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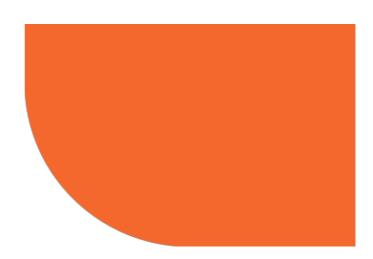
# Luxembourg Sustainable Spatial Development Policy: General Milestones and Circuits (SUSTAINLUX)

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# Luxembourg Sustainable Spatial Development Policy: General Milestones and Circuits

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**ABSTRACT**

There is a wealth of planning literature that addresses sustainable development in Luxembourg. As planners are confronted with finding ways to manage growth, sustainable development as a normative point of departure permeates all levels of planning in Luxembourg. The primary object of this working paper is to map the trajectories of sustainable development literature in Luxembourg, while focussing on more recent turns in locally specific economic (post-industrial) and infrastructural (housing and transport) restructuring in Luxembourg. It is also the goal of this paper to contextualise these documents in the specific discourses out of which they were born. Methods included document screening, and grounded theory based interviews that were later transcribed and coded. In so doing, the discourse around sustainable development policy could be reconstructed and analysed. It was seen that the mobility of policies through the multi-scalar and cross-national and simultaneously micro-level governance structures poses many obstructions to implementation of sustainable development policies.

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## FOREWORD

The Government of Luxembourg's *Fonds National de la Recherche* is actively engaged in generating quality scientific research across six thematic domains. This research intends to satisfy the objectives outlined in the CORE Thematic Research Priority of "Sustainable Resource Management in Luxembourg," and more precisely, to the thematic research priorities described in "Spatial and Urban Development" (Fonds National de la Recherche Luxembourg 2010: 10). Given recent economic and demographic development dynamics and the strong pressure on land-use, SUSTAINLUX focuses on an evaluation of the existing planning policy instruments and governance patterns in respect to spatial development in the Grand Duchy in general, and of housing policy and transport in particular. This FNR CORE funded project shall provide information about the strengths and weaknesses of current policy tools, and hence reveal potentially new tools and approaches to more sustainable spatial development policies.

The research was conceived in cooperation with the *Helmholtz-Zentrum für Umweltforschung* in Leipzig, who simultaneously submitted a project proposal concerning sustainability and governance and European Union water policies to the *Bundesministerium für Bildung und Forschung* – which has since been approved. A draft of this project idea was also presented to both the *Conseil Supérieur pour un Développement Durable* (CSDD) as well as to the *Conseil Supérieur de l'Aménagement du Territoire* (CSAT), two independent think tanks and advisory councils gathering a great variety of non-governmental actors in Luxembourg. Both councils signalled their strong interest in

this project and offered practical support, openness to participatory observation, and assistance with the identification of interview partners, organisation of group discussions, access to relevant data and documents for the reconstruction of policy processes.

Special thanks are extended to Professors Markus Hesse and Christian Schulz for their continual commitment and solidarity to, and feedback on, the SUSTAINLUX project. Special recognition and appreciation is also extended to Prof. Robert Krueger, who also extended continual support during his stay as a Visiting Scholar at the University of Luxembourg. The research presented here also rested on the co-operation of a variety of interviewees, whose names can only be published *in camera*, but whose participation is greatly appreciated. The SUSTAINLX team has also had the pleasure to welcome Dr. Urs Maier and Hazel Confait for their transcription services during the summer of 2011. Dr. Maier's critical and constructive feedback was also very much valued.

The SUSTAINLUX project has also benefitted from further feedback generated from the Laboratory meetings of the Geography and Spatial Planning Research Centre at the University of Luxembourg. I also found great help from networks such as the Regional Studies Association Research Network for Ecological Regional Development. Here, acknowledgements must be extended to Prof. David Gibbs, Prof. Bernhard Müller, and Dr. Gerd Lintz. I am also grateful for the feedback I received from Cologne-Luxembourg Ph.D. colloquium, hosted by Prof. Boris Braun at the Institute of Geography at the University of Cologne. Last but not least, I thank Tom Becker of the Cellule nationale d'Information pour la Politique Urbaine

(CIPU) for helping me navigate through Luxembourgish social space.

The purpose of the overarching SUSTAINLUX study is to identify development trends and ascertain the impacts and potential of existing and forthcoming planning instruments. The objective is thus to generate and provide valuable information concerning patterns of policy-making, decision-making, and governance, as well as configurations of social spatial transformation to planners, relevant practitioners, and other interested parties. At the same time, our findings will contribute to the broader international discussion on sustainable development.

This document constitutes the second of five working papers generated throughout the course of the research.

### Introduction

Luxembourg's growth pressures occurred at a time when sustainable development as a planning paradigm was reaching international recognition, pervasiveness, and permanency. In rhythm with this tune, sustainable development has entered Luxembourg planning discourse at all levels of government and civil society. While a search for "sustainable development" (*developpement durable*) among the national law archives (at www.legilux.public.lu) will show that the term was sporadically mentioned in two governmental documents prior to the 1990s, over three hundred documents were found in the period between 1999 and 2010, indicating that something has changed in planning policy in Luxembourg and that sustainable development had something to do with it.

Alongside this development within Luxembourg, discourses beyond Luxembourg

were becoming more and more critical of urban and regional sustainability, and there is a growing claim for rethinking its central assumptions. A poignant quote from Erik Swyngedow in *The Sustainable Development Paradox: Urban Political Economy in the United States and Europe* (Krueger and Gibbs 2007) revealed the problematic plasticity of the term:

> "...Greenpeace is in favour, George Bush Jr. and Sr., the World Bank and its chairman (a prime war monger in Iraq) are, the Pope is, my son Arno is, the rubber tappers in the Brazilian Amazon are, Bill Gates is, the labor unions are..." (Swyngedouw 2007: 20).

The fact that everyone is for sustainability poses a post-political condition that precludes any real politic of the environment, Swyngedouw further argued (2007: 13). This critique is principally based on comparable arguments as to the generic, non-specific discourse on sustainable development. As Voss et al. (2007: 194) put it (paraphrased): the goals of sustainable development are ambivalent, the contextual knowledge needed towards its practice is highly uncertain, and the powers able to implement sustainable objectives are highly distributed. This corroborates the growing wealth of international literature that is critical of the subject of sustainability (Krueger and Gibbs 2007).

It is curious that despite these shortcomings in the international literature, sustainable development prevails as a concept that permeates all levels of planning in Luxembourg. The Brundtland-Report *Our Common Future* (United Nations 1987: 54) hallmarked the first time that consideration of the non-human environment as well as the well-being of the earth's future inhabitants as of equal value to economic and social development, and sustainable development became a framework that would be further developed in later meetings such as in Rio de Janeiro (United Nations 1992), the Johannesburg Summit (United Nations 2003), and the Framework Convention for Climate Change (United Nations Framework Convention on Climate Change 1992), to name a few. Luxembourg, too, followed suit and sustainable development became at the forefront of urban and regional policy initiatives with, for example, the publication of the *Plan National pour un Développement Durable* (Ministère de l'Environnement 1999; Ministerium für Nachhaltige Entwicklung und Infrastrukturen and Spangenberg 2011) the *Programme Directeur d'Aménagement du Territoire* (Ministère de l'Intérieur 2003), and the various sector plans that have since followed. All of these documents explicitly pronounce sustainable development as a primary planning target. Yet within Luxembourg, contradictory processes are easily observable, and internationally many maintain that things have gotten worse, not better since 1987 (Jordan 2008: 17). These include the rapid growth of outlying municipalities inside and outside of its national borders (Leick 2009: 53; Sohn and Jacoby 2009: 60), the tight private property market and low rental vacancy rates (Beyer 2009: 182), the social and environmental pressures resulting from commuter flows (Becker and Hesse 2010: 2), and the cheap gasoline prices (Thöne 2008: 12; Beyer 2009:138) and the related national footprint (Conseil Supérieur pour un Développement Durable and Global Footprint Network 2010). They signal that the three-legged-stool of sustainability remains unevenly balanced as it was before.

This paper has a dual purpose. Firstly, it will provide the reader with a review of more recent turns in environmental policy closely related to locally specific economic (post-industrial) and infrastructural (housing and transport) restructuring in Luxembourg. This will include a review of what the individual policy documents were designed to accomplish, and their relationship to the normative of sustainable spatial development. Secondly, these policies will be positioned in the wider orbital systems of Luxembourgish sustainable development policy-making: the international stage and the internal national arena. By stratifying the policy-making process in this way, it can clearly be seen how and which governing bodies are involved, how these policies were conceptualised by their designers and perceived by other stake-holders less directly involved, and conflicts as well as barriers to implementation of sustainable development norms can be exposed.

## METHODS

The research for this paper was a two-step process that: first, involved collecting relevant planning documents in Luxembourg; and second, rested on data collected from qualitative conversational interviews.

The selected influential documents that were formed at the international level, were the Brundtland Report, the Leipzig Charter, and strategies of Lisbon, Göteburg, and Europe2020. These sparked policy responses within Luxembourg such as the "Plan National pour un Developpement Durable" (PNDD) (Ministère de L'Environnement 2000) and the Luxembourg2020 strategy.

At the national level, there were various policy initiatives that addressed sus-

tainable development planning trajectories across the Grand Duchy: an all encompassing planning law was introduced in 1999 (loi du mai 1999 concernant l'aménagement du territoire), and this document set up the legal and governing framework for the "Programme Directeur d'Aménagement du Territoire" (Ministère de l'Intérieur 2003:5). This latter document provided an overarching spatial vision along which growth in Luxembourg could be managed. Four "Plans sectoriels" (for transport, housing, landscapes, and economic zones), which were anchored in these national directives, further referred to more specific planning goals. It must be noted, however, that only draft versions of the Sector Plans were available for study: The final versions are due to acquire legal status as *Réglements Grand-Ducales* in 2012 – second level national laws that do not require a vote in the Chamber of Deputies, but take precedent over municipal law.

The scope of governmental policy documents that address the many themes umbrellaed by sustainable development is wide and diversified. A variety of cross-ministerial and cross-societal groups have been working on various projects to address emissions reduction or economic instability or mobility of human capital or a variety of other socioeconomic and/or environmental problems, the amelioration of which can be argued to better our human environment for the benefit of our children's children. "L'Empreinte Écologique du Luxembourg" showed that if the entire world lived like the average Luxembourger, 12 planets would be required (Conseil Supérieur pour un Développement Durable and Global Footprint Network 2010: 6). "Partenariat pour l'environnement et le climat" is a cross-societal initiative to look at ways of reach-

ing climate control goals. Other non-governmental milieux include, but are not limited to, *Friends of the Earth Luxembourg* (Movement Écologique), *Greenpeace*, *Caritas*, *Climate Alliance Luxembourg*, *Action Solidarité Tiers Monde*, and the *University of Luxembourg*, the University of Luxembourg's Sustainable Development Working Group, and the *Global Development Rights Framework Luxembourg*. Furthermore, a comprehensive list of businesses active in Luxembourg on the topic of sustainable development in some way, shape, or form, can be found at the website of the *Movement Écologique* – the organization that hosts annual eco-fairs at the *LuxExpo* on Kirchberg. At the fair, a wide ranging variety of actors present their work. Together, these organizations form a wide-reaching network of trade and commerce whose primary objective is the creation and distribution of products that support the objectives of sustainable development defined as the recognition of closed ecosystem circulatory systems and the protection of natural resources (Movement Écologique 2010).

In terms of planning and urban and regional development specifically, the *Département de l'aménagement du territoire* of the *Ministère du Développement durable et des Infrastructures* is the primary administrative body of the national government that orchestrates spatial plans for all of Luxembourg. Their duties are to carry out the directives ratified in the Chamber. The documents that they produce will play a central role in this paper. Their work arises in close cooperation with the *Department of Geography and Development* of the research institution, *CEPS/INSTEAD*, who also produce high quantities of documents concerning spatial planning in the Grand Duchy. Of particular note is the work of

*L'Observatoire de l´Habitat*, which documents transformation trends across all 116 municipalities.

Sustainable development is a hot topic in Luxembourg that is being assessed and addressed by a wide variety of governmental, non-governmental, private, and semi-private actors, who, at the very least, if they are not democratically elected officials, are public opinion and capacity building bodies. The project of SUSTAINLUX acknowledges these processes but cannot address each of the discursive policy-making spheres. However, by focussing on the nexus of housing and transport and the development patterns therein: a) an examination of the three spheres of sustainable development from a spatial perspective is possible; and b) a reasonable and structured 3-year research process is permitted.

With respect to housing, two recent documents are of particular interest: the *Plan Sectoriel Logement* (PSL) (Ministère des Classes Moyennes, du Tourisme et du Logement and Ministère de l'Intérieur et de l'Aménagement du Territoire 2009) and the "*Pacte Logement*" (PL) (Ministère du Logement 2008). Concerning transport, there are three policies: the *Plan Sectoriel Transport* (PST) (Ministère des Transports, Ministère de l'Environnement, Ministère de l'Intérieur et de l'Aménagement du Territoire, and Ministère des Travaux Publics 2008b), the *Integratives Verkehrs- und Landesentwicklungskonzept* (IVL) (Ministère de l'Intérieur (DATUR) 2004b), and *Mobil2020* (Ministère de l'Environnement 2009).

The second part of the research process involved conversational interviews with key actors (pro and contra) in the Luxembourg field of spatial planning and

development. One hour conversational interviews were thus performed with planners, geographers, journalists, activists, home buyers, and government officials. This array of interview partners was conceived as a series of preliminary and exploratory interviews designed to inform the researchers of some of the historical context of the planning documents under examination. A total of thirteen interviews were performed under the conditions of informed consent. All information provided was done so voluntarily, and in accordance with internationally recognised ethical standards related to the collection, analysis and documentation of people related data.

The interviews were meticulously transcribed, capturing each word, pause, and stutter. These records are kept locked in the offices of the Geography and Spatial Planning Research Centre at the University of Luxembourg. The Rich Text File format versions were entered into a text analysis processor called *MAXQDA*, which functions essentially as an electronic sticky-note system. The texts were thoroughly coded for topical, normative, epistemological, and impressionistic characteristics – each category containing a up to 8 sub-categories (sub-codes), and of those some has sub-sub-categories as well. Suitable passages for a future Q-study were also earmarked. In this way, the interview transcriptions could be thoroughly catalogued and archived, for systematic analysis, and results would be anchored in qualitative Grounded Theory approaches (Creswell 2009:13; Carr, Hesse, and Schulz 2010:19). The interviewees were then given code names for the purposes of quotation and referencing. In the instances that the interviews, or sections of the interviews, were performed in French or German, quotes from the transcript were translated in English before inserted into this paper.

The findings presented in this paper are considered preliminary and basis-forming for further research. The methods encompassed a document survey and an assortment of interviews of actors who positioned themselves in various ways in and around the topic of sustainable spatial development. Luxembourg is an ideal laboratory for such studies because of its modest territorial and population size. With a population of just over 500,000 it is, indeed, conceivable to, in time, reach all relevant actors. For this Working Paper, 23 individuals were contacted and it was possible to plan 13 of them within the time frame at hand. While a higher rate of return would have been desirable, 13 is indeed enough for preliminary findings, as many were top-ranking officials in their field (the list is confidential). Furthermore, it must be noted that those interviewed constitute only a specific milieu of the Luxembourg sustainable development policy-making discourse. First, sustainable development is already, in general, a widely discussed topic in Luxembourg spanning agricultural practices to biodiversity to energy to economics, the SUSTAINLUX project focuses only on the intersection of housing and transport as they relate to the three-pillared normative. Second, of the 23 it can be noted that no-one, unfortunately, from the housing-policy sphere volunteered to participate. Third, all but one of the 13 interviewed were Luxembourg citizens, thereby rendering the results reflective of the sustainable development policy goals as defined by half of the resident population at most. Thus, while the document survey is considered herewith complete, the interview process will continue over the course of the SUSTAINLUX project, and it is expected

that further interviews will be conducted, thereby generating still more data for future Working Papers. The interviews conducted and processed thus far are used and evaluated for their impressionistic value.

## INTERNATIONAL DISCOURSES

Just as Luxembourg has been actively involved in the formation of many international and European-wide institutions (Chilla 2009a), so too, has Luxembourg been involved in many of the international treaties concerning sustainability. In addition to the Rio Declaration processes that followed the Brundtland Report, Luxembourg participated in the Vienna Convention in 1988, and signed the Montreal Protocol in 1987 towards the protection of the ozone layer. As well, Luxembourg was present at the United Nations Framework Convention on Climate Change in 1994, and along with 38 other countries, signed the Kyoto agreement in 1997; thus, committing themselves to the reduction of greenhouse gas (GHG) emissions by 2012. Specifically, this meant a reduction of GHG target of -28% relative to 1990 (Ministère de l'Environnement 2006a: 7). At the European level, Luxembourg was also active in discussions concerning sustainable development. It signed the Lisbon Strategy, the objective of which was to find ways to strengthen the European Union as a competitive and knowledge-based economy with more jobs, stronger social cohesion, and sustainable economic growth (European Commission 2010b: 2), as well as the Gothenburg Strategy, which was developed a year later to augment the former such that, "social policy underpins economic performance, and that environmental policy is cost-effective," (Commission of the European Communities 2001: 2). The Leipzig Charter for Sustainable Euro-

pean Cities and Europe2020 were also significant policies for Luxembourg.

Several respondents in our interviews commented that during the 1980s and 1990s, Luxembourg went through a dual process of, first, reindustrialization (Interview with Government Official, June 30, 2011, Luxembourg; Interview with Government Official, July 15, 2011, Luxembourg; Interview with Government Official, July 21, 2011, Luxembourg) – that is, the restructuring of the steel industry within Luxembourg and thereby retaining its position as a magnet for international labour (Interview with Government Official, June 30, 2011, Luxembourg) – and second, economic tertiarization as the financial sector began to boom and thus engaged still newer patterns of economic cross-border in and out migration (Interview with Government Official, June 30, 2011, Luxembourg). During these years, it was becoming apparent that the existing planning laws were neither capable of addressing the changing infrastructural needs of the country, nor did they provide mechanisms through which inter-municipal as well as extra-national challenges could be sufficiently co-ordinated. One interviewee commented:

> "...over the nineties towards the end of the nineties and especially the beginning of the new century, there was a clear common understanding that we definitely had now to be careful about our development." (interview with Government Official, July 15, 2011, Luxembourg).

A new planning approach was necessary to manage the emerging problems. Yet, just as Luxembourg's small population wasn't able of providing the wo/manpower for the steel and financial

industries, the problem of deficient domestic competencies existed for policy-making as well. This peculiar characteristic of Luxembourg, which reflects itself as a modestly populated nation well positioned in the Schengen area of Europe, was noted on by several of our interviewees. One indicative comment from an interviewee, for example, explained:

> "Luxembourg, as a country, has always understood Europe as a project with many possibilities. For them, it has never been the zero sum game. … For Luxembourg, it has always been give and get competences, but we go with the competences to the upper level and we try to influence it there, and has been quite successful in doing it, and that could be for spatial development too," (interview with Applied Geographer, June 27, 2011, Luxembourg).

Or, as another explained:

> "Luxembourg is a very small country, and on the European level you got the opportunity to see the difference in planning cultures between the North and the South. That was for us very interesting," (interview with Government Official, July 21, 2011, Luxembourg).

The European level provided a logical venue for Luxembourgish politicians to learn, exchange, and generate policy mechanisms.

Through this seemingly circular policy-making process, activists and politicians genuinely concerned for the non-human living environment were able to bring environmental concerns to the European negotiating table. In the 1980s and 1990s environmental movements were becoming more and more vocal inside of Luxembourg. Again, through information exchange and solidarity of international connections, organizations such as Greenpeace and *Mouvement Ecologique* (Friends of the Earth Luxembourg) were raising concerns of limited natural resources and economic development, protection of biodiversity and green spaces, and nuclear power. These discussions, unfolding alongside the tertiarization and reindustrialization of the Luxembourg economy, came to form significant public opinion building bodies within the relatively small and horizontal political structure of Luxembourg.

Also in the 1990s, the Department of Spatial Planning was formed within the Ministry of the Environment. Planning was thus seen as a mechanism to address social and environmental concerns. Luxembourgish planners, then, were thus poised to argue for a sustainable development normative at the European level.

### Plan National pour un Developpement Durable (PNDD)

As a result of policies circulating between the national and international level, the major international policy milestones concerning sustainable development, that impacted Luxembourg, were reached. A large delegation was sent to the Rio conference in 1992: It was one of the largest delegations at the conference in terms of person numbers, and undoubtedly the largest measured per capita. After the United Nation's meeting, the *Plan National pour un Developpement Durable* (PNDD) (National Plan for Sustainable Development) (Ministère de L'Environnement 2000; Ministère de l'Environnement 2006a) became the national government of Luxembourg's response to the Agenda21 commitments made in Rio. It culmi-

nated in the publication and circulation of the "*PNDD Luxembourg: Ein Nachhaltiges Luxemburg für mehr Lebensqualität*" in May 2011 (Ministerium für Nachhaltige Entwicklung und Infrastrukturen and Spangenberg 2011).

Initially, the Ministry of Environment maintained that the pillars of sustainability as outlined in the Bruntland could provide the framework for development in Luxembourg, to address the specific set of challenged faced as a result of economic restructuring (Ministère de L'Environnement 2000), and the first drafts of the document contained strategies of implementation, which involve engaging in (further) international cooperation, managing of spatial planning, supporting local municipalities in their efforts towards local implementation of national directives, mobilizing communication systems towards the dissemination of information, and reforming in the education system to accommodate changes in the Luxembourgish social structure (Ministère de l'Environnement 2006a:82–85). In addition, mechanisms for monitoring progress over time were also outlined. In order to meet the challenges addressed in the PNDD, changes in planning law were due. A task force was set up under the responsibility of the Ministry of Environment and with participants from other ministries, a National Committee for Sustainable Development (*Conseil Supérieur pour le développement durable* (CSDD)) and the Sustainable Development Commission (*Commission interdepartmental du développement durable* (CIDD)) were formed, indicators of sustainability were developed, and periodic strategic environmental assessments completed, (Ministère de l'Environnement 2006a:82–93).

These commitments crystallised a trajectory of internal dialogues, initiatives, and further documentations that encompassed Luxembourg's response to the United Nations international objectives. The work of CSDD and the CIDD constituted the two governmental organs that were to orchestrate sustainable development policy in Luxembourg as articulated in their international commitments. The primary objective of the CSDD was to create a forum for discussion concerning sustainable development. These missions were finalised in Article 4 of the Law of June 25th 2004 (Developpement Durable 2004). They proposed areas of research, sought linkages to similar committees in other European countries, and were responsible for drawing in public bodies into dialogue and exchange. They also advised the Luxembourg government concerning all matters related to sustainable development. The missions of the CIDD, whose membership is composed of representatives from various governmental departments, are also outlined in the planning law of June 25th (Developpement Durable 2004). This committee was responsible for the initial write-ups of the sustainable development plan of action, entitled, "*Rapport national sur la mise en oeuvre de la politique de développement durable*" (Ministère de l'Environnement 2006b), as well as the "Luxembourg Vision" (Spangenberg and Ministère de l'Environnement 2007). It was their job to generally ensure the integration of the various sectors into the planning process. The PNDD was thus a product of efforts made by environmentally conscious and politically engaged Luxembourg citizens who were able to learn and profit from international forums, and bring these ideas as globally legitimated plans to the electorate of Luxembourg.

The final product was launched in May 2011, accompanied by a media campaign to alert the public to, and raise awareness of, evolving unsustainable trends. Fourteen trends specific to Luxembourg were identified (Ministerium für Nachhaltige Entwicklung und Infrastrukturen and Spangenberg 2011: 7):

1) the overuse of natural resources;

2) high rates of ground consumption associated with a parcelization of land to the detriment of landscapes and relaxation, ground water and biodiversity;

3) increasing use of energy;

4) increasing traffic with negative impacts on energy and land-use consumption, as well as transport safety;

5) increasing precarity of population in terms of poverty;

6) endangered societal cohesion;

7) endangered public health, through the rise of such trends as diseases of the affluent;

8) aging of the population with consequences on social structure, labour market, and system of social protection;

9) economic instability through high volatility in international markets;

10) risk of reduced governmental negotiation capacities;

11) ever increasing polarization between the North and South [on a global scale];

12) challenges for the education system to foster sustainability education;

13) unequal chances between men and women;

14) the deficit in coherent governing.

For each of these trends, several pages of suggestions are proposed – all of which "must integrate" (Ministerium für Nachhaltige Entwicklung und Infrastrukturen and Spangenberg 2011: 5) all three dimensions of sustainability. The document provides guidelines (but no concrete plans or actions). It is yet to be seen the role that these ideas will play in further Luxembourgish development.

### The Leipzig Charter

Sustainability policy in Luxembourg is also generated through the commitments that resulted from the Leipzig Charter — the objective of which was to design a sustainable urban development that fosters economic prosperity, social balance, healthy environments, through polycentric urban structures and integrated approaches in spatial planning, with the further recognition that cities are on one hand centres for knowledge, growth, and innovation, but also face problems such as social inequity, a lack of affordable housing, and unsolved environmental concerns. Like the Gothenburg Strategy, the Leipzig Charter recognises that economic growth and social progress go hand-in-hand (Präsidentschaft der Europäischen Union 2007: 1; Commission of the European Communities 2001:2). The urban development objectives of the policy were ordained to be steered at the national level (Präsidentschaft der Europäischen Union 2007: 7), whereby the European Union provides a platform for the exchange of best practices, and collection of

statistics and evaluations. Luxembourg participates in this program, through the establishment of the *Cellule nationale d'Information pour la Politique Urbaine* (CIPU) which functions as the office responsible for linking local Luxembourg sustainable development discourse and processes with those of other member states via the European platform. Cosponsored by the Ministry for Spatial Planning and the University of Luxembourg, CIPU was the direct result of engagement of the European Ministers in charge of urban policy or urban development:

> "In Leipzig 2007, it was decided by the Ministers to promote the integrated approach in the different [European] member states and the Luxembourgish initiative, as a consequence of this initiative, launched CIPU. [CIPU] is very interesting because you have the different levels involved as well. You have the Ministries involved, the Minister of Housing, the Minister of Sustainable Development, the Ministry of the Economy and then you have the universities and institutions, and you have the three urban zones represented by the Luxembourg – the City of Esch, and the Nordstad. So you have partners from different levels." (interview with Applied Geographer, May 27, 2011, Luxembourg).

This interview partner continued with the statement, "the idea of integrated approach is already in the project itself," because on the ground, implementation of the platform reveals that there is little consensus as to what integrated sustainable development means or what the actions should entail. This interviewees' observations reveal that while the national level adheres to the objectives of the Leipzig Charter, local administrators capitalise on the simple opportunity to participate:

> "the integrated approach is much more about cooperation. It's just being able to get around one table and discuss certain issues and find certain, solutions. It's more about participating," (interview with Applied Geographer, May 27, 2011).

Furthermore, the objective of CIPU is to solely create a platform of exchange. Actual actions must be taken on by the individual municipalities.

### *Lux2020*

Yet, while policies based on the three-legged stool of sustainability were in formation and implementation and/or change was on the horizon, the 2000s also marked an emerging change in emphasis in policy planning, away from environmental or social concerns to economic concerns. Many of our respondents commented that the economy has taken higher priority than either social or environmental issues in recent years. This is shown in the list of quotes that follow:

> "the social dimension has been done neglected very much. So I am working actively on trying to engage with social actors with actors involved in integration policies in order to enhance the social dimension and urban planning," (Interview with Applied Geographer, May 27, 2011, Luxembourg)

> "the social is not present in fact...I've been leading the discussions [with] different actors of public life discussing the issue of climate change in the logic of *développement durable*. And what we saw there, also, was that there were always very precise

points regarding the economy and the ecology, but the social level was not really present in our discussions" (Interview with Government Official, July 21, 2011, Luxembourg)

"I think we should more involve the social actors, trade unions and so on. Definitely," (Interview with Government Official, July 15, 2011, Luxembourg)

"The union are very sceptical on sustainable development. They are afraid of the greens. … The president of the OSBL was a member of the CSDD. But he resigned after a year and a half. I think that they are afraid of the green part because they are afraid that – they see that the crisis pole economic combined with social protection [which is not necessarily supported by environmentalists]," (Interview with Government Official, June 28, 2011, Luxembourg)

Our interviews show that the Venn diagram of sustainability shows the economy represented by the largest circle, the environment by the mid-sized circle, and the social as the smallest circle. It has been observed by some practitioners that environmentalist and economists in Luxembourg have been reaching more consensuses in recent years. Some even commented that those who engage themselves in social issues in Luxembourg are becoming wary of environmentalists because they fear that their topics will take a back seat to issues that address biodiversity, climate change, or green landscape preservation.

The emphasis on the economy can be traced again to international circuits of exchange. The short-term goal of Europe2020 was the survival and resurrection of the European economy of, and out of, the financial crises that had been quaking since 2008 (European Commission 2010a: preface). Making the most of Europe's educated work force, solid technological and industrial base, as well as its single currency, the goal of Europe2020 was about creating jobs and better lives for a thriving and cohesive European Union (European Commission 2010a: preface). Like the Lisbon strategy – which was largely considered a failed strategy – sustainable growth through reformation of the pension system, achieving financial stability, capitalizing on the nation's economic and labour potential, raising education standards, were the key spheres of emphasis. Among the priorities named were: "smart growth," "sustainable growth," and "inclusive growth" (European Commission 2010a: 3). The urgency of the economy has only sharpened, as the debt crisis spreads across Europe, and – while wearing his second hat as President of the Euro Group, Luxembourg – Prime Minister Juncker is left fighting front and centre stage for "his Euro" (Ebeling 2011).

## NATIONAL DISCOURSES

While dialogues were circulating between the national and international levels, inside Luxembourg various policy initiatives were taking form, addressing similar issues as those at the European level, concerning resource management, economic stability, territorial cohesion etc., but also framed specifically for the local municipalities and co-ordinating development among them. These processes were embedded in a long history (over 150 years) of informal and very localised and compartmentalised planning strategies. The discussions of the 1980s and 90s discussed

above, however, culminated in 1999 in a new planning law that set out to (a) modernise planning processes by integrating internal development across various sectors, and (b) harmonise Luxembourg with wider international social spatial processes, such as labour migration and infrastructure. In terms of their planning approach, these "new generation" planning strategies are markedly distinct from those that existed before.

The primary policy milestones in Luxembourg in terms of sustainable land use and spatial planning concerning housing and transport are: the planning laws that were created in 1937, 1974, and 1999 (respectively, the *Loi du 12 juin 1937 concernant l'aménagement des villes et autres agglomerations importantes*, the *Loi du 20 mars 1974 concernant l'aménagement du territoire*, the *Loi du 21 mai 1999 concernant l'aménagement du territoire)*, the *Programme Directeur d'Aménagement du Territoire*, (PDAT), the sector plans of Housing (*Plan Sectoriel Logement*, PSL) and Transport (*Plan Sectoriel Transport*, PST), the Integrated Transport and Spatial Development Concept for Luxembourg (*Integratives Verkehrs- und Landesentwicklungskonzept*, IVL), the Housing Pact (*Pacte Logement, PL*), and the Plan for Soft Mobility (*Plan Mobilité Douce*).

### Legal Foundations

Throughout most of Luxembourg's national history, "planning" existed in the form of local land-use regulation at the private individual level. Wider and co-ordinated spatial plans did not come into practice until the twentieth century: The earliest record of a state instituted official plan is the legislation that was passed in 1937 demanding that each town of more than 10,000 inhabitants submit a development plan[1] (Concernant l'aménagement des villes et autres agglomérations importantes 1937: 310). This law then remained unabridged until 1974 when a law was created to establish the fundamental principles of co-ordinated planning in Luxembourg (Concernant l'aménagement général du territoire 1974: 310). While, on one hand:

> "it was often said in the 70's: You know we don't need spatial planning policy," (Interview with Applied Geographer, June 30, 2011, Luxembourg),

The objectives of the 1974 national planning law were nevertheless:

> "the improvement of living conditions for the population as well as the cleanliness of the environment, the improvement of habitation and the harmonious development of urban and rural structures, the optimal use of economic resources, the protection of nature and safeguard of natural resources, the conservation and development of national cultural heritage," [2] (Concernant

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[1] My interpretation of the law that stated: "Jede Ortschaft mit 10,000 Einwohnern ist gehalten, einen Bebauungsplan aufzustellen," Concernant l'aménagement des villes et autres agglomérations importantes 1937: 583).

[2] My translation of: "l'amélioration des conditions de vie de la population et l'assainissement de l'environnement, l'amélioration de l'habitat et le développement harmonieux des structures urbaines et rurales, la valorisation optimale des ressources économiques, la protection de la nature et la sauvegarde des ressources naturelles, la conservation et le développement du patrimoine culturel national," (Concernant l'aménagement général du territoire 1974: 310).

l'aménagement général du territoire 1974: 310).

The primary result of the 1974 law was the institution and adherence to the Partial Development Plan (*plan d'aménagement partiel* PAP) (Chambre des Deputes 2010: 10; Concernant l'aménagement général du territoire 1974: 311–312). Yet, the creation of this law provided little or no framework for the coordination between plans and they remained highly specific and pertained to specific plots of land. Several of our respondents commented that the only real objective was to find a site for industry:

> "When I look back at the first law which is from 74. The first law of spatial planning was purely, an instrument for economic development. Because, originally, this law was written because we wanted to give Goodyear the opportunity to have a plant in Colmar Berg while the commune didn't want it. So, the law was, in fact, written to give the government the opportunity to build that without the commune agreeing. That was the law of 74. It was a pure instrument of top-down. To give the government the opportunity to say to the communes: you have to do this because of economic interests. The law of 74 was the framework for the industrial conversion in the 70s and '78 we had a plan for reusing the old industrial areas. And that was in the framework of the law of 74," (Interview with Government Official, July 21, 2011, Luxembourg).

Another respondent formulated it differently, as follows:

> "The first Programme Directeur [was] to create some of the big in-

dustrial areas in the South. Why? There was a need to find new land for industrial establishment and creation in the South area to replace what disappeared in the steel industry, [...] It was the end of the steel industry period in Luxembourg at the beginning of the steel industry crisis. And in '78 we really started to have big problems with our steel industry and in the few years after '78 we lost two thirds of the jobs in the steel industry and Luxembourg was close to bankruptcy in '83. So, in other words, nobody cared for what was written in the Programme Directeur. There were other problems to deal with," (Interview with Government Official, July 15, 2011, Luxembourg).

The top-down legacy of the 1974 legislation was once again revised in 1999 (Aménagement du Territoire 1999), which remains the primary backbone of all planning directives in Luxembourg. It is also the document that introduced a legal framework for sustainable development as a normative planning strategy. In an interview with the *Luxembourger Wort* (2003), Michel Wolter, who served as Minister of the Interior from 1995 to 2004 and thus was responsible for spatial development, stated that the creation of the *Loi du 21 mai 1999* was a response to growth pressure in Luxembourg at the time: Living, working, and mobility in Luxembourg were becoming increasingly complex issues as the inwards migration continually increased. The 1999 law marked the first effort by the national government to coordinate development to meet the needs of a growth region. Chapter 1, Article 1, states very clearly that the objective of the legislation was:

"…to assure the inhabitants of the country optimal living conditions through the harmonious enhancement and sustainable development of its regions, the optimal use of resources, and by maintaining a structural and economic balance among them," (Aménagement du Territoire 1999: 1402).

It is in this law that the creation of the second *Programme Directeur d'Aménagement du Territoire* (PDAT) (2003) and the respective sector plans (Aménagement du Territoire 1999) were ordained.

Interviews with governmental officials remark on the nuances of the law that reveal itself as a law that: 1) originated in Rio; 2) usurps (at least in their original intent) the top-down strategies that existed prior; 3) introduces integrated, cross-sector planning:

"The Plan of 1999 was really come out of Rio, because Luxembourg went to the Rio conferences ... and it was a huge delegation. [... Later, the law of 1999] was developed by only a few ministries - mainly, by the Ministry of Environment. [...] with the help of several other ministries, but... Another conclusion was the need of the participation of society: So to create something where civil society was represented and where they could debate and think about sustainable development," (Interview with Government Official, June 28, 2011, Luxembourg).

"It was the idea of sustainable development which we had discovered on the European level [that informed the creation of the Law of 1999 ...] In parallel, there was the first national plan on sustainable development. [...] We had discussions with the colleagues from Environment who wanted to integrate everything in the Plan National pour un Développement Durable, and we said 'No, this is spatial planning, this is something specific.' When you look at the first pages in the beginning of the Programme Directeur, we show a graph where we say that it is integrated, but that spatial planning is not a part of the plan national pour un développement durable. ... We had this notion of développement durable as a framework of the whole thing. Also, [...] we had participation on different levels, which was also one of the main ideas of the 1999 law," (Interview with Government Official, July 21, 2011, Luxembourg).

"The law of 99 was a totally different conception. Based in spatial development but also based on a combination of top-down and bottom-up. So, the philosophy was to have a set of instruments for the government and those are the Plan Sectoriel: sectorial plans for transport, for economic development, for housing [...]But in my eyes, and in the eyes of the people that worked on the law at the time, there were top-down plans - sector plans – and the bottom-up plans - the plans régionaux. The plans régionaux was the idea of communes working together to define their vision of regional level on spatial development [...] But now we are in the situation that regional plans are still in the law but there's no substance behind. So we have only top-down instruments." (Inter-

view with Government Official, July 21, 2011, Luxembourg)

### *The Programme Directeur*

When one speaks of the Programme Directeur today (in 2011) in planning circles, one is speaking of the second *Programme Directeur d'Aménagement du Territoire* (PDAT) (Ministère de l'Intérieur 2003:5) that was born out of and anchored in the law of 1999, and serves as the guiding platform for all following sector plans. Outlined in the opening pages, the objectives were:

> "…to provide a globally accepted framework for the establishment of necessary plans and projects complementary to the promotion and implementation of sustainable development planning. The principal visions are anchored in the sector plans, the regional plans, and land-use plans provided in the Act of May 21, 1999 concerning regional and territorial planning and whose establishment falls under the responsibility of the state and municipalities, but also smaller projects whose initiative comes from organizations or individuals,"[3]            (Ministère de l'Intérieur 2003:5).

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[3] My translation of: "… fournir un cadre de référence globalement accepté pour l'établissement des plans et projets complémentaires nécessaires à la promotion et à la mise en œuvre d'un développement durable du territoire. Sont principalement visés les plan directeurs sectoriels, les plans directeurs régionaux et les plans d'occupation du sol expressément prévus par la loi du 21 mai 1999 concernant l'aménagement du territoire, et dont l'établissement tombe sous la responsabilité de l'Etat et des communes, mai également des projets plus modestes, dont l'initiative peut émaner d'associations, voire de particuliers," (Ministère de l'Intérieur 2003:5)

Sustainable development, too, as defined in the Brundlandt Report (United Nations 1987), was a central fundament of the PDAT, and this mandate was explicitly expressed in the introductory pages (Ministère de l'Intérieur 2003:15–16), with explicit references to the careful management of natural resources. The interpretation of the three spheres of sustainability and their relationship to spatial planning was as follows:

> "The central objective is to find a political, economic, and social orientation that to develop the society and economy sustainably, while limiting the use of natural resources, respecting the cultural heritage, and preserving environmental quality. This approach should also ensure the fair distribution of wealth, while applying the concept of economic, social, and territorial cohesion as it prevails in the European Union,"[4] (Ministère de l'Intérieur 2003:16).

It provided a new vision of how Luxembourg might be developed in a spatially integrated manner, such that mobility of labour migration and usage of real estate are optimised, and green spaces are preserved.

In this process, it was hoped that the PDAT could be used as a planning vision

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[4] My translation of : "L'objectif central est donc de trouver une orientation politique, économique et sociale permettant de développer durablement la société et l'économie, en limitant l'usage des ressources naturelles, tout en respectant le patrimoine culturel et en préservant la qualité de l'environnement. Cette démarche doit également permettre d'assurer une répartition équitable des richesses, en application du concept de cohésion économique, sociale et territoriale à faire prévaloir dans l'Union européenne," Ministère de l'Intérieur 2003: 16).

for all of Luxembourg. The former PDAT that only addressed particular situations and particular topics was incapable of addressing the social and economic restructuring that took speed in the 1990s. The main body of the document (Ministère de l'Intérieur 2003:20) summarises the situation of Luxembourg – its development tendencies, its social, economic, and political challenges at various levels – as well as the priorities needed (domains of intervention, strategies, and monitoring mechanisms) to implement sustainable development policies. Generally, the PDAT redesigns the national territory of Luxembourg following a polycentric decentralised political and nodal structure, protecting green spaces, promoting particular population growth patterns, and coordinating transport infrastructures. Three fundamental principals were seen necessary towards the implementation of directives (Ministère de l'Intérieur 2003:10–11): coordination between the various sectors of spatial planning and the respective jurisdictions, participation of the various relevant actors and an overcoming of the barriers that might arise from the traditional compartmentalization of sectors, and co-operation with the cities in the Greater Region. Generally, it provides a frame that can lead to the reconversion of industrial waste lands, the reopening of the debate on sustainable development, a reorganization of the roles of the federal state and local districts, and the development of integrative concepts transport and space (Ministère de l'Intérieur 2003:7).

The context in which the PDAT was formed can easily be reconstructed from the MAXQDA transcripts. A series of quotes practically tell the story itself. Like the PNDD, the Programme Directeur (PDAT) was largely inspired by dialogues

that took place at the UN-summit in Rio de Janeiro, 1992:

"First of all it was the whole sustainable debate – 'bio' and all this stuff – that really gave a new push to spatial planning, and I think when you read Programme Directeur, I think you can feel a little bit the spirit of real debate. We were trying to integrate, and to give some real dynamic to spatial planning," (interview with Governmental Official, June 29,2011, Luxembourg).

Luxembourg officials also saw spatial planning as a practical avenue towards implementation of the ideals constructed 1992 in Rio de Janeiro:

"In Spatial Planning we are creating structures that will last for longer time. So, we have to take the right decisions in order to have the robust structure that will work when situations are changing, but still are sustainable. And that's the model we tried to define and to develop in the Programme Directeur," (interview with Governmental Official, June 29, 2011, Luxembourg).

Again, the participatory spirit was underlined:

"We focussed the Programme Directeur very much in a participation process [...] We put together some working groups with NGOs, with economic stakeholders, with all the civil society in Luxembourg, and we made regional workshops with different local authorities all over the country [...] We have had the feeling that – how can I say – pieces are moving. So, different departments are thinking about strategic planning

[now]" (interview with Governmental Official, June 29, 2011, Luxembourg).

The style of policy had also changed:

"In the second Programme Directeur, [we] have a much more qualitative than quantitative approach - less precise, but more on how you should do things in principle [....] The second Programme Directeur was a lot more qualitative. You involved the public a lot more," (interview with Governmental Official, July 15, 2011, Luxembourg).

Yet, the retrospective critiques are still abound:

"You can do all and you can do nothing with this [the PDAT], and this is what is doing. They do nothing with this," (interview with Government Official, June 30, 2011, Luxembourg).

The core of the critiques, beyond the vagueness of the directives, lays at barriers to implementation of real and concrete strategies. Two of our respondents commented that there is a barrier at the level of the municipality:

"[When] we started this process 10 years ago [...] there was, of course, a big fear that now all the important things are going to be decided on national level, and that there is no room for maneuver on the local level. And at our associations with the local authorities, the first thing they say when they have a look at any new law, or something, is, "don't touch local autonomy." So that is the key word. [It] is also, then, very very difficult to do something, which really gives them the feeling that [there

will be] some restrictions on [...] local autonomy. And in my personal opinion this is still the case," (interview with Governmental Official, June 29, 2011, Luxembourg).

A second respondent, an NGO Representative commented that the strategies of the documents such as the Programme Directeur also imply new strategies of cooperation and thinking about space in general:

"In praxis, the implementation is a problem, but so is the discourse as well. There are plans, strategies, directives, and above all the Program Directeur, that was created by a variety of actors, but are still not internalised. The real discourse still hasn't taken place, and as a result, these directives are still yet to be internalised by those who have to internalise them. And beyond that, there are things that we see differently. We need a real discourse," (interview with NGO Representative, July 8, 2011).

### Transport

While spatial planning took on a whole new character in 1999, it can certainly not be said that transport development was in any way a sort of haphazard accident until then, and much has been written on 19th and early 20th century Luxembourg (see Calmes 1919; Gengler et al. 2002; Margue, Polfer, and Scuto 2000; Thewes 2003; Trausch 1981). In fact, transport networks – the railways to be specific – played an important role in the building of the nation, right from Luxembourg's inception as an independent nation.

Luxembourg received independence after the Belgian revolution in 1839 (Trausch

1981: 19). At the time, Luxembourg was an impoverished region, and the poorest province of the Netherlands (Calmes 1919; Schrobilgen 1841). Ninety-four percent of its residents lived in rural areas. In terms of infrastructure, there were few trade routes connecting to neighbouring lands, which were further encumbered geographically by the Ardennes and the Eifel. Furthermore, after succession of Belgium, not only were former trade relations affected which negatively impacted the leather, glove-making, paper, and stoneware industries, but the resulting exit of the Belgian administration also meant that Luxembourg had to scramble together a new parliamentary system (Calmes 1919: 31). In 1842, on the heels of establishing of the new Constitution, the Treasury, the Chamber of Deputies, the Court, the Forest Administration, and the regulation of the Belgian border, Luxembourg joined the German Customs Union (*Deutscher Zollverein*) – a relationship that would stand until the end of the First World War in 1918 (Calmes 1919: 30). Luxembourg thus profited from barrier-free trade with other members of the Zollverein, in particular the Prussian, and later German, Empire (Margue et al. 2000: 245), and the rapidly growing coal and steel production industry. Seen as prerequisite infrastructure for the economic competitivity of the region, railway arteries were built connecting Luxembourg City to the German border as well as to the north of the country. These were the Guillaume Lines, built by the *Société royale grand-ducale des Chemins de Fer Guillaume-Luxembourg,* and they stretched approximately 180 km through Luxembourg. A second major network was constructed by the Luxemburgische Prinz Heinrich Eisenbahn und Erzgruben Gesellschaft (the PR Lines), which followed first northwards to Ettel-

bruck and Diekirch (through Petange and Steinfort) and then southeast through Echternach and Wasserbillig. Railways also extended southwards into Alsace and Lorraine. These were built by Kaiserliche General-Direktion der Reichseisenbahn which served the Zollverein directly until control was given back to France after the First World War.

Up until the early 1950s, Luxembourg transport was dominated by railways. Comprehensive data and historical records are available online at www.rail.lu, map.geoportail.lu, and www.openstreetmap.org, as well as at train museums across Luxembourg. The railways that are in use today, are those that survived the electrification of the system in the 1950s, deindustrialization and the consequential reduced needs for local goods transport , not to mention the rise of the automobile use and automobile production, of which usage had risen from 14,000 units in 1940 to 80,000 units in 1964 (Thewes 2003: 166). Today, most stretches of the Prince Henri railroad have been transformed into bike paths.

### *Plan Directeur Sectoriel Transport (PST)*

The sector plan for transport was the Sector Plan was designed to address the specific medium and long term transport related problems identified in the PDAT (Ministère des Transports, Ministère de l'Environnement, Ministère de l'Intérieur et de l'Aménagement du Territoire, and Ministère des Travaux Publics 2008b). The PDAT had highlighted some trends in transport development that were emerging in the 1990s in Luxembourg (Ministère de l'Intérieur 2003: 40): 1) the highways in Luxembourg had been extended by about 10 km per year during the 1990; 2) although motorway networks make up for only 4% of the total routes in Luxembourg,

they carried 26% of the traffic; 3) railway networks had been reduced from 393 km to 274 km between 1960 and 2001; and 4) the number of cars had increased 230% between 1970 and 2001. According to the PDAT, these trends needed to be reversed if sustainable development in Luxembourg was to be achieved. Tackling these problems integratively (with respect to housing densification, landscape protection, and economy) was the goal of the IVL (Ministère des Transports, Ministère de l'Environnement, Ministère de l'Intérieur et de l'Aménagement du Territoire, and Ministère des Travaux Publics 2008b: 220).

Following the directives outlined in the PDAT, a working group comprised by the Ministry of Transport, the Ministry of Interior and Regional Development, the Ministry of Public Works, the Ministry of Environment, the Administration of Bridges and Roads, and representatives from the Railway (CFL) formed to work on it (Ministère des Transports, Ministère de l'Environnement, Ministère de l'Intérieur et de l'Aménagement du Territoire, and Ministère des Travaux Publics 2008b: 4). The goal was to identify areas of improvement and modification needed in order to reach the political "modal split" goal of 25/75 (percentage public transport/ percentage private automobile) (Ministère des Transports, Ministère de l'Environnement, Ministère de l'Intérieur et de l'Aménagement du Territoire, and Ministère des Travaux Publics 2008a: 3).

A draft was presented in October 2008 for further public consultation. It reported on the state of transport and related infrastructures in Luxembourg. It prioritised certain goals for future developments, such as modal shares between motorised and non-motorised transport with respect to infrastructural improvements. After its

final ratification – which as of writing this document (September 2011) is still yet to happen – the directives included in it will become law. Becoming law is seen as the pivotal moment in Luxembourgish planning processes.

"so we are all waiting for the Sectoriel Plan, which will have this regulatory dimension [...] Without a regulatory dimension here they don't do anything, because the mayors are very powerful and they don't want anyone to tell them what they have to do. [...] Of course, there is [an existing] process of validation of the, PAP, [Plan d'Aménagement Particulier] by the Ministry. But I know very well the people who are approving these documents. There are 2 or 3 in the whole service, and they are receiving everyday new propositions, and they just sign because they don't have the means to really evaluate the relevance of the project which are submitted. [...]The four Sectoriel Plans will be, from my point of view, very crucial to guarantee a kind of respect of the main orientations. Without the Sectorial Plans you cannot do anything in this country. You really [need to] be able to rely on the rules to make the principle of spatial planning policy applicable, and so far, without these tools all our studies show a total mismatch between the dynamic and the expectations," (Interview with Applied Geographer, June 30, 2011, Luxembourg).

### Integratives Verkehrs- und Landesentwicklungskonzept (IVL)

The IVL was not born out of the PDAT but was developed beforehand in 1996. At that time, however, integrated spatial

planning still was not in existence and it was difficult to convince politicians that this was something that Luxembourg could use. However, at that time several parallel processes were in operation that later led to an increased interest in spatial planning, the law of 1999, and the PDAT: Integrated planning as a means towards sustainable development was emerging, flooding in Luxembourg was revealing the concrete need for regional co-operation, and spatial planning at the European level was becoming a hot topic. Thus, the time was ripe to revive the concepts in the IVL a few years after its initial inception, following the development of the PDAT, and when spatial planning was surfacing as a topic in several ministries. The IVL was later published as a collective work of the Ministry of the Interior and Spatial development, Ministry of Transport, Ministry of Public Works, Ministry of Environment, Ministry of Economic Affairs and Foreign Commerce, and the Ministry for Middle-Class Enterprises, Tourism and Housing, in co-ordination with three private and independent planning firms, AS&P, R+T Partners, and L.A.U.B., with the additional feedback of an international team of experts who are unspecified in the document (Ministère de l'Intérieur (DATUR) 2004: 3–4).

Contained in the IVL are only concepts for spatial planning: It does not contain, nor is it supported by any legal mechanisms, as is the PDAT. The PDAT, however, is a framework with more general guidelines, and the sector plans are, as the name suggests, sector specific. The IVL was thus a) a more informal guideline on where to go in the future, and b) a tool to achieve a quantified analysis that could be used to address various growth scenarios that could then inform the PST and the PDAT. The primary objective was:

"...to investigate how the settlement structure, commuter structure and transport infrastructure can be developed and coordinated in the future. [The IVL] aims to increase the share of public transport from the current figure of 12% to 25% by the year 2020, to develop the housing structure further in such a way that it helps to avoid and relocate transport and to reduce the use of the landscape,[... and] to put into practice the essential targets set out in the Programme Directeur," (Ministère de l'Intérieur (DATUR)2004a: 3).

Premised on the recognition of Luxembourg as a growth region (with an observed annual economic growth of 4% (Ministère de l'Intérieur (DATUR) 2004: 3), the IVL aimed to conceive of transport and mobility challenges in a concrete way, in order to find solutions that guaranteed quality of life standards of Luxembourg as well as its overall competitiveness (Ministère de l'Intérieur (DATUR) 2004a: 3).

Like the PDAT, the IVL built upon the decentralised development model of Luxembourg – identifying the three urban agglomerations of Luxembourg, Nordstad, and the networked region of cities in the south (Ministère de l'Intérieur (DATUR) 2004a: 9), as well as 12 other mid-sized cities distributed across the nation. The goal of the IVL was to determine how transport could be managed to reduce the reliance on private automobiles, and to increase the use of public transit. Planning for growth, however, meant not just controlling densities and the laying down of train tracks, but also the controlled uneven population growth of particular centres. The IVL summarised two growth scenarios, both of which were premised on

optimistic prognoses of employment development: That by 2020 Luxembourg, there will be 395,000 employment positions, of which 91,000 will have to be filled either by commuters of new residents (Ministère de l'Intérieur (DATUR) 2004b: 53). Optimistic projections were preferred over pessimistic projections, because the pessimistic estimation of 292,000 positions had already been reached (Ministère de l'Intérieur (DATUR) 2004b: 53).

The first scenario is the commuter scenario, which presupposes that the increase in jobs in Luxembourg will not attract more residents but commuters from Germany, France, and Belgium (Ministère de l'Intérieur (DATUR) 2004a: 11). Specifically, it is predicted that 75% of the 91,000 projected employment vacancies will be filled by commuters (Ministère de l'Intérieur (DATUR) 2004a: 11). This would mean a population increase to 511,000, a rise in commuter flows to 168,000 daily, and moreover, little moderation to current zoning laws (Plan d'Aménagement Particulier, PAP) (Ministère de l'Intérieur (DATUR) 2004a:11). The second was the "resident scenario", which presupposed that 40% of new employment vacancies would be occupied by commuters, and the remainder by new residents of Luxembourg; thus, the population would rise to 561,000 and the commuter flow would increase to 136,000 (Ministère de l'Intérieur (DATUR) 2004a: 12). Achieving this development trajectory is based on five, "principles of urban, transport and open-space development," (Ministère de l'Intérieur (DATUR) 2004a: 15):

> "...[1] Polycentricity and complementary relationship between urban and rural regions [...2] Higher building density and urban concentration [...3] Bringing settlement develop-

ment and local public transport closer [...4] New urbanism [...and 5] Landscape- and environmental compatibility," (Ministère de l'Intérieur (DATUR) 2004a: 17).

Many of our respondents who were involved in conceptual or applied spatial planning confirm that this document stand by it as a document that delivers a sound organization of Luxembourg that is necessary to ensure optimal use of space and its resources, for sustainable development in its broadest sense:

> "If you read the IVL, it talks about sustaining the conditions for growth, and part of it is [about] structural economic conditions where you create more jobs, add value, .... But there is also the aesthetic of a place, too, [...] that is attractive to people who'd want to locate businesses here. It's not necessarily the normative idea of sustainable development, but [...] to say, "well, we have to go this way. Otherwise we are compromising our ability to grow," (Interview with governmental official, June 30, 2011, Luxembourg).

It is thus a valued document by spatial planning practitioners and seen as a practical and logical solution to the infrastructural needs of a growing nation.

There are several factors, however, that rendered its implementation impossible. First, is has no legal backing. None of the directives are anchored in a legal apparatus to which politicians are bound. Second, Luxembourg has 116 municipalities that retain a high degree of autonomy (there is no regional level of government). Many of these Mayors also have a second role as Chamber Deputy in the federal government. This circular decision-making

structure puts these governmental officials in a conflict of interest, where decisions made at the federal level whose electorate come from the Canton, must then bring those policies back to the municipal level that have control over land-use. One of our respondents criticised this aspect heavily as one of Luxembourg's central democratic problems (interview with Government Official, June 27, 2011, Luxembourg). Compounding this problem is the obfuscated real estate market that is regulated by developers and real estate brokers, and whose low supply renders exorbitant housing prices and land values. These forces have played a powerful impeding role for the IVL, and data published by CEPS has shown that development in the Grand Duchy has been quite contrary to the development visions in the IVL (CEPS/INSTEAD 2006: 4). This trend is also of concern to the government:

> "If you look at the IVL it's, there we tried to have a real practical basis for development, for developing spatial planning in a balance between the need to have more space for housing, the need of nature protection and the need for mobility and to respect the environment, that is the IVL, [...] But if you look now at what's happening in reality and what is written in the IVL it's drifting apart. " (Interview with governmental official, July 21, 2011, Luxembourg).

### *Mobil2020 and Plan nationale pour une mobilité douce*

The couple of other documents show some of the practical and smaller changes in and around Luxembourg that would facilitate transport development along the lines of the IVL. The Mobil2020 brochure

(Ministère des Transports 2007) summarised transport projects that were in process. It documents the inland existing, as well as planned, railways, tramways, train stations at Dommeldange, Howald, Cessange, Belval, and Luxembourg. Internationally, Eurocap rail shall extend north towards Brussels via Arlon and Namur, south towards Strasbourg via Nancy or via Trier, and northeast towards Koblenz via Trier (Ministère des Transports 2007: 25). Bus lines and their frequency are also summarised (Ministère des Transports 2007: 28–29). Park and Ride stations are planned to reduce automotive travel into the centre (Ministère des Transports 2007:33). These measures would facilitate cross-border movement in and out of the City of Luxembourg. In the context of wider Luxembourg visions concerning spatial planning, these changes seem entirely specific and incremental. Each individual project also hinges on funding and micro-political discussions for support. One of our respondents commented, however, that exactly these smaller changes could ease pressure quite a lot for existing residents, and complained that not enough attention was given to another published document, "Mobilité Douce", that looks at mechanisms that can be put in place to increase the number of trips by bicycle, foot, rollerblades, and skateboards. It can be noted as well that none of the spatial planning practitioners that we interviewed mentioned this document, meaning either that our interview methodology steered the interview in another direction, or that interviewees simply did not have this document on their screen.

### *Housing*

Perhaps more so than transport, housing in Luxembourg is tightly integrated into an extraordinary real estate market

that is compounded by opposing and sometimes conflicting processes. Just as implementation of coherent transport strategies is impeded by the "circular" political structure and tight real estate market, so too is housing.

Generally in Luxembourg, home buying is encouraged. Some say "home ownership is what Luxembourgers want" – that home ownership is some kind of characteristic of so called Luxembourgish culture. Others may also note the building subsidies, interest rate reductions, and building premiums (Ministère des Classes Moyennes, du Tourisme et du Logement and Ministère de l'Intérieur et de l'Aménagement du Territoire 2009: 16; Hemmer and Bauer 2003: 14) – that this "culture" is socially produced. In 2009, 90% of the housing stock took the form of privately owned single family homes, twenty-eight percent of these were rented, and the number of square metres of living space per unit was recorded as among the highest in Europe (Ministère des Classes Moyennes, du Tourisme et du Logement and Ministère de l'Intérieur et de l'Aménagement du Territoire 2009: 8). The remaining housing stock is rental or social housing, whereby only 2% are social housing – the lowest rate in Europe. Social housing is managed by the National Affordable Housing Company (*Société Nationale des Habitations à Bon Marché* SMHBN) which was created in 1919, and the Fonds du Logement. These organizations help with finding subsidised housing for low income earners.

The Sector Plan for Housing (Plan Sectoriel Logement, PST) and the Housing Pact (Le Pacte Logement, PL) are the primary planning documents concerning housing. Both are based on housing projections created by Stadtland and the Min-

istry of the Middle Class and (Stadtland and Ministère des Classes Moyennes, du Tourisme et du Logement 2007b), and both address the other leg of spatial development – the consumption of private property. The PST is one of the sector plans outlined in the PDAT. Once it is ratified, it too will become law. The PL, in the meantime, was put in place to regulate land use and redistributes tax money to municipalities that increase their populations according to the decentralised population structure outlined in the PDAT.

These policy-making processes are occurring, however, against the background of a tight real estate market. For this reason, it was necessary to view the housing situation from a consumers point of view. All of the home buyers that we interviewed - and this is easily confirmed by housing advertisements at www.athome.lu or www.habitat.lu – nothing inside the City of Luxembourg will be sold for under a half a million Euros. An average, non-renovated home of 150 m$^2$ with a 10 m$^2$ garden could easily catch 1.5 million Euros as would a similar home sitting on 400 m$^2$ of land at the city's edge. Within the national borders, cheaper houses (of about 300,000€) can be found in the north of the country as well as in the south. Our interviewees commented (interview with Home Buyer, July 22, 2011, Walferdange), however, that in the north, houses are poorly connected with narrow roads, sporadic bus schedules, and non-existent trains, while in the south the soil is contaminated from over a century of iron and steel industry. Under these circumstances, those that have are able to purchase a home in Luxembourg are either top earning wage earners, or those who have contact with families that have long owned land and are willing to sell.

Access to land in Luxembourg is a delicate dance between land owners, developers, local mayors, and the Ministry of the Middle Class, Tourism and Housing (Ministère des Classes Moyennes, du Tourisme et du Logement). One Home Buyer described that he sent 50 letters to Mayors around the country requesting if there was building land for sale in their municipality. He received 15 responses, of which only 1 had an offer for land 70,000€ per Ar (100 m2) (interview with Home Buyer, July 22, 2011, Walferdange). A second interviewee commented that her strategy involved sticking to one municipality and repeatedly approaching the Mayor, in person, and asking if land was available. After a year of requests for updates on the availability of land, the Mayor conceded that land might be coming available in the coming months – a response that one would not receive through letter-writing (interview with Home Buyer, July 26, 2011, Walferdange). The Fund for Housing Development (Fonds du Logement (FLCM) is also available for those seeking lower priced homes for sale. One of our respondents noted, however that the land on which the house sits will only be leased. The buyer therefore does not profit from investment (Interview with Home Buyer, July 22, 2011, Walferdange).

### Plan Directeur Sectoriel "Logement" (PSL)

A draft of the housing sector plan was first presented in April of 2009 as a joint effort by the Ministry of the Middle Classes, Tourism and Housing, the Ministry of the Interior and Regional Development, and the research group CEPS-Instead. Projections and estimations of housing needs up until 2021 conducted by Stadtland had shown that between 52,000 and 78,000 homes would be need to meet the housing demand (Stadtland and Ministère des

Classes Moyennes, du Tourisme et du Logement 2007a: 57; Ministère des Classes Moyennes, du Tourisme et du Logement and Ministère de l'Intérieur et de l'Aménagement du Territoire 2009: 5). Taking the average calculation of 69,000 homes, the PSL concluded that Luxembourg will have to face an annual increase of housing demand equivalent to about 3,400 housing units per year. It may be noted that the actual growth rate at the time of this publication (2011) is no more than two thirds this projection (Becker and Hesse 2010). At the same time, shrinking family size and changing living needs are also expected to alter the demand for not just more units but for different kinds of units (Ministère des Classes Moyennes, du Tourisme et du Logement and Ministère de l'Intérieur et de l'Aménagement du Territoire 2009: 5). According to the PSL, the primary challenges that Luxembourg faces in terms of housing are: the management of a sustainable regional and spatial distribution of new housing, the activation of building properties on the market and their efficient usage, the encouragement of ecological building standards for sustainable development, the securitization of housing market accessibility, and the maintenance of coordination strategies and communication channels (Ministère des Classes Moyennes, du Tourisme et du Logement and Ministère de l'Intérieur et de l'Aménagement du Territoire 2009: 28). The PSL thereby positions itself along the IVL (Ministère de l'Intérieur (DATUR) 2004b) and foresees that this increase cannot be negotiated within the framework models of spatial organization previously traditional to Luxembourg.

These housing shortage problems are to be tackled by steering the production of housing spatially and regionally, by acti-

vating building lands and ensuring their efficient usage, by encouraging a sparing usage of land and supporting sustainable building forms, by increasing the building capacity of the industry, and by facilitating co-ordination and communication around the topic (Ministère des Classes Moyennes, du Tourisme et du Logement and Ministère de l'Intérieur et de l'Aménagement du Territoire 2009), which are quite ambitious and distinct goals that may or may not be achieve simultaneously. While the final PSL is yet to be presented, the draft version of the PSL only outlines intentions. Little in terms of concrete measures is outlined. Intended is, however, the regulation of the real estate market through procedures of certification and taxation. At present, municipalities are required to submit their local building plans to the federal Ministry of the Interior for assessment and ratification. The measures contained in the PSL will change the demands of the authoritative ministry, thus changing the conditions on which local plans will be approved. Such legislative measures might include rule over which land may be used. For example, a parcel of land at the periphery of the built up land and located near forests or other rural landscapes might be less likely to receive building approval than one located in the centre. To prevent land owners from holding onto land without using it, taxes might also be implemented.

### Le Pacte Logement

While the PSL was in development the Housing Pact (*Pacte Logement, PL*) was implemented by the Ministry of the Middle Classes, Tourism and Housing, as a means to steer growth along the decentralised structure outlined in the PDAT. The brochure, in French and German and widely available at public websites, is a layman's version of a law created on 22 October 2008 called the "Pacte Logement" (Ministère du Logement 2008; Service Central de Législation 2008). It summarises the five main elements of the plan, which are described in the next paragraph (Ministère du Logement 2008).

First, is the Building Agreement (*Pacte Logement/Wohnungsbaupakt*), whereby the government will financially support municipalities that increase their populations by 15% over a period of 10 years (Service Central de Législation 2008:2230–2231) – regardless whether they add to the housing stock or just rise the number of inhabitants. The amount of subsidy depends on the rate of growth, and status of the municipality as one of the "Centres de développement (CDA)" (Ministère de l'Intérieur 2003: 140–142) as designated by the PDAT. Any municipality whose growth rate exceeds 1% in a given year, will receive 4500€ per new inhabitant (Ministère du Logement 2008:1). CDA municipalities will receive an additional 70% of this sum (7650€) (Ministère du Logement 2008:1). Given that these differences are rather marginal, a steering impact is unlikely to be achieved. Second, is the Right of First Refusal or Right of Preemption (*Droit de préemption/Vorkaufsrecht*) which gives the national or municipal government the right of first refusal so long as their intended use of the property will benefit the common good (such as social housing, public institutions or infrastructure, or prevention of fallow lands) (Ministère du Logement 2008:1 ). Third, is Rights to Emphyteutic Lease (*Droit d'empythéose et droit de superficie/Erbpachtrecht und Erbbaurecht*), which allows a piece of land to be leased for up to 99 years, during which the leaser receives full property rights for the duration of the agreement. When the

emphytheutic lease expires, the land and any infrastructure built upon it becomes the property of the original owner (Ministère du Logement 2008: 1). Fourth, are the Administrative and Tax Measures (*Mesures administratives et fiscales/Behördliche und steuerliche Massnahmen*) which induce taxes on certain forms of buildings and uses, such as elevated taxes on buildings that remain empty for longer than 18 months, or on properties that qualify for a building permit but have remained undeveloped for over 3 years (Ministère du Logement 2008: 1). Fifth, are the Amendments, Transitional and Repeal Provisions (*Dispositions modificatives, transitories et abrogatoires/Änderungs-, Übergangs- und Aufhebungsbestimmungen*) which were a series of amendments to previous laws concerning subsidies to prospective home owners and categories and classification of various property types (Ministère du Logement 2008:1). The Pacte Logement (Ministère du Logement 2008:1) was then constructed as an art signed treaty (called a "convention") between the municipalities and the national government.

In effect, the PL promises a redistribution of federal funds to municipalities that can demonstrate population growth. Several of our interview partners complained that the PL was ineffective in addressing spatial planning needs of Luxembourg,

> "I would say that the main problem was that the Ministry of Housing wanted to implement the Pact Logement as fast as possible, to be sure that it would be published before the Sectoriel Plan. And there was really a competition between the Sectoriel Plan, which includes a strong spatial planning policy, and the Pact Logement which is only

about building, building, and building without really asking the question, the fundamental question, where to build. And of course, there are a few lines [in the PL] which try to foster the building of houses into the 15 CDR [as seen in the PDAT], but it's not that important and everybody, every community can win when they sign this Pact Logement. They have to realise a 10% growth of the population on a period of 10 years. So, it forces all the community to grow," (interview with Applied Geographer, June 30, 2011, Luxembourg).

Indeed, funds are allocated according to a hierarchical system of cities that follows the Programme Directeur and IVL. But generally, all municipalities are put under growth pressure in order to access federal funds. The development trends furthermore do not reflect planning goals, as it can be seen that some small towns are growing where zero public transport infrastructure exists, and none are planned – not to speak of building qualities as such. One respondent also remarked that the unit of municipality (*Gemeinde*) is not specific enough (interview with NGO Representative, July 8, 2011, Luxembourg). Some municipalities cannot grow for one reason or another, and as a result smaller more remote communities are growing.

> "The PL encourages too much growth of all municipalities and the effects, in our opinion, are very problematic, because it renders all municipalities under growth pressure, in order to receive financing . [...] The PL is very very problematic with respect to land-use planning and transport development problems. There are localities now that

are developing where it will simply not be possible to connect them with public transport, because they will remain remote. The second problem is that municipalities are ranked but the word "Gemeinde" is used and not "Ortschaft". Bettenburg, for example, is a higher ranked Gemeinde, but which does not have much building potential for various reasons. So now, the neighbouring localities are developing," (interview with NGO Representative, July 8, 2011, Luxembourg).

The PL, according to this respondent, was developed simply as a means to redistribute federal funds. At the time of the development of the PL, there was even a discussion of whether it wouldn't be more effective to discuss the reform of federal funds distribution practices:

"[The PL] was a result of the banal problem that we have a very poor system of financial redistribution across the municipalities in Luxembourg. [...] Everyone knows that the distribution is poor in every aspect. It is not fair, it is not modern, and so forth. But no one has the confidence to address reform. And there was the Pacte Logement as an easy finance instrument. There was also a Round Table, where [the question] was asked whether it wouldn't make more sense to discuss reform financial redistribution than the Pacte Logement, and the Minister replied: Yes, you are right, but I have been Minister for 30 years and I don't believe anymore that finance reform will come," (interview with NGO Representative, July 8, 2011, Luxembourg).

Comments from other respondents echo this frustration. Several noted that the PL is retroactive, and therefore is ineffective in steering future growth (interview with Applied Geographer, May 27, 2011, Luxembourg). Some note too that some of the laws contained in the document are unused – such as the Right of Preemption. Such laws, given the value of land in Luxembourg, are unrealistic, and were a politician to enforce it, she would be engaging in political suicide (interview with Government Official, June 30, 2011, Luxembourg). One respondent was also annoyed that the PL came about faster than the sector plans. The ineffectiveness of the PL combined with the timing of its implementation were seen as evidence that the PL wasn't about spatial planning at all but about financial resources. This was a reflection of the government's knack for forgetting integrated planning: It was easier to make a quick law, than it was to implement more complex plans that address various aspects of land-use development, and money was also much more appreciated by the municipalities than were plans such as IVL.

### Discourse Synthesis

What was seen in the data are the two primary circuits of sustainable development policy-making in Luxembourg: the international circuits and their contact and exchange points with Luxembourg, and the national and domestic policy circuits. By tracing the trajectories of Luxembourg sustainable development policies, it can be seen very clearly how these policies are generated, how they flow through the various orbits of governance, and how they are influenced, shaped by, and nuanced by various epistemological influences.

The data presented in this paper can point to at least four interrelated soci-ostructural dilemmas that slow processes of policy implementation. First, Luxembourg is inextricably interwoven with international institutions and forums. This is on one hand profoundly necessary, but on the other hand not without its problems. Second, a disjuncture in sustainable development policy circuits reveals a mismatch between directives originating at the international level and those originating domestically. Third, there is a paradoxical top-down and/or bottom-up decision-making structure, and the fourth, conflicts of interest in the government structure disengage decision-making from governmental politics, thus posing another possible barrier to policy implementation.

### Luxembourg may be small but it is not an island

This paper did not address the policy and spatial development circuits that connect Luxembourg, at various levels, with those of the neighbouring nations of France, Belgium, or Germany. There is already much work and research completed on the Greater Region by Chilla (2009b, 2009a), Schulz (2009), and Affolderbach (forthcoming). Chilla (2009a) showed that Luxembourg has historically taken significant interest in European and other international affairs. Schulz (2009) described the high degree of cross-border overlaps in the Grand Region. Affolderbach (forthcoming) is researching the relationships of cross-border retail. These international relationships were forged, in part, for the purpose of keeping the nation economically afloat (Luxembourg cannot survive as a little nation with tight borders) and recognized as an independent nation on the global stage.

The data collected and shown here supports these observations. First, deeper research into the history of the railroad shows that Luxembourg had international arrangements and commitments already in the 19th century. Second, the data tracing more recent policy circuits of sustainable development show the inextricable connection between Luxembourg and international bodies. The PNDD and PDAT were specific products of Rio de Janiero. CIPU was a result of the Leipzig Charter, and Lux2020 was the direct result of Europe2020 and, indirectly, the Lisbon Strategy. Third, interviews with Applied Geographers (May 27, and June 27, 2011, Luxembourg) also confirmed that Luxembourg has a necessary interweaving with international bodies – the European level, in particular. They confirmed that Luxembourg profits quite a bit from the European and international level in terms of education, information exchange, and financial resources. With a resident population of 500,000, Luxembourg is only going to have so much capacity to administer and drive the country. This limited capacity was mentioned in the interviews in terms of a competency gap (interview with Applied Geographer, May 27, 2011, Luxembourg), and was also observed from the interviewees themselves, as many had several roles, not just one.

The data thus shows that Luxembourg is inter-dependent and profoundly inter-twined with nations near and far not only in terms of labour and capital flows, but also capacity-building and policy-making. This interweaving at the international level is, as our interviewees have claimed, in many ways beneficial. It is, however, not without its problems and dilemmas. The following sections reveal barriers in sustainable development policy implementation.

### *Integration versus Local Autonomy*

What is curious in the case of Luxembourg is the very clear demarcation of only two levels of government (local/municipal, and national), and that the discourses generated at these levels differ.

What was new in 1999 was the idea of spatial integration and integrated development. What all the Plans, which were generated at the national level, have in common is their cross-municipal, cross-border, cross-sector character. It would seem, too, that there is resistance (perhaps at the local level) in terms of their implementation. To date, no plans that were generated as a result of the directives laid out in the Law of 1999 have been implemented or made law. The Program Directeur is still just a guiding document. The Sector Plans for Housing and Transport are still only in their "draft" stages. Moreover, a third *Program Directeur* is already on the horizon, leaving one to wonder how then the Sector Plans will change yet again. Also, while not an example of a document arising from the 1999 planning law, the integrative IVL was also never given legal backing. Given that at the time of writing this paper (2011) 12 years have passed since the idea of spatial integration and sustainable development was formally introduced to Luxembourg, one might wonder if there are any real means to implement these directives at all.

Luxembourg, as an older nation having having operated as an independent Grand Duchy since the close of the Belgian war in the 1830s, has a history of land-use management entrenched in and characterised by a tradition of municipal autonomy, as well as an atomized conceptualisation of territory related to a territorially based

polity[5]. The average territorial jurisdiction of the 116 municipalities is 22 km2 (Sohn 2006: 3) -- the resident population of each ranging from 320 to 29,000, with only Luxembourg City and Esch-sur-Alzette having over 30,000. Each municipality, therefore, has a modest voting membership, and limited sociospatial political and financial reach. Land-use management was historically framed within this reach.

Until 1999, land-use planning was concerned with questions such as where schools shall be located, where a motorway shall be built, and how and where the electricity lines would be laid (Interview with Government Official, June 30, 2011, Luxembourg). The construction of specific structures was largely a lateral negotiation of costs and benefits among respective Mayors. If something were needed to benefit the nation as a whole, top-down instruments were implemented, and that was the perception of the first Programme Directeur. Our interviewees noted that it was created in the 1970s, and viewed as an instrument of, by, and for, the national government to enable the enforcement of a single decision on an otherwise reluctant municipality.

Curiously, the first Program Directeur was not only top-down, but also particulate. It did not involve integrative, cross-sector planning and co-operation. It was both of these aspects that the second Program Directeur was originally intended to address and overcome (Interview with Governmental Official, July 21 , 2011, Luxembourg). Needless to say, its legal implementation has been rather slow. Indeed, finding consensus among 116 mu-

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[5] For an explanation of various forms of territorial and non-territorial based political structures see Benhabib (2004).

nicipalities is a daunting task, and indeed, there are conflicts of interest in the democratic system as it is set up now (see "Divided and Conquered" below). But, the lethargic legal implementation processes of the PDAT and associated integrative plans are only underscored by the ease of which particulate and atomized laws are indeed passed. One wonders if Luxembourg finds it difficult to escape old planning traditions. As one interviewee remarked:

> "When they want to change something they do a law. They don't do a sector plan," (Government Official, June 30, 2011).

It is easier to pass laws that address very particular actions – such as the PL, which is more about growth and redistribution of federal funds – than it is to apply a cross-municipal, cross-sector sustainable development plan, which may require co-operation and compromises from various municipalities. This conflict between the traditions of an atomized land-use management style and the more recent integrated approach ultimately results in a barrier to policy implementation.

Yet, while it is perhaps easy to criticise that integrative policies are not receiving legal backing, it must also be noted that their legal enforcement would also likely spark revolution and outrage across Luxembourg land-use management circles. Such a measure would once again give the national government authority to enforce its will on the municipalities, endangering their jurisdictional autonomy. One Governmental Official even claimed that this was the central problem (June 27, 2011, Luxembourg).

### Top Down vs. Bottom-up Paradox

The data provided in this paper also reveals certain peculiarities and dilemmas of Luxembourgish local autonomy versus national interest planning – the first often referred to as "bottom-up" and the second often referred to as "top-down".

One peculiarity is the problem of perceived top-down planning as policies strategies are imported from abroad. Investment of human capital into international policy circuits pays off for Luxembourg because for these venues are important places to tap into more widely known knowledge bases and at the same time make their own issues known to otherwise more powerful nations (as was explained to us by one Applied Geographer in an interview on May 27, 2011, in Luxembourg). Also, liaisons and ambassadors can return to Luxembourg with internationally legitimated policy mechanisms (interview with Government Official, July 21, 2011). Once back at home, chosen policy mechanisms will also have fewer domestic hoops to jumps through relative to neighbouring states, as the domestic policy arena is modest in size. These policies therefore – by way of international comparison – arrive more or less *prêt-a-porter*.

This policy importation may function tragically as a double edge sword. Luxembourg has always had its means and mechanisms of regulating space. The arrival of policies created beyond the national boundaries of Luxembourg onto a policy field already in place, may leave other Luxembourgish citizens perhaps suspicious as to why new policies and planning strategies are necessary, and mistrustful that policies are being decided upon in venues that are above and beyond their participation and influence. Thus, sincere as na-

tional policy makers may be – and the evidence shows that sustainability arose out of a sincere care and concern for the social, political and economic environment of the nation and its citizens (Interview with Government Official, July 21, 2011, Luxembourg; Interview with Applied Geographer, May 27, 2011, Luxembourg) – the perceived top-down application backfires and slows or prevents policy implementation.

The second peculiarity is the paradoxical top-down character of otherwise perceived bottom-up decision-makers. While national governmental officials are responsible for nation-wide spatial development problems, local Mayors carry considerable veto power. (This is governmental structure is explained further in the next section.) The power to block can equally be perceived as top-down, leaving one to wonder who then actually possesses decision-making power in Luxembourg, and where the political barrier to sustainable development implementation actually lies.

### Divided and Conquered

The structure of government in Luxembourg has in part already been referred o in the previous sections. It is necessary to underscore this structure though, to reveal a further barrier to national policy directives concerning sustainable spatial development.

As noted earlier, there are two levels of government (local/municipal,) and national. If you include the European level, then there are three. A problem, in terms of policy-making implementation, is the apparent circular decision-making structure: Approximately one third of the Members of Parliament (Chamber of Deputies) are also members of Executive Municipal

Councils (*Schöffenrat*). This renders a situation where those making decisions on a national level, can only do so while simultaneously protecting their interests at the municipal level. This results in an apolitical situation. As one interview put it:

> "Luxembourg will never make any kind of decision because sometimes – I would say – we have no politics in Luxembourg," (interview with NGO Representative, July 7, 2011).

This interviewee was referring to a perception of governance in Luxembourg that resembles a dead-lock in decision-making. The conflict of interests that some Deputies have as members of the Executive Municipal Council (*Schöffenrat*) slows or blocks many decisions because these MPs will always be worrying about their voter constituencies at the municipal level. To do otherwise, would be to commit social, political and economic suicide. As a result, many of the policies such as integrative planning do not get legally endorsed, and even of those that do, such as the Municipal Right of First Refusal listed in the Pacte Logement, do not even get used (Interview with Government Official, June 30, 2011, Luxembourg). This reveals a situation, in which it appears that Luxembourg has divided and conquered itself. Mayors fulfilling the double role of representing national interests as well as particulate interests of individual municipalities are incapable of ratifying policies that do not speak to both policy circuits at the same time.

To complement or even offset this problem, however, one might refer to the peculiar layer of informal politics in Luxembourg. Several of our respondents noted that the smallness of Luxembourg's political community of roughly 200,000

voting citizens renders a situation in which many residents know their Mayor or Chamber representative personally (interview with Applied Geographer, May 27 and June 30,2011, Luxembourg). As one interviewee explained:

> "…the politicians have to look to their public environment. So this is what you call the 'horizontal level'. Yes, you can influence them easily on that level. [via relations of] parents, family etc. [...] And these circles are really absolutely flat because someone from 'here' [gesturing to someone outside the administration yet on the same level] can talk to him. It's completely flat," (Interview Media Analyst, July 14, 2011, Luxembourg).

It is thus not uncommon in Luxembourg that environmentally and/or socially conscious citizens sit across the table from government officials and either informally or formally influence national policy. As a further illustration: On page four of *de Kéisecker*, a newsletter published by and for members of the Mouvement Ecologique (MECO), there is one photo showing the president of MECO browsing an exhibition alongside the Grand Duke, and another photo of her sitting between the two Ministers of Sustainable Development and Infrastructure (Mouvement Ecologique 2011: 4). These are non-surprising displays of the unusually close and largely horizontal power distances that characterise politics in Luxembourg. This political closeness is, on one hand, open – as our interviewee described. On the other hand, it is closed because it leaves one wondering how many decisions are made through informal and interpersonal ties rather than formal and democratic political forums.

## CONCLUSION

The goal of this paper was to survey the primary and most relevant policy documents in Luxembourg with respect to sustainable spatial development in general, and housing and transport in particular. Beyond a simple document survey, however, another goal was to understand the historical and conceptual contexts of each: To be able to understand why and by whom they were created, what they were supposed to achieve, why they were perceived important and by whom, and lastly to delineate possible conflicts or barriers in sustainable spatial development policy implementation.

This paper has focussed on housing and transport as a spatial dimension of sustainable development planning policy. It might well be reiterated here that sustainable development, in broad terms, is already extremely pervasive in other discursive spheres in Luxembourg. Housing and transport are only two specific arenas, chosen here as the object of study because the intersection of these two carries a strong material and spatial dimension. These are of particular concern in Luxembourg, too, as it struggles and transforms under its cross-border tertiary economy (This specific set of circumstances that set the background for the SUSTAINLUX study were outlined in the first working paper (Carr et al. 2010)). All the documents and all of the interviewed participants agree that the coordination of real estate and mobility is critical in order to steer Luxembourg's development trends. Several interviewees claimed that barriers needed to be addressed (Interviews with Government Representatives, June 27 and June 30, 2011, Luxembourg; Interviews with Applied Geographer, June 30, 2011, Luxembourg).

Beyond barriers to policy implementation as discussed in the previous section, it was also seen in this paper that sustainable development arose inside Luxembourg as a result of environmental movements in the 1990s, and quickly became well poised to become integrated as a planning normative through the existence of international forums, and the simultaneous emergence of the Department of Spatial Planning as a section of the Ministry of Environment (Interviews with Government Officials, July 15 and 21, 2011, Luxembourg). The roots of the concept, therefore, seem to have arisen out of a sincere care for the environment and ecology of the region at a time when sustainable development as a planning normative was gaining international recognition.

Over the years, it seems that the three-pillared normative of sustainable development was diluted to some degree as it became integrated into national policies. In the same way that sustainable development lost some of its edge as it was mainstreamed by the United Nations in 1987 (Parra and Moulaert 2011), so too it has been softened through legitimation in the policy-making arena in Luxembourg. At least, the definitions of sustainable development are just as varied inside Luxembourg as they are internationally. At the national level, this new watered-down sense, sustainable development is largely equated with integrative planning as was seen in the documents. At the municipal level, sustainable development is equated with participation. While integrative planning and participation can be viewed as strategies of addressing sustainable development holistically, perhaps more troubling was the observation that the focus of sustainable development in Luxembourg has morphed into a marriage between the ecological awareness and economic necessity, at the expense and exclusion of the social dimension.

Thus, to a certain degree, sustainable development in Luxembourg seems then to warrant the same criticism that the term receives internationally (see Krueger and Gibbs 2007). The data has shown that control mechanisms seem lacking in Luxembourg, as sustainable development at the international level regularly shifts between ecological sustainability (Rio) to social sustainability (Göteborg (or Gothenburg), Leipzig) and economic sustainability (Europe2020). Thus, sustainable development changes in Luxembourg as well, following wider international trends and influences.

Many have challenged the notion of sustainable development precisely because its plasticity can have so many meanings, such that anyone can draw significance from it. Some even claim that sustainable development would be entirely counterproductive as progressive planning objective because change is precisely what is needed, thereby questioning whether or not sustainable development is normative at all (Buckingham 2007: 66). Thus, that there is a component of the SUSTAINLUX research that requires a semantic debate over the question of what sustainable development implicates, and how it can be applied (if at all). Evans and Jones (Evans and Jones 2008: 1417) have noted too the ambiguity of the term has generated much critique, and that the ambiguity has been observed to be a hindrance to actual implementation of sustainability goals. Evan and Jones (2008: 1417) further argue, however, that the ambiguity can also be the strength of the planning normative. They argue that the ambiguity leaves space for deliberation as a shared territory. Similar observations

were made by Holden, who proposed that sustainability can be seen as a:

> "…struggle to learn more, to learn better, and to learn in a more contextualized fashion within the communities of our lived experience," (Holden 2006: 172).

Given the pervasiveness of sustainable development in Luxembourg urban transformation discourse, perhaps these more positive outlooks would be a more fruitful outlook. Integrated approaches in Luxembourg would certainly demand sharing territory in a literal and material sense. The discursive sphere of participation and discussion, which is so valued by the municipalities (Interview, May 27, 2011, Luxembourg) might further be conceived as a shared logico-epistemological territory. In this way, there is room for optimism for sustainable spatial development in Luxembourg.

Concerning the specific situation that Luxembourg finds itself in today, perhaps the notion of Luxembourg as a nation of half a million forever engaged in a cycle of information exchanges at the international level, reliant on an external labour force, and generally forging itself as a central player on the international stage, hits perhaps at one of the hearts of Luxembourgish popular discourses: *Mir* wëlle *bleiwe wat mir sinn*, which means "We want to stay what we are" and is a phrase out of the original national anthem. If so, the data here would further support it. The conflict-ripe mismatch between national-international policy circuit and the national-local policy circuit might suggest that there is a tension between *staying Luxembourgish* (whatever "Luxembourgish" means) and exchanging with Others (as, for example, in policy generation at the European level). While this tension invokes notions of nationalism and, in the extreme, xenophobia, the tension might also be a starting point to address Luxembourg as a nation in perpetual motion of becoming, or as Péporté et al. (2010) argued, "inventing."

Curiously, close examination of the housing and mobility projections of need over the next twenty years do not indicate a shortage of space in terms of absolute square meterage. Quick international comparisons show immediately that large scale projects that can house many thousands on small territories already exist and are therefore possible, as much as they may be undesired (Carr 2010). The documents also indicate that the new cross-border post-industrial economy is of more concern in terms of existing infrastructural capacity, but not in terms of any sort of neo-colonization of the tertiary industries per se. The crux of the issue, then, seems to be the lack of decision-making, not only in terms of governmental structure, but also in terms of wider visioning concerning the future course of Luxembourg as a whole.

When asked about the main challenges facing Luxembourg in the coming years, our respondents cited a myriad of specific problems that need to be tackled: commuter balance, landscape protection (Government Official, July 21, 2011, Luxembourg); integrative planning law implementation (Applied Geographer, June 30, 2011, Luxembourg); gasoline tourism (Government Official, June 27, 2011, Luxembourg); economic growth and whether it is necessary (NGO Representative, July 8, 2011); and, decision-making structure (Media Analysis, July 14, 2011, Luxembourg; Government Official June 27,

2011). One Applied Geographer was less specific:

"In terms of spatial planning, it will be most interesting if it just goes on growing here. What will happen then? Will they really succeed to build more highways, and to organise the trains in a better way, and to link it to the other metropolitan regions, and to organise the – the settlement areas in a better way, to achieve a real polycentric territorial development [...] I'm really curious. [... But] I simply don't know. I'm really just curious," (interview with Applied Geographer, June 27, 2011, Luxembourg).

Clearly problems are abound, and clearly the situation is so particular that Luxembourg's future trajectory is hard to predict.

When asked about what Luxembourg needs, one NGO representative said:

„We need national consistency. But also citizens from below, communities that support [sustainable development] and see it as their role [...] We need cultural change with respect to the dimensions of sustainability," (interview with NGO Representative, July 8, 2011, Luxembourg).

Perhaps *visioning* then is a public discourse waiting to happen. The interviews indicate that there is a need to revision Luxembourg together, to decide on the path that Luxembourg's spatial development transformations should take, and then find a way to steer it in that direction. Whether a visioning process will take place, and to what degree it will be a collective process remains, of course, to be seen. But therein lies the chance for a

realized balanced three-legged stool of sustainable development.

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