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Overview and Critique of European Research Programmes on Urban sustainable Development

Germany, Italy, Spain

This paper is a summarized and adapted version of the report "Overview and Critique of European Research Programmes on Urban Sustainable development; United Kingdom, Germany, Italy and Spain" commissioned by the « *Programme Interdisciplinaire Développement Urbain Durable (PIDUD)* of CNRS.

1. Presentation of PIDUD and background of the study

The Interdisciplinary Sustainable Urban Development Programme aims at reviving the subject areas of the programmes developed a decade ago in France by the CNRS and the Ministry of Research, namely the fields of urban and environmental research, while endeavouring to capitalise on existing research. To this end, the programme has been coordinated with Incentive Concerted Action (ACI) of the French Ministry of Research entitled "Societies and cultures in sustainable development."

The programme is intended for all researchers working in the field of urban life with a view to sustainable development. The department mainly concerned is the Department of Humanities and Social Sciences, yet other scientific departments are also greatly involved. Contributions from the Life Sciences Department, the Sciences of the Universe Department and the Engineering Science Department are indeed concerned in order to examine the many different aspects of urban sustainable development.

The 2003 call for proposal mainly focused on the following three themes:

- **Evolution of social and economic differentiations in cities:** citizens' practices in view of changing mobility patterns and increased polycentrality of cities; past and present characteristics of technical urban networks.
- **Territorial organization of cities:** compact cities, urban ecology and climatology; urban networks
- **New negotiations of public choices between urban actors:** The specificity of sustainable development in building models of action in cities; case studies on urban governance

The current study was commissioned by the PIDUD at the beginning of 2004. The aim of this task was to provide an overview and critique on urban sustainable development research programmes in Europe, while providing a non-exhaustive list of significant research centres involved in urban sustainable development in four European countries: the United Kingdom, Germany, Italy and Spain. This study was expected to help the PIDUD researchers drafting the 2004 call proposal and to facilitate contact-making with foreign research centres and institutions. As planned, research was undertaken in the four European countries between February and March 2004. Because of this very tight timeframe, the list of research centres visited is far from exhaustive. Elements of analysis developed in this paper must therefore be carefully manipulated and considered as preliminary findings only.

2. Main Findings

Many research programmes throughout Europe have embraced the theme of “urban quality of life”, and tackle common urban issues such as urban congestion, air and water pollution or climate change. However, different sensitivities regarding research priorities and themes shape the agenda of the different countries. Further to “cultural” elements, several factors might explain these differences.

Without a doubt, the various levels of economic development in European regions have a strong impact, the poorest regions encouraging mostly research on urban competitiveness and industrial development. However, it is also worth noting that the scientific interest for urban sustainable development originated from various scientific communities. This might also explain the different approaches in conceptualising the city: in France, this topic is mostly popular among social scientists; in the UK, the community of engineers has been the most active in implementing pluridisciplinary research on the theme of urban form. Urban ecology has traditionally framed the German urban research, even though governance issues are now rising on the agenda. Issues of cities’ competitiveness are much emphasized in Italy and Spain, where economists and urban planners are mostly involved in research on this theme. Some preliminary findings regarding the state of interdisciplinary urban research in Germany, Italy and Spain will now be presented.

2.1. Germany, urban ecology and new governance

Urban ecology is a very popular theme in Germany: the term is very often used in research programme titles, even though their content is more diversified. German research is funded by several bodies. The most famous is the *Deutsche Forschungsgemeinschaft*¹ (DFG) that can be considered as equivalent to the French CNRS. It depends on the Ministry of Research (*Bundesministerium für Bildung und Forschung* or BMBF²), that develops its own research programme in parallel. The Ministry of Environment (*Umweltbundesamt* or UBA) also funds its own research on environmental issues, but does not integrate other disciplines in the programmes.

The DFG mostly funds traditional fundamental research, i.e. monodisciplinary programmes. Therefore, there is no programme in DFG similar to the PIDUD of CNRS. However, this body often contributes to funding programmes relevant to this theme, mainly in universities. For 5 or 6 years, many German universities have developed multidisciplinary research programmes on urban sustainable development, notably in Berlin Universities (see Institut für Ökologie, Technische Universität³; Humboldt University, Berlin: Postgraduate Research and Study Programme, Perspectives on Urban Ecology⁴). Urban ecology research is particularly developed in Berlin for historical reasons: the isolation of Berlin West from the rest of the Western world during the communist era indeed “forced” natural scientists to conduct research in the only field available to them: the city.

However, it appears that interdisciplinary urban research in Germany is mostly applied research, which allows more diverse funding sources. The German Ministry of Public Work and Planning (*Bundesamt für Bauwesen und Raumordnung* or BBR) used to have an important applied research programme on urban issues, entitled Ex-Wost, mainly concerned with the reduction of pollution in urban planning. The Geography department of Köln University⁵ has a large research centre on urban sustainable development: “Megacity Force”. The Planning department of the *Technische Universität of Kaiserslautern*⁶ has developed a research programme on urban planning. The Institut für Regional Development and Structural Planning⁷ (IRS) is a multidisciplinary institute rather orientated towards social sciences (history, sociology, planning, politics, geography, economy and architecture) that aims

¹ <http://www.dfg.de/>

² <http://www.bmbf.de/>

³ <http://interurban.de/>

⁴ http://www.geo.uni.lodz.pl/~icuc5/text/P_4_9.pdf

⁵ <http://www.megacities.uni-koeln.de/>

⁶ <http://www.uni-kl.de/FB-ARUBI/Forschungsschwerpunkte/teilmbereiche/teilmereich3/steinebach/steinebach-english.htm>

⁷ http://www.irs-net.de/download/leaflet_irs.pdf

at analyzing the regional dimension of sustainable development. The Institute for technology Assessment and Systems Analysis⁸ (ITAS) is a multidisciplinary research institution, host of the Office of Technology Assessment (TAB) of the German Parliament. The institute provides information and guidance to German lawmakers in the multi-faced issues of development and policy across the environment, economy, society and politics, more particularly in the fields of new technologies, information society and sustainable development. The Deustch Institut fur Urbanistik⁹ (DIFU) aims at assisting local authorities in solving their urban problems, while providing expertise and defining long term perspectives of sustainable development.

The concept of sustainable development seems to have lost much popularity in Germany in the last years, for several reasons: First, because of a certain devaluation of the term, due to abusive use by too many actors, notably from industry; Second, it appeared that many researchers interested by conceptual research – mainly social scientists – consider that the foundations of sustainable development research are too unsteady, and need to be investigated further.

The policy of DFG, that promotes monodisciplinary studies, has not contributed in resolving such difficulties. Consequently, the expression “sustainable development” appears less in the titles of research programmes for three or four years.

The new programme of BMBF, entitled “Social Ecological Research¹⁰”, is built around the theme of social ecology. Its aim is to succeed in integrating themes and methodologies linked to social and environmental issues includes research topics that are relevant to urban sustainable development, such as management of infrastructure, co-evolution between technical development and socio-environmental problems, origin of decision-making regarding transport and planning, long-term perspectives, multi-level governance or institutional capacity.

German research on urban sustainable development is much diversified, from both content and organisational perspectives. Two main comments can conclude this short analysis: the importance of urban ecology, and the high potential for research on new urban governance.

2.2. Italy, competitiveness and architecture

Italian research is extremely scattered, both from geographical and institutional perspectives. Funding sources are much diversified (national, European, regional, local, or private). There is no specific programme for urban sustainable development research in the National Research Council¹¹ (CNR). However the CNR indirectly funds research projects on this theme, notably through urban growth and urban competitiveness programmes. Like in Germany, it seems that the theme of urban sustainable development in Italy has decreased in popularity. However, some programmes relevant to our study have been identified in several universities and private organisations.

The urban question in Italy has traditionally been addressed by planners; research on sustainable development by environmental economists. The close collaboration developed between Italian and British researchers from 1995 seems to have made urban sustainable development a more “fashionable” theme until 2000. The concept of “urban form”, integrating architectural, economic, social and environmental dimensions of the city seems to have raised interest on USD in many Italian universities, notably in Milan (see Polytechnic University of Milan¹²).

Urban Architecture also seems to be an important theme in Italian urban research. The University of Naples has a department of Architectural and Environmental Conservation¹³, which main objective is to promote the concept of sustainable development, notably in international conferences. Directed by an urban planner, the department is especially concerned with the societal aspects of sustainable development (institutional infrastructuring and “good governance”, ecological infrastructuring of the city, social economy, social enterprise and civil society building).

⁸ <http://www.itas.fzk.de>

⁹ <http://www.difu.de>

¹⁰ <http://www.isoec.de/ftp/soceco.pdf>

¹¹ <http://www.cnr.it>

¹² <http://www.polimi.it/>

¹³ <http://www.conservazione.unina.it/workshop2004/htm/about.htm>

As part of other relevant organisations, the *Centro di Ecologia Umana*¹⁴, in Padova, conducts interdisciplinary research on environmental issues. The Faculty of Architecture¹⁵ of the University of Rome 3 has a department of urban studies. The department of social sciences of the *Università Degli Studi di Napoli*¹⁶ (so-called the “Orientale”) is involved in urban sustainable development research, and more particularly in research themes such as sustainable transport, urban policy and urban governance. Finally, it seems important to note the existence of an important private research organisation, the *Fondazione Eni Enrico Mattei*¹⁷ (FEEM). Well-known among the Italian and wider European research community, it is actively involved in international and multidisciplinary applied research on urban and new transport technologies and sustainable development.

Italian research on USD seems rich and diversified. The previous findings being non-exhaustive, further research is necessary to allow a finest analysis of the themes. However, it can be asserted that the competitiveness of the cities, as well as heritage and more particularly architecture conservation are of primary interest.

2.3. Spain and Competitiveness

The Spanish institutional research structure is quite similar to the French. The *Consejo Superior de las Investigaciones Científicas*¹⁸ (CSIC), equivalent to the CNRS, funds various research programmes via specific institutes, in partnership with the Ministry of Research (*Ministerio de Ciencia y Tecnología*). The CSIC has no specific programme regarding urban sustainable development. As for the Ministry, it is mainly involved in applied research. It seems that urban sustainable development is not a research priority in Spain at the national level; and because university research, like in Italy, is very scattered in the Spanish regions, a complete investigation of programmes was difficult to achieve, and provided disappointing results.

The Institute of Economy and Geography¹⁹ (IEG-CSIC) is the only CSIC centre actively involved in urban research. However, the notion of sustainability is not - or in an anecdotic manner - considered. Within the institute, economists and geographers work separately, without integrating the two disciplines in research projects. The group of economists is mainly interested in assessing the competitiveness of industrial urban networks. The group of geographers is mainly involved in analyzing the interaction of urban immigration with the local urban economy in terms of localization and competitiveness. However, the scientists of IEG believe that urban studies are the most fertile ground for the development of interdisciplinarity in science, and seem also very interested by urban political ecology and quality of life.

Since 2000, the CSIC and the Ministry of Research promote the development of interdisciplinarity through the constitution of “*Redes temáticas Interdisciplinarias*” (Interdisciplinary thematic networks). Most modules created as part of the 2000-2004 programme are concerned with technical issues, to the exception of the module “Historical and cultural heritage”, dedicated to the multidisciplinary study of the conservation of local and national heritage. It involves groups located in different institutes and centres throughout the country (earth sciences, physics, humanities, chemistry etc...), and is coordinated by CSIC. The existence of such networks shows that Spanish research is moving towards interdisciplinarity. However, the urban dimension of sustainable development is not specifically considered yet.

All researchers interviewed during this investigation are unanimous: fundamental research on sustainable development is still an emerging field of research in Spain. Moreover, it is often restricted to ecological processes in rural and protected areas. Urban research is better represented, but the

¹⁴ <http://centroecologiaumana.unipd.it/>

¹⁵ <http://www.uniroma3.it/ricerca/dipartimenti/IndexDipart.asp?cod=dipstudurb>

¹⁶ http://www.iuo.it/DIPARTIMENTI/dipsci/NEW/attivita_ricerca.htm

¹⁷ <http://www.feem.it/Feem/Pub/Programmes/default.htm>

¹⁸ <http://www.csic.es>

¹⁹ <http://www.ieg.csic.es/>

concepts of urban ecology or “sustainable city” are not yet on the agenda, at least at the national level. According to a represent of CDTI²⁰ (a branch of the Ministry of Research), the recently adopted national research development plan²¹ does not make explicit reference to sustainable development. Some specific programmes are concerned with sustainability research, notably when the following themes are involved: information society, production and consumption, biotechnologies and social responsibility of corporations, topics that are also thematic priorities in the 6th framework programme of the European Union.

Urban sustainable development seems to be a more popular theme at the local level. In Catalonia for example, there exists a certain dynamic of research on this theme: The *Generalitas* (local governments) of Girona and Barcelona are involved in applied research on cities’ quality of life. This interest is reflected in the programmes of Catalan universities: The *Technical Universidad* of Barcelona offers a master degree on “sustainable development”; the department of economy of the *Universidad Autónoma de Barcelona*²² (UAB) had a course on socio-economic aspects of sustainable development; the department of geography is interested in the indicators of urban sustainable development.

In relation with this search for normative tools, the role of private organisations has also become increasingly important. For example, the consultancy *TAU Consultora Ambiental*²³ was chosen by the European Commission to coordinate a research project on regional indicators for sustainable development among few universities and other research centres. Finally, the *Fundacion Entorno*²⁴ is an important private foundation involved in applied research on sustainable development. Like the FEEM in Italy, this organisation seems well-known and appreciated among the community of researchers. It might therefore be argued that private research fills a certain institutional deficit regarding sustainable development research in Spain.

Spanish research on urban sustainable development seems little developed. Further research should be undertaken in each autonomous region, and particularly in universities, to allow a more complete assessment. However, it seems relevant to conclude that this theme is currently not a research priority in Spain.

²⁰ <http://www.cdti.es>

²¹ <http://www.cdti.es/webCDTI/esp/>

²² <http://www.uab.es/>

²³ <http://www.taugroup.com>

²⁴ www.fundacion-entorno.org/

3. Elements of conclusion

- First, in spite of the popularity of “sustainable development”, urban research seems far from being systematically integrated in sustainability research. Particularly in Southern European countries (here Italy and Spain), national fundamental research on the urban question remains very much focused on economic and territorial development: research on sustainable development mainly addresses traditional environmental issues (biodiversity, agricultural and architectural conservation) or normative aspects (impact assessment development or indicator-building). In Spain particularly, the field of urban research applies principally to industrial districts and land planning. In Italy, architecture and urban transport are the most important themes. Generally, the multidisciplinary of programmes remains limited to certain sciences, namely economy, planning and geography.

The physical, social and environmental dimensions of cities seem more systematically integrated in German and British research; programmes involving a broader range of disciplines have been identified in both countries.

- Second, in spite of this North/South divergence, one general observation can be made for all countries: pure fundamental research on this topic is very rare; research on urban sustainable development tends to be developed in applied research frameworks; evidence from this investigation suggests that this tendency will continue in Europe. To date, no programme similar to the PIDUD has been identified, most research centres mixing both fundamental and practical research.

This might be explained by several factors: first, by inevitable differences in “cultural” backgrounds between countries: in UK and Germany, research has traditionally been more centred on problem-solving than in co-called “Latin” countries like France. Several researchers from these two countries confirmed this broad difference of orientation in research policies, France often being considered as promoting more theoretical/fundamental research in social sciences than other countries.

The increasing role of the European Commission’s research policy on sustainable development can also be considered as a significant factor of explanation. Although this topic is not of our specific concern in this study, the impact of European policy-making on national agendas cannot be neglected. Many researchers, particularly from Spain and Italy, have confirmed this general tendency in adjusting national programmes the thematic priorities of the EC. Insofar as urban sustainable development was an important research area in the EU 5th Framework Programme, many research centres in Europe have adopted a more pragmatic approach in order to benefit from European funding. Nowadays, the theme of urban sustainable development seems to have lost popularity in some countries (notably in Germany and Italy). The adoption of the 6th Framework Programme (2002-2006) could have contributed to this phenomenon as it focuses on more technological and industrial aspects of sustainable development.

As a result, it might be argued that only selected countries have the financial and/ or political capacity to keep a relative independence regarding their research agenda.

- Third, it is worth discussing the different terminologies employed in various programmes and research projects: Often, the terms “interdisciplinary”, “pluridisciplinary” or “multidisciplinary” are employed indifferently. However, these three concepts express different degrees in the integration of disciplines and knowledge: pluridisciplinary (or multidisciplinary) refers to an association of disciplines that aims at a common achievement. However, such an approach does not require important modifications in each discipline’s visions or methods. Therefore, pluridisciplinary exist for a very long time, although it tends to increase significantly in contemporary research.

Interdisciplinarity pursues more ambitious objectives. Its aim is to elaborate a sufficiently general but precise framework in order to express in a single language, concepts, concerns and contributions originating from various disciplines²⁵. Truly interdisciplinary science is still in its infancy, and constitutes a challenge to modern science development.

- Finally, the role of the private sector in research is rising in every country. In the name of a better coherence between research agendas and contemporary societal issues, “stakeholder

²⁵ From Delattre, Pierre, *L'Interdisciplinarité*: <http://www.arfe-cursus.com/transdisciplinaire1.htm>, accessed [25/02/2004]).

involvement" has indeed become a must to allow a better understanding of problems. The implication of private interests in research for public interest, however, cannot be neutral as far as fundamental research is concerned.

Some social scientists interviewed in the UK and Germany consider that fundamental research, key to a reflexive thinking on the stakes of sustainable development, is nowadays at risk.

For many researchers, the concept of urban sustainable development today is saturated. With the view of re-conceptualising the city, the use of themes such as "urban vulnerability", "urban political ecology", "urban governance" as well as questions raised by energy and climate change issues would be more relevant. In a context where research mainly focuses on the physical and economic aspects of urban development, the valorization of social sciences appears today as a prerequisite to broaden the debate on the urban question.

4. The 2004 PIDUD Call for proposal

The 2004 call for proposals of PIDUD is now based on two priorities. The first is to promote cooperation between research teams working on the same "site of analysis" (groupings of geographical areas, institutions, and projects) which can be studied in terms of sustainable development, in order to encourage interdisciplinary collaboration between humanities and social sciences, engineering sciences, life sciences or sciences of the universe. The other aim is to support research on the economic and legal aspects of urban decision-making, in the context of urban "sustainability".

The following themes are of particular interest for the PIDUD:

- Sustainable urban development policy-making
- The intellectual construction of information and indicators
- Expertise and professions tied to the assessment of sustainable urban development.
- Economics of urban planning and sustainable development
- Legal aspects of urban sustainable development: international comparative analysis.
- The use of contracts in operational urban planning

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<http://www.cnrs.fr/DEP/prg/Devlpmt-urbain-durable.html>

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