

**For the Sustainable Urban Development  
Interdisciplinary Programme, CNRS,**

**Edith Besson, MA**

**Overview and Critique of European  
Research Programmes on Urban  
Sustainable Development**

**United Kingdom, Germany, Italy, Spain**

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## Table of Abbreviations

BBR	Bundesamt für Bauwesen und Raumordnung
BMBF	Bundesministerium für Bildung und Forschung
CDTI	Centro para el Desarrollo Tecnológico Industrial
CNRS	Centre National de la Recherche Scientifique
CURE	Centre for Urban and Regional Ecology
DFG	Deutsche Forschungsgemeinschaft
DIFU	Deutsches Institut Für Urbanistik
DUD	Développement Urbain Durable
EC	European Commission
EPSRC	Engineering and Physical Sciences Research Council
ESR	Economic and Social Research Council
UE	European Union
FZK	Forshungszentrum Karlsruhe
GSF	Forschungszentrum für Umwelt und Gesundheit
IRS	Institute of Regional Sustainability
ITAS	Institut für Technikfolgenabschätzung und Systemanalyse
NERC	Natural Environment Research Council
RC	Research Council
SUE	Sustainable Urban Environment
SUFU	Sustainable Urban Form Consortium.
SURF	Sustainable Urban and Regional Futures
UBA	Umweltbundesamt
URGENT	Urban Regeneration and the Environment
USD	Urban Sustainable Development
WGL	Wissenschaftsgemeinschaft Gottfried Wilhelm Leibnitz

## Personal Abbreviations

Pers. comm.	Personal communication
Pers. comm. tel.	Personal communication by telephone
Pers. comm. mail.	Personal communication by mail

## Aim of the Study

The aim of this task for the PIDUD was to provide an overview and critique on urban sustainable development research in Europe. The task consisted in 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. Both stirring programmes and scientific production itself, as well as institutions, research teams, locations, disciplines, definition of the research domain, and research themes had to be taken into consideration. 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.

## Conditions of the Study

As planned, research was undertaken in the four European countries in February and March 2004. However, it must be underlined that the list of research centres visited is far from exhaustive. The timeframe for the task was very tight (2 months for contact-making, traveling, interviews and report-writing). The inherent complexity of research structures, together with limited availability of information and time needed in contact-making with key informants were critical factors that had a strong influence on the research process. Elements of analysis developed in this report must therefore be carefully manipulated; this study offers preliminary paths for reflexion, not perfectly representative conclusions.

Research was most successful in the UK, first for practical reasons: geographical location, familiarity with the country both in terms of language and research structures; availability of academic and internet resources; preliminary identification of potential key informants. Concerning the outcome of the investigation, it has been established that the British research on urban sustainable development is well developed and diversified. The three national English research centres (EPSRC, ESRC and NERC) have developed urban sustainable development research programmes. Moreover, many universities and independent research centres undertake research on this theme. The variety of data collected, together with the rich content of direct interviews with British researchers reinforces the validity and representativity of conclusions drawn in this report.

German research on urban sustainable development is widely disseminated in Universities' research centres, as well as in independent centres co-financed by alternatives sources (notably by the Länder and the EU). One specific programme related to this topic has been implemented by the German Ministry of Research (BMBF). University programmes involved in urban research are financed by the DFG, the German equivalent of CNRS. However, these initiatives are not framed by a specific programme in this domain. Many programmes might have been ignored in this rapid study. However, good insights have been gained from in-depth interviews with researchers well-implanted in German research structures.

Contacts were most difficult to find in Italy. The CNR, Italian Ministry of Research, has no programme on urban sustainable development, and university research is widely scattered on the Italian territory. This “balkanization”, associated with a critical lack of Internet resources, made investigations per university very difficult. Contacts were obtained through British researchers, but some of them were not available for interviewing during the time of the study; others did not speak English or French. Some conclusions were drawn thanks to an interview with a Milanese researcher very involved in urban research. Useful insights were provided by foreign researchers who had the opportunity to collaborate with Italian institutions. Additional information was gathered a posteriori from Internet resources. However, the few elements provided in this report are insufficient to provide a fair overview of Italian programmes. It is assumed that Italian research on urban sustainable development is more developed, hence a need for further investigations.

The state of research in Spain also proved difficult to investigate. Internet resources are rather limited, and it turned out that research centres and universities are widely decentralised in autonomous regions. Most information has been gathered from the CSIC, Spanish equivalent to CNRS, and from the Ministry of Research, whom members were little aware of research activities undertaken in each region. Because of such incomplete information, conclusions drawn on Spain also remain modest.

## Methodology

The methodology used in this study mainly consisted in in-depth interviews of key informants. Because of the multiplicity of functions of interviewees, institutional and cultural differences between countries, and diverse conditions of investigation, it was decided to conduct interviews in a rather non-directive way. Some were collective interviews (CURE, Manchester), others were made by telephone (EPSRC) or directly by mail (European Commission, DFG); the length of interviews also varied greatly (from 30 minutes to 2 hours), as well as the interviewing conditions, mostly in interviewees’ offices but also in public places (FEEM, SUFC). Some information was gathered directly in detailed programmes displayed on websites, without the possibility to contact research teams directly (UAB, Naples University). All together, 25 complete interviews were conducted (15 in the UK, 4 in Germany, 2 in Italy, 4 in Spain), excluding preliminary contacts and e-mail exchanges.

In view of this variety, it was difficult to construct a formal questionnaire or rigid framework for interviewing. Moreover, informal discussion better served the general purpose of the study. Finally, it allowed sensitive topics, such as inter-country comparisons and “advance” of interdisciplinarity in science, to be discussed more casually.

However, a range of directive questions were used for guiding discussions. Most of the time, they were asked in a random order, as many people first expressed the will to present their own work or required further information on CNRS programmes and PIDUD. Questions were sometimes misunderstood, especially when the respondent was not aware of any urban research interdisciplinary programme. In those cases, reformulations had to be made.

### Directive questions:

1. What is your definition of urban sustainable development?
2. Which issues, questions and themes are, in your opinion, associated to this definition?
3. When and how has this theme emerged in your country? Who or which organization(s) took the initiative to program/develop research on this topic?
4. Which institutions are in charge of promoting investigations on these questions?
5. Which disciplines are involved in the research process?
6. What is your opinion on the state of multidisciplinary and/or interdisciplinarity of research on this theme in your country?
7. Which sources are available to finance research on these themes?
8. How do you consider the future of interdisciplinary urban sustainable development research?

## Important remarks

The following important conclusions can be made at this stage: 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 much focused on economic and territorial development. In these countries, research on sustainable development mainly addresses traditional environmental issues (biodiversity, agricultural and architectural conservation) or normative aspects (impact assessment 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 remained limited to certain sciences, namely economy, planning and geography.

The social and environmental dimensions of cities seem more systematically integrated in German and British research. Programmes involving a wider range of disciplines have been identified in both countries.

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 an applied research framework; 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 5<sup>th</sup> 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 6<sup>th</sup> Framework Programme (2002-2006) could have contributed to this phenomenon as it focuses on 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.

Finally, it seems important to discuss the different terminologies employed in various programmes and research projects: Often, the terms "interdisciplinary", "pluridisciplinary" or "multidisciplinary" are employed indifferently. However, these three words express different degrees in the integration of disciplines and knowledge: Pluridisciplinarity (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, pluridisciplinarity 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 disciplines<sup>1</sup>.

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<sup>1</sup> From Delattre, Pierre, *L'Interdisciplinarité*: <http://www.arfe-cursus.com/transdisciplinaire1.htm>, accessed [25/02/2004].

## Introduction

Most research programmes investigated in this study address “urban quality of life” as a main theme that include common urban issues such as urban congestion or air and water pollution.

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 also is 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 most popular among social scientists (see the programme of PIDUD); in the UK, the community of engineers has been the most active in implementing pluridisciplinary research on the theme of urban form (I). Urban ecology has traditionally framed the German urban research, even though governance issues are now rising on the agenda (II). Issues of cities’ competitiveness are much emphasized in Italy (III) and Spain (IV), where economists and urban planners are mostly involved in research on this theme.

## I. THE UK AND URBAN FORM

There are three main national research centres in the UK: the ESRC (Economic and Social Research Council), the EPSRC (Engineering and Physical Sciences Research Council) and the NERC (Natural Environment Research Council).

Since the beginning of the 1990s, the three of them are involved in USD research, through many programmes and collaborative actions (1.1.). University research is also very well developed: many research centres investigate themes that are relevant to this study (1.2.).

### 1.1. Research Councils' programmes

The history of collaboration between the three Research Councils allows a better understanding of the contemporary British context for research on USD. The relative failure of cross-actions has indeed increased competition between the RCs on the appropriation of the urban question in their respective research programmes. Nowadays, it is generally considered that the community of hard scientists, i.e. the EPSRC, provides most inputs in terms of policy and funding for interdisciplinary research on urban sustainable development. Although the ESRC and the NERC have developed their own programmes, it can be noticed that the theme of "sustainable urban form" is dominating most research programmes, including in universities.

#### 1.1.1. Historical background

Since 1990, sustainable development is on top of the UK government agenda. Although research councils are independent in terms of research policy, governmental priority issues such as quality of life and climate change emerged at the same time on the research agenda. By essence multidisciplinary, these issues would have paved the way for an organic process of multidisciplinary to develop within EPSRC (Hedges, pers. comm. tel. 13/02/2004).

In this context, research councils started to develop programmes on this theme (Figure 1 p. 12). First, the three RC intended to combine their respective agendas in one common interdisciplinary programme: "*Towards the Civilized City*" in order to address together the physical, social and environmental dimensions of the city (Marvin, pers. comm., Manchester, 24/02/2004).

In this context, the *Red Bus Report* was launched in 1992 as a second collaborative initiative of ESRC and EPSRC. The main issue addressed in the programme was the dichotomy between UK's Northern and Southern cities. Themes associated with Northern cities referred to sustainable development technologies, cost of urban investments and reconciliation of urban regeneration with environmental quality in cities. Research in Southern cities addressed socio-environmental dimensions of the city, technical support for rural areas as well as initiatives and technologies against urban poverty.

**FIGURE 1 – TIMELINE OF STAGES OF INTERDISCIPLINARITY**

	EPSRC	ESRC	NERC
1999			Phase 3 URGENT
1998	Final Phase Sustainable Cities		Phase 2 URGENT
1997	Local Authority Research Council Initiative Launched		
	Phase 3 Sustainable Cities	Cities and Competitiveness Launched	Phase 1 URGENT
1996	Phase 2 Sustainable Cities	Scoping Cities Programme	Scoping URGENT Programme
1995	Sustainable Cities Network Launched		
	Phase 1 Towards the Sustainable City		
1994			
1993	Cities and Sustainability		
	Clean Technology	Phase 3 GEC	
	Red Bus Report		
1992			
1991	Towards the Civilised City		
1990			

Source: Evans and Marvin, 2004.

According to the researchers Guy (pers. comm., Paris, 12/02/2004) and Marvin (pers. comm., Manchester, 24/02/2004), who had the opportunity to work for both ESRC and EPSRC, the North/South dichotomy and the definition of problems demonstrate the persistence of two distinct research agendas. The lack of conceptual tools to integrate the different dimensions indeed remained an obstacle to a real assimilation of issues in common frameworks of analysis. In the same way, Peter Hedges (pers. comm. tel. 13/02/2004), programme director in EPSRC, confirms the difficulty in modelising social sciences in the same framework than “hard” sciences.

These first attempts of collaboration allowed the development of many innovations that will provide long-term benefits, particularly a diversification of research teams. However, many conflicts aroused: should EPSRC fund projects that are mainly social sciences based? On the other hand, can ESRC finance projects with strong engineering components? These difficult questions, together with the mitigated experience of cross-actions, concluded the institutional collaboration between RC. It seems that the research councils then “re-disciplined” themselves in a quite competitive way from 1994, each of them developing their own urban research programme. According to Simon Marvin (pers. comm., Manchester, 24/02/2004), *“there remains nearly hermetic separations and competitions between RC”*.

The point here is not to judge or evaluate the result of these pioneer initiatives, but to show that interdisciplinarity is a long-term and challenging process. Often, its success calls for radical reorganisations and transformations within institutions that, traditionally, promote disciplinary excellence.

The “Sustainable Cities” network, launched in 1995, co-financed by EPSRC and ESRC and coordinated from Hull University aims at promoting the dissemination of research on urban sustainability. Although the content of annual conferences shows a persistence of cleavages between the different themes, it allows researchers from different disciplines to communicate and discuss their approaches on a regular basis (See list of contacts).

In spite of many difficulties in implementing deep interdisciplinarity between various scientific communities, many positive initiatives are developed in the UK. Moreover, interdisciplinarity within each Research Council has made great progress, as displayed in the content of programmes.

### **1.1.2. The ESRC programme: “Cities and Competitiveness”**

The UK has gained international reputation for quality research in social sciences, thanks to ESRC’s programmes. In 1997, the Research Council launched a 4 million pounds programme on urban sustainable development: “Cities and competitiveness”, that ended in 2002.

This programme was divided into three main themes: Cities’ Competitiveness, Social Cohesion and Future Urban Strategies.

In the Cities’ Competitiveness sub-programme, the following issues were addressed: economic change, urban externalities, urban markets, sunk investments, infrastructure and property development. The theme Social Cohesion, Urban Environment and Economic performance addressed the costs of social polarisation, the social impacts of cities’, economic restructurations, employment and unemployment, poverty and wealth. Finally, the theme on future urban strategies encouraged applied research on governance and sustainable development best practices in different cities in the UK.

Details on the programme and related project are available on the ESRC website (see list of contacts). However, it appears that the quasi-totality of the work done in this programme addressed economic development and social cohesion issues. There is no reference to engineering themes and very little interest to ecology, hence a certain weakness in terms of interdisciplinarity (See Figure 2 p. 15)

### **1.1.3. The NERC programme: URGENT**

The NERC has also achieved a programme on the urban question entitled URGENT (*Urban Regeneration and the Environment*).

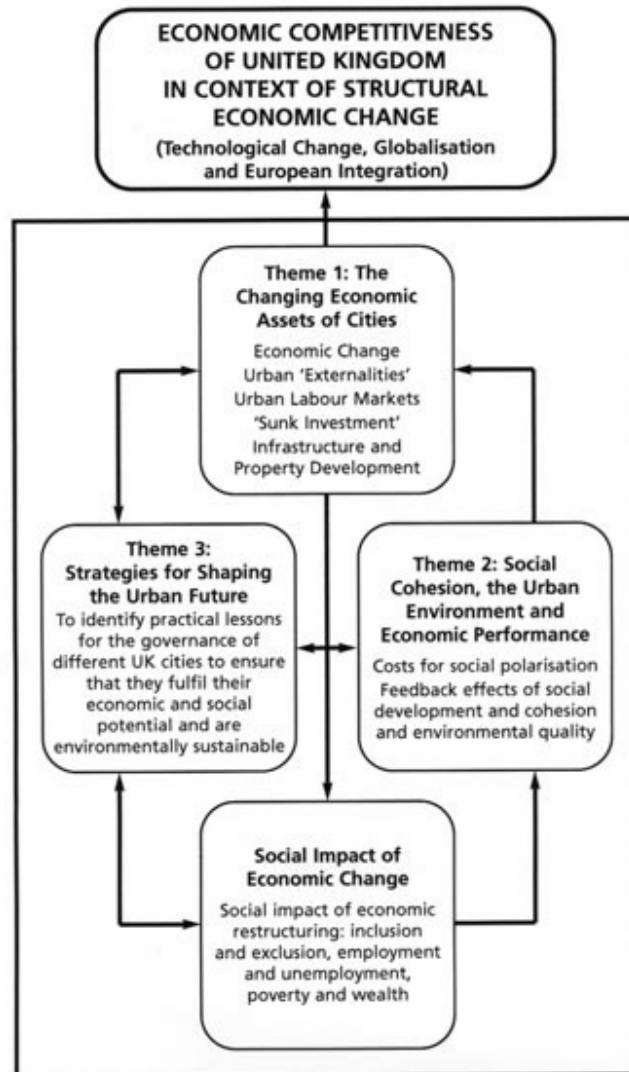
The objective of this programme, launched in 1997, was to build a model of the urban environmental system, in order to elaborate strategies to reduce risk. It has received an important grant of 9.7 pounds. URGENT concentrated the research in a selected range of urban conurbations in the UK, but the aim was to develop models and generic solutions to be applied on a wider scale, including at the international level.

Projects were split in four main themes: air, water, soils and urban ecology. The challenge of this project was to integrate urban ecology and environmental research with other earth sciences and climate change research.

The main themes of investigation in relation to the urban ecological system were:

- atmospheric chemistry and dynamics, hydrological balance;
- Study of shallow subsurface
- Public perception of health risks

FIGURE 2 – ESRC VIEW OF CITY: SOCIAL PROCESSES



Source: Evans and Marvin, 2004.

The NERC has showed high willingness to make research partnerships with ESRC. In the reality of projects' implementation, it seems that such collaboration was difficult. Often, the social dimensions of research were added a posteriori, and not successfully integrated with other results (Ravetz, pers. comm. Manchester, 23/02/2004). In URGENT, the city was conceptualized as an ecological system; the social dimension of the city mainly adressed the public perception of risk. However, most researchers interviewed (notably Guy, Marvin and Ravetz) consider this programme as a great success, being the first one to successfully integrating so many different natural sciences' disciplines. *"They have succeeded in demonstrating that natural processes do not stop when you enter the cities' limits"* (Ravetz, pers. Comm., Manchester, 23/02/2004).

#### **1.1.4. The EPSRC programme: SUE**

The EPSRC got early involved in multidisciplinary urban research, notably through its programme "Sustainable Cities" (1995-1998), and now in the "Infrastructure and Environment Programme Business Plan 2004-06", in which a sub-programme is entitled "Sustainable Urban Environment" (SUE).

The general objective of the Programme "Infrastructure and Environment" is the improvement of urban quality of life. The topics involved are the quality of water and air, the management of resources and waste, transport, sustainable energies, climate change, planning, construction and housing.

SUE aims at reinforcing multidisciplinary research on the city, in order to satisfy the needs of research users in industry, businesses, services and the public sector in concerted research programmes and technology transfers.

Research activities are divided in four main themes:

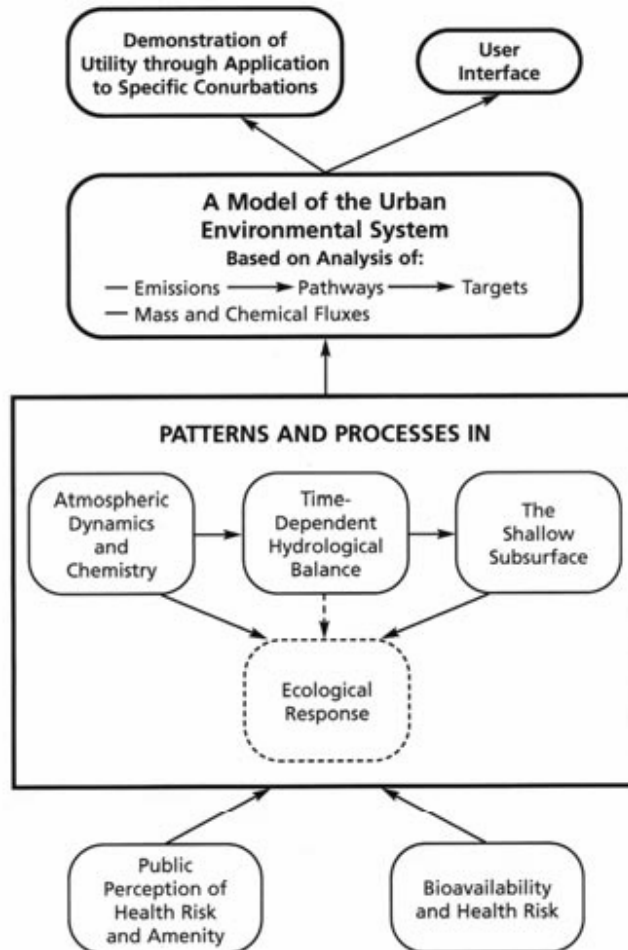
- Built and urban environment
- Waste management, water and planning
- Transport
- Metrics, knowledge management and decision-making

In order to promote interdisciplinarity within these programmes, the main strategy of EPSRC is to establish multidisciplinary consortiums, involving researchers from different disciplines, industries and end-users.

In the programme "Built and Urban Environments", three consortiums were created:

- Innovation in Design - Construction and Operation of Building for People, Bakr Bahaj, Southampton.
- Urban Sustainability for the 24-Hour City - Development of Design-Making Tools and Resources, Rachel Cooper, Salford.
- The Sustainable Urban Form Consortium (SUFC), Mike Jenks, Oxford Brookes.

FIGURE 3 – NERC VIEW OF CITY: FLUXES AND FLOWS



Source: Evans and Marvin, 2004

According to Michael Jenks (pers. Comm., Oxford, 26/02/2004), EPSRC is leader in promoting multidisciplinary research projects, involving a significant number of social scientists and addressing innovative themes.

Both engineer and social scientist, Simon Guy (pers. comm., Paris, 12/02/2004) states that the discourse on interdisciplinarity in every domain remains difficult to put into practice in research programmes; in this way, he believes that the EPSRC puts too much emphasis on physical “models” and on the technological aspects of the city. Indeed, the disciplinary origin of EPSRC implies the dominance of technical terms associated to climate change, energy issues, and to the “urban form” theme in calls for proposals. Indeed, many research projects focus on urban physical problems, in terms of urban technical networks, sustainable transport, water and energy supply, flooding (recurrent issue in British cities) as well as on design and architecture (see Figure 4 p. 19)

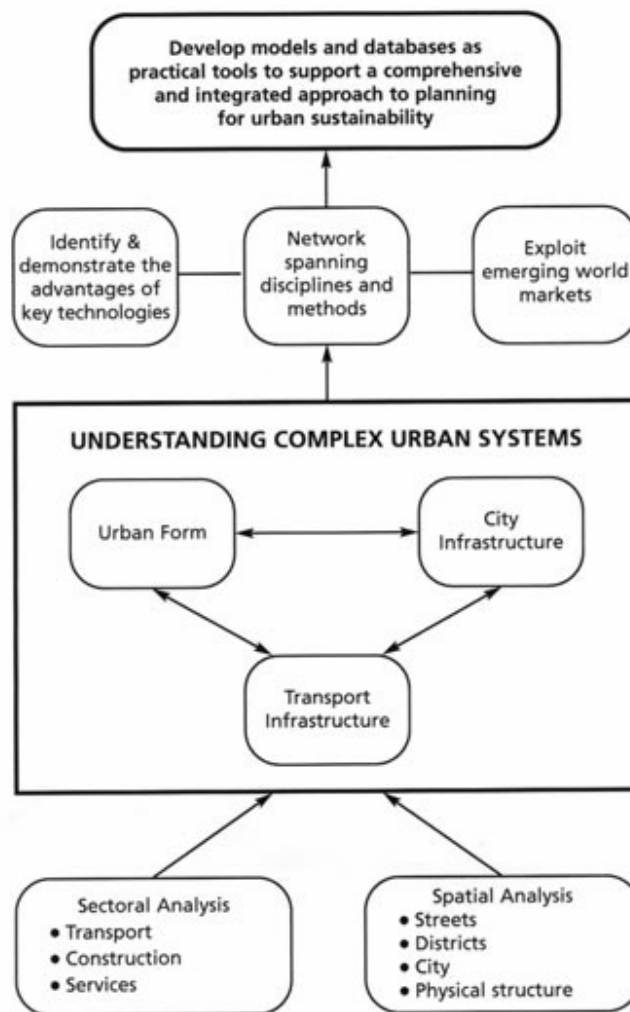
According to Simon Guy and Simon Marvin (pers. comm., Manchester, 24/02/2004), social sciences are not really – or inadequately – involved in the definition of research problems and methodologies. Both regret the “multiplication of models, databases, technological solutions, methods and market solutions to sell these technologies and methods”. They consider that in this purely physical framework of analysis, social sciences have no place. However, both underline the fact that a certain culture of interdisciplinarity is slowly emerging from many positive research experiences.

Peter Hedges, Director of the programme “Infrastructure & Environment” in the EPSRC, strongly pushed forward the creation of a new research centre on energy issues, “Carbon Vision”, in collaboration with Carbon Trust ([www.thecarbontrust.co.uk](http://www.thecarbontrust.co.uk)), which will be dedicated to develop interdisciplinary research on energy production and consumption issues. Although this project is not directly linked to urban sustainable development research, it shows a strong determination from EPSRC to promote interdisciplinarity in science.

EPSRC’s consortiums have very important resources (1.88 million pounds for SUFC; between 3 and 4 million pounds for Carbon Vision). They will therefore be a powerful research engine in the future, attracting many researchers from very different backgrounds.

The development of multidisciplinary is also confirmed by the analysis of Universities’ research programmes on urban sustainable development.

FIGURE 4 – EPSRC VIEW OF CITY: MODELS AND NETWORKS



Source: Evans and Marvin, 2004

## **1.2. University and independent research centres**

Here is a non-exhaustive list of a few themes of investigation collected in several research programmes throughout the UK.

### **1.2.1. CURE (Centre for Urban and Regional Ecology), School of Planning and Landscape, University of Manchester.**

The multidisciplinary team of CURE is composed of researchers in urban, regional and landscape planning, physical and social geography, architecture, design, public policy, history, building engineering, environmental sciences, biology and ecology. The philosophy of CURE is characterized by a systemic vision of the city, analyzed in terms of ecological, but physical, social, economic and cultural cycles.

Most research operated by CURE is applied research, like in most research centres investigated in this study. Because of the nature of the problems to solve, multidisciplinary naturally developed within research projects, organized in three main programmes:

- Sustainable cities and regions
- Territorial impacts and futures
- Land management and regeneration

ASSCUE, a programme funded by EPSRC focuses on adaptation strategies in relation to climate change in urban environments.

The research centre also has activities of fundamental research, mainly through PhD theses and the publication of articles in scientific journals.

The researchers of CURE have published on many subjects, mostly centred on cities and climate change: urban biodiversity, social implication of the policies of carbon emission reduction, and governance of those processes:

- Changing governance structures and the environment: Economy-environment relations at the local and regional scales;
- Perspectives on Urban Greenspace in European Cities;
- Citizen Participation for Integrated Assessment: new pathways in complex systems;
- Place and Space in the Sustainable City
- Accountability and regional governance: the emerging role of regional chambers in England<sup>2</sup>.

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<sup>2</sup> For more precise information and references on CURE publications, please visit <http://www.art.man.ac.uk/PLANNING/cure/publications.html> (accessed 02/12/2004)

### 1.2.2. SURF (Sustainable Urban and Regional Futures)

This independent research centre, financed by ESRC, EPSRC and alternative sources is more than CURE in a “social sciences” approach, and focuses on three main themes:

#### Regeneration and Neighborhood Renewal

- The comprehensive regeneration and economic development of deprived neighbourhoods and wider areas in towns and cities
- Supporting community-led neighbourhood renewal
- Tackling social exclusion
- Improving community safety and reducing crime
- Improving community health
- Providing suitable skills and knowledge for regeneration practitioners

#### City and Regional Thinking

- The need to learn from experiences beyond the UK
- The relationship between urban and regional policies
- The role that cities and metropolitan areas increasingly play in the knowledge economy and the success of regions
- The importance of a wide range of Government policies and expenditure choices, beyond specific urban and regional initiatives, in urban and regional development
- The ways in which the competitiveness of cities and regions influence, or can be reconciled with, the aims of social inclusion and sustainable development.

#### Territorial Knowledge

- Strengthening the distinctly regional dimension to national science policies
- Developing closer linkages between regional priorities and the strategies of the higher education sector
- Building an in-depth understanding of the distinctiveness and potential strengths of local technology and innovation contexts
- Exploiting the distinctive regional dimension of science, knowledge innovation and technology transfer within the context of broader regional priorities
- Understanding how forms of knowledge are produced, transferred and then used within particular contexts in order to maximize its value.

SURF has worked at international, European, national, regional and city levels with clients to:

- Compare regional science policies to inform best practice
- Develop a comparative European understanding of the innovative potential of intermediaries in the environmental technologies sector
- Improve an understanding of the regional dimension in sciences policy
- Assess the role of new information and communication technologies for the urban environment
- Enhance the capacity of universities to think about their future role in the knowledge economy.

Moreover, SURF takes part in the “Social Science at Risk” network, funded by the Ford Foundation, and based in Cornwall’s University. This aim of this network is to question the implications of modern research policies, and to promote an integrated research agenda, including in the field of urban sustainable development.

### **1.2.3. Oxford Brookes University**

Oxford Brookes University is a major centre for sustainable development research, and beneficiaries from important EPSRC funding. Two initiatives must be distinguished within the University: The Oxford Centre for Sustainable Development, and the Sustainable Urban Forms Consortium.

#### 1.2.3.1. Oxford Centre for Sustainable Development (OCSD)

The Oxford Centre for Sustainable Development (OCSD) undertakes and promotes sustainability research in the built environment. It comprises four active teams of researchers who focus on the environment, cities, architecture and technology. The OCSD aims to:

- promote sustainable development in the built environment at all scales,
- provide information through research, consultancy and training to the widest range of professionals and users of the built environment,
- enable new sustainability ideas to become reality.

The “Cities” programme aims at promoting sustainable development in cities and towns, and helping to achieve beneficial change in urban areas worldwide; its motto: “modeling the outdoor environment to improve living conditions”. *Cities* is a coalition of urban designers, architects, planners, social scientists, economists, geographers and housing and transport experts. One of the current leading projects is entitled 'Designing the external physical environment to improve the quality of life for older people with dementia'.

#### 1.2.3.2. Sustainable Urban Forms Consortium (SUFC)

Initiated by the EPSRC, the objective of this consortium is to reinforce research on sustainable “urban forms”. SUFC will concentrate on the physical design of urban form with respect to: physical configuration and layout, including links to the wider urban system; its land uses and functions; the typology and density of built form and presence of open space. It will test the claims made that more compact, high-density and mixed-use urban forms will be environmentally sound, efficient for transport, socially beneficial and economically viable. Its ultimate aim is the successful integration of all the criteria of sustainable development is the same model:

- Citizens behaviours in terms of mobility and transport
- Economic sustainability of cities
- Social justice and quality of life
- Urban ecology, ecological performance of cities

The consortium gathers a wide range of researcher from hard (engineering, architecture, design, mathematics, building physics, computer sciences, biology, ecology and soft (geography, economy, psychology, planning) disciplinary backgrounds. Research is concentrated on five cities, in which three case studies will be implemented (urban centre, suburbs, and intermediary zones).

Mike Jenks (pers. Comm., Oxford, 26/02/2004), research director at SUFC, explains that it is the theme of “urban form” that attracted most researchers’ interest during the competition for the EPSRC grant. Therefore, it was chosen among other propositions by EPSRC as the most relevant framework to be developed within the consortium.

The aim of this teamwork is to *“allow decision-makers to predict or describe manipulations of urban forms, and to find out if yes or no, there is a chance for them to be sustainable. Then, understand what is urban form and its interactions with different aspects of sustainable development; finally, use these results to predict the impacts of different urban forms in terms of sustainability... (-)... We are able to tell with a certain certainty what is not sustainable. It will be much more difficult to affirm what is sustainable. We limit our approach to proposing forms that tend to desirable objectives, in the name of sustainable development”* (Jenks, pers. comm, Oxford, 26/02/2004).

Indeed, urban form is a non-exhaustive analysis tool. The efficiency of the methodological tools systematically employed here, like the Geographic Information System (GIS) or Space Syntax (spatial modelisation software) relies on scientific basis easily represented. These tools are very useful in making representations and prospective scenarios, but do not allow other critical dimensions of sustainable development – like institutional issues – to be taken into account. These aspects are therefore not addressed by SUFC. Some social issues, however, are considered in the consortium: social justice, accessibility, criminality and quality of life in urban communities.

So far, SUFC relies on annual grants from EPSRC. From 2005 however, it should become an independent research consortium, attached to the University of Oxford Brookes. Such a change of status should then allow more stable funding.

The Vivacity project, based in Salford University (Manchester) and led by Rachel Cooper (pers. comm., Manchester, 25/02/2004), is also funded by EPSRC. Both Mike Jenks and Rachel Cooper stress the difficulties in managing multidisciplinary teams. Both define it as a long term process, where many meetings are necessary to allow researchers to understand and accept different problem formulations, and agree on the methodologies to be used.

At the beginning of projects, it seems useful for each researcher to write their interests and approaches to the project concepts and issues, or to fill a questionnaire elaborated by the project leader, such documents proving a good basis for following discussions (Cooper, pers. comm., Manchester, 25/02/2004). Mike Jenks believes that awarding all researchers of the Consortium with a similar salary can help in preventing disciplinary devaluation. Rachel Cooper uses artistic methods to relate scientists in a different environment and help those exchanging ideas. Equity of treatment and increased communication between researchers from different background seem therefore to be a prerequisite to the success of multidisciplinary research.

## Conclusion UK

British multidisciplinary research on urban sustainable development is very rich, especially in its physical and environmental dimensions. However, fundamental research on urban governance is often limited in the definition of research themes, socio-economic aspects being often reduced to issues of competitiveness, social risks and popular representations of the environment.

With regards to this issue, most social scientists interviewed in this study believe that ESRC has missed the opportunity to reassess the role of social sciences in urban research by promoting too formal and quantitative research methods. Because EPSRC became interested in urban research more recently, it seems more open to innovative initiatives (Cooper, Marvin, Guy).

This particularity could also be explained by the inner nature of the British research system that actively promotes “useful” research and implication of a wide range of stakeholders (public and private sector, NGOs, end-users) in problem definition and research development. Such an approach has allowed by nature interdisciplinary themes to emerge on the research agenda and to be addressed by multidisciplinary themes. However, conceptual research remains limited.

Many researchers (notably the CURE team, Mike Jenks, Rachel Cooper or Peter Hedges) believe that interdisciplinarity can only come out of the complexity of research problems themselves (bottom up vision). Nevertheless, most social scientists (Simon Guy and Simon Marvin), in virtue of a more structuralist approach, stress the need to consider deeper issues in order to reinforce the strength of urban research: what is the true meaning of interdisciplinarity? Is it possible to reconcile the different dimensions of sustainable development in this context? Simon Marvin (pers. comm., Manchester, 24/02/2004) in particular, aspires to the definition of a new funding policy framed around the theme of urban political ecology, in order to gather ecologists and social scientists and investigate further to the normative dimension of sustainable development.

## II. GERMANY, ECOLOGY AND GOVERNANCE

German research is funded by several bodies. The most famous is the *Deutsche Forschungsgemeinschaft* (DFG) that can be considered as equivalent to the French CNRS. It depends on the Ministry of Research (*Bundesministerium für Bildung und Forschung* or BMBF), that develops its own research programmes 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.

According to several sources (Vessolek, pers. comm., Berlin, 08/03/2004; Stelzer, pers. comm., Karlsruhe, 10/03/04), DFG mostly funds traditional fundamental research, i.e. monodisciplinary programmes. Angela Buckow (pers. comm. mail. 25/02/2004), head of the training unit at DFG, has confirmed that 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 (2.1). In the same way as in the UK, interdisciplinary urban research is mostly applied research, which allows more diverse funding sources (2.2.). Finally, it appeared in the process of this investigation that the very concept of “sustainable development” has lost much of its appeal for German researchers, hence a diversification of the programme titles and key terminologies employed for urban science (2.3).

### 2.1. University programmes

For 5 or 6 years, many German universities have developed multidisciplinary research programmes on urban sustainable development. 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. Urban ecology research is particularly developed in Berlin, partly 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. The fall of the Wall allowed most natural sciences researchers to do research in natural environments for the first time. During the same period, however, environmental problems of large German cities dramatically increased with exponential population growth, urbanization and consequent health issues. After ten years or so, many environmental and ecology scientists chose to return to studying the urban environment (Wessoleck, pers. comm., 01/03/2004). The following two research programmes are relevant to our study, although the list is far from exhaustive.

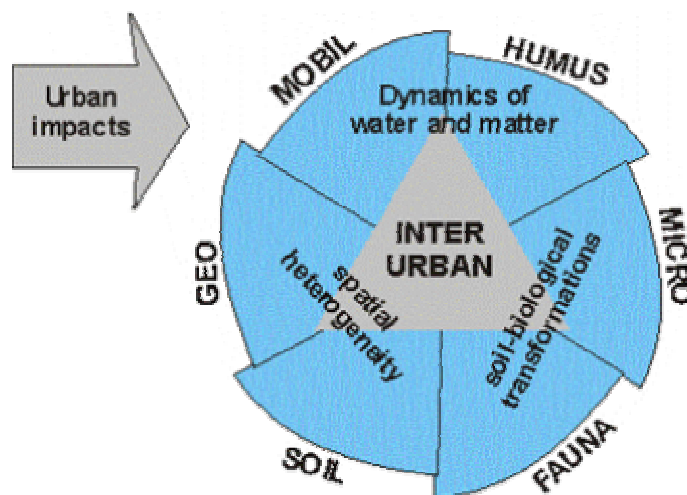
### 2.1.1. Institut für Ökologie, Technische Universität Berlin: "Programme Interurban"

Funded by the DFG (DFG, 409), this interdisciplinary fundamental research programme in urban ecology mainly involves "hard" sciences. It focuses on the following main themes:

- Evaluation of spatial heterogeneity and its interaction with sub-processes (subprojects SOIL, MOBIL, GEO and FAUNA)
- Influence of biotic and abiotic factors on the characteristics of the organic substance (subproject MIKRO, HUMUS, FAUNA, and COLLOID).
- Recording of water- and material transport from heterogeneous urban locations and appliance to an area (subproject SOIL, GEO and MOBIL).
- Recording of the interaction between biotic and abiotic factors and their participation in the dynamics of the release of pollutants.

Biologists, chemists, zoologists and ecologists are involved. The group investigates on three types of sites: urban parks, sewage fields, and high frequentation zones.

The Interurban programme (DFG, Research Group 409)



Source:

<http://interurban.de/>

The researchers of Interurban are also involved in another project, more ambitious in terms of interdisciplinarity: the Postgraduate Research and Study Programme ("Graduierertenkolleg"): Perspectives on Urban Ecology, directed by Professor Endlicher at Humboldt University (Berlin).

### **2.1.2. Humboldt University, Berlin: Postgraduate Research and Study Programme, Perspectives on Urban Ecology.**

Also funded by DFG (DFG, GFK 780), this multidisciplinary group launched in 2002 consists of a total of 15 Ph.D. students and one Post Doctoral Fellow drawn from the three Universities in Berlin (Humboldt University, Technical University, Free University) and two Research Institutes (Leibniz-Institute of Freshwater Ecology and Inland Fisheries [IGB] and Institute for Regional Development and Structural Planning [IRS]). The scientific units involved are: Geography, Systematic Zoology, Freshwater Ecology, Ecosystem Science and Plant Ecology, Soil Science, Environmental and Landscape Planning, Soil Zoology, Lake Ecology, Sociology and Cognitive Psychology.

The programme is carried out by comparing the urban area with the surrounding countryside along transects and at special locations and representative functional areas, in south-east Berlin. The main aims of the programme are to investigate:

- Interrelationships between abiotic (soil, water, atmosphere) and biotic (vegetation, birds, invertebrates) components of the urban ecosystem;
- The decision making processes of humans in leisure behaviour, shopping and traffic activities and their perception of environment;
- Multi-criteria system analysis in order to advance methods of monitoring and planning and to predict future stages of development through scenarios for applied urban planning (see table 1 p. 28)

The last group of topics aims at elaborating alternative methodologies, in order to integrate various dimension of urban sustainable development in common framework of analysis. Such an approach is expected to provide fundamental thinking on how planning tools develop and how urban ecology research is integrated in such processes.

The group is also interested in urban climatology, which was integrated in the Programme with the topic "Thermal growth conditions of non-native plants along a transect from the city center to the outskirts of Berlin". Water, pollution, traffic and health are also forthcoming topics of interest for the working group, which will conduct research until 2010 or 2012, according to funding opportunities and obtained results.

Debates on how to make different project work together are encouraged within the group, which should therefore provide positive thinking on multidisciplinary in urban science.

Although some programmes have certainly been ignored in this study, it seems that fundamental research on urban sustainable development in Germany is scarce. Like in the UK, problem-solving is a very common vision among urban researchers.

**TABLE 1: TOPICS OF THE POSTGRADUATE RESEARCH PROGRAMME**

<p><b>A-Topics: Abiotic and biotic topics</b></p> <p>A1 Water and element fluxes of part-sealed urban soils</p> <p>A2 Thermal growth conditions of non-native plants along a transect from the city center to the outskirts of Berlin</p> <p>A3 Air pollutions -nitrogen oxide, fine dust loading and particle deposition with special consideration of nitrate at selected sites in Berlin</p> <p>A4 Assesment of the urban river Spree bed and bank eco-morphology with regard to the colonization of benthic macroinvertebrates</p> <p>A5 Establishment and growth of <i>Ailanthus altissima</i>, <i>Acer negundo</i> and <i>Acer platanoides</i> on an urban-rural gradient in Berlin</p> <p>A6 Seed dispersal by human activity along a rural gradient and its impact on biodiversity patterns</p> <p>A7 Feeding ecology of birds along an urban gradient</p> <p>A8 Establishment and population ecology of the neozoe <i>Mantis religiosa</i> in Berlin</p> <p>A9 Relationship between semi-isolated populations of ground-dwelling beetles (Coleoptera: Carabidae and Staphylinidae) inhabiting woodland patches in an urban gradient</p> <p><b>B-Topics: Social urban system</b></p> <p>B1 The importance of environmental factors for the use of open spaces in selected residential areas in Berlin</p> <p>B2 Significance of environmental conditions on spatial shopping patterns</p> <p>B3 Spatial and temporal behaviour, and patterns referring to urban structures, urban ecology aspects and sustainable transport, especially of bicycle and pedestrian transport</p> <p>B4 Environmental perception</p> <p><b>C-Topics: Multi-criteria system analysis</b></p> <p>C1 Integrative approaches for decision support in urban areas</p> <p>C2 New information technology, remote sensing and environmental information systems, in urban ecology</p> <p>C3 Urban planning tools and progress in urban ecology</p>
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## **2.2. The development of applied research**

Although beyond the scope of this study, it is worth noting that a large number of German institutions work on urban sustainable development from a more pragmatic perspective. Here is a non-exhaustive list of some relevant initiatives:

### **2.2.1. BBR: Ex-Wost Programme**

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.

Two research agendas were established:

- One on the urban question that aimed at analyzing good practices for urban development and housing, and at constructing indicators of development and sustainability.
- One that focused on shrinking economies in Eastern German cities.

### **2.2.2. Applied University research**

The Geography department of Köln University has a large research centre on urban sustainable development: "Megacity Force". It aims at applying geographical expertise to the problems of large cities, networking with other scientific communities, and exporting expertise capacity to developing countries.

The Planning department of the *Technische Universität of Kaiserslautern* has developed a research programme on urban planning. Directed by Professor Gerhard Stainebach, this centre focuses on urban ecology and on quality control of urban planning in context of the advance of Information and Communication Technologies (ICT) and planning instruments.

### **2.2.3. Independent research centres**

In Germany, there are many research centres independent from national research bodies and universities. Generally organized in networks, they benefit from mixed sources of funding (DFG, BMBF, Lander, EU...etc.)

#### **2.2.3.1. IRS (Institute for Regional Sustainability), Erkner (Berlin)**

The IRS belongs to the Gottfried Wilhelm Association (WGL), a network of 80 research institutes. This multidisciplinary institute is rather orientated towards social sciences (history, sociology, planning, politics, geography, economy and architecture). It aims at analyzing the regional dimension of sustainable development. Research is

mostly applied (many projects are funded by the BMBF and the EU), but the following themes seemed relevant to the purpose of this study:

- Regionalisation and economic spaces
- Regional institutional change to protect public goods
- Knowledge milieus and settlement structures
- Regeneration of shrinking towns and cities

2.2.3.2. ITAS (Institut für Technikfolgenabschätzung und systemanalyse),  
Forschungszentrum Karlsruhe (FZK).

ITAS is one of the 22 entities of the Research centre of Karlsruhe (Baden-Württemberg). As 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. Current research priorities of ITAS include:

- New Technologies and the Information Society
- Sustainable development

ITAS' approach to research is problem-oriented and interdisciplinary. The mix of disciplinary expertise required by the projects is ensured by staff from various disciplines including natural sciences, engineering, and humanities.

At the heart of ITAS' research work is the comprehensive analysis and evaluation of the development and application of technology and its interrelationship with processes of societal change. Work is done on institutional, economic, political, and environment-related issues, which results in the development and assessment of alternative options for action and policy design.

As part of the "sustainable development" programme, research was conducted for the elaboration of a sustainable development framework for Germany. The result is the definition of 15 rules, based on the three pillars of sustainability (social, economic and environmental). It is worth noting that the first rules drafted in this project are concerned with health and social justice, before environmental conservation and climate change.

ITAS is also involved in many European research projects in the field of urban governance: Dr. Krassimira Paskaleva (pers. comm., Karlsruhe, 10/03/2004) is coordinating IntelCities (Intelligent Cities), which aims at pooling advanced knowledge and experience of electronic government and planning systems and citizen participation across European cities; She is also task leader in the PICTURE (Pro-active management of the Impact of Cultural Tourism upon Urban Resources and Economies) project, which aims at identifying innovative urban governance styles for cultural tourism.

Like in many UK multidisciplinary teams, collaboration between researchers from diverse disciplines is not always easy, notably when it comes to integrate environmental and economic dimensions (Stelzer, pers. comm., Karlsruhe, 10/03/2004).

### 2.2.3.3. DIFU (Deustch Institut fur Urbanistik), Berlin

Founded in 1973, DIFU aims at assisting local authorities in solving their urban problems, while providing expertise and defining long term perspectives of sustainable development. By “urbanistik”, the institute mainly refers to urban applied research: local studies, reports, meetings, training seminars, information and documentation services as well as diverse publications allows DIFU to organise the dissemination of scientific results. Main themes of interest are the following:

- Town planning
- Urban regeneration
- Traffic planning
- Interurban networks
- Housing policy

The activities of the institute seem very well recognized among academic circles, both in fundamental and applied research.

Given the previous findings, it could be considered that fundamental research on the societal aspects of urban sustainable development is rather limited in Germany. As a matter of fact, such a research exists, but not necessarily in programmes that explicitly refer to the concept of “sustainable development”.

### **2.3. From “Sustainable development” to “New governance”**

According to Dr. Timothy Moss (pers. comm., Erkner, 08/03/2004) and Dr. Volker Stelzer (pers. comm., Karlsruhe, 10/03/2004), the concept of sustainable development has lost 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 in 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. Dr Moss (pers. comm., Erkner, 08/03/2004) believes that *“research on urban sustainable development is too often reduced to the search of indicators, of methodologies for the evaluation of performance, as if the theoretical problem of the nature of sustainable development and the way to approach the concept had been resolved. This pragmatic way of thinking has today become a dominant discourse, hence a loss of interest from many researchers, more interested in the relational dimension of sustainability”*.

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.

In this way, many programmes in Germany include themes 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 (Moss, pers. comm., Erkner, 08/03/2004).

Many of these themes are addressed in a multidisciplinary way as part of the new programme of BMBF, entitled "Social Ecological Research".

This research programme is built around the theme of social ecology. Its aim is to succeed in integrating themes and methodologies linked to social and environmental issues. Two sub-programmes shape the research activities:

- Socio-economic transformations and social innovation
- Social needs and material, Energy and Information flows

Further research will be necessary to identify other relevant research projects in this programme.

### **Conclusion Germany**

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.

### III. ITALY, COMPETITIVENESS AND ARCHITECTURE

As suggested earlier, information gathered on Italy was rather limited. Most of the following remarks results from an in depth interview with a Milanese researcher well involved in urban science, Roberta Capello.

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 Council (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 (3.1.). However, some programmes relevant to our study have been identified in several universities (3.2.) and private organisations (3.3.).

#### 3.1. History

According to Roberta Capello (pers. comm. Milan, 12/03/2004), the urban question in Italy has mainly been addressed by planners. This disciplinary orientation would have focused on quantitative studies, and scarcely on more qualitative aspects of sustainable development.

On the other hand, research on sustainable development has been very much influenced by environmental economics. Notably based on the work of David Pearce, this approach has mainly considered national and intergenerational analysis, but very little the spatial dimension of the cities.

These two areas of research remained distinct until the years 1995-2000. During this period, close collaboration developed between Italian and British researchers, allowing urban research to become more and more “fashionable” (Capello, pers. comm. Milan, 12/03/2004). The work of Michael Breheny<sup>3</sup>, one of the pioneers of the “urban form” concept, seems to have influenced many Italian - and more particularly Milanese - researchers in considering the urban level.

In this way, the concept of “urban form”, integrating architectural, economic, social and environmental dimensions of the city would have raised interest on USD in many Italian universities.

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<sup>3</sup> Above all, his book entitled “Sustainable development and urban form” (see bibliography).

## **3.2. University research programmes**

### **3.2.1. Polytechnic University of Milan**

Directed by Dr. Roberto Camagni, the regional economy research team of the *Polytecnico de Milano* undertook several projects on urban sustainable forms from the end of 1990s. Their main objective was the creation of a conceptual “bridge” between regional economy and economic geography. They wished to demonstrate that environmental economics could not be applied in urban contexts, insofar as cities have no natural resources.

The following definition of urban sustainable development served as a basis for research:

*“A process of synergetic integration and co-evolution among the great subsystems making up a city (economic, social, physical and environmental, without compromising the possibilities of development of surrounding areas and contributing by this towards reducing the harmful effects of development on the biosphere” (Camagni, 1998).*

This definition is strongly based on economic concepts, with implicit references to notions such as economic balance, advantage maximisation, externalities or intergenerationality. In this way, most research projects focused on calculating economies of scale with regard to energy consumption and city size. More precisely the following research themes were developed:

- The costs of different patterns of urban growth: polycentric or compact cities
- The external costs (economic, social and environmental) of concentrated and dispersed urban growth
- Costs and organisation modes of renewable urban energy sources
- Modeling and quantification of aspects.

A team of engineers exists in the same department, but no collaboration on urban issues was organised between the two communities.

Nowadays, the economists of the *Politecnico* have turned their interest towards applied urban research, following the agenda of main funding bodies (CNR, EU and the private sector). Their new themes of investigation are mainly concerned with urban competitiveness, project appraisal and feasibility, and impact assessment methodologies (for example of urban development on health).

According to Dr. Capello, their group was “the only group of economists actively interested in the urban question. Elsewhere, this theme is only addressed by urban planning departments” (pers. comm. Milan, 12/03/2004).

### **3.2.2. University of Naples: Federico II**

The University of Naples has a department of Architectural and Environmental Conservation, which main objective is to promote the concept of sustainable development, notably in international conferences. Because of the tight timeframe, this research centre has not been directly contacted, but it seems that its activities are highly relevant to this study.

Directed by an urban planner, Luigi Fusco Girard, the department is especially concerned with more societal aspects of sustainable development. As an indication, the following themes figured in the programme of a conference organised by the department<sup>4</sup>:

- Cultural infrastructuring: towards a multi-dimensional rationality
- Institutional infrastructuring and "good governance"
- Ecological infrastructuring of the city
- Social economy, social enterprise and civil society building
- Employment and human development
- Significant examples in the scenarios of the more representative regions between humanisation and dis-humanisation, sustainability and unsustainability
- Institutional infrastructuring: Local Agenda 21 and Habitat Agenda
- Integrated evaluations for sustainable and human development
- Financial infrastructuring of the city
- Technical infrastructuring: urban planning and architecture
- Integrated conservation of cultural/artistic/architectural heritage in urban rehabilitation
- Immaterial infrastructuring for humanisation of the city and the role of religions

Since 2000 the department organised two major international conferences: "Humankind and the City. Towards a Human Sustainable Development"<sup>5</sup> that involved participants from 24 countries and resulted in the "Naples Declaration"<sup>6</sup>; "Integrated Conservation of Environmental and Cultural Heritage, Poverty Eradication and the New 'Urban Governance': From Ex-Post to Ex-Ante Evaluation". Since then, the centre was to concentrate on managing conflict between heritage conservation and economic development. More information is available on the department's website (currently under construction, see list of contacts).

### **3.3. Other initiatives**

Many universities and research centres seem involved in urban and sustainable development research in Italy:

- The *Centro di Ecologia Umana*, in Padova, conducts interdisciplinary research on environmental issues. More detailed information is available in Italian on the website (see list of contacts)
- The Faculty of Architecture of the University of Rome 3 has a department of urban studies. Further information is also available on their website (see list of contacts).
- The department of social sciences of the *Università Degli Studi di Napoli (so-called the "Orientale")* is involved in urban sustainable development research, and more

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<sup>4</sup> "Man and City. Towards a Human and Sustainable Development", Naples, 16<sup>th</sup> April 2000.

<sup>5</sup> "Humankind and the City: Towards a Human and Sustainable Development", Naples, 6-8 September 2000.

<sup>6</sup> See <http://cde.unina.it/~girard/iubi2000/declaration.htm>, (accessed 06/12/2004).

particularly in research themes such as sustainable transport, urban policy and urban governance. Once again, programmes are available on line in Italian (see list of contacts).

Finally, although this goes beyond the scope of this study, it seems important to note the existence of an important private research organisation, the *Fondazione Eni Enrico Mattei* (FEEM). Well-known among the Italian and wider European research community, it is actively involved in international and multidisciplinary applied research on sustainable development.

The following research themes are relevant to our topic:

- Citizens practices
- Urban technologies
- Migrations
- New transport technologies
- Internet impact
- Research on indicators for urban sustainable development.

The popularity of this institution illustrates well the growing importance of private research in Italy, which according to Pietro Caratti (pers. comm, Milan, 12/03/2004), constitutes the best source for interdisciplinary research.

### **Conclusion Italy**

Italian research on USD seems rich and diversified. The previous list 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.

## I.V. SPAIN AND URBAN COMPETITIVENESS

The Spanish institutional research structure is quite similar as the French. The *Consejo Superior de las Investigaciones Cientificas* (CSIC), equivalent to the CNRS, funds various research programmes via specific institutes, in partnership with the Ministry of Research (*Ministerio de Ciencia y Tecnologia*). The CSIC has no specific programme regarding urban sustainable development. The only issues relevant to our topic that have been addressed by CSIC concern urban competitiveness, urban immigration and built heritage conservation (1.). 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 (2.); 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 (3.).

### 4.1. The national council for scientific research (CSIC)

#### 4.1.1. Institute of Economy and Geography (IEG-CSIC)

The *Instituto de Economia y Geografia* (IEG) 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, economist 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, and more particularly in the following themes:

- The effects of neo-liberal reforms on industrial districts,
- The operation of sub-contracting urban networks
- Dominant urban social values
- Rehabilitation of urban technical networks

With regard to this last topic, a geographer and a social ecologist were involved in selected parts of the research. But overall, multidisciplinary most often consists in a division of the research work (Rama, pers. comm., Madrid, 01/03/2004).

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. Spain has indeed experienced massive flux of immigration in cities in the last two decades, which raises important issues in term of urban public policy and planning.

According to Dr. Cebrian (pers. comm., Madrid, 04/03/2004), geographer in IEG, urban studies are the most fertile ground for the development of interdisciplinarity in science: the very nature of the problems to solve indeed calls for the implication of various disciplines, namely history, ethnology, linguistic, psychology, foreign cultures and religions etc... Immigration being a typical urban phenomenon, he hopes that this theme will catalyze more interdisciplinary research in the future. The scientists of IEG are also very interested by urban political ecology, and the issue of the quality of life of immigrants. Nevertheless, the entrepreneurial capacity of immigrants is currently at the centre of their research work.

#### 4.1.2. The Interdisciplinarity Thematic Networks

Since 2000, the CSIC and the Ministry of Research promote the development of interdisciplinarity through the constitution of "*Redes temáticas Interdisciplinares*" (Interdisciplinary thematic networks).

An Interdisciplinary Thematic Network is constituted by a set of "modules" where investigators and resources are, when possible, integrated in the same physical location. These "Public Centers of Investigation" are committed to develop new research topics, generate innovative knowledge and work towards the solution of Research and Development problems by means of interaction between respective disciplinary contributions.

Most modules created as part of the 2000-2004 programme are concerned with aquaculture, bioinformatics, energy and medicine issues, to the exception of the module "Historical and cultural heritage". This module is dedicated to the multidisciplinary study of the conservation of local and national heritage, and involves groups located in different institutes and centres throughout the country (earth sciences, physics, humanities, chemistry etc...), and coordinated by CSIC. Until now research mainly focused on architectural and geological aspects of conservation. 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.

#### 4.2. A national context unfavorable to interdisciplinary USD research

All researchers interviewed during this investigation (Rama, pers. comm., Madrid, 01/03/2004; Delgado, pers. comm., Madrid, 02/03/2004; Alvarez, pers. comm., Madrid, 04/03/2004; Lonza, pers. comm. mail, EC, 26/02/2004) 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. The Ministry of the Environment (*Ministerio del Medio Ambiente*) mostly promotes research on these themes. Urban research is better represented, but the concepts of urban ecology or "sustainable city" are not yet on the agenda, at least at the national level.

Issues related to urban sustainable development are scattered in many different programmes. According to Carlos Garcia Delgado (pers. comm., Madrid, 02/03/2004), Research Director in CDTI (a branch of the Ministry of Research), some attempts were made to cluster these issues in more coherent line of action. However, in the recently adopted national research development plan, there is no 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 6<sup>th</sup> framework programme of the European Union.

### 4.3. Local and private initiatives

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.

Particularly since the competition for the 1992 Olympic Games, the *Generalitat* (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 (UAB)* had a course on socio-economic aspects of sustainable development; the department of geography is interested in indicators of urban sustainable development. Few researchers could directly be contacted in the University<sup>7</sup>. Further investigation will be necessary to gather more precise information of the content of research programmes.

The Local Urban Ecology Agency of Barcelona has the following objectives: "Promote the convergence of university, private and administrative initiatives for the development of urban spaces in relation to sustainability and progress in quality of life". Further information is available on the website (see list of contacts).

The informants interviewed in Madrid's institutions were not aware of these local initiatives. Socio-economic tools for conceptualizing and evaluating the sustainability of cities do not figure in the national research agenda. According to M. Delgado (pers. comm., Madrid, 02/03/2004), there is a critical lack of such tools. He wishes that the Ministry developed applied research on these questions.

In relation with this search for normative tools, the role of private organisations has become increasingly important.

For example, the consultancy *TAU Consultora Ambiental* was chosen by the European Commission to coordinate a research project on regional indicators for sustainable development (*INSURE: Flexible framework for Indicators for Sustainability in regions using Systems Dynamic Modelling*). According to the director, M. Alvarez (pers. comm., Madrid, 02/03/2004), his organisation was almost the only one to make a proposal for this call, which was selected among those from universities and other research centres.

Finally, the *Fundacion Entorno* 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. More detailed information on its research activities is available in Spanish on the website (see list of contacts).

It might be argued that private research fills a certain institutional deficit regarding sustainable development research in Spain.

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<sup>7</sup> Contacts in Barcelona were not available for interview at the time of the study.

### **Conclusion 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.

## Concluding Comments

The case of Spain illustrates well the critical importance of funding sources in shaping research themes and programmes. Spain and Italy, more tightly bounded to European agendas, have to a large extent turned to applied and normative research.

In the UK and Germany, fundamental research is better developed but practical research has also become increasingly important.

In parallel, 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 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.

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.

According to Dr. Simon Marvin (pers. comm., Manchester, 24/02/2004), the problem with current approaches to urban sustainable development is the expansion of a research that is too normative: *"looking for means of control, of manipulation on the city, either in abstract models or with indicators that are extremely complex and difficult to understand"*.

This study has shown that programmes on urban governance are rare although governance is *"the central problem associated to the implementation of technical solutions"* (Marvin, pers. comm., Manchester, 24/02/2004).

Prof. John Handley (pers. comm., Manchester, 23/02/2004), director of CURE, also questions this orientation: *"You have in France certain Cartesianism. Continue to teach theory to your students before adopting our English pragmatism! We always talk about solving problems, and you want intellectual models for your programme. The world is changing too fast for us. Funding opportunities go in this direction, and we rarely have the time to think about such conceptual models"*.

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 any case, the valorization of social sciences appears today as a prerequisite to broaden the debate on the urban question.

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## Attachment 1: List of contacts

UNITED KINGDOM					
Institution	Activity/Programme	Address	Contacts	Telephone / e-mail	Contacted directly?
Engineering and Physical Sciences Research Council (EPSRC)  <a href="http://www.epsrc.ac.uk">http://www.epsrc.ac.uk</a>	Sustainable Cities: "Towards a Sustainable Urban Environment" (SUE)  <a href="http://www.epsrc.ac.uk/WebSite/default.aspx?ZoneID=3&amp;MenuID=1614">http://www.epsrc.ac.uk/WebSite/default.aspx?ZoneID=3&amp;MenuID=1614</a>	EPSRC, Polaris House, North Star Avenue, Swindon SN2 1ET.	Peter Hedges, Infrastructure and Environment Programme Manager.	Tel: +44 (0) 1793 444 176 Fax: +44 (0) 1793 444 456  <a href="mailto:peter.hedges@epsrc.ac.uk">peter.hedges@epsrc.ac.uk</a>	YES (Interview)
Natural Environment Research Council (NERC)  <a href="http://www.nerc.ac.uk">http://www.nerc.ac.uk</a>	"Urban Regeneration and the Environment (URGENT)"  <a href="http://www.nerc.ac.uk/funding/thematic/urgent/">http://www.nerc.ac.uk/funding/thematic/urgent/</a>	NERC, Polaris House, North Star Avenue, SWINDON SN2 1EU	Chris Baker, Cross-Research Council Initiatives.  Neville Hollingworth, URGENT programme administrator	Tel: +44 (0) 1793 411 758 <a href="mailto:ckb@nerc.ac.uk">ckb@nerc.ac.uk</a>  Tel: +44 (0) 1793 411 527 <a href="mailto:net@nerc.ac.uk">net@nerc.ac.uk</a>	YES  YES (Interview)
Economic and Social Research Council (ESRC)  <a href="http://www.esrc.ac.uk">http://www.esrc.ac.uk</a>	"Cities: Competitiveness and Cohesion Research"  <a href="http://cwis.livjm.ac.uk/cities">http://cwis.livjm.ac.uk/cities</a>	European Institute for Urban Affairs, Liverpool John Moores University, 51 Rodney Street, Liverpool, L1 9AT.	Secretariat  Professor Michael Parkinson, Director.  Mary Hutchins, Communication adviser	Tel: +44 (0) 151 231 5172 Fax: +44 (0) 151 708 0650  <a href="mailto:m.h.parkinson@livjm.ac.uk">m.h.parkinson@livjm.ac.uk</a>  <a href="mailto:m.c.hutchins@livjm.ac.uk">m.c.hutchins@livjm.ac.uk</a>	YES  NO  NO

<p><b>Policy Studies Institute (PSI)</b></p> <p><a href="http://www.psi.org.uk/">http://www.psi.org.uk/</a></p>	<p>“Environment Group”  “Sustainable development Research Network”  <a href="http://www.psi.org.uk/research/project.asp?project_id=101">http://www.psi.org.uk/research/project.asp?project_id=101</a></p>	<p>PSI, 100 Park Village East, London NW1 3SR.</p>	<p>General enquiries</p> <p>Jim Skea, PSI director.</p> <p>Malcom Eames, Senior Research Fellow.</p>	<p>Tel: +44 (0) 20 7468 0468  Fax: +44(0) 20 7388 0914</p> <p><a href="mailto:j.skea@psi.org.uk">j.skea@psi.org.uk</a></p> <p><a href="mailto:m.eames@psi.org.uk">m.eames@psi.org.uk</a></p>	<p>YES</p> <p>YES</p> <p>YES (Interview)</p>
<p><b>Centre for Urban and Regional Ecology (CURE).</b></p> <p><a href="http://www.art.man.ac.uk/PLANNING/cure/">http://www.art.man.ac.uk/PLANNING/cure/</a></p>	<p>“Sustainable City-Regions”</p>	<p>CURE  School of Planning &amp; Landscape  University of Manchester  Manchester  M13 9PL</p>	<p>General enquiries</p> <p>John Handley, Director.</p> <p>Joe Ravetz, Coordinator</p> <p>Darryn McEvoy, Research Associate and Centre Manager.</p>	<p>Tel: +44 (0)161 275 6920/38  Fax: +44 (0)161 275 6917</p> <p><a href="mailto:john.handley@man.ac.uk">john.handley@man.ac.uk</a></p> <p><a href="mailto:joe.ravetz@man.ac.uk">joe.ravetz@man.ac.uk</a></p> <p><a href="mailto:darryn.mcevoy@man.ac.uk">darryn.mcevoy@man.ac.uk</a></p>	<p>YES (Interview)</p> <p>YES (Interview)</p> <p>YES (Interview)</p>

<p><b>Centre for Sustainable Urban and Regional Futures (SURF)</b></p> <p><a href="http://www.surf.salford.ac.uk">http://www.surf.salford.ac.uk</a></p>	<p>“Regeneration and Neighbourhood Renewal”</p> <p>“City and regional Thinking”</p>	<p>The SURF Centre University of Salford 113-115 Portland Street Manchester M1 6DW</p>	<p>General enquiries</p> <p>Simon Marvin, Co-director of SURF, United Utilities Chair of Sustainable Urban and Regional Development.</p> <p>Simon Guy, Dean of Research, Faculty of Humanities and Social Sciences, University of Newcastle.</p>	<p>Tel: (0161) 295 4018 Fax: (0161) 295 5880</p> <p>+44 (0) 161 295 38787</p> <p><a href="mailto:s.marvin@salford.ac.uk">s.marvin@salford.ac.uk</a></p> <p>Tel: +44 (0) 191 222 5408</p> <p><a href="mailto:s.c.guy@ncl.ac.uk">s.c.guy@ncl.ac.uk</a></p>	<p>YES (Interview)</p> <p>YES (Interview)</p>
<p><b>Oxford Brookes University.</b></p> <p><a href="http://www.brookes.ac.uk/">http://www.brookes.ac.uk/</a></p>	<p>Sustainable Urban Forms Consortium</p> <p><a href="http://www.epsrc.ac.uk/ResearchFunding/Programmes/InfrastructureAndEnvironment/Initiatives/SustainableUrbanEnvironment/UrbanAndEnvironment.htm">http://www.epsrc.ac.uk/ResearchFunding/Programmes/InfrastructureAndEnvironment/Initiatives/SustainableUrbanEnvironment/UrbanAndEnvironment.htm</a></p>	<p>School of Planning Oxford Brookes University Gypsy Lane Campus Headington Oxford OX3 0BP</p>	<p>Mike Jenks, Head of Research in the School of Architecture</p> <p>EPSRC contact: Andrew Davies.</p>	<p>Tel: +44 (0) 1865 48 32 13</p> <p><a href="mailto:mjenks@brookes.ac.uk">mjenks@brookes.ac.uk</a></p> <p><a href="mailto:andrew.davies@epsrc.ac.uk">andrew.davies@epsrc.ac.uk</a></p>	<p>YES (Interview)</p> <p>NO</p>
<p><b>Oxford Centre for Sustainable Development</b></p> <p><a href="http://www.brookes.ac.uk/schools/arch/ocsd/ocsd.html">http://www.brookes.ac.uk/schools/arch/ocsd/ocsd.html!</a></p>	<p>“Cities”</p> <p><a href="http://www.brookes.ac.uk/schools/arch/ocsd/ocsd_c.html">http://www.brookes.ac.uk/schools/arch/ocsd/ocsd_c.html!</a></p>	<p>OCS D Cities School of Planning Oxford Brookes University Gypsy Lane Campus Headington Oxford OX3 0BP</p>	<p>Mike Jenks, Head of Research in the School of Architecture</p>	<p>Tel: +44 (0) 1865 48 32 13</p> <p><a href="mailto:mjenks@brookes.ac.uk">mjenks@brookes.ac.uk</a></p>	<p>YES (Interview)</p>

<p><b>University of Salford</b></p> <p><a href="http://www.bartlett.ucl.ac.uk/research/space/vivacity-main2.htm">http://www.bartlett.ucl.ac.uk/research/space/vivacity-main2.htm</a></p>	<p>Vivacity 2020 (Research project)</p>	<p>Design and Innovation Research Group, University of Salford, Centenary Building, Peru Street, Salford, M3 6EQ.</p>	<p>Joanne Leach, Program Director</p> <p>Rachel Cooper, program manager.</p> <p>EPSRC contact: Emily Horwood,</p>	<p>Tel: +44 (0) 161 295 2690 Fax : +44 (0) 161 295 6174 <a href="mailto:j.leach@salford.ac.uk">j.leach@salford.ac.uk</a></p> <p>Tel: +44 (0) 161 295 6147 <a href="mailto:r.cooper@salford.ac.uk">r.cooper@salford.ac.uk</a></p> <p><a href="mailto:emily.horwood@epsrc.ac.uk">emily.horwood@epsrc.ac.uk</a></p>	<p>NO</p> <p>YES (Interview)</p> <p>NO</p>
<p><b>Sustainable Cities Network</b></p> <p><a href="http://www.hull.ac.uk/geog/research/html/suscivity.html">http://www.hull.ac.uk/geog/research/html/suscivity.html</a></p>	<p>Sustainable Cities: From Research to Implementation</p>	<p>Department of Geography, University of Hull. Hull. HU6 7RX</p>	<p>Professor David Gibbs</p>	<p>Tel: +44 1482 465330 Fax : +44 1482 466340 <a href="mailto:D.C.Gibbs@geo.hull.ac.uk">D.C.Gibbs@geo.hull.ac.uk</a></p>	<p>NO</p>
<p><b>Tyndall Centre for Climate Change Research</b></p> <p><a href="http://www.tyndall.ac.uk/">http://www.tyndall.ac.uk/</a></p>	<p>“Decarbonising Modern Societies” <a href="http://www.tyndall.ac.uk/research/research.shtml">http://www.tyndall.ac.uk/research/research.shtml</a> “Adapting to Climate Change”</p>	<p>Tyndall Centre (HQ), School of Environmental Sciences, University of East Anglia, Norwich, NR4 7TJ.</p>	<p>General enquiries</p>	<p>Tel: +44 (0)1603 593900 Fax: +44 (0)1603 593901 <a href="mailto:tyndall@uea.ac.uk">tyndall@uea.ac.uk</a></p>	<p>NO</p>

GERMANY					
Institution	Activity/Programme	Address	Contacts	Telephone / e-mail	Contacted directly?
<b>Deutsche Forschungsgemeinschaft (DFG).</b>  <a href="http://www.dfg.de/">http://www.dfg.de/</a>	No specific programme on urban sustainable development but punctual funding of research groups working in urban research.	DFG Kennedyallee 40 D-53175 Bonn	Dr. Anjana Buckow, Research Training Groups and Research Careers Division	Tel: +49 (228) 885-2845 Fax: +49 (228) 885-2777 <a href="mailto:anjana.buckow@dfg.de">anjana.buckow@dfg.de</a>	YES
<b>Bundesministerium für Bildung und Forschung (BMBF) et Institute for Social-Ecological Research (ISOE)</b>  <a href="http://www.bmbf.de/">http://www.bmbf.de/</a>	"Social Ecological Research" programme  <a href="http://www.isoe.de/ftp/soceco.pdf">http://www.isoe.de/ftp/soceco.pdf</a>	BMBF, Dienstsitz Bonn Heinnermanstrasse, 2. 53175 Bonn, Bade Godesberg  ISOE, Hamburger Allee 45, D 60486 Frankfurt am Main.	Secretariat  Secretariat  Thomas Jahn, director of ISOE	Tel: +49 (0) 188 8570 Fax: +49 (0)188 857 83601  Phone (Central): +49 (69) 707 69 19 0 Fax: +49 (69) 707 69 19 11 Tel: 0049 (69) 707 69 19 12 <a href="mailto:jahn@isoe.de">jahn@isoe.de</a>	NO  NO  NO
<b>Humboldt Universität zu Berlin</b>  <a href="http://www.hu-berlin.de">http://www.hu-berlin.de</a>	Department of geography  <a href="http://www.geographie.hu-berlin.de/e/index.html">http://www.geographie.hu-berlin.de/e/index.html</a>  Postgraduate research and study program: perspectives on urban ecology <a href="http://www.geographie.hu-berlin.de/gkol/e/">http://www.geographie.hu-berlin.de/gkol/e/</a>  <a href="http://www.geo.uni.lodz.pl/~icuc5/text/P_4_9.pdf">http://www.geo.uni.lodz.pl/~icuc5/text/P_4_9.pdf</a>	Humboldt-Universität zu Berlin Geographisches Institut Unter den Linden 6, 10099 Berlin.	Professor Wilfried Endlicher	Tel: +49 (0) 30 2093 6808 Fax: +49 (0) 30 2093 6844  <a href="mailto:wilfried.endlicher@geo.hu-berlin.de">wilfried.endlicher@geo.hu-berlin.de</a>	YES

<b>Technische Universität Berlin</b>  <a href="http://www.tu-berlin.de/eng/">http://www.tu-berlin.de/eng/</a>	Institut für Ökologie  <a href="http://www.tu-berlin.de/fb7/ioeb/index.html">http://www.tu-berlin.de/fb7/ioeb/index.html</a>  Interurban programme  <a href="http://interurban.de/">http://interurban.de/</a>	<a href="http://www.tu-berlin.de">Technische Universität Berlin</a> Institut für Ökologie Franklinstrasse 28-29 D-10587 Berlin	Prof. Gerd Wessolek	Tel: +49 (0) 314-73530 Fax: +49 (0) 314-73548  <a href="mailto:gerd.wessolek@tu-berlin.de">gerd.wessolek@tu-berlin.de</a>	YES (Interview)
<b>Institut for Regional Development and Structural Planning (IRS)</b>  <a href="http://www.irs-net.de/download/leaflet_irs.pdf">http://www.irs-net.de/download/leaflet_irs.pdf</a>	Regeneration of shrinking towns and cities  <a href="http://www.fsl.dk/.../Konference_presentation_s/Plenary/040202_socialaspects_restrucuring%5B1%5D.ppt">www.fsl.dk/.../Konference_presentation_s/Plenary/040202_socialaspects_restrucuring%5B1%5D.ppt</a>	Flakenstr. 28-31 D - 15537 Erkner	Dr. Timothy Moss	Tel: +49 (0) 3362 793 0 Fax: +49 (0) 3362 793 111 <a href="mailto:mosst@irs-net.de">mosst@irs-net.de</a>	YES (Interview)
<b>Institute for Technology Assessment and Systems Analysis (ITAS)</b>  <a href="http://www.itas.fzk.de">http://www.itas.fzk.de</a>	Sustainable Development  <a href="http://www.itas.fzk.de/brosch2002e.pdf">http://www.itas.fzk.de/brosch2002e.pdf</a>  INTELCITIES: Intelligent Cities  <a href="http://www.intelcitiesproject.com/">http://www.intelcitiesproject.com/</a>	Forschungszentrum Karlsruhe GmbH, ITAS, P.O.B 36 40, D- 76021 Karlsruhe	Dr. Volker Stelzer  Dr Krassimira Paskaleva	Tel: +49 72 47 82 34 74. <a href="mailto:stelzer@itas.fzk.de">stelzer@itas.fzk.de</a>  Tel: +49 72 47 82 61 33. Fax: +49 (0) 72 47 82 48 08  <a href="mailto:paskaleva@itas.fzk.de">paskaleva@itas.fzk.de</a>	YES (Interview)  YES (Interview)



ITALY					
Institution	Activity/Programme	Address	Contacts	Telephone / e-mail	Contacted directly?
<b>Consiglio Nazionale delle Ricerche (CNR)</b>  <a href="http://www.cnr.it">http://www.cnr.it</a>	No specific programme on urban sustainable development.	Consiglio Nazionale delle Ricerche Piazzale Aldo Moro,7 - 00185, Roma, Italia	Office of public relations	Tel: +39 06 499 31 Fax: +39 06 446 1954  <a href="mailto:urp@urp.cnr.it">urp@urp.cnr.it</a>	YES
<b>Politecnico de Milan.</b>  <a href="http://www.polimi.it/">http://www.polimi.it/</a>	Dipartimento di Ingegneria Gestionale (DIG)  Regional and urban ecology  <a href="http://www.dig.polimi.it">www.dig.polimi.it</a>	DIG Via G. Colombo 40, 20133 Milan.	Professor Roberta Capello	Tel: +39 02 2399 2751 Fax: +39 02 2399 2710  <a href="mailto:roberta.capello@polimi.it">roberta.capello@polimi.it</a>	YES (Interview)
<b>Fondazion Eni Enrico Mattei (FEEM)</b>  <a href="http://www.feem.it">http://www.feem.it</a>	Sustainability indicators and Environmental Valuation  <a href="http://www.feem.it/Feem/Pub/Programmes/default.htm">http://www.feem.it/Feem/Pub/Programmes/default.htm</a>	FEEM, Corso Magenta, 63, 20 123 Milan.	Secretariat   Pietro Caratti, researcher	Tel: +39 02 5203 6934 Fax: +39 02 5203 6946  <a href="mailto:caratti@feem.it">caratti@feem.it</a>	YES (Interview)
<b>Centro di Ecologia Umana.</b>  <a href="http://centroecologiaumana.unipd.it/">http://centroecologiaumana.unipd.it/</a>	Interdisciplinary research on socio-environmental issues.	Centro di Ecologia Umana, Via 8, Febbraio, 2 35 122 Padova	Prof. Italo De Sandre, Vice-Direttore	Tel: +39 049 827.4313 Fax: +39 049 657508  <a href="mailto:italo.desandre@unipd.it">italo.desandre@unipd.it</a>	NO

<p><b>UniRoma 3 Facolta di Architettura</b></p> <p><a href="http://www.uniroma3.it">http://www.uniroma3.it</a></p>	<p>Dipartimento di Studi Urbani</p> <p><a href="http://www.uniroma3.it/ricerca/dipartimenti/IndexDipart.asp?cod=dipstudurb">http://www.uniroma3.it/ricerca/dipartimenti/IndexDipart.asp?cod=dipstudurb</a></p>	<p>Via Madonna dei Monti, 40 00184 - Roma</p>	<p>Secretariat</p> <p>Georgio Piccinato, directeur du d�partement.</p>	<p>Tel: +39 06 4888 711 Fax : 06 4888 71249</p> <p>Tel: +39 06 4888 71 Fax: +39 06 4818 625</p> <p><a href="mailto:piccinat@uniroma3.it">piccinat@uniroma3.it</a></p>	<p>NO</p> <p>NO</p>
<p><b>Universita Degli Studi di Napoli, "l'Orientale".</b></p> <p><a href="http://www.iuo.it/DIPARTIMENTI/dipsci/NEW/attivita_ricerca.htm">http://www.iuo.it/DIPARTIMENTI/dipsci/NEW/attivita_ricerca.htm</a></p>	<p>Dipartimento di scienze sociali</p> <p><a href="http://www.iuo.it/DIPARTIMENTI/dipsci/NEW/attivita_ricerca.htm">http://www.iuo.it/DIPARTIMENTI/dipsci/NEW/attivita_ricerca.htm</a></p>	<p>Largo S.Giovanni Maggiore, 30 - 80134 Napoli</p>	<p>Prof. Guiseppe Cataldi, directeur</p>	<p>Tel: +39 081 6909 441 Fax: +39 081 6909 442</p> <p><a href="mailto:dipss@iuo.it">dipss@iuo.it</a></p>	<p>NO</p>
<p><b>University of Naples, Federico II.</b></p> <p><a href="http://www.unina.it">http://www.unina.it</a></p>	<p>The Department of Conservation of Architectural and Environmental Assets</p> <p><a href="http://www.conservazione.unina.it/workshop2004/htm/about.htm">http://www.conservazione.unina.it/workshop2004/htm/about.htm</a></p> <p><a href="http://cds.unina.it/~girard/iubi2000/">http://cds.unina.it/~girard/iubi2000/</a></p>	<p>Via Roma, 402 80132 Napoli Italy</p>	<p>Luigi Fusco Girard, planner, specialist of urban sustainable development.</p> <p><a href="http://research.scpm.salford.ac.uk/bqextra/Workshops/Turin/Turin%202.htm">http://research.scpm.salford.ac.uk/bqextra/Workshops/Turin/Turin%202.htm</a></p>	<p>Tel: +390 81 253 8761 Fax: +390 81 253 8649</p> <p><a href="mailto:girard@unina.it">girard@unina.it</a></p>	<p>NO</p>

SPAIN					
Institution	Activity/Programme	Address	Contacts	Telephone / e-mail	Contacted directly?
<b>Consejo Superior de las Investigaciones Cientificas (CSIC)</b>  <a href="http://www.csic.es">http://www.csic.es</a>	No specific programme on urban sustainable development  Instituto de Economia y Geografia (IEG)  <a href="http://www.ieg.csic.es/">http://www.ieg.csic.es/</a>	Instituto de Economia y Geografia, CSIC, Pinar, 25, 28006, Madrid.	Dr. Ruth Rama, Senior Researcher.    Dr Juan Cebrian	Tel: +34 (0) 91 411 10 98. Fax: +34 (0) 91 562 55 67. <a href="mailto:rrama@ieg.csic.es">rrama@ieg.csic.es</a>  <a href="mailto:cebrian@ieg.csic.es">cebrian@ieg.csic.es</a>	YES (Interview)    YES (Interview)
<b>Centro para el Desarrollo Tecnológico Industrial (CDTI)</b>  <a href="http://www.cdti.es">http://www.cdti.es</a>	<a href="#">Programa Nacional del Espacio (PNE)</a>  <a href="http://www.cdti.es/webCDTI/esp/">http://www.cdti.es/webCDTI/esp/</a>	CDTI Ministerio de Ciencia y Tecnología C/ Cid nº 4 28001 Madrid	Carlos Garcia Delgado	Tel: +34 (0) 91 581 55 62/66 fax:+34 (0) 91 581 55 86  <a href="mailto:cgd@cdti.es">cgd@cdti.es</a>	YES (Interview)
<b>TAU Consultora Ambiental</b>  <a href="http://www.taugroup.com">http://www.taugroup.com</a>	INSURE : Flexible Framework for Indicators for Sustainability in Regions using Systems Dynamics Modelling  <a href="http://www.feem.it/Feem/Pub/Programmes/Sustainability+Indicators+and+Environmental+Valuation/Activities/INSURE.htm">http://www.feem.it/Feem/Pub/Programmes/Sustainability+Indicators+and+Environmental+Valuation/Activities/INSURE.htm</a>	Santa Matilde, 4, 1º 28039 Madrid, España	Manuel Alvarez, Coordinateur du projet.	Tel: +34 (0) 91 450 20 93 / +34 (0) 91 450 38 46 Fax: + 34 (0) 91 459 43 82  <a href="mailto:malvarez@taugroup.com">malvarez@taugroup.com</a>	YES (Interview)

<p><b>Universitat autònoma de Barcelona</b></p> <p><a href="http://www.uab.es/">http://www.uab.es/</a></p>	<p>Department of geography</p> <p>Topic Centre on the terrestrial environment</p> <p><a href="http://terrestrial.eionet.eu.int/">http://terrestrial.eionet.eu.int/</a></p> <p><a href="#">Institut de Ciència i Tecnologia Ambientals</a></p>	<p>European Topic Centre Terrestrial Environment</p> <p>Edifici B</p> <p>Campus de la UAB</p> <p>08193 Bellaterra</p> <p>Edifici C</p> <p>Campus de la UAB</p> <p>08193 Bellaterra</p> <p>(Cerdanyola del V)</p>	<p>Françoise Breton, ETC/TE Deputy-Manager</p> <p>Coastal Expert</p> <p>Joan Martinez Alier</p>	<p>Tel: +34 (0) 93 581 1527</p> <p>Fax: +34 (0) 93 581 2001</p> <p><a href="mailto:Francoise.breton@uab.es">Francoise.breton@uab.es</a></p> <p>Tel: +34 (0) 93 581 2974</p> <p>Fax: + 34 (0) 93 581 3331</p> <p><a href="mailto:Joan.Martinez.Alier@uab.es">Joan.Martinez.Alier@uab.es</a></p>	<p>NO</p> <p>NO</p>
<p><b>Fundacion Entorno</b></p> <p><a href="http://www.fundacion-entorno.org/">www.fundacion-entorno.org/</a></p>	<p>Private applied research on sustainable development.</p>		<p>José Luis Blasco, Directeur.</p>	<p><a href="mailto:jlblasco@fundacion-entorno.org">jlblasco@fundacion-entorno.org</a></p>	<p>NO</p>
<p><b>Agencia Local de Ecologia Urbana de Barcelona</b></p> <p><a href="http://www.bcnecologia.net/bcnecologia/agencia_fra.htm">http://www.bcnecologia.net/bcnecologia/agencia_fra.htm</a></p>	<p>Promote the convergence of university private companies and administrations for the development of urban spaces in relation to sustainability and progress of quality of life.</p>	<p>C/ Comte d'Urgell 187</p> <p>1r</p> <p>08036 Barcelona</p>	<p>Secretariat</p> <p>Salvador Rueda</p>	<p>Tel: +34 (0) 93 402 0627</p> <p>Fax: +34 (0) 93 402 0641</p> <p>Tel: +34 (0) 93 224 0860</p> <p><a href="mailto:rueda@bcnecologia.net">rueda@bcnecologia.net</a></p>	<p>NO</p> <p>NO</p>

## **Attachment 2: Sustainable urban development interdisciplinary Programme (PIDUD)**

### **Objectives and Expectations**

The Sustainable Urban Development programme aims to revive the subject areas of the programmes developed a decade ago 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 Ministry of Research entitled "Societies and cultures in sustainable development."

### **Scientific Communities Involved**

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 necessary in order to examine the many different aspects of sustainable development.

### **Context and Challenges**

In the 1990s, guidelines were adopted with a view to improving the quality of urban environments. Following the Rio Summit in 1992, objectives were clarified at the Istanbul Conference on Human Establishments (Habitat II) in 1996. Agenda 21, which developed out of the conference, has led to the creation of various national programmes on urban development (not limited to the availability of physical resources, but also including the social risks associated with rundown sites, urban sprawl, and aging economic structures). Thus, issues such as the broad expansion of cities, the growth of large metropolitan areas, the existence of a typology of cities which consume large amounts of space and energy, and the increasingly numerous technical and political levels of intervention continue to be discussed in major international conferences such as the Johannesburg Summit in 2002.

Research on sustainable cities is thus highly important. The CNRS departments involved include Humanities and Social Sciences, Engineering Science, and, as recently witnessed during major catastrophes, Sciences of the Universe. Although current research is of high quality, it has yet to be sufficiently integrated and is thus often incapable of responding to the expectations of society or emerging international research issues which require a multidisciplinary approach.

## **Attachment 3: PIDUD, Call for Tender 2003**

Sustainable development has often been presented as a more thorough integration of economic, ecological and social concerns. This perspective began to gain worldwide recognition in the early 1990s. Of course, this was not really the first time that an attempt had been made to reconcile urbanisation, the economic development of cities and the environment. However, these concerns were seen as "counterbalancing" each other, and the possibility of integrating them, for example within city planning projects, infrastructure policies or local development, was not considered.

Under what conditions can the different dimensions of sustainable urban development be integrated? This is a research question that is in particular need of further analysis, as the subject of sustainable development is often related to political issues. However, in counterpoint, different regions within a single country will often have differing approaches and conflicting points of view on these issues, depending on whether they are fast-growing urban regions or regions which are undergoing difficult renewal, and this is all the more true as regards the affluent countries of the North and those of the South which are seeking to maximise their assets.

Thus, the concerned players are all clearly aware of the fact that promoting sustainable urban development will necessarily require numerous adjustments between different and sometimes conflicting rationales. This area of analysis will be the starting point for the programme. Sustainable urban development projects always heavily emphasize the need to reach compromises. But under what conditions can this be concretely done? And what is the scope and meaning of the conflicts underlying attempts at integration?

### **Means of Action, Partnerships and Initial Achievements**

The phrase "sustainable development" can lead to two opposite ways of defining research. The first is due to the polysemic or ill-defined nature of the phrase and brackets together many different issues which are not directly interrelated. The second attitude, which must be granted priority, considers that the phrase "sustainable development" gives us a better idea of contemporary trends and opens the way for new conceptualisations. This seems to be the case for urban issues and, in particular, certain contemporary trends which, on the flip side, clearly illustrate the "unsustainable" nature of certain forms of urbanisation.

This includes new forms of urban spatial segregation which are not passively borne by residents but on the contrary are the result of a conscious decision to live within a specific community, chosen on the basis of affinity and social class; for example, an extreme form of this tendency is the growing number of secure residential developments or other "gated communities," a persistent and growing contemporary urban trend observed in both the North and the South. This phenomenon is linked to another "unsustainable" trend, that of centrifugal peripheral urbanisation, which persists despite public policies aimed at curbing or even reversing these phenomena. It is the task of

research to study these powerful trends and question the effectiveness of the public policies addressing them, thus stimulating renewed analyses of public/private partnership issues and power-sharing between those involved in urban development.

An initial call for tender has thus been issued to examine methods for greater integration between economic, ecological and social issues, according to three essential processes which are characteristic of urban trends: forms of social and economic differentiation in cities, the question of how efficiently cities deal with territorial organisation, and the forms of negotiation used in decision-making processes involving different urban authorities.

In June 2003, ten research projects, as well as four networks receiving financial incentives to encourage further research were selected by the programme jury in conjunction with the consultations launched by the Ministry of Research and the Ministry of Public Works, Transport and Housing. Funding was provided by the CNRS and the Ministry of Research.

## Attachment 4: PIDUD, Call for proposals 2004

### Introduction:

Sustainable development is an issue addressed not only by scientists, but also by political decision-makers and technicians. As such, "sustainability" has become in itself a way of thinking and doing. The notion of "sustainable development" corresponds both to an ideal and to a concrete goal: that of finding a way of reconciling the objectives of reasonable development with those of environmental biodiversity and social justice and equity.

However, these objectives are often in conflict. Indeed, this notion, which at first view may seem to have only one meaning, can be understood in many different ways. The question of coherence is thus quite acute, since the objectives of the different spheres (economic, social, environmental) are not necessarily compatible with one another (poverty and exclusion, air pollution, waste processing, congestion, environmental deterioration, etc.).

As a result, depending on one's understanding of the concept and chosen focus of interest, the perception of the situation, the discourse attached to it, the legal and technical decisions can differ, and are sometimes even contradictory. This is made worse by the fact that the same concept can be applied to very different situations not only within a single country, but also to different countries whose economic and social situations are in stark contrast, for instance countries of the North and the South. In fact, little is still known about the many ways in which this concept is used and integrated into urban production and management processes.

The Sustainable Urban Development Programme, jointly financed by the CNRS and the Ministry of Research, will take into account other research initiatives set up by other institutions. Its aim is thus to develop aspects of research themes and topics which complement each other while focusing on its specific scientific objectives, promote interdisciplinary collaboration and encourage the emergence or reinforcement of new research fields.

The options selected for the 2004 call for proposals thus support research initiatives on themes that have not yet been widely studied, focusing on new forms of research coordinated through "sites". This call for proposals is 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, 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".

## **I. Cross-sectional and multidisciplinary analyses by "SITES"**

One of the two main objectives of this call for proposals is to study the definition and implementation of sustainable urban development policies through a system of "sites" – groupings of geographical areas, institutions, projects, etc. There are three reasons for choosing this approach. Urban sites are geographically and historically significant in terms of development. Cities are also a possible framework for the expression of political determination and decision-making when choices must be made between priorities. They are also centres of education and research, and as such they can promote scientific and interdisciplinary cooperation. Two themes will be highlighted:

### ***1. Sustainable urban development policy-making***

Although everybody now speaks of sustainable development, in practice very few cities have set up genuine programmes of action (other than those devoted to Agenda 21), particularly in France. In this context, how can a voluntaristic conception tied to the demands of sustainable development emerge? This question raises a number of issues.

#### **A. The importance of sustainable development in urban political agendas.**

How does sustainable development reach the agenda of political decision-makers or conversely how is it erased from their agendas? How have different local actors (elected representatives, specialists, representatives of associations, etc.) addressed the issue? What is the significance they give to this question? How is this type of action, elaborated on international and national levels, interpreted and implemented in different local contexts? Are the actors concerned committed to the principle of sustainability, are they reacting to a local situation with clear ecological problems, or are they pursuing a strategy whereby "sustainability" is used as a means to promote the area's advantages? It is necessary to better understand how these various motivations are combined in practice and how choices are made.

#### **B. Strategies of alliances based on sustainable urban development**

It is important to improve our understanding of the role and status of sustainable development in the formation of urban management coalitions: in some cases, the sustainability objective is a prerequisite on whose basis local actors must build a consensus; in other cases this consensus is formulated once the coalitions have been formed, providing justifications after the fact for alliances which were made necessary by electoral constraints.

The seeming vagueness of certain public policies promoting sustainable development is due to the fact that this is an open and multifaceted issue, generating a multiplicity of approaches and making it difficult to offer a homogeneous package of solutions. In addition, given the large number of interest groups, interpretations and priorities necessarily diverge. How are the conflicts inherent to the principle of sustainable urban governance perceived and regulated? For example, one can easily observe that the intentional densification of city centres aimed at fighting urban sprawl

has led to a hike in property and real estate prices, thus pushing out the poorer part of the population towards the periphery. Similarly, how can a policy of social justice, public health or environmental preservation be developed in a context of economic competition between cities of France, Europe or the world, a competition whose main focus is often economic performance?

#### C. The necessary conditions for local voluntarism.

The fact that such conflicts exist without affecting the credibility of the concept of "sustainable urban development" shows that "sustainability" corresponds to a major necessity of our times and reflects the need for voluntaristic control and for the manifestation of a "public authority", offsetting the dynamics of a global free-market economy. Working on the theme of sustainable development seems all the more relevant today that it can help large companies anticipate the constraints imposed by norms and standards tied to sustainable urban development (cf. the precaution principle); it can also enable political representatives to reassert the necessity of implementing public action based on scientific knowledge.

### ***2. Sustainable urban development: expertise and information "observatories".***

#### A. The demand for information

Certain urban sites have set up "observatories" to monitor problems related to sustainable development or the implementation of the corresponding measures. These observatories, which aim to measure physical, natural or social phenomena, elaborate indicators to be used as tools for description, for decision-making, for the assessment of situations, as well as for communication. Even if some associations organize counter-expertises, the persons in need of information are often the sponsors of official observatories. How are the indicators used, in particular by those who have commissioned them, what are they meant to advocate, what type of communication strategy do they support?

The study of the rationales governing the work of actors on a given site can be based on the observation of how these observatories are set up and how indicators are locally constructed. The members of these observation and study groups belong to various disciplines, have their own understanding of sustainability and its practical implementation, and these ideas have an influence of the way indicators will be developed. Observatories and their activities raise a number of questions pertaining to the issues and ideas that lie behind their creation, and to the social and political use of the expert knowledge they produce. The question of duration is also important, since the time span in which these tools of knowledge are developed must be compatible with that of sustainable development.

## B. The intellectual construction of information and indicators

The theme of sustainable development has introduced new types of problems and a host of possible solutions. This entails both a redefinition of diagnostic tools and a review of the list of possible measures. Do the questions raised by sustainable development encourage the development of new areas of research and new sources of information and technical innovation? What new methods for acquiring knowledge and observing reality have been created thanks to this new theme? Indeed, the latter requires quantitative methods, models, state-of-the-art observation techniques (satellites) as well as interpretations of the relationships between society, urban environment and health.

One may question an approach that is excessively centred on statistics or governed by administrative statistical categories, as well as the international circulation of "standardized" information systems or "good practices" which are of course necessary for comparisons, but sometimes carelessly applied.

In addition, cross-sectional studies and observations face the problem of validation (a constant problem in pluridisciplinary research) and social impact, to the extent that the spatial scale relevant to the production of knowledge is not the same as that relevant to decision-making, even if the decision is based on knowledge, or as that relevant to the effective treatment of problems. These differences in scales of time and space (environmental time, political time, economic time, etc.) often represent a factor of confusion in the definition of goals and may block or destabilize actions implemented in favour of sustainable development. How can an evaluation take into account these distortions, whose consequences are obvious in cases of pollution or floods?

## C. Expertise and professions tied to the assessment of sustainable urban development.

The redefinition of the framework of research and action in this field requires the involvement of new disciplines, new ways of thinking on the part of urban actors and new modes of action. An approach centred on sustainable development may call into question traditional technical competences and destabilize previous technocratic attitudes. Can this lead to the reorganization of local public services, which until then had been sectorially organized, with a view to implementing cross-sectional actions governed by the concept of sustainable development? Of course, the observatories aim to play a regulatory role and are part of a political project, but very often the difficulty to build indicators lies in the necessity of avoiding the simple juxtaposition of economic, social, environmental variables or the recycling of existing environmental models. How can these observatories elaborate an approach to sustainable urban development that would integrate various competences into a coherent system?

Have these profound transformations, caused not only by changes in the approach and formulation of objectives but also by the emergence of new specializations, generated new planning practices (project launching, negotiation, political and social mediation?)

In the responses to this part of the call for proposals, preference will be given to scientific projects proposed by several teams coming from different disciplines and coordinated by a laboratory – project coordinator. The eligible projects will concern a

site (or a comparison between sites) covering an area – *commune*, agglomeration or urban region – considered relevant for the analysis of sustainable urban development processes.

## **II. THEMATIC analyses.**

### **Sustainable urban development policies: economic and legal dimensions**

Two themes were selected:

#### ***1. Economics of urban planning and sustainable development***

The various forms of land use are the result of processes involving a diversity of public and private actors. They are developing in a context of complex legal regulations which have many different goals. Whether public or private, these actors have economic objectives which are, for the private actors, to make the most profit possible or increase their market share; for the public actors, in particular municipalities, to balance their budget; and for both public and private owners, to increase the value of their property.

One or several of these factors can differ or even be contradictory with the aims of sustainable development as they are stated in laws or in public action. For example, some efforts in favour of sustainable urban development have consisted in limiting urban expansion and encouraging more dense urban forms through urban renewal, by building a city over the city. However, despite this intention, expressed in several recently passed laws, the economic, financial and fiscal context in which the actors must work (additional costs of urban "recycling", tax laws, or housing financing schemes) can instead lead them to prefer peripheral expansion over urban renewal.

Indeed, large cities are continuing to expand, and not only in France. Notwithstanding the Rogers report, this phenomenon is also visible in Great Britain; the same is true for Berlin, which is expanding into Brandenburg. However, the debate concerning the costs and benefits of low residential density or "dense housing developments" clearly shows how little are known today about the subject. A more detailed cost/benefit analysis of the various forms of urban development should be applied to large-scale operations, but also to "ordinary urban development" (the tyranny of small decisions). A comparison between the practices of several European countries concerning "public-private partnerships" could be extremely interesting, since these partnerships, which are often created only for the short term, are cause for concern in terms of sustainable urban development.

A. An important aspect pertains to schemes to finance housing and their impact (support for the construction and public works sector, aid to public housing, redistribution policies).

An important example concerns policies aimed at encouraging mixed residence. Economic mechanisms do not explain everything, and in order to understand why these policies were not very successful, one must analyse the economic relevance of the policies applied in this field (the law according to which public housing must represent 20% of a commune's housing, public housing financing and attribution systems, etc.) We do not know enough about the categories of actors concerned and their responses to

these measures of encouragement. Little is known as well about the impact of land value on policies promoting mixed residence. Moreover, the social and spatial consequences of the successive changes in the financial aid schemes provided to persons wishing to invest in real-estate for the purpose of renting also deserve to be analysed.

B. Research on real-estate economics can also shed some light on the structure of urban space.

In an urban world increasingly dominated by the market, it is useful to understand the role of the economic variables taken in to account by investors or planners and real-estate developers. The varying profitability of space use leads to changing hierarchies, which can be in contradiction with long-term political intentions related to sustainable development. This is all the more true that despite city planning regulations, cities are subjected to the "dictatorship of short-termism". International comparative analyses would be welcome in this field.

C. The financing of urban infrastructure tied to planning operations has not been sufficiently studied.

The financial participation, according to various legal schemes, of economic actors in the framework of different local development legislations and tax laws poses the problem of their impact on urban forms and on the sharing of the cost of infrastructures between the operator (and also, *in fine*, of the buyer), taxpayers, and the property-owner who receives added-value from the construction of public infrastructure. Analyses may focus on the question of economic efficiency, but the issue of social equity and the impact of cost-sharing between present and future residents on the resulting urban forms (also in terms of mobility, access and accessibility) must also be studied.

## ***2. New laws to regulate sustainable urban development***

Given the increasing importance of negotiation and contractual relationships, the growing weight of the European Union and the increasingly international level of interaction, do legal provisions concerning urban planning provide a guarantee of sustainable urban development? Whereas in the past, physical planning was traditionally based on Roman law, a trend resembling the Anglo-Saxon "common law" system seems increasingly prevalent. The "contract" system in its different forms has become a reference in city planning law, and several recent laws refer to contractual negotiation between parties in order to solve many questions which previously were managed through legal action, that is through unilateral public decisions. The notion of contract is not new in French law, but the increasing popularity of contracts in urban planning raises a certain number of questions.

In the common law system, the decision is traditionally based on precedent (case law), and each new case is examined "on its own merits". The contract, which sets the law of the parties, determines its own system of regulation and sanctions in case the obligations specified in the contract were not met. Conversely, according to the Roman law system, the weight of contracts is very limited in the field of operational urbanism;

the contract defines mutual obligations in the framework of an operation based on codified legal provisions.

Of course, it can be pointed out that both approaches are converging with the emergence of qualitative rules in French urban planning law – for instance, the "Coastline Law" (Loi littoral) or the "Solidarity and urban renewal" law (Solidarité et renouvellement urbain) which introduce qualitative notions, leave more room for interpretation and give more power to jurisprudence and precedent. This trend is also important in European law, which is dominated by "common law" types of regulation and where laws of competition are in conflict with French traditional law. These points suggest that research should focus on studying how the contractual approach modifies the balance between economic development, the protection of urban forms and social equity.

#### A. The use of contracts in operational urban planning

The mutual influences of French law and "common law" can be better understood by studying the content and form of contracts or how conflicts are solved. It is important to know more about current trends and practices in international law firms working in different legal contexts. Similarly, planning contracts, in particular public planning contracts and their compatibility with EU competition laws are an important field of research. In what way do these changing forms of partnerships still leave room for the respect of general environmental interest and the preservation of our "capital for the future"?

#### B. The impact of city planning regulations and real-estate prices.

From the point of view of sustainable urban development, it is also important to better understand the impact of zoning laws and more importantly of laws concerning property value. In French law, the basic principle is that of the non-compensation of servitudes (Art. L 160-5 of the Urbanism Codex), while in the United States, the law is based on the opposite principle, the "taking" jurisprudence, whereby compensation is due when a law or an urban operation is considered too aggressive and causes a loss of the value of surrounding property.

The limits on "taking" as well as the flexibility in the application of the French principle of non-compensation of servitudes have led to similar practices. The compensation for loss of value owing to the enforcement of the law must be considered in the light of the question of the recuperation (by way of taxes in particular) of the added-value resulting not only from constructibility regulations but also from the building of public facilities. A detailed investigation and an international comparison of legal and economic systems from the angle of sustainable development would show their impact on urban development and their consequences in terms of social and spatial redistribution.

## Attachment 5: PIDUD Contacts

Scientific Director: Jean-Marie Hombert.  
Programme Director : Jean-Pierre Gaudin

Contacts:

Jean-Marc Rennes

E-mail: [rennes@iresco.fr](mailto:rennes@iresco.fr)

Phone: (0033) 140 25 12 64.

Caroline Raux

E-mail : [caroline.rault@cnrs-dir.fr](mailto:caroline.rault@cnrs-dir.fr)

Further information is available in French on the following website:

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

## Author New Contact

Edith Besson (MA)

Institute for Technology Assessment  
and Systems Analysis (ITAS)

Karlsruhe Research Centre

POB 3640 ;76021 Karlsruhe, Germany

Phone: +49.7247/82-6794

Fax: +49.7247/82-4811

E-mail: [Edith.Besson@itas.fzk.de](mailto:Edith.Besson@itas.fzk.de)