of particulate matter (PM₁₀ and PM_{2.5}) mass concentrations over an Eastern Mediterranean city. *Atmospheric Research* 97, 106–114.

Saliba, N., Kouyoumdjian H., Roumie M., 2007. Effect of local and long-range transport emissions on the elemental composition of PM_{10–2.5} and PM_{2.5} in Beirut. *Atmos Environ* 41:6497–6509.

Schneider, F. G. (2004). The size of the shadow economies of 145 countries all over the world: First results over the period 1999 to 2003, *IZA Discussion paper series, No. 1431*. Retrieved from <http://www.econstor.eu/bitstream/10419/20729/1/dp1431.pdf>.

Sidahmed, Mazin. (2015, May 15). World Bank, municipality agree to make Beirut earthquake resilient. *The Daily Star*. Retrieved from <http://www.dailystar.com.lb/News/Lebanon-News/2015/May-15/298053-world-bank-municipality-agree-to-make-beirut-earthquake-resilient.ashx>.

The Lebanese Center for Policy Studies. (2013). *Youth employment in Lebanon: Skilled and jobless*. Beirut, Lebanon: Kawar, M. and Tzannatos, Z. Retrieved from http://www.lcps-lebanon.org/publications/1368538726-youth_enemployment.pdf.

The Lebanese Center for Policy Studies. (2015). *Local governments and public goods: Assessing decentralization in the Arab world*. Harb, M., & Atallah, S. (Eds.). Retrieved from <http://www.lcps-lebanon.org/publication.php?id=276>.

The Republic of Lebanon's Ministry of Agriculture. (n.d). *Programs and Projects*. Retrieved from <http://www.agriculture.gov.lb/Arabic/ProgAndPro/Pages/default.aspx>.

The Republic of Lebanon's Ministry of Environment. (1999). *Lebanon's Initial National Communication to the United Nations Framework Convention on Climate Change*. Beirut, Lebanon. Retrieved from <http://climatechange.moe.gov.lb/viewfile.aspx?id=165>.

The Republic of Lebanon's Ministry of Environment. (2011). *Lebanon's Second National Communication to the United Nations Framework Convention on Climate Change*. Beirut, Lebanon. Retrieved from <http://climatechange.moe.gov.lb/viewfile.aspx?id=19>.

The Republic of Lebanon's Ministry of Environment, European Union, & NEAP. (2005). *National environmental action plan*. Unpublished.

The Republic of Lebanon's Ministry of Environment, European Union and United Nations

Development Programme. (2014). *Lebanon environmental assessment of the Syrian conflict & priority interventions, September 2014*. Beirut, Lebanon. Retrieved from <http://www.moe.gov.lb/The-Ministry/Reports/Lebanon-Environmental-Assessment-of-the-Syrian-Con.aspx?lang=en-us>.

The Republic of Lebanon's Ministry of Environment, United Nations Development Program and ECODIT. (2011). *State and trends of the Lebanese environment 2010*. Beirut, Lebanon. Retrieved from http://www.undp.org.lb/communication/publications/downloads/SOER_en.pdf.

The Republic of Lebanon's Ministry of Environment, United Nations Environmental Programme and United Nations Development Programme. (2012). *Lebanon: Technology needs assessment for climate change*. Beirut, Lebanon. Retrieved from http://www.undp.org.lb/communication/publications/downloads/TNA_Book.pdf.

The Republic of Lebanon's Ministry of Public Health. (2001). *National household health expenditures and utilization survey 1999, Volume 3*. Beirut, Lebanon. Retrieved from <http://www.moph.gov.lb/Publications/Documents/enquetenationalevol32001.pdf>.

The Republic of Lebanon's Ministry of Public Health. (2010). *The statistical bulletin*. Beirut, Lebanon. Retrieved from <http://www.moph.gov.lb/Publications/Pages/StatB2010.aspx>.

The Republic of Lebanon's Ministry of Public Health, World Health Organization, Université Saint-Joseph de Beyrouth. (2012). *National health statistics report in Lebanon*. Beirut, Lebanon. Retrieved from <http://www.igsp.usj.edu.lb/docs/recherche/recueil12en.pdf>.

United Nations Children's Fund, *The State of the World's Children 2012: Children in an Urban World* (New York: United Nations, 2012), available from http://www.unicef.org/sowc/files/SOWC_2012-Main_Report_EN_21Dec2011.pdf.

United Nations Development Programme, *Disaster risk assessments in Lebanon: A comprehensive country situation analysis* (Beirut: United Nations, 2010), available from http://www.gripweb.org/gripweb/sites/default/files/documents_publications/%2A%2A%2A%2A%20Lebanon_CSA%20-%20black.pdf.

United Nations Development Programme, *Lebanon Millennium Development Goals 2013-2014* (Beirut: United Nations, 2014), available from <http://www.lb.undp.org/content/lebanon/en/home/library/mdg/lebanon-mdg-report-2013-2014.html>.

United Nations Development Programme, *Mapping of living conditions in Lebanon between 1995 & 2004* (Beirut: United Nations, 2007), available from

<http://www.lb.undp.org/content/lebanon/en/home/library/poverty/mapping-of-living-conditions-in-lebanon-between-1995---2004.html>.

United Nations Development Programme and CEDRO, Country Energy Efficiency and Renewable Energy Demonstration Project for the Recovery of Lebanon, *The National Wind Atlas of Lebanon* (Beirut: United Nations, 2011), available from http://www.undp.org.lb/communication/publications/downloads/National_Wind_Atlas_report.pdf.

United Nations Development Programme and The Republic of Lebanon's Ministry of Environment. *Mobility cost: A case study for Lebanon* (Beirut: United Nations, 2013), available from <http://climatechange.moe.gov.lb/viewfile.aspx?id=217>.

United Nations Economic and Social Commission for Western Asia. *Follow-up on property issues in the field of social development in the ESCWA region: Social inclusion* (Beirut: United Nations, 2009), available from http://css.escwa.org.lb/sdd/1033/social_en.pdf.

United Nations High Commissioner for Refugees. (2015). *Syria regional refugee response: Inter-agency information sharing portal, shelter working group Lebanon, UNHCR shelter assessment*. Beirut, Lebanon.

United Nations High Commissioner for Refugees. (30 November 2015). *Syria regional refugee response: Inter-agency information sharing portal* [Data file]. Retrieved from <http://data.unhcr.org/syrianrefugees/country.php?id=122>.

United Nations Human Settlements Programme, *UN-Habitat country programme document 2008-2009: Lebanon*. (Beirut: United Nations, 2013), available from <http://mirror.unhabitat.org/pmss/listItemDetails.aspx?publicationID=2706>.

United Nations Human Settlements Programme, *Reforming urban planning systems in Lebanon* (Beirut: United Nations, 2013), available from <http://www.alnap.org/resource/19861>

United Nations Human Settlements Programme and the Development Planning Unit, University College London. (2003) *The challenge of slums: Global report on human settlements 2003* (United Nations, 2003): Fawaz, M. and Peillen, I. Retrieved from http://www.ucl.ac.uk/dpu-projects/Global_Report/cities/beirut.htm.

United Nations Human Settlements Programme and United Nations High Commissioner for Refugees. (2014). *Housing, land and property issues in Lebanon: Implications of the Syrian crisis*. Beirut, Lebanon: Fawaz, M., Saghiyeh, N., & Nammour, K. Retrieved from <http://unhabitat.org/housing-land-and-property-issues-in-lebanon-implications-of-the-syrian-refugee-crisis-august-2014/>.

United Nations Open-Ended Working Group on Ageing, *Strengthening Older People's Rights: Towards a UN Convention*. (United Nations, 2010), available from <http://social.un.org/ageing-working-group/documents/Coalition%20to%20Strengthen%20the%20Rights%20of%20Older%20People.pdf>.

Verdeil, E. (2009). Électricité Et territoires : un regard sur la crise Libanaise. *Revue Tiers Monde*, 198, 421-436. Retrieved from http://www.cairn.info/load_pdf.php?ID_ARTICLE=RTM_198_0421.

Verdeil, E. (2013). Les services urbains à Beyrouth: Entre crise infrastructurelle et réformes contestées. *Géosphères, Annales de Géographie de l'Université Saint-Joseph*, 33.34, 35-58.

Verdeil, E., Faour, G., & Velut, S. (Eds.). (2007). *Atlas du Liban: Territoires et société*. Beirut, Lebanon: Presses de l'Ifpo, CNRS Liban.

Waked, A., Afif, C. and Seigneur, C. An atmospheric emission inventory of anthropogenic and biogenic sources for Lebanon. *Atmos. Environ.* 2012; 50: 88-96.

World Bank (2004): Sarraf, M.; Larsen, B.; Owaygen, M.: Cost of Environmental Degradation, the case of Lebanon and Tunisia. Environmental Economics Series. Paper No. 97. The World Bank, Washington.

World Bank. (2009). *Republic of Lebanon - Water sector: Public expenditure review*. [Public expenditure review (PER)]. Washington, DC: World Bank. <http://documents.worldbank.org/curated/en/2010/05/12550208/republic-lebanon-water-sector-public-expenditure-review>.

World Bank. (2012). *Republic of Lebanon--Good Jobs Needed: The Role of Macro, Investment, Education, Labor and Social Protection Policies*. Washington, DC: Robalino, D. and Sayed, H. Retrieved from <https://openknowledge.worldbank.org/handle/10986/13217> License: CC BY 3.0 Unported.

World Bank. (2013). *Lebanon economic monitor, April 2013: growing tensions in a resilient economy*. Lebanon Economic Monitor. Washington, DC: World Bank Group. Retrieved from <http://documents.worldbank.org/curated/en/2013/04/24412470/lebanon-economic-monitor-april-2013-growing-tensions-resilient-economy>.

World Bank. (2015). *Population, total* [Data file]. Retrieved from <http://data.worldbank.org/indicator/SP.POP.TOTL>.

Youth Forum for Youth Policy. (2012). *The document of the youth policy in Lebanon*. Beirut, Lebanon. Retrieved from http://www.youthpolicy.org/national/Lebanon_2012_National_Youth_Policy.pdf.