



Casa abierta al tiempo

UNIVERSIDAD AUTÓNOMA METROPOLITANA
UNIDAD CUAJIMALPA



Ciudad de México a 20 de noviembre de 2020

INFORME DE ACTIVIDADES DE PERIODO SABÁTICO

(26 de agosto 2019 al 25 de agosto de 2020)

Dr. Salomón González Arellano

Dr. Mario Barbosa Cruz

Presidente del Consejo Divisional

División de Ciencias Sociales y Humanidades

Unidad Cuajimalpa

Por medio de la presente informo al Consejo Divisional de la División de Ciencias Sociales y Humanidades de la Unidad Cuajimalpa de las actividades realizadas durante el periodo sabático de 12 meses y que comprende del 26 de agosto al 2019 al 25 de agosto de 2020. El informe sigue en buena medida lo propuesto como plan de trabajo presentado en su momento al Consejo Divisional bajo la estructura en cuatro tipos de actividades: a) actividades de investigación, b) participación en grupos y redes de investigación, c) participación en la formación y asesoría de alumnos, y d) actividades de comunicación y publicación de avances de investigación.

En el plan de trabajo del periodo sabático presentó el proyecto de una estancia de investigación en el Centro Interdisciplinario de Estudios Urbanos (CIEU) de la Université de Toulouse Jean Jaurès en Toulouse Francia, en específico dentro de las actividades de la Red Internacional de Investigación “Villes du futur” de la cual la UAM forma parte.

1. Actividades de investigación

- Presentación del estado del arte sobre la transición socioecológica y ciudades en el marco del seminario permanente de la Red Internacional de Investigación “Villes du futur” con la Université de Toulouse Jean Jaurès (1)
- Elaboración y presentación de propuesta de investigación en modalidad grupo a la convocatoria Ciencia de Frontera 2019 del CONACYT con el proyecto “Ciudades en Transición: Dimensión espacial de las (des)vinculación ecológica de modos de vida y escenarios de futuro”. La propuesta fue aprobada por el CONACYT y se encuentra en este momento en la fase de formalización (2)



Casa abierta al tiempo

UNIVERSIDAD AUTÓNOMA METROPOLITANA
UNIDAD CUAJIMALPA



2. Participación en grupos y redes de investigación

- Participación en la coordinación del ciclo de conferencias y de las políticas de publicación de la International Research Network (IRN) “Villes du futur”
- Participación en la red internacional Hungry Cities con la presentación de avances y la elaboración de una propuesta de investigación sobre Seguridad Alimentaria y COVID19.

3. Formación y asesoría de alumnos

- Co-diseño del curso y desarrollo del Módulo 2 Construcción de Escenarios Futuros del Curso Abierto Masivo (MOOC) “Proyectos para la Transición Diseño y Herramientas” (3).
- Diseño, coordinación y participación del curso conjunto de posgrado entre la Université de Toulouse Jean Jaurès y la Maestría en Planeación y Políticas Metropolitanas de la UAM-Azcapotzalco (4).

4. Publicaciones y actividades de comunicación de avances de investigación.

- Participación en el Coloquio RC21 “Internacional In and Beyond the City: Emerging Ontologies, Persistent Challenges and Hopeful Futures” durante el 17 y 22 de septiembre de 2019, con la ponencia “Characterizing the institutional production of urban futures” (5).
- Presentación en el “*Quai des savoirs*” de la Université Federale de Toulouse la conferencia «Caracterización de los escenarios futuros del mundo urbano»
- Elaboración del capítulo « Daily mobility and the social division of space and time: an analysis from a timegeography approach in Mexico City ». Collective book on Mobilities / Spatialities coordinado por Laurent Faret (6 y 7) En prensa.
- Continuación y conclusión de la coordinación de la obra colectiva *Diccionario sobre Temas SocioTerritoriales* editado por UAM-Cuajimalpa (8) En prensa.
- Redacción del artículo « Characterizing the institutional production of urban futures » en la revista International Journal of Urban and Regional Research *IJURR* (9).

Atentamente

Dr. Salomón González Arellano

Profesor Investigador

Departamento de Ciencias Sociales



Casa abierta al tiempo

UNIVERSIDAD AUTÓNOMA METROPOLITANA
UNIDAD CUAJIMALPA



ANEXOS

Emmanuel Eveno
Vice-président du Conseil d'Administration

Toulouse, a 15 de junio de 2020

Asunto: constancia de participación
en Seminario de la RNI

A QUIEN CORRESPONDA

Estimados colegas,

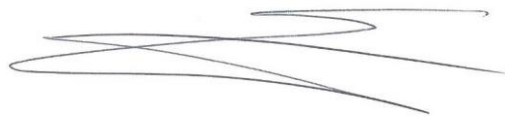
Me es grato extender la presente constancia al Dr. Salomón GONZALEZ ARELLANO por su participación en El Seminario Permanente de la Red Internacional de Investigación "Habitar las ciudades del futuro: Modos de vida, transición socioecológica y digital".

Esta Red es un dispositivo del Centre National de la Recherche Scientifique (CNRS) de Francia y tiene como objetivo promover la investigación internacional de alto nivel en temas de la evolución de las ciudades.

El Dr. González es parte del comité fundador de esta Red y actualmente co-responsable del eje sobre Ciudades en Transición del programa científico de la Red. La red inició formalmente sus actividades el 1 de enero del 2020 y tiene una duración de cinco años con la posibilidad de extensión de cuatro más.

Saludos cordiales

Atentamente



Dr. Emmanuel EVENO
Vice-président du Conseil d'Administration
Université Toulouse 2 Jean Jaurès
5 allées Antonio Machado
31058 TOULOUSE Cédex 9

Campus Mirail

téléphone : +33 (0)5 61 50 44 99 • télécopie : +33 (0)5 61 50 43 50 • courriel : presidence@univ-tlse2.fr
5, allées Antonio Machado • 31058 TOULOUSE CEDEX

Campus Mirail • Campus Blagnac • Campus Cahors • Campus Figeac • Campus Foix •
Campus Montauban • Campus du Taur • Campus Saint-Agne • Campus Rangueil •
Campus Croix-de-Pierre • Campus Albi • Campus Rodez • Campus Tarbes • Campus
Auch • Centre universitaire Toulouse Taylor's (Kuala Lumpur) • Centre universitaire Madrid

Detalle de propuesta

Número de propuesta 15004

Título de la propuesta

Ciudades en transición: dimensión espacial de la (des)vinculación ecológica, modos de vida urbanos y escenarios futuros

Datos generales

Modalidad

Grupo

Multidisciplinaria

No

Área de Conocimiento

Ciencias Sociales

Campo

Geografía

Disciplina

Geografía regional

Subdisciplina

Geografía urbana

Especialidad

Transición urbana socio-ecológica

Palabras clave

Urban Transition, Ecological decoupling, Urban form, Urban lifestyles, Future scenarios

Resumen ejecutivo

Es bien conocido que el desempeño económico de las ciudades es en buena medida a costa del uso intensivo de recursos naturales y la degradación del medio ambiente. Este tipo de desarrollo, en particular el asociado a la urbanización, ha generado numerosas propuestas teóricas y prácticas orientadas a la solución entre desarrollo y ecología. Entre éstas se pueden mencionar, la teoría del decrecimiento, la eco-eficiencia, la resiliencia, la transición socio-ecológica, o la teoría del colapso, entre otras. Una de estas posturas es la llamada desvinculación ecológica. Este campo de estudios parte del postulado de que es posible desvincular el crecimiento económico del uso excesivo de los recursos naturales y de la degradación del medio ambiente. En los últimos años se ha desarrollado un corpus teórico, metodológico y empírico que demuestran que la desvinculación es posible en ciertos sistemas socio-tecnológicos y productivos, como los sistemas pesqueros, forestales o energéticos. Este campo de investigación empieza a interesarse en las ciudades, siendo aún poco estudiada la dimensión espacial de subsistemas urbanos interdependientes.

El objetivo del proyecto es comprender mejor el grado y el tipo de desvinculación ecológica de ciudades mexicanas. Se pone especial atención en la dimensión espacial de las ciudades, por ser un factor relevante en el funcionamiento de los sistemas socio-tecnológicos y la eco-eficiencia de las ciudades. Además, se enfoca en los modos de vida de los hogares de tres subsistemas: la vivienda, el transporte y la alimentación. Estos subsistemas, por un lado son identificados como estratégicos en la literatura, debido a su consumo significativo de recursos naturales y su impacto en la degradación del medio ambiente. Por otro lado, los estudios de modos vida identifican estos mismos tres subsistemas como articuladores de las prácticas, valores e imaginarios cotidianos de las personas y hogares.

El proyecto se organiza en tres etapas: 1) al análisis de la forma y estructura urbana de las ciudades mexicanas, considerando el impacto ambiental, 2) caracterización de los modos de vida de los hogares y su (des)vinculación ecológica, incluyendo la adaptación del índice de desvinculación ecológica a la escala de los hogares y con una perspectiva espacial, y 3) la construcción y evaluación de escenarios futuros que permitan identificar trayectorias, alternativas y amenazas en la desvinculación ecológica de tres subsistemas urbanos; la vivienda, el transporte y la alimentación.

Se espera que los resultados de esta investigación ofrezcan una mejor comprensión sobre la diversidad de formas urbanas y su vínculo con los modos de vida y su impacto ecológico. Los resultados deberán contribuir en el diseño de políticas públicas integrales que capten las interdependencias de subsistemas que tradicionalmente son gestionados de manera separada; como la vivienda, el transporte y la alimentación. Por último, el proyecto generará escenarios futuros de las posibles trayectorias de (des)vinculación ecológica de las ciudades a partir de cambios en los modos de vida urbana de los hogares y nuevas políticas públicas.

Objetivo General

To contribute to understanding the effects of the urban form and structure on the decoupling between wellbeing and the ecological impact of three interdependent urban sub-systems: housing, mobility and alimentation. These three sub-systems were chosen because the literature identifies them as being significantly responsible for the ecological footprint of urban households. In addition, we seek to construct normative and exploratory scenarios and so identify plausible strategies for public policies and lifestyle changes oriented towards the decoupling of ecological resources. Finally, to identify and evaluate the potential risks of these decoupling strategies of the three sub-systems in relation to reinforcing existing inequalities, or generating new ones.

Datos de propuesta

Objetivos específicos

- 1.- To review the literature on studies of the urban form and ecology, ecological decoupling, and urban lifestyles.
- 2.- To analyze, characterize and construct representative typologies of cities based on urban forms.
- 3.- To analyze and characterize the urban metabolism (matter and energy flows) of the households that inhabit representative spaces of the typology of urban forms elaborated in rubric #2.
- 4.- To analyze and characterize the effect of the urban form and structure on the coupling among the housing, mobility and alimentation systems in relation to urban lifestyles (matter and energy flows).
- 6.- To evaluate the scenarios generated and identify possible conflicts and the risks of generating and/or increasing inequalities.
- 5.- To construct scenarios that project the housing, mobility and alimentation systems to the years 2030 and 2050, considering decoupling strategies and actions.

Antecedentes

Cities in socioecological transition.

There is a widely-shared consensus concerning the growing importance of cities at the planetary level. Indeed, formal estimates predict that the planet will be clearly urbanized by the year 2030 with 5 billion people living in cities, representing 60% of the Earth's population. If tendencies from recent decades continue, we can expect that by 2030 the urban surface area will increase by 1.2 million km², triple the urban surface estimated for the year 2000 (Seto, Güneralp & Hutyra, 2012). These scenarios further project that these changes will be accompanied by reduced urban density (Güneralp et al., 2017) and that the expansion of the surface area of cities will be heterogeneous and unequal among regions and countries and, unless these tendencies change, will mean a huge consumption of resources, raw materials and energy. The socio-ecological consequences of this urbanization process, which some authors call the "second wave of planetary urbanization", are being studied from diverse perspectives using variety of methods. The case of Mexico is especially interesting because it presents features that are very heterogeneous and unequal, often inside the same cities. While the demographic transition in Mexico will stabilize in terms of the number of individuals, the number of households will continue to grow, especially in cities, thus intensifying the existing deficit of housing and urban infrastructure. In other words, the expansion of cities will continue in a manner similar to the patterns seen in recent decades (RUV, 2019).

The conundrum of urbanization and ecology is not new and will no doubt remain a concern for academia, public policy and society as a whole for the foreseeable future. One research and public policy perspective that seeks to address the tensions between development and ecology is the field of ecological decoupling (Swilling et al., 2018). Recently, and gradually, this field has taken a greater interest in cities, since these are spaces with high consumption levels of materials and energy, and sites of socio-technological innovation characterized by a marked interdependence of socio-technological systems (Hodson, Marvin, Robinson & Swilling, 2012; Sauer et al., 2015). Despite this, studies of cities from this perspective are still scarce, and the few that exist tend to focus on only one, isolated socio-technological system, be it energy, housing or mobility. Also, the spatial dimension of cities is virtually absent from those studies. The spatial planning of cities as a strategy of ecological decoupling can be based on evidence that urban forms and structures are significant factors in the functioning of urban dynamics. This perspective is not new for some disciplines nor for urban policies whose theories and methods explicitly integrate the spatial dimension. Although there is a broad production of studies of urban forms, productivity, social equality, and environment, the integration of the urban form has yet to be developed within the framework of studies of ecological decoupling (Iván Muñoz et al., 2016).

Urban forms and the (de)coupling of three systems: housing, mobility and alimentation.

As mentioned above, the urban form has a significant effect on the functioning of sub-socio-technological systems and their environmental impact. Three of these sub-systems are: housing, mobility and alimentation, all of which constitute important dimensions of people's lifestyles and are good predictors of the ecological metabolism of households (that is, their patterns of matter and energy flows) (Yang, Gao, Xiao & Wang, 2012).

Housing: In national and urban economies, the construction sector has traditionally been a motor of employment and a signal of economic dynamism and growth. In addition to economic performance –especially in relation to housing– it is a central component of the wellbeing of households because it offers physical, social and symbolic support. In fact, the literature identifies the construction sector as significantly responsible for the consumption of natural resources and energy, and a producer of CO₂ emissions. Concretely, the housing sector is associated with three groups of environmental impacts: the consumption of materials, energy and land (Jin Xue 2012, 2015).

Mobility: the mobility sector is another important motor of economic growth in terms of job creation, but also in relation to its participation in the functioning of the rest of the economy. Beyond this, mobility contributes significantly to people's and households' displacement and access to resources and urban services. The literature that examines ecological decoupling in

relation to mobility focuses primarily on energy transitions and reducing emissions. Existing work demonstrates that although an ambitious agenda has been established, results have been modest, indicating the need to consider the urban form and structure as key factors in reducing the ecological and social impact of mobility (Ivan Muñiz & Garcia-López, 2019).

Alimentation: Cities form a very important part of the alimentary system by concentrating such activities as food storage, transport, treatment, sales, consumption and waste disposal. While the economic benefits and effects on wellbeing of urban alimentary systems are evident, certain ecological impacts are associated with the existing model of alimentation in cities (Vieira, Serrao-Neumann, Howes & Mackey, 2018), an impact that has to do with the consumption of resources like land, water and energy (mainly for distribution, treatment and conservation), ecosystem degradation, and the problem of food waste. These factors relate to a spatial component of urban alimentary systems, the model of the dispersed city, and the distances between food supplies, among others, all of which are spatial factors of the alimentary system of cities that must be included in analyses (Abu Hatab, Eduarda Rigo Cavinato, Lindemer & Lagerkvist, 2019).

A necessary vision due to the existence of inequalities: fair socioecological transitions. Implementing strategies to (de)couple growth from wellbeing using natural resources and/or environmental degradation is a complex task, and one that can produce undesirable consequences. One such effect is the risk of reinforcing existing social inequalities or generating new ones. The topic of equality and environment is not new either, but one current that interests us is that of environmental justice, a focus that has been developed in various domains, including conflicts over megaprojects, as well as in the countryside and cities (Balaceanu, Apostol & Penu, 2012). Studies of ecological (de)coupling have seldom examined the dimensions of justice and equality of the strategies adopted, and then only superficially. However, there is an important corpus of studies on spatial and environmental justice that can be integrated into studies of ecological decoupling (Levy, Fauchille, Póvoas & Beade, 2018).

Descripción de propuesta

For various decades now, the whole idea of development has been widely questioned, even by several of the very actors who fomented it in the mid-20th century. Alternatives to the existing model are diverse, sometimes contradictory, and characterized by a significant range of uncertainty. In this context, cities will play an important role in the transition that is already in process, and will constitute a significant field of experimentation. In the framework of these transformations, our project is designed to contribute original information and rigorous analyses of the controversies that derive from tensions among urban development, lifestyles and ecological degradation.

In this field of research, as in politics and the study of social movements, a certain consensus exists around the idea that the development policies adopted in the second half of the 20th century have failed to produce the expected results. This “disillusion” with development policies has generated an effervescence of proposals for change and, with this, a whole series of controversies regarding the idea of progress. Included among these controversies is the discussion of the coupling between, on the one hand, economic and social development with its unbridled use of natural resources and, on the other, environmental degradation. Over time, this concern has adopted diverse nuances and schools of thought; for example, from postures of denial, climate-skepticism and “green capitalism”, through proposals to “degrowth” development, to theories of socio-ecological collapse.

The present proposal is positioned at the frontier of the research field on (de)coupling economic growth and/or wellbeing from the extensive consumption of natural resources and/or environmental degradation. The literature in this field sets out from the postulate that it is indeed possible to decouple growth and wellbeing from the excessive use of natural resources and environmental degradation (Fedrigo-Fazio et al., 2016).

In the area of studies of ecological (de)coupling, analysis at the scale of the city is a recent development, while work at the level of households is scarce. This is because the literature has

placed greater emphasis on economic sectors or such socio-technological systems as fisheries, agroalimentary processes, transportation and construction, among others. (Fedrigo-Fazio et al., 2016). In geographic approaches, meanwhile, (de)coupling has passed gradually from the global scale to the regional level, but only recently, to cities (Bai, Deng, Jiang, Zhang & Wang, 2018; Manuel-Navarrete et al., 2019; Swilling et al., 2013). At the household level there is ample literature on the ecological footprint of consumption patterns that emphasizes on energy consumption. Less numerous are works on (de)coupling at the level of households wellbeing and the use of naturales resources.

Apart from the differences in the ecological footprint left by urban versus rural households, some studies have analyzed the ecological impact of lifestyles that, indirectly, show a spatial component; for example, residential patterns and preferences (one-family homes in suburbs), models of mobility (dependence on the automobile), alimentation (purchases of food over long distances, imported foods), or leisure and consumption activities that consume ecological resources.

Finally, the literature on ecological decoupling has addressed the costs and burdens of economic performance in relation to the wellbeing of ecological systems. However, these studies do not consider the fact that economic growth will always have social costs for at least one sector of the population. The dimension of environmental equality or justice, meanwhile, stands out by its absence from these studies, which concentrate on ecological indicators or assessments of eco-efficiency, like the decoupling index (Fischer-Kowalski et al., 2011).

In summary, this project proposes advancing our knowledge of interdependencies from three perspectives: a) the form and structure of cities; b) urban lifestyles and their environmental impact; and c) socio-spatial inequalities.

Hipótesis y/o pronósticos

The study expects to validate that:

1. The profile of ecological coupling in Mexican cities is heterogeneous and shares characteristics similar to those manifested by cities in the consumer societies of the global north and the subsistence societies of the global south.
2. The profile of this coupling has a significant spatial component that can be analyzed in terms of the effects on urban form and spatial structure of three sub-systems: housing, mobility, and alimentation.
3. Cities constitute sensitive spaces and areas of socio-ecological innovation in terms of decoupling between economic performance and the wellbeing of residents with respect to the use of natural resources and environmental degradation.
4. Future strategies evoked by urban actors for ecological decoupling in relation to public policies present potential risks for reinforcing current socio-spatial inequalities or generating new ones.
5. Tendential and normative scenarios show inadequate handling of urban complexity and a high level of uncertainty regarding the interaction of decoupling between economic growth or wellbeing and environmental impacts.

Metodología

Our methodological approach designed to achieve the proposed objectives is structured in three stages. The first deals with the analysis of the urban form and corresponds to specific objectives 1 and 2. The second focuses on analyses of lifestyles and their ecological decoupling to address specific objectives 3 and 4. The third, finally, concentrates on the construction and evaluation of scenarios in relation to specific objectives 5 and 6.

First stage: analyses of the urban form

The analysis and characterization of the urban form of Mexican cities will be based on vectorial

geographic and raster data on cities from the National Urban System (version 2015). A previous study by our research team analyzed the urban form and structure of Mexican cities. That work will allow us to advance in data analysis and the review of analytical techniques (Gonzalez & Larralde, 2019).

A series of variables identified in the literature as relevant to Mexican cities and the objectives of this project (Cravioto, Yamasue, Okumura & Ishihara, 2014; García Martín, 2017; Gonzalez & Larralde, 2019) can be grouped into three types of indicators: 1) macroform variables like extension, fragmentation, etc.; 2) structural variables like indices of polycentricity and density; and 3) variables related to urban layouts, such as configuration, spatial syntax, size, and the form of blocks, among others. To these groups of variables we will add attributes such as land use in urban and peri-urban spaces utilizing three categories of land use: constructed, cultivated, and natural, as well as one index of entropy in land use. Our research group has already made advances in the analysis and characterization of peri-urban spaces in Mexico (González Arellano & Larralde, 2013; Soto-Montes-de-Oca & Alfie-Cohen, 2019).

We will apply the statistical method called cluster analysis as the classificatory technique, as it will allow us to construct a typology of cities based on the attributes of their form-structure and heterogeneity in the uses of urban land. This analysis will allow us to select cities that are representative of the typologies for application in the second stage.

Second stage: Household lifestyles and ecological (de)coupling

The estimation and characterization of ecological (de)coupling will be carried out on the basis of collecting and analyzing data on lifestyles from samples of households from 5 cities representative of the typologies constructed in the stage one. Lifestyles are composed of a set of everyday practices, modes of consumption and forms of sociability, plus the social representations (values, preferences, etc.) that support them. To analyze lifestyles—especially in relation to the three sub-systems of interest; housing, mobility and alimentation, that are the basic functions of daily life and social reproduction in cities—we will apply a survey to individuals and households that places special emphasis on the spatial dimension of practices (location of oft-visited places and distances traveled to reach them depending on the urban forms), and the aspirations of the households for constructing scenarios. This survey will include elements chosen to calculate the ecological footprint of each lifestyle (calculated in equivalent carbon kg). This exercise will be based on the “Bilan Carbone R” method patented in France by ADEME (Huber, Girard & Thomas, 2011). Using this approach we will construct a typology of lifestyles that takes into account the spatial dimension (evaluations of proximity, extended life spaces, etc.), people’s aspirations, willingness to change, and environmental impacts. This survey will be complemented by in-depth interviews with city officials and five focus groups with households regarding, especially, their willingness to change.

Measuring the degree of ecological decoupling of households is based on the logic of the decoupling index, which was developed and adapted from the theory of ecological (de)coupling. The original version of this index measured the elasticity between variables of economic growth and of the environmental surroundings (Wang, 2011). In addition to this version, an alternative one was developed recently that breaks down the factors that explain the degree of ecological decoupling (Casadio Tarabusi & Guarini, 2018). Some of these analyses adopt a multiscale perspective in order to distinguish differences at the global, national and regional levels. Our proposal is to incorporate this type of perspective for the case of the households in the different cities chosen.

Third stage: Scenarios and evaluation of ecological (de)coupling

This stage consists in constructing and evaluating scenarios of the trajectories of ecological decoupling in the three sub-systems: housing, mobility and alimentation. Here, we propose a methodology grounded, to a large extent, on the technique called “morphological analysis” with input from the Delphi panel technique. Both of these techniques are considered means of generating scenarios and reducing uncertainty (Godet, 1994). This strategy of combining two approaches has been employed successfully in various situations to construct scenarios for

energy transitions through the participation of diverse important actors (Velte et al., 2006, Wehnert et al., 2007).

The objective of morphological analysis is to systematically explore possible futures by analyzing all possible combinations that result from the decomposition of a system (Hannah & Robert, 2008; Johansen, 2018). This technique is organized in three broad phases. The first involves constructing what is called space, or the morphological matrix, based on identifying the key factors of the system (i.e., urban form, demography, technological innovation, climate change, etc.) and probable hypotheses for each factor (e.g., for the urban form we can identify: i) the diffuse city; ii) the compact city; and iii) the polycentric city, among others, while for the factor climate change we could use: i) without change; ii) an increase of up to 2°C; and iii) an increase greater than 2°C. This aspect of our work will be supported by the Delphi technique to construct hypotheses based on two panels: one of households, the other of city officials. The Delphi technique has been used widely to construct scenarios (Renzi & Freitas, 2015). The second phase consists in identifying plausible combinations that are reduced to series of scenarios. In the third and final phase, we will interpret and evaluate the scenarios (or groups of plausible combinations) of the morphological space. An important element in the effort to interpret and evaluate the scenarios involves identifying potential conflicts, and the risk of reinforcing forms of inequality, or generating new ones.

Resultados

The study expects to achieve the following three types of results: generating knowledge, positing an innovative methodology, and developing analytical tools, as follows:

- A typology of Mexican cities based on their urban form and structure that will make it possible to explain the heterogeneity of processes of expansion, fragmentation, densification, polycentrism, specialization and segregation.
- New information and knowledge on different lifestyles in terms of the intensity and type of the use of natural resources and/or environmental degradation.
- Identification, estimation and characterization of the spatial component of urban lifestyles, specifically the effect of the form and structure of the city on the dynamics of ecological (de)coupling.
- Normative and exploratory scenarios of the socio-ecological transitions that will allow us to inform and clarify plausible trajectories towards ecological (de)coupling.
- Identification, evaluation and characterization of the potential risks of reinforcing existing socio-spatial inequalities, or generating new ones, derived from strategies of ecological decoupling.

Mecanismos para integrar los diferentes resultados generados por las líneas de investigación propuestas

The research team that presents this proposal has been collaborating in group projects and the formation of young researchers in their respective graduate programs for over 10 years. In addition, it participates in international research networks whose topics of interest appear in this research proposal. These networks are: 1) the Hungry Cities Partnership, devoted to studying urban alimentary systems; 2) the International Research Network Habiter les villes du Futur sponsored by the CNRS (France), which addresses the socio-ecological transition and city lifestyles; 3) the Red Temática CONACYT de SocioEcosistemas y Sustentabilidad, which examines socio-ecological system; and 4) the Red de Estudios de la Forma Urban (REFU), which conducts interdisciplinary studies of the processes and social and ecological effects of the form of cities. The mechanisms to integrate the results proposed are of three types: Active participation in research networks. Our activities and results will strengthen our lines of research and contributions to the networks in which the members of the team currently participate.

Strengthening the training of young researchers. The members of the research group will participate in training young researchers in three graduate studies programs recognized by

CONACYT. We propose issuing a convocation to recruit candidates to Master's and Doctoral programs to work on theses that fall within the framework of this research proposal. Strengthening the Laboratory of Cities in Transition (LABCIT) at the UAM. The UAM created the LABCIT in mid-2017 as a space for the study of innovations and the challenges that cities face during the socio-ecological transition. Some members of LABCIT are researchers who form part of the group that is presenting this project. The results and activities of this proposal will reinforce this space for interdisciplinary research.

Acciones de apropiación social del conocimiento generado

The actions for the social appropriation of project results that we propose are:

- Identifying interested actors at the national level of the government sector, professional associations, and social organizations.
- Creating a virtual learning community with actors interested in such topics as urbanism, sustainability, climate change, etc.
- Designing, elaborating and disseminating a printed and digital newsletter to present actualities on debates, advances and the results of the project.
- Creating a channel (YouTube, Vimeo, etc.) with conferences, debates and courses directed at the unspecialized public, functionaries, organizations and students.
- Participation in university and public radio stations as a channel of social communication for the ideas, debates and findings of the project.
- In the framework of continuous education, organizing a diploma course on cities in transition for functionaries, organizations and students, among others.

Bibliografía

- Abu Hatab, A.,... Lagerkvist, C.-J. (2019). Urban sprawl, food security and agricultural systems in developing countries: A systematic review of the literature.
- Bai, Y., Deng, X., Jiang, S., Zhang, Q., & Wang, Z. (2018). Exploring the relationship between urbanization and urban eco-efficiency: Evidence from prefecture-level cities in China. *Journal of Cleaner Production*, 195, 1487–1496.
- Fedrigio-Fazio, D., Schweitzer, J. P., ten Brink, P., Mazza, L., Ratliff, A., & Watkins, E. (2016). Evidence of absolute decoupling from realWorld policy mixes in Europe. *Sustainability (Switzerland)*, 8(6), 1–22.
- García Martín, F. M. (2017). Tipomorfología de los tejidos residenciales en la periferia de las ciudades intermedias españolas entre 1939 y 1965: Málaga, Murcia y Valladolid.
- González, S., & Larralde, A. (2013). Conceptualización y medición de lo rural. Una propuesta para clasificar el espacio rural en México. *La Situación Demográfica de México 2013*, 141–157
- Gonzalez, S., & Larralde, A. H. (2019). La forma urbana actual de las zonas metropolitanas en México: indicadores y dimensiones morfológicas: *Estudios Demográficos y Urbanos*, 34(1), 11–42.
- Güneralp, B., Zhou, Y., Ürge-Vorsatz, D., Gupta, M., Yu, S., Patel, P. L., ... Seto, K. C. (2017). Global scenarios of urban density and its impacts on building energy use through 2050. *Proceedings of the National Academy of Sciences of the United States of America*, 114(34), 8945–8950.
- Hodson, M., Marvin, S., Robinson, B., & Swilling, M. (2012). Reshaping Urban Infrastructure Material Flow Analysis and Transitions Analysis in an Urban Context. *Journal of Industrial Ecology*.
- Huber, A., GIRARD, S., & Thomas, Y. (2011). On the Way To a Post-Carbon Society: Assessing the Personal Carbon Footprint of French Social Milieux To Develop Targeted Intervention Strategies. *Regulation*, (29), 1951–1962.
- Johansen, I. (2018). Scenario modelling with morphological analysis. *Technological Forecasting and Social Change*, 126, 116–125.
- Muñiz, I., & Garcia-López, M. À. (2019). Urban form and spatial structure as determinants of the

ecological footprint of commuting. Transportation Research Part D: Transport and Environment, 67(December 2018),

Renzi, A. B., & Freitas, S. (2015). The Delphi Method for Future Scenarios Construction. Procedia Manufacturing, 3(Ahfe), 5785–5791.

Sauer, A. T., Barnebeck, S., Susanne, C., ... Iclei, S. K. (2015). The Role of Cities in the Socio-Ecological Transition of Europe (ROCSET), (93).

Seto, K. C., Güneralp, B., & Hutyra, L. R. (2012). Global forecasts of urban expansion to 2030 and direct impacts on biodiversity and carbon pools. Proceedings of the National Academy of Sciences of the United States of America, 109(40), 16083–16088.

Soto-Montes-de-Oca, G., & Alfie-Cohen, M. (2019). Impact of climate change in Mexican peri-urban areas with risk of drought. Journal of Arid Environments, 162(October).

Swilling, M., Hajer, M., Baynes, T., ... Tabory, S. (2018). The Weight of Cities: Resource requirements of future urbanization. UN Environment - International Resource Panel.

Swilling, M., Robinson, B., ... Pengue, W. A. (2013). City-Level Decoupling Urban resource flows.

Vieira, L. C., Serrao-Neumann, S., Howes, M., & Mackey, B. (2018). Unpacking components of sustainable and resilient urban food systems. Journal of Cleaner Production, 200, 318–330.

Wang, H. (2011). Decoupling measure between economic growth and energy consumption of China. In Energy Procedia (Vol. 5, pp. 2363–2367). Elsevier Ltd.

Equipo de trabajo

Sujeto de Apoyo

Nombre	RENICYT	RoI	Nivel SNI
SALOMON GONZALEZ ARELLANO	1704285-2	Responsable Técnico	Investigador Nacional Nivel I
ALVARO JULIO PELAEZ CEDRES	1704285-2	Responsable Administrativo	
RODOLFO RENE SUAREZ MOLNAR	1704285-2	Representante Legal	

Corresponsables

Nombre	RENICYT	RoI	Nivel SNI
GUENOLA FRANCOISE MADELEINE CAPRON	1704285-1	Corresponsable Técnico	Investigador Nacional Nivel II
VERONICA ARROYO PEDROZA	1704285-1	Corresponsable Administrativo	
OSCAR LOZANO CARRILLO	1704285-1	Representante Legal	

Participantes

Nombre	# CVU	Institución	País de residencia
ADRIANA HELIA LARRALDE CORONA	37042	Universidad Autonoma Metropolitana (UAM)	México
MIRIAM ALFIE COHEN	15407		México
JERONIMO AURELIO DIAZ	96268	Universidad Autonoma Metropolitana (UAM)	México

Nombre	# CVU	Institución	País de residencia
MARIELLE	8		
MARIA TERESA ESQUIVEL HERNANDEZ	21020	Universidad Autonoma Metropolitana (UAM)	México
RUTH PEREZ LOPEZ	24352 5	Consejo Nacional de Ciencia y Tecnología (CONACYT)	México
RAFAEL CALDERON CONTRERAS	22063 2	Universidad Autonoma Metropolitana (UAM)	México
SOCORRO FLORES GUTIERREZ	47703 4	Universidad Autonoma Metropolitana (UAM)	México
JOSE CAMPOS TERAN	12224 3	Universidad Autonoma Metropolitana (UAM)	México
LAURA ELISA QUIROZ ROSAS	37750 7		México
CHRISTOF ADOLF GOBEL	16807 5	Universidad Autonoma Metropolitana (UAM)	México
ADELA IRMENE ORTIZ LOPEZ	12099 1	Universidad Autonoma Metropolitana (UAM)	México
ILANA BOLTVINIK RIESENFELD	45003 9	Universidad del Claustro de Sor Juana, A. C.	México

Plan de Trabajo

Año 1:

Analysis and characterization of the urban form

Objetivo Específico 1.1:

2.- To analyze, characterize and construct representative typologies of cities based on urban forms.

Meta 1.1.1:

Construction of databases of the urban form of the cities of the National Urban System

Actividad 1.1.1.1:

Construction of databases of the urban form of the cities of the NUS

Producto 1.1.1.1.1:

Base de datos

Producto 1.1.1.1.2:

Reporte técnico

Meta 1.1.2:

Characterization and typology of the urban form of Mexican cities

Actividad 1.1.2.1:

Characterization and typology of the urban form of Mexican cities

Producto 1.1.2.1.1:

Reporte técnico

Producto 1.1.2.1.2:

Ponencia

Producto 1.1.2.1.3:

Artículo científico en revista internacional indexada

Producto 1.1.2.1.4:

Tesis maestría

Meta 1.1.3:

WEB mapping of morphological characteristics and typology of Mexican cities

Actividad 1.1.3.1:

Methodological workshop

Producto 1.1.3.1.1:

Reporte técnico

Actividad 1.1.3.2:

Website construction and implementation

Producto 1.1.3.2.1:

Desarrollo de software

Objetivo Específico 1.2:

1.- To review the literature on studies of the urban form and ecology, ecological decoupling, and urban lifestyles.

Meta 1.2.1:

Literature review of the interrelationships between urban form, urban lifestyles and ecology

Actividad 1.2.1.1:

Literature review of the interrelationships between urban form, lifestyles and ecology

Producto 1.2.1.1.1:

Reporte técnico

Producto 1.2.1.1.2:

Artículo científico en revista internacional indexada

Año 2:

Urban form and household lifestyles

Objetivo Específico 2.1:

4.- To analyze and characterize the effect of the urban form and structure on the coupling among the housing, mobility and alimentation systems in relation to urban lifestyles (matter and energy flows).

Meta 2.1.1:

Integration of the urban form database and household survey database

Actividad 2.1.1.1:

Integration of the urban form database and household survey database

Producto 2.1.1.1.1:

Reporte técnico

Producto 2.1.1.1.2:

Base de datos

Meta 2.1.2:

Analysis of the interrelation of urban form and household lifestyles

Actividad 2.1.2.1:

Analysis of the interrelation of urban form and household lifestyles

Producto 2.1.2.1.1:

Reporte técnico

Producto 2.1.2.1.2:

Ponencia

Producto 2.1.2.1.3:

Ponencia

Producto 2.1.2.1.4:

Artículo científico en revista internacional indexada

Producto 2.1.2.1.5:

Artículo científico en revista internacional indexada

Producto 2.1.2.1.6:

Tesis maestría

Objetivo Específico 2.2:

3.- To analyze and characterize the urban metabolism (matter and energy flows) of the households that inhabit representative spaces of the typology of urban forms elaborated in rubric #2.

Meta 2.2.1:

Design and test of the household survey and interviews

Actividad 2.2.1.1:

Design and test of the household survey and interviews

Producto 2.2.1.1.1:

Reporte técnico

Meta 2.2.2:

Household survey in five cities

Actividad 2.2.2.1:

Household survey in five cities

Producto 2.2.2.1.1:

Reporte técnico

Producto 2.2.2.1.2:

Base de datos

Producto 2.2.2.1.3:

Ponencia

Producto 2.2.2.1.4:

Ponencia

Producto 2.2.2.1.5:

Artículo científico en revista internacional indexada

Meta 2.2.3:

Analysis of the household survey in five cities

Actividad 2.2.3.1:

Analysis of the household survey in five cities

Producto 2.2.3.1.1:

Reporte técnico

Producto 2.2.3.1.2:

Ponencia

Producto 2.2.3.1.3:

Artículo científico en revista internacional indexada

Producto 2.2.3.1.4:

Artículo científico en revista internacional indexada

Producto 2.2.3.1.5:

Tesis maestría

Meta 2.2.4:

Households focus groups and city officials interviews

Actividad 2.2.4.1:

Households focus groups and city officials interviews

Producto 2.2.4.1.1:

Reporte técnico

Producto 2.2.4.1.2:

Base de datos

Meta 2.2.5:

Analysis of interviews and focus groups

Actividad 2.2.5.1:

Analysis of interviews and focus groups

Producto 2.2.5.1.1:

Reporte técnico

Producto 2.2.5.1.2:

Ponencia

Producto 2.2.5.1.3:

Artículo científico en revista internacional indexada

Producto 2.2.5.1.4:

Artículo científico en revista internacional indexada

Producto 2.2.5.1.5:

Ponencia

Producto 2.2.5.1.6:

Tesis maestría

Año 3:

Construction of future scenarios

Objetivo Específico 3.1:

5.- To construct scenarios that project the housing, mobility and alimentation systems to the years 2030 and 2050, considering decoupling strategies and actions.

Meta 3.1.1:

Delphi group survey design

Actividad 3.1.1.1:

Delphi group survey design

Producto 3.1.1.1.1:

Reporte técnico

Meta 3.1.2:

Delphi group survey in five cities

Actividad 3.1.2.1:

Delphi group survey in five cities

Producto 3.1.2.1.1:

Reporte técnico

Producto 3.1.2.1.2:

Base de datos

Meta 3.1.3:

Design scenario technique (Morphological analysis)

Actividad 3.1.3.1:

Methological workshop

Producto 3.1.3.1.1:

Memoria

Producto 3.1.3.1.2:

Artículo científico en revista nacional

Meta 3.1.4:

Implementation of the scenario technique (morphological analysis) in five cities

Actividad 3.1.4.1:

Implementation of the scenario technique (morphological analysis) in five cities

Producto 3.1.4.1.1:

Reporte técnico

Producto 3.1.4.1.2:

Base de datos

Producto 3.1.4.1.3:

Ponencia

Producto 3.1.4.1.4:

Ponencia

Producto 3.1.4.1.5:

Artículo científico en revista internacional indexada

Producto 3.1.4.1.6:

Capítulo del libro científico

Objetivo Específico 3.2:

6.- To evaluate the scenarios generated and identify possible conflicts and the risks of generating and/or increasing inequalities.

Meta 3.2.1:

Methodological design for scenario analysis and assessment

Actividad 3.2.1.1:

Methodological workshop

Producto 3.2.1.1.1:

Reporte técnico

Meta 3.2.2:

Assessment of future scenarios

Actividad 3.2.2.1:

Assessment of future scenarios

Producto 3.2.2.1.1:

Reporte técnico

Producto 3.2.2.1.2:

Ponencia

Producto 3.2.2.1.3:

Ponencia

Producto 3.2.2.1.4:

Ponencia

Producto 3.2.2.1.5:

Artículo científico en revista internacional indexada

Producto 3.2.2.1.6:

Artículo científico en revista internacional indexada

Producto 3.2.2.1.7:

Artículo científico en revista internacional indexada

Producto 3.2.2.1.8:

Tesis maestría

Desglose financiero

Monto total solicitado: 4449600

Institución	Monto
Universidad Autónoma Metropolitana Unidad Azcapotzalco	1875900
Universidad Autónoma Metropolitana Unidad Cuajimalpa	2573700

Ciudad de Huelva, 30 de agosto de 2020

Dr. Salomón GONZALEZ ARELLANO
Profesor de la Universidad Autónoma Metropolitana, México

De manera afectuosa le extendemos esta carta de agradecimiento por su valiosa colaboración en el co-diseño del curso y desarrollo del Módulo 2 Construcción de Escenarios Futuros del Curso Abierto Masivo (MOOC) "Proyectos para la Transición Diseño y Herramientas".

Este curso es el resultado de la colaboración entre académicos de la Universidad de Huelva y del Laboratorio de Análisis Territorial (LAST) de la UAM-Cuajimalpa, con el apoyo de la Diputación de Huelva.

Le comparto mi alegría por la culminación de este esfuerzo de varios meses de trabajo con el lanzamiento del curso para principios del mes de octubre de este año.

Con el gusto de seguir colaborando con usted y el maravilloso equipo del LAST de la UAM Cuajimalpa, reciba mis saludos afectuosos.

Atentamente



Dra. Blanca Miedes Ugalde

Profesora Titular de la Universidad de Huelva. Departamento de Economía
Coordinadora Laboratorio Iberoamericano de Iniciativas de Innovación
Socioecológica
Directora de la Cátedra Andalucía Emprende de la Universidad de Huelva

Toulouse, a 30 de mayo de 2020

A quien corresponda,

Por la presente hago constar que el Dr. Salomón GONZALEZ ARELLANO, profesor-investigador de la Universidad Autónoma Metropolitana participó con la Dra. Claudia Ximena López en la coordinación del curso a distancia de la Maestría en Urbanismo y Ordenamiento Territorial.

Este curso se realizó de manera conjunta con la Maestría en Planeación y Políticas Metropolitanas de la UAM-Azcapotzalco durante los meses de septiembre a diciembre del 2019. El curso se conformó de nueve sesiones semanales con profesores de ambas universidades. Además de la coordinación, el Dr. González impartió la sesión 01 del curso.

Saludos cordiales

Atentamente

Dr. Fabrice ESCAFFRE

Co-responsable du Master 2 Pro

« Villes, habitat et politique d'aménagement »

l'Université Toulouse II-Le Mirail

UFR

SCIENCES
ESPACES
SOCIÉTÉ

Département de
Géographie, Aménagement
et Environnement

Institut Daniel Faucher

Coordonnées :

Resp Admin : 05 61 50 43
62

L1, L2 & exam. : 05 61 50
48 20

L3, MEEF, & VES : 05 61 50
48 38

L & M APTER : 05 61 50 44
39

Masters : 05 61 50 43 71





Dr. Salomon Gonzalez
Departamento de Ciencias Sociales
UAM-Cuajimalpa

**Mathematisch-
Naturwissenschaftliche
Fakultät**

Geographisches Institut

Abteilung Humangeographie
(Fachgebiete / Professuren)

Dr. Julie Ren
Wissenschaftlicher Mitarbeiterin

RC21 Delhi Panel Presentation

Datum:
04.07.19

To Whom it May Concern,

As organized by the Research Committee 21 – Sociology of Urban and Regional Development of the International Sociological Association and the Local Organizing Team in Delhi, India, the conference "Beyond the City: Emerging Ontologies, Persistent Challenges and Hopeful Futures" was held from the 18th to the 21st of September 2019 in New Delhi, India. I organized the Stream "Un/Doing Future: Anticipatory Practices, Aspirational Politics." I am delighted to confirm that Salomon Gonzalez-Arellano participated in our stream, and presented his paper "Characterizing the institutional production of urban futures." We are currently in discussion about developing a potential publication from the panelists' work.

If you should have any questions, please don't hesitate to contact me at julie.ren@hu-berlin.de

Best regards,

Julie Ren

Postanschrift:
Humboldt-Universität zu Berlin
10099 Berlin

Tel: +49 30 2093 6825

julie.ren@hu-berlin.de
www.hu-berlin.de

Sitz:
Rudower Chaussee 16
Raum 3'103
12489 Berlin



Salomon Gonzalez <salomonglez@gmail.com>

Re: *UNCHECKED*** Re: Book project on Mobility - spatialities**

4 mensajes

Laurent Faret <faret@univ-paris-diderot.fr>
Para: Salomon Gonzalez <salomonglez@gmail.com>

12 de septiembre de 2019, 20:19

Hola Salomón,
Muchas gracias por el envío. Se ve muy interesante. Voy a leer esto con calma y lo enviaremos también a revisión externa, como tratamos de hacer con todos los capítulos.
Abrazos,
Laurent

Le 05/09/2019 à 02:23, Salomon Gonzalez a écrit :

Estimado Laurent

Te envío mi contribución al libro "Hybrid Spatialities".
Saludos cordiales

El mié., 4 sept. 2019 a las 23:51, Laurent Faret (<faret@univ-paris-diderot.fr>) escribió:

Dear authors,
We are pleased to let you know that Routledge gave a first positive response to the book project "Hybrid Spatialities" and is interested in publishing the book. That's a good news. We received at beginning of August a couple of reviews that will be helpful for developing and structuring the project. Thank you for your participation.
As announced, we are waiting first version of your texts by September 15th (7500 words, no formatting style at the moment). Thank you to those who have already sent their chapter.
Then will come the time for exchanges between us and with the editor to get the book as relevant as possible !
Best wishes,
Nadine and Laurent

Le 26/06/2019 à 06:00, Laurent Faret a écrit :

Dear colleagues,
A few words about the book on mobility: the reviewing process is still under ongoing by Routledge. We hope to have some news before summer holidays. We would like to thank very much those who have already sent their chapter. For the others, because of the reviewing delay, chapters could be sent until September 15th.
Best wishes,
Laurent and Nadine

Le 21/02/2019 à 14:31, Laurent Faret a écrit :

Dear colleagues,

You have agreed to participate in the collective book project on "Hybrid Spatialities. Transgressive Mobilities" and we are very pleased to count on your participation. The book project is currently being proposed to Routledge. We would like to keep a writing schedule in parallel with the evaluation of the proposal by Routledge. Be please ready to submit the first version of your chapter for June 15. We will then have six months for the reviewing and rewriting process. Our plan is to have the final revised manuscripts from you for December 2019.

Each chapter will be 7 500 words long, including bibliographical references. It will be written in the language of the authors' choice, between English, French and Spanish. The book will be in English after required translations.

Please find attached the synopsis of the book as sent to the publisher (according to proposal guidelines of Routledge), so you'll have a more complete idea of the project.

We obviously remain at your disposal for any further question.

Sincerely,
Nadine and Laurent

--
Laurent Faret
Investigador huésped CIESAS Mexico
LMI Meso IRD
CESSMA Université Paris Diderot
faret@univ-paris-diderot.fr

--
Laurent Faret
Investigador huésped CIESAS Mexico
LMI Meso IRD
CESSMA Université Paris Diderot
faret@univ-paris-diderot.fr

--
Laurent Faret
Investigador huésped CIESAS Mexico
LMI Meso IRD
CESSMA Université Paris Diderot
faret@univ-paris-diderot.fr

--
Dr. Salomón GONZALEZ ARELLANO

Departamento de Ciencias Sociales
UAM-Cuajimalpa
<http://cua-uam.academia.edu/salomongonzalez>
Twitter: @salomonga

--
Laurent Faret
Investigador huésped CIESAS Mexico
LMI Meso IRD
CESSMA Université Paris Diderot
faret@univ-paris-diderot.fr

Laurent Faret <faret@univ-paris-diderot.fr>
Para: Salomon Gonzalez <salomonglez@gmail.com>

11 de noviembre de 2019, 22:04

Estimado Salvador,
Acerca de tu capítulo para el libro, te aviso que ya está en proceso de revisión.
Solo una pregunta: no hay un error en el título del figura n°5? Es 12:00AM o 21:00PM? Parece lógico 21:00.

5/10/2020

Gmail - Re: ***UNCHECKED*** Re: Book project on Mobility - spatialities

Gracias por precisar.

Abrazo,

[El texto citado está oculto]

Salomon Gonzalez <salomonglez@gmail.com>
Para: Laurent Faret <faret@univ-paris-diderot.fr>

12 de noviembre de 2019, 23:16

Hola Laurent,

sí, efectivamente, para la figura 5 debe ser 21:00 hrs

saludos

[El texto citado está oculto]

[El texto citado está oculto]

<http://salomongonzalez.com/>

Twitter: @salomonga

Laurent Faret <faret@univ-paris-diderot.fr>
Para: Salomon Gonzalez <salomonglez@gmail.com>

12 de noviembre de 2019, 23:49

muy bien, tomo nota

L

[El texto citado está oculto]

Laurent Faret
Université de Paris et CIESAS/IRD
faret@univ-paris-diderot.fr

Ciudad de México a 20 de septiembre de 2020

A quien corresponda.

Con la presente se hace constar que el Dr. Salomón GONZALEZ ARELLANO participa como coautor en el libro colectivo *Hybrid spatialities. Transgressive mobilities* con el capítulo *Daily mobility and the social divisions of space: a space-time analysis of Mexico City*.

El proyecto de este libro inició a finales del 2019, la obra ha sido evaluada por pares favorablemente y aceptada por la editorial Routledge para su publicación a principios del 2021.

Atentamente,



Dr. Laurent Faret
Coeditor del libro

SALOMÓN GONZÁLEZ ARELLANO
MIRIAM ALFIE COHEN
JORGE GALINDO
(Coordinadores)

DICCIONARIO SOBRE TEMAS SOCIOTERRITORIALES

Ilustraciones:
Nora A. Morales Zaragoza



UNIVERSIDAD
AUTÓNOMA
METROPOLITANA
Unidad Cuajimalpa

Diccionario sobre temas socioterritoriales / Salomón González Arellano, Miriam Alfie Cohen, Jorge Galindo, coordinadores ; ilustraciones Nora A. Morales Zaragoza . -- México : UAM, Unidad Cuajimalpa, 2020.

368 p.: il., tablas ; 16.5 x 22.5 cm. -- (Colección Académica)

ISBN: 978-607-28-1717-3

ISBN: 978-607-28-1716-6 (Colección)

1. Espacio -- Aspectos sociales -- Diccionarios. 2. Territorio -- Aspectos sociales -- Diccionarios. 3. Ciencias sociales -- Diccionarios.

I. González Arellano, Salomón, coord. II. Alfie Cohen, Miriam, coord. III. Galindo, Jorge, coord.
IV. Morales Zaragoza, Nora A., il.

Dewey: 307.7603 D53 2019

LC: HT108.5 D53 2019

Esta obra fue dictaminada positivamente por pares académicos mediante un esquema que preserva el anonimato mutuo y fue evaluada para su publicación por el Consejo Editorial de la Rectoría de la UAM Unidad Cuajimalpa

Primera edición, 2019

D. R. © 2019, de esta edición:

Universidad Autónoma Metropolitana

Unidad Cuajimalpa

Av. Vasco de Quiroga 4871, col. Santa Fe Cuajimalpa

Alcaldía Cuajimalpa de Morelos

C. P. 05348, Ciudad de México

www.cua.uam.mx

Diseño de colección: Xanic Galván Nieto

Coordinación de diseño del diccionario: Nora A. Morales Zaragoza

Diseño de interiores del diccionario: Susana Vargas

ISBN: 978-607-28-1717-3

ISBN: 978-607-28-1716-6 (Colección)

Se prohíbe la reproducción total o parcial de esta obra, sea cual fuere el medio, electrónico o mecánico, sin el consentimiento por escrito de los titulares de los derechos.

HECHO EN MÉXICO / MADE IN MÉXICO

SALOMÓN GONZÁLEZ ARELLANO
MIRIAM ALFIE COHEN
JORGE GALINDO
(Coordinadores)

**DICCIONARIO
SOBRE TEMAS
SOCIOTERRITORIALES**

Ilustraciones:
Nora A. Morales Zaragoza



UNIVERSIDAD
AUTÓNOMA
METROPOLITANA
Unidad Cuajimalpa



División de
Ciencias
Sociales y
Humanidades
UAM Cuajimalpa

ÍNDICE

11 INTRODUCCIÓN

Salomón González Arellano,
Miriam Alfie Cohen y Jorge Galindo

A

17 Accesibilidad

20 Ambiente sonoro

B

25 Bienes comunes y territorio

30 Biocombustibles y territorio

C

34 Calidad de la democracia
y territorio

37 Cambio climático

40 Capital espacial

43 Cartografía basada en la *web*

47 Cartografía, historia de la

51 Cartografía participativa

56 Ciudadanía y espacio

60 Ciudades globales

65 Ciudades rurales sustentables

68 Conflicto socioterritorial

71 Cultura política y territorio

D

74 Democracia y territorio: la
desigual implantación
de las prácticas y reglas
democráticas

80 Demografía espacial

83 Derecho a la ciudad

87 Desarrollo local

91 Desastre

98 Diseño urbano

101 Distritos industriales

E

109 Economía nocturna

114 Economía y medio ambiente

118 Economías de aglomeración

122 Escala

125 Espacio: concepciones filosófico-
científicas

129 Espacio público

133 Espacio y teoría social clásica

138 Espacio y trabajo

142 Espacio y trabajo industrial

148 Espacios creativos

153 Estado benefactor y libre
mercado

F

156 Falacia ecológica

160 Flâneur

163 Fronteras y Estado-nación

G

167 Gentrificación

171 Geografía económica

176 Geografía jurídica

179 Geografía-tiempo
(cronogeografía)

184 Geomarketing

188 Geomática

192 Geopolítica

195 Gestión urbana y territorial

199 Gobernanza

202 Gobernanza ambiental

205	H Habitat	289	Proxémica
	I		R
210	Imagen urbana	292	Religión y espacio
214	Integración política regional en Europa	297	Resiliencia
217	Inteligencia territorial	301	Riesgo ambiental
222	Interacción espacial	304	Rural y su medición, lo
	J		S
227	Justicia ambiental	310	Segregación socioespacial
231	Justicia espacial	313	Sintaxis espacial
	M	317	Sistema de cooperación internacional para el desarrollo
236	Megaproyectos urbanos	320	Sistemas de Información Geográfica (SIG)
240	Metropolización	324	Sistemas territoriales de empleo
243	Migración internacional	328	Suburbio
246	Modelos de niveles múltiples	331	Sustentabilidad
249	Morfología urbana		T
254	Movilidad	335	Territorio
	N	339	Territorio y Estado
258	Nueva ruralidad		U
	O	342	Urbanismo
261	Ordenamiento territorial	345	Urbanismo popular
	P		V
265	Panóptico y panoptismo	350	Violencia y espacio
268	Participación ciudadana	354	Vivienda y producción habitacional
271	Patrimonio urbano		Z
274	Percepción remota en las ciencias sociales	358	Zona metropolitana
278	Pobreza y medio ambiente	365	LISTA DE AUTORES
281	Política estatal		
284	Políticas urbanas y territoriales		

LISTA DE AUTORES

ADRIANA LARRALDE (UAM-C)	LUIS HERNÁNDEZ (UAM-C)
AKUAVI ADONON (UAM-C)	MARCO ANTONIO MADRIGAL (UAM-C)
ALEJANDRO MERCADO (UAM-C)	MARÍA FERNANDA VÁZQUEZ (UAM-C)
ÁNGELA GIGLIA (UAM-I)	MARÍA MORENO (UAM-C)
BLANCA MIEDES (U. HUELVA)	MARÍA ROCÍO GUADARRAMA (UAM-C)
CARLOS ANZALDO (CENTROGEO)	MARÍA TERESA ESQUIVEL (UAM-A)
CECILIA BARRAZA (UNAM)	MARIO BARBOSA (UAM-C)
CHRISTOF A. GÖBEL (UAM-A)	MIRIAM ALFIE COHEN (UAM-C)
CLAUDIA ORTIZ (UNAM)	NAXHELLI RUIZ (UNAM)
CRISTINA SÁNCHEZ MEJORADA (UAM-A)	RAFAEL CALDERÓN (UAM-I)
ELIZABETH ESPINOSA DORANTES (UAM-A)	RENÉ COULOMB (UAM-A)
ENRIQUE G. GALLEGOS (UAM-C)	RICARDO GÓMEZ VILCHIS (UAM-C)
ESPERANZA PALMA (UAM-C)	SALOMÓN GONZÁLEZ ARELLANO (UAM-C)
GABRIEL PÉREZ (UAM-C)	VICENTE UGALDE (EL COLEGIO DE MÉXICO)
GLORIA SOTO MONTES DE OCA (UAM-C)	YANN MARCADET (UAM-C)
GUÉNOLA CAPRON (UAM-A)	
GUSTAVO CRUZ (UAM-C)	
HÉCTOR QUIROZ (UNAM)	
IGNACIO RUBIO CARRQUIRIBORDE (UNAM)	
JESÚS CARLOS MORALES (UAM-A)	
JIMENA DE GORTARI (UIA)	
JORGE GALINDO (UAM-C)	
JORGE MONTEJANO (CENTROGEO)	
LAURA CARBALLIDO (UAM-C)	
LAURA QUIROZ (UAM-C)	
LEONARDO DÍAZ (UAM-C)	
LINDA HANONO (UAM-C)	
SAMANTHA CAMACHO (UAM-C)	
SYLVIA SOSA (UAM-C)	

UNIVERSIDAD AUTÓNOMA METROPOLITANA

DR. RODOLFO RENÉ SUÁREZ MOLNAR
RECTOR DE LA UNIDAD CUAJIMALPA

DR. ÁLVARO JULIO PELÁEZ CEDRÉS
SECRETARIO DE LA UNIDAD

MTRA. MÓNICA JIMÉNEZ SÁNCHEZ
COORDINADORA DE EXTENSIÓN UNIVERSITARIA

MTRO. CARLOS FRANCISCO GALLARDO SÁNCHEZ
JEFE DE PUBLICACIONES

DR. ROGER MARIO BARBOSA CRUZ
DIRECTOR DE LA DIVISIÓN DE CIENCIAS SOCIALES Y HUMANIDADES

DR. JORGE LIONEL GALINDO MONTEAGUDO
SECRETARIO ACADÉMICO DCSH

Characterization of the institutional production of future scenarios of cities

Salomón González Arellano

Abstract

In recent decades, a dominant narrative has emerged in which cities are considered the most decisive places for the future of contemporary societies. In fact, institutional production of the future has granted cities a central function in the becoming of the world. The objective of the present article is to analyze and characterize the institutional production of future scenarios for cities. Although the construction of such future scenarios can be useful for cities, it is important to recognize the fact that they are political constructions that respond to the interests of certain groups or individuals and, moreover, reflect visions of the present that reflect the concerns and strategic dimensions of certain actors. This article analyzes and characterizes a corpus of future scenarios of cities from different countries. Our characterization of these scenarios is based on their tendencies, exploratory visions, or aspirations for the future, as well as on their degree of innovation, uncertainty, and complexity. In general, the scenarios analyzed reflect perceptions on how to “control the future”. Most of them occupy a “zone of low uncertainty” and show a medium level of innovation. In other words, those who produced these scenarios were not risk-takers as they constructed their images of the future.

Keywords

future scenarios, cities, uncertainty, anticipation, innovation

Introduction

Cities have become the dominant referent and metanarrative on this planet, which now sees itself as predominantly urban (Brenner, 2018). This is visible in numerous academic reports and public policies that maintain the idea that whatever happens, or fails to happen, in cities has a significant effect not only on the space of cities but on many other regions outside them (Grange & Gunder, 2018). It is in this context that cities have taken on a highly-significant relative weight in relation to the central governments of nation-states, a weight that has found expression in a whole series of original processes, such as urban marketing, para-diplomacy, urban competitiveness, and the entrepreneurial city, among many others. This metanarrative not only attributes hegemony to cities due to their demographic dimension, but also identifies them as strategic spaces for numerous local, national, and transnational actors.

In other approaches, cities have been associated with processes of innovation and perceived as spaces that promote change, so they have been recognized as occupying a central place in the construction of future imaginaries. This association of cities with the construction of the future can be seen from at least two perspectives: 1) the role of 'the urban' and of cities in the future of other social, technological, economic, ecological, and political dimensions (STEEP¹); and 2) their future in relation to emergent or tendential transformations of one or several of their dimensions. In both perspectives, the generation of powerful future imaginaries exerts a significant influence on the design of public policies and decision-making by local governments and other types of actors (van Dorsser, Walker, Taneja, & Marchau, 2018).

On the one hand, the production of the future is both important and relevant since the scenarios produced impact policy design and decision-making in diverse ways. While policy design has been criticized for not taking future scenarios sufficiently into account, a new generation of literature emphasizes the importance of practices of anticipation in the design of public policies (Meissner, 2012; OECD, 2019). There are, however, numerous cases that show, effectively, how the adoption of new public policies has been a consequence of the construction of future scenarios. As illustrative cases, we could mention the strategy that Brazil adopted regarding energy policy (de Figueiredo Porto, Marques, & Santos, 2010), Finland, where construction of the future made it possible to elaborate and apply strategies in such fields as education, employment, and finances (Kuosa, 2011), or the development plan of Singapore's Eco-City based on scenarios of urbanization in China (Hu, Wu, & Shih, 2015).

On the other, we cannot ignore the reality that constructions of influential images of the future may well emerge in the form of strategies aligned with the interests of actors who seek to impact public policy, decision-making, public opinion, investment, and tourism, among other areas (Ossewaarde, 2017). While these actors are often corporations that respond to economic interests, as may be the case of the future plan for Orlando financed by Disney, or the 2050 plan for Bogotá elaborated by that city's Chamber of Commerce, the profile of the actors involved is, generally-speaking, more diverse and broad. In addition to the agendas –hidden or explicit– that may foment future scenarios, it is interesting to analyze how these scenarios reveal different postures that may be adopted with respect to the future, their distinct degrees of innovation, and how the actors who construct them propose to manage complexity and uncertainty. In the framework of these ideas, the aim of this article is to analyze and characterize the institutional production of future scenarios for cities based on an extensive examination of a corpus of

¹ STEEP refers to the model commonly used to construct future scenarios based on analyzing Social, Technological, Economic, Ecological, and Political factors.

documents elaborated by institutional actors². We are interested in capturing, amidst the geographic and cultural diversity of the urban world, distinct visions of the future, the primary concerns of cities, and the degree to which they manage uncertainty, innovation, and complexity.

The construction of the future of cities

Constructions of imaginaries of the future of cities abounds with focuses, methods, tools, and supports (media). In reality, the history of the future of cities is a long and passionate one, as is so clearly revealed through even a cursory review of the production that artists, architects, futurologists, writers, and other creative minds have generated in relation to cities and their possible futures (Dunn, Cureton, & Pollastri, 2014). Beyond the two most common, though counterposed visions –utopian vs. dystopic– cities have stimulated the imagination in multiple currents that run from science fiction through the strategic prospective of technocracies and the speculative explorations of creative minds, designers, or architects, to scientific research. One good example of this diversity is the production of the urban future in science fiction that has been marked by themes like visions of planetary urbanization, emergent conflicts between urban utopias and dystopias, the relation between the built environment and nature, alienation generated by societies in and through the built environment, the effect of concentrated oppressive power on human freedoms, transformations of space-time relations, and the role of infotechnologies and biotechnologies in future scenarios of cities and urban life (Collie, 2011).

From a broader strategic perspective, constructing the future can be considered a tool for influencing the trajectory of an organization, or territory, which could be a city or a huge metropolis. In this regard, the development of a literacy of futures³ (future literacy consists of key competence in developing the collective intelligence of cities; see González Arellano, 2014; Miller, 2018). This vision suggests that the institutional production of the future strengthens individual and collective competencies, improves knowledge of the present and, more specifically, identifies zones of uncertainty. In addition, the production of scenarios plays a communicative role due to its synthetic nature that focuses on strategic, sensitive matters, and the fact that they are often constructed through the participation of actors with diverse visions and knowledges. Thinking the future is also necessary for decision-makers who need to identify goals and evaluate the strategies adopted in light of those goals. In addition to these arguments

² We consider the actors who participate in the institutional construction of the city in terms of linking discourses, formal or informal rules, administration, planning, city management, and even their material construction, in the public, private, and associative sectors.

³ Understood as the set of abilities required to decide why and how to use their imagination to introduce an inexistent future into the present.

based on a strategic rationality, imagining the future reaches into dimensions of a cultural type, into science fiction and religion, and even into superstition (MacKay & McKiernan, 2018).

As mentioned above, constructing the future is a cumulative, regular, collective process in the sense that it results from a series of –sometimes contradictory– narratives of distinct actors with diverse motivations, a narrative formed from various fronts: science fiction, political discourse, religion, academics, corporations, local businesses, transnational agencies, and artists and other creative minds. Out of this diversity we chose to focus attention on four aspects of the processes of imagining the future: 1) the varied postures towards the future that run from determinist visions through normative views to exploratory approaches; 2) the degree of complexity of the analysis and construction of scenarios, from considering only one or two dimensions to including numerous dimensions; 3) in relation to the previous aspect, the degree of uncertainty modeled in the analysis and construction of scenarios; and 4) the degree of innovation and the impact of the events that constitute the scenarios constructed.

Method and data

For this analysis and characterization of the institutional construction of the future of cities we elaborated a database made up of a corpus of 101 documents that present versions of the future of selected cities. We decided to select documents from the so-called ‘gray literature’ that contain future scenarios of cities elaborated between 2005 and 2019. The texts selected had to satisfy the following criteria: 1) present an explicit scenario for the future of an urban agglomeration; 2) elucidate explicitly the methodology utilized in constructing the future; and 3) delimit temporal and territorial thresholds. The scenarios included in the corpus could represent the integral (that is, multi-sectorial) future of the city or focus on only one specific topic, such as housing, transportation, energy, or climate change, among others. Insofar as possible, we sought to ensure representativeness (non-statistical) by choosing scenarios of cities of diverse geographic origin and a broad size range. The final corpus of 101 documents represents 81 cities and metropolis divided as follows: Africa, represented by 5 cities; Latin America and the Caribbean, by 13 cities; 23 cities in Asia and Oceania; North America with 18 cities; and Europe with 22 (see the Table in the Annex).

The database is structured in accordance with criteria that reflect the temporal and territorial thresholds, topics or fields of interest, type of author, year of publication, and a typology of methods, among others. Based on our careful reading and analysis of these documents, we created new categories related to the degree of complexity of the scenarios, their degree of uncertainty, and the dimensions of the impact of the possible events they identify. This

categorization allowed us to establish three broad dimensions that structure and discriminate these futures. One dimension distinguishes between innovative and conservative scenarios. A second determines the complexity in the scenarios from low-to-high, while the third expresses the degree of uncertainty they contain. As we will show below, it became clear that the dimensions of the impact of the events foreseen in the scenarios were often associated with the degree of innovation. The methodology was adapted to measure the degree of social innovation proposed in the texts. This allowed us to distinguish three basic levels: a) low; innovations at the level of products and services; b) medium; innovations at the level of processes and social relations; and c) high; innovation of empowerment (power relations); that is, improving sociopolitical capacities and access to the resources necessary to activate the rights to satisfy human needs and participate (Bund, Gerhard, Hoelscher, & Mildemberger, 2017). With respect to the degree of uncertainty, we followed the model developed by Walker (2011, 2003) that establishes four levels of uncertainty, from level 1, without uncertainty in determinist, totally predictable models, to level 4 which contains completely unknown models of the system making it impossible to construct any future scenario.

Results and Discussion

This approach to the analysis of the scenarios of cities allowed us to identify the concerns, the actors who generate future scenarios, their methods, the temporal threshold, and, in some cases, estimate the degrees of uncertainty, complexity, and innovation, based on the criteria outlined in the Methodology. The average chronological horizon of the scenarios studied is 21 years, but this contains a broad range of values. The shortest scenarios cover less than a year and deal with crisis situations. One example is the scenario constructed to deal with the 2018 drought in Cape Town, South Africa. The longest scenarios span 50 years or more and focus primarily on two types of themes, demographics or climate. Another aspect that caught our attention is that two threshold dates appear repeatedly in the scenarios analyzed: 2030 and 2050. We realized that this could be explained, at least in part, by the influence of the United Nations' Agenda for Sustainable Development, and the Panel on Climate Change whose members include representatives of the World Bank, OECD, and the UN. These two organisms established these dates as thresholds for their objectives and scenarios.

Regarding the actors that participated in constructing the scenarios, our analysis distinguished four broad types: 1) governments (local and national); 2) research centers and universities; 3) independent agencies (think tanks); and 4) supranational organizations. The agencies that stood out in the construction of scenarios include the UN with its 2030 Agenda for Sustainable Development, the C40 Cities Climate Leadership Group, the Stockholm Environment Institute,

the 100 Resilient Cities organization, the Rockefeller Foundation, UN-Habitat, the World Bank, McKinsey & Company, Berl Economics, Japan International Cooperation Agency, and the Disney Co.

The focuses on the future reflected in the methodological strategies of the corpus of studies allowed us to categorize them in three types: (i) normative or prescriptive; (ii) tendential or predictive; and (iii) exploratory. It is important to note that numerous studies contained more than one focus, often presenting an initial diagnosis to contextualize the case based on tendencies that served as a baseline, then proceeding to develop their scenario. In those cases, we selected for analysis the focus presented in the original proposal. The distribution of focuses revealed a clear prevalence of exercises of the normative/prescriptive type since just over half presented scenarios of this kind (53%). This is understandable in light of the fact that they correspond to strategic, aspirational visions developed by city governments. As the 2040 Johannesburg scenario states explicitly: *“The Joburg 2040 GDS is an aspirational strategy that defines the type of society the city aspires to achieve by 2040”* (2016, p. 4). After the normative/aspirational scenarios came the tendential/predictive type with almost one-third of the total (28%). In third place were the scenarios that adopted an exploratory focus and sought to imagine alternatives for the future. These scenarios of a more creative/speculative nature represented almost one-fifth of the documents studied (19%).

Finally, it was possible to identify a “package” of grand themes that appeared regularly in the scenarios of the cities analyzed; topics like economic development, where the aspects that stand out include concern for the city’s position in the global economic scene, creating more and better jobs, the environment, climate change as a challenge related to the energy transition agenda and, in some cases, to issues of risk management by cities and ecological degradation. These scenarios also regularly project optimistic visions of the future and of technological innovation placed at the service of cities, concretely and quite frequently with reference to models of the so-called Smart City. The sectors that appeared most often in these scenarios in relation to innovation in cities were transportation and mobility.

In addition to the grand themes that correspond to a high degree to the STEEP model, our analysis shows a series of other concerns that captured the interest of the cities represented. These preoccupations were associated with environmental degradation and the scarcity of essential natural resources like water, land, and food. Some scenarios also emphasize that in the future cities will face enormous challenges to maintain old urban infrastructure and/or to construct new infrastructure. Another challenge identified has to do with questions of public

security and governance. In some cases, cities face the threat of terrorism or must deal with rampant criminality in certain zones. A third group of challenges comprises those associated with demographic aspects, such as the aging of the population and immigration.

Typology of the future of cities

The documents analyzed allowed us to obtain a global image of the actors, methods, concerns, and other general characteristics of the production of the future of the cities in the scenarios, which present considerable geographic diversity. As mentioned above, the analysis led us to create three new categories. These categories are related to the degrees of innovation, uncertainty, and complexity that appear in the construction of the scenarios. Based essentially on these attributes it was possible to construct a typology of the future that consists of four general types: 1) a clarifying type of vision; 2) visionary-optimistic scenarios; 3) ingenuous/controlling futures; and 4) conservative futures of the 'business-as-usual' type (BAU). These types are elucidated in the following section.

Clarifying (exploratory + uncertainty + multidimensional + innovation): these cities construct their future based on an open, creative focus that is free of prejudices. Their scenarios clarify possible alternatives for the future, are innovative, and help identify situations that lie beyond the focus of tendencies. They make it possible to anticipate undesirable events and weak signals, and have a high ability to manage complexity and uncertainty, while also imagining grand transformations.

An exemplary case of this type of future is the study conducted for the city of Paris, entitled *Paris change d'ère, vers the neutralité carbone 2050*, which reports an exercise elaborated by urbanization agencies and Paris' Strategic Laboratory for climate change. It was requested by the office of the mayor of Paris and its objective was to explore the future of that city in the framework of scenarios of climate change (Berg, 2016). Although the study presents a series of tendential scenarios regarding this issue, its contribution is clearly exploratory and suggestive regarding future ways of life for the inhabitants of this metropolis. What stands out is its integral perspective on the scenarios and the action plans it proposes, which deal with such key issues as energy, transportation, alimentation, and waste management. The study adopted a strategy similar to that of a morphological analysis based on two broad dimensions of interest: values that are more-or-less akin to those of a decarbonized society, and more-or-less coherent practices to curb carbon emissions. The result of this analysis is a typology of nine ways of life that differ in their values and practices, but reflect an evolution towards the year 2050 in terms

of environmental impact related to practices that impact the type of housing, modes of transportation, alimentary regimens, pastimes, and consumption patterns.

Visionary/Optimistic (normative + uncertainty + innovation): this type of profile corresponds to focuses that we classify as normative/aspirational. These cities are also open to innovation, but their scenarios do not explore alternatives distinct from, or opposed to, their vision of the city. Scenarios of this kind are common in development plans for cities that, though giving some consideration to citizen participation, are strongly-oriented towards experts and politicians. These profiles of the future may manage a certain degree of complexity and various dimensions, but have difficulty in identifying emergent events.

A case that represents this type of future quite well is the study for Tokyo elaborated by the personnel of an architecture laboratory at the University of Tokyo. This work pertains to our speculative/normative category regarding the future of this megalopolis (Ohno, 2006). The architects responsible for the project analyzed three concrete issues: the reduction and aging of the population; b) environmental problems; and c) seismic risks. The resulting proposal provides a model for the future of Tokyo that they call “Fiber City”. This scenario of the future to 2050 is a visionary exercise that announces a daring proposal for transforming the city. Its model of the future stipulates four strategies for transforming the structure and morphology of Tokyo, which the authors call “Green Finger,” “Green Partition,” “Green Web,” and “Urban Wrinkle.” The scenario traces out a route for reaching a scenario of Tokyo in 2050 that requires fulfilling a series of conditions that affect population density, levels of fiscal income, and changes in the statutes governing land use, among others. It is a clearly visionary/optimistic scenario that, while placing great emphasis on the spatial arrangement of the metropolis (as the name “Fiber City” suggests), also considers a number of socioeconomic and institutional dimensions that confer a high degree of complexity. The scenario of the future of “Fiber City” provides a formal vision of the aspirations of a sustainable city.

Ingenuous/Controlling (normative + low uncertainty + low complexity): these cities have prescriptive scenarios of the future that portray a low level of innovation. The future does not show alternatives distinct from preconceived projects, so they present a low level of uncertainty and innovation. In these cases, the future is considered to be under control, and they usually fail to consider factors, either external or internal, that could pose obstacles or threats. Another characteristic is the precise image of the future they present. These scenarios have low complexity for they rarely contemplate emergent events or the interaction among diverse dimensions of the city.

The scenario for the city of El Cairo can serve as an example of this type. The document *Cairo Vision 2050; Cairo: green-global-interconnected* presents a plan promoted by local government that announces –as its title suggests– three grand strategies. This scenario is eminently normative/prescriptive in nature and reflects the visions of the broad multiplicity of actors that participated in its elaboration. It is important to note that this scenario proposes a route that is outlandishly optimistic, to the point of ingenuousness. The scenario constructed for El Cairo for the year 2050 seeks, on the one hand, to position the city as Africa’s “port to the world” and, on the other, to improve the material conditions of the city in terms of housing, public spaces, and green areas. It further proposes enhancing the connectivity of the city’s networks of roads, transportation, and telecommunications. Much of the analysis is devoted to outlining a broad range of precise projects, the vast majority of which consist in constructing new –or renovating existing– infrastructure, in addition to rescuing slums located in archaeological zones close to the site of the pyramids. It is hardly surprising that this type of future is promoted by city governments anxious to transmit an optimistic image that projects trust and control of the route to be followed to realize the desired vision.

Conservative/“Business-as-usual”: these profiles of the future of cities operate from a tendential vision in which cities construct their future scenarios by extrapolating current preoccupations and problems from the past. In this sense, they present a profile that is highly-conservative but extremely low on innovation. The level of complexity is also low, as they usually deal with only one dimension of the city. This approach is often utilized to construct future scenarios for biophysical systems or processes that are highly-dependent on the past. They correspond, to some extent, to the so-called “Business-as-usual” model (BAU) of the future.

The scenarios that best represent this type are those that normally work with visions of the future that are tendential regarding one specific dimension, perhaps demography, climate, urban sprawl, or the exploitation of natural resources. A case in point is the demographic scenario of New York presented in *New York City: Population projections by age/sex & Borough 2010-2040*. This document constitutes a classic exercise in the projection and extrapolation of tendencies, as the text itself expresses: “... a projection based on a set of assumptions about fertility, mortality, and migration, using data from the city’s recent past.” (*The City*, 2013, p. 15). This case constitutes a scenario of the evolution of three decades of demographic attributes of the population. It includes a significant geographic component, but does not take into account emergent events or any kind of socioecological innovation that could modify the tendencies determined by past behavior.

Conclusions

At a moment when cities have achieved an important role on the planet, and constructing narratives of their future has the potential to influence the design of public policies and the decision-making of actors both public and private, it is urgent, in our view, to gain a better understanding of the characteristics of the narratives that are being elaborated regarding the future of cities. Our analysis of scenarios from a significant collection of cities allows us to emit some conclusions regarding the general characteristics of the institutional production of their futures. First, we observed that many of the scenarios adopt a normative/prescriptive posture with a low level of innovation on the part of the actors entrusted with the exercise of imagining the future. In the majority of cases, these scenarios remain within the space of imagining a future marked by events of only medium impact and low uncertainty. The analysis of the future scenarios selected for this article show insufficient considerations of complexity. Second, many of these scenarios consider cities as entities that are spatially and temporally homogeneous, suggesting the need to elaborate reflections on future transformations that emphasize spatial-temporal dimensions. Third, interdependence with other cities and nearby –or even remote– territories are seldom evoked in the scenarios examined herein.

Some important themes that stand out due to their absence concern problems of gender diversity and inequality. It is quite alarming just how little these documents mention the future of social inequalities and the scant attention they devote to disasters or the possibility of crises. Although they consistently show concern for environmental issues, considerations of the ecological impact of the future of cities are rarely pondered beyond their built spaces. To mention two such cases, the questions of the loss of biodiversity and of future diseases are almost never examined.

In closing, we consider that it is necessary to supersede the vision of the classic practice of constructing scenarios that consists primarily in analyses performed by specialists that conclude with a report. This approach should be replaced by an ongoing, consistent, democratic process oriented towards strengthening the systems involved in anticipating emergencies. This would entail establishing a system of “observatories of the future” dedicated to capturing weak or early signals with the objective of not only imagining, but actually anticipating, high-impact events and moments of high uncertainty. This approach could improve our capacity to detect and discriminate weak signals, an especially interesting field for socio-technological research and innovation. Requirements of this process could include increasing the capacity to model the complexity of systems of anticipation, increasing the number of interactions pondered,

contemplating potential emergencies and disruptions, and emphasizing the participation, learning, and literacy of the future of citizens.

Bibliography

- Berg, I. D. (2016). *Paris change d'ère Vers la neutralité carbone en 2050*. Paris. Retrieved from <http://paris2050.elioth.com/>
- Brenner, N. (2018). Debating planetary urbanization: For an engaged pluralism. *Society and Space*, 36(3), 570–590. <https://doi.org/10.1177/0263775818757510>
- Bund, E., Gerhard, U., Hoelscher, M., & Mildenerberger, G. (2017). A Methodological Framework for Measuring Social Innovation. *Historical Social Research / Historische Sozialforschung*, 40(3), 48–78.
- City of Johannesburg. (2016). *Joburg 2040: Growth and Development Strategy. Central Strategy Unit Office of the Executive Mayor City of Johannesburg*. Johannesburg. <https://doi.org/10.1016/j.ibiod.2016.08.009>
- Collie, N. (2011). Cities of the imagination: Science fiction, urban space, and community engagement in urban planning. *Futures*, 43, 424–431. <https://doi.org/10.1016/j.futures.2011.01.005>
- de Figueiredo Porto, C. A., Marques, E., & Santos, A. B. A. (2010). Prospective in Brazil: The power to build the future. *Technological Forecasting and Social Change*, 77(9), 1550–1558. <https://doi.org/10.1016/j.techfore.2010.07.010>
- Dunn, N., Cureton, P., & Pollastri, S. (2014). *Future of Cities: A visual history of the future* (Foresight). London. Retrieved from <https://www.gov.uk/government/publications/future-cities-a-visual-history-of-the-future>
- González Arellano, S. (2014). Inteligencia territorial y la observación colectiva territorial. *Espacialidades*, 04(02), 89–109. Retrieved from http://espacialidades.cua.uam.mx/vol/04/2014/02/04_Gonzalez.php
- Grange, K., & Gunder, M. (2018). The urban domination of the planet: A Rancièrian critique. *Planning Theory*, 18(4), 389–409. <https://doi.org/10.1177/1473095218811856>
- Hu, M. C., Wu, C. Y., & Shih, T. (2015). Creating a new socio-technical regime in China: Evidence from the Sino-Singapore Tianjin Eco-City. *Futures*, 70(101), 1–12. <https://doi.org/10.1016/j.futures.2015.04.001>
- Kuosa, T. (2011). *Practising Strategic Foresight in Government The Cases of Finland, Singapore and The European Union. RSIS Monograph No. 19*. South Spine, Singapore: S. Rajaratnam School of International Studies. https://doi.org/10.1007/978-3-540-88827-7_3
- MacKay, R. B., & McKiernan, P. (2018). *Scenario thinking : a historical evolution of strategic foresight*. New York: Cambridge University Press.
- Meissner, D. (2012). Results and impact of national Foresight-studies. *Futures*, 44(10), 905–913. <https://doi.org/10.1016/j.futures.2012.07.010>
- Miller, R. (2018). *Transforming the future. Library*. New York: UNESCO.
- OECD. (2019). *Strategic Foresight Strategic Foresight for Better Policies*. Paris. Retrieved from

[https://www.oecd.org/strategic-foresight/ourwork/Strategic Foresight for Better Policies.pdf](https://www.oecd.org/strategic-foresight/ourwork/Strategic_Foresight_for_Better_Policies.pdf)

Ohno, H. (2006). Tokyo 2050: Fibercity. *The Japan Architect*, 63, 1–39.

Ossewaarde, M. (2017). Unmasking scenario planning: The colonization of the future in the 'Local Governments of the Future' program. *Futures*, 93(October 2016), 80–88. <https://doi.org/10.1016/j.futures.2017.07.003>

The City, N. Y. (2013). *New York City Population Projections by Age/Sex and Borough, 2010-2040*. New York City. Retrieved from https://www1.nyc.gov/assets/planning/download/pdf/data-maps/nyc-population/projections_report_2010_2040.pdf

van Dorsser, C., Walker, W. E., Taneja, P., & Marchau, V. A. W. J. (2018). Improving the link between the futures field and policymaking. *Futures*, 104(April), 75–84. <https://doi.org/10.1016/j.futures.2018.05.004>

Walker, W. (2011). From Predict And Act To Monitor And Adapt. In *Policy Analysis* (p. 16). Delf: Analysis At the Delft University of Technology Faculty of Technology, Policy and Management. Faculteit.

Walker, W., Harremoes, P., Rotmans, J., van der Sluijs, J. P., Van Asselt, M., & P., J. (2003). Defining Uncertainty A conceptual Basis for Uncertainty Management in Model-Based Decision Support. *Integrated Assesment*, 4(1), 5–17.

Annex

Country	City	Title
Argentina	Buenos Aires	Buenos Aires Climate Change Action Plan
Australia	Sydney	Greater Sydney region plan 2056
Australia	Sydney	Sustainable Sydney 2030
Australia	Melbourne	Melbourne 2030, Planning for sustainable growth
Austria	Vienna	STEP 2025 Urban Development Plan Vienna
Belize	Belmopan	Belmopan Municipal Development Plan
Brazil	Porto Alegre	Estimated evolution of total pollutant gas emissions associated with vehicle activity 2030
Canada	Toronto	Results of Modelling Greenhouse Gas Emissions to 2050
Canada	Toronto	Planning for autonomous vehicles. Imagine alternative future
Canada	Vancouver	Transportation 2040
Canada	Vancouver	Housing Vancouver Strategy
Canada	Montreal	Montréal 2042: Métropole carboneutre et durable
Canada	Ottawa	Ottawa Next Beyond 2036
Chile	Santiago	Analisis de escenarios territoriales para la Region Metropolitana de Santiago
Chile	Antofagasta	Multi-layered foresight: Lessons from regional foresight in Chile
China	Shanghai	Shanghai in 2050: Its Development Challenges and Strategy Choices
China	Shanghai	Shanghai City Strategy 2050: Road Map to Knowledge City
China	Macao	The Five-Year Development Plan of the Macao Special Administrative Region (2016-2020)
China	Hong Kong	Hong Kong 2030: Planning Vision and Strategy – Strategic Environmental Assessment
Colombia	Medellín	BIO 2030 Plan Director de Medellín
Denmark	Copenhagen	Tourism for Good an Invitation to a Journey Sustainable Tourism by 2030
Ecuador	Quito	Quito 2040 Envisioning future Transport Planning in Ecuador's Capital: A Scenario Analysis
Egypt	Cairo	Cairo vision 2050
France	Paris	Paris Change d'ère vers la neutralité carbone en 2050
France	Paris	Downscaling long term socio-economic scenarios at city scale: A case study on Paris

France	Toulouse	La métropole toulousaine rétro-prospective por 2050
Germany	Berlin	Urban Development Concept Berlin 2030
Greece	Atenas	Athens Resilience Strategy for 2030
Holland	Eindhoven	EHV 365 Strategy 2016-2020
Holland	Amsterdam	Circular Amsterdam: Spatial Implications
Hungary	Budapest	Budapest Transport Development Strategy
India	New Delhi	Delhi, Transport and Greenhouse gas scenario
India	Bangalore	Bangalore, citizens perception-future city
Indonesia	Jakarta	Projection of coastal floods in 2050 Jakarta
Indonesia	Makassar	Application of Dynamic Model as Decision Making in Vehicle Emissions Pollution Control
Indonesia	Jakarta	Projection of coastal floods in 2050 Jakarta
Ireland	Dublin	Greater Dublin Area Draft Transport Strategy 2011-2030
Ireland	Dublin	Dublin City Sustainable Energy Action Plan 2010 - 2020
Israel	Jerusalem	Jerusalem 5800
Italy	Milan	Milan 2050 Climate Vision
Japan	Tokyo	New Tokyo, New Tomorrow, The Action Plan for 2020
Japan	Tokyo	Tokyo 2050 "Fiber City"
Kampuchea	Phnom Pen	Waste Management Strategy and Action Plan of Phnom Penh 2018-2035
Kenya	Nairobi	Nairobi Metro 2030 A World Class African Metropolis
Malaysia	Kuala Lumpur	Kuala Lumpur Low Carbon Society 2030
Mexico	Mexico City	Tendencias territoriales determinates del futuro de la Ciudad de México
Mexico	Mexico City	2025 Vision for Mexico City on Climate Change
Mexico	Tijuana	Programa de Desarrollo Urbano del Centro de Población Tijuana, B.J. 2008-2030
Mexico	Tuxtla Gutiérrez	Tuxtla 2030 La agenda estratégica de nuestra ciudad
Mexico	Mérida	Plan Municipal de Desarrollo (Mérida) 2018-2021
Nepal	Kathmandu	Kathmandu Valley Nepal Climate Change Vulnerability Assessment
New Zealand	Wellington	Growth scenarios for the Wellington Region: Towards 2041
New Zealand	Wellington	The City Now and by 2043
Nicaragua	Managua	Plan for Managua City in Republic of Nicaragua
Nigeria	Lagos	Modelling future urban scenarios
Papua New Guinea	Port Moresby	Port Moresby Papua New Guinea Climate Change Vulnerability Assessment

Peru	Lima	Metropolitan Lima and the Sustainability Challenge Growing Cities in Growing Economies
Philippines	Manila	The Metro Manila Greenprint 2030: Building a Vision
Russia	Moscow	Moscow 'Smart City' - 2030
South Africa	Cape Town	Cape Town Water Outlook 2018
South Africa	Johannesburg	A promising future Johannesburg
South Africa	Johannesburg	Johannesburg 2030: The Economic Contours of a “Linking Global City”
South Africa	Cape Town	City of Cape Town City Development Strategy
South Korea	Seoul	2030 Seoul Plan: A Case of Participatory Foresight for Reflexive Urban
Spain	Barcelona	Climate Plan 2018-2030
Spain	Madrid	Madrid 2030: Una ciudad para todas las personas y todas las generaciones
Sweden	Stockholm	Stockholm a sustainably growing city
Sweden	Stockholm	Energy future of the Stockholm region 2010-2050
Sweden	Stockholm	Roadmap for a fossil fuel-free Stockholm 2050
Switzerland	Zurich	Urban Traffic Programme “STADTVERKEHR 2025”
Thailand	Bangkok	Climate Risks and Adaptation in Asian Coastal Megacities
Turkey	Istanbul	Future Scenario Istanbul 2050
United Arab Emirates	Dubai	Dubai 2020 Urban Masterplan
United Arab Emirates	Abu Dhabi	The Abu Dhabi Economic Vision 2030
United Kingdom	Birmingham	Birmingham Scenarios Project Report
United Kingdom	Newcastle	Newcastle City Futures 2065
United Kingdom	London	Economic and Demographic Scenarios for London in 2030
United Kingdom	Cardiff	Cardiff 2050: City Regional Scenarios for Urban Sustainability
United Kingdom	London	London Infrastructure 2050
United Kingdom	Edinburgh	Edinburgh Adapts Our Vision 2016 2050
United States	Fayetteville	Fayetteville 2030: Food City Scenario
United States	Miami	Miami-DADE 2040 Long Range Transportation Plan
United States	Detroit	Detroit Future City
United States	San Diego	City of San Diego Long-Range Water Resources Plan
United States	Portland	Portland Bicycle Plan for 2030
United States	New York	New York Physician and Demand Through 2030

United States	New York	New York City's Implementation of the 2030 Agenda for Sustainable Development
United States	Boston	Boston In 2030
United States	New York	New York City Population Projections by Age/Sex & Borough, 2010-2040
United States	Los Angeles	Los Angeles County Economic Forecast
United States	Los Angeles	The New Generational Future of Los Angeles
United States	San Francisco	Housing Element
United States	Anchorage	Housing Demand in Anchorage, 2010 to 2030
United States	Seattle	Getting to Zero: A Pathway to a Carbon Neutral Seattle
United States	Atlanta	2030 Strategic implementation plan for Atlanta
United States	Orlando	2030 Insight into Orlando's Future
Uruguay	Montevideo	Montevideo Resilience Strategy
Vietnam	Hanoi	Hanoi Capital construction Master Plan to 2030 and vision to 2050 by Decision