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**Working Paper**

## Knowledge management and policy application in urban management and housing

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## **Working Paper**

Thomas Knorr-Siedow and Iván Tosics\*

# **Knowledge management and policy application in urban management and housing**

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Many large post-war housing estates are amongst the most striking examples for the mismanagement of knowledge in recent European urban development. The symptoms are manifold. Formerly acclaimed Western model housing projects of the second half of the 20th century often had to be demolished after only a few decades as they had become unsustainable and/or ungovernable. Others are in a constant need of radical transformation, after neither the original plans nor repeated efforts towards urban repair over the last decades were successful in curbing physical and social decay. And also in Central and Eastern Europe, parts of this former 'privilege of the working class' are increasingly turning into a precarious part of the housing stock.

The central argument of this article is that not only a lack of means or political and professional good-will can be made responsible for the failures in improving the large estates. A partial neglect of available knowledge, and especially an inappropriate management of knowledge are seen as important reasons for many obviously problematic decisions and practices.

In this article, different forms of knowledge management will be contrasted to the development practice in the estates as reflected in some of the RESTATE cases. The difficulties of adapting the different paradigms of knowledge management to the development of the large estates will be debated and elements of a communicative model of knowledge management as a reflexive methodology to support the sustainable development and change of the estates will be presented.

## **1 Knowledge and the large housing estates**

Different forms of mismanaging knowledge have become obvious over the years. Early on, technological and engineering knowledge was obviously neglected during the planning and building period although it existed. The proof is in the grave deficiencies which often emerged hardly a decade after the inhabitants had moved in (Gibbins, 1988, p. 22). Secondly, very often codified scientific knowledge about the social and economic use of space seems to have been left out of attention in planning, during the periods of everyday management, and during the turning-door type repetitions of rehabilitation of the estates. Thirdly, the more tacit knowledge of the residents and other members of the local society, who are often the holders of decisive experience and wisdom about the estates' affairs, has often only reluctantly been utilised for the running and improvement of the estates as a sustainable habitat. The evidence from current evaluations of many of the integrated policies for neglected urban areas in Europe is that the mismanagement of knowledge is still a key factor in the implementation of these policies (Difu, 2003; NRU, 2003). Despite the common jargon of integration and collaboration to '*ensure that policies and decisions build on existing knowledge and are evidence based*' (NRU, 2003), often the barriers between the different holders of professional planning, administrative and political knowledge on the one hand, and of the everyday knowledge of residents, shopkeepers, wardens etc. to share their knowledge remain high. Thus, the potential benefit of shared knowledge for the planning process

(Healey, 1997, p. 160) and for running the estates cannot be harvested. And finally, a historic opportunity was missed when after the fall of the iron curtain, the transfer of all types of knowledge from the developed towards the emerging new market economies was only very limited in extent and in success, and strongly dominated by political considerations on both sides.

Certainly, the reasons for the observed neglect of knowledge, which might have been a permanent asset in the steering of development, are not only to be found in deficient forms of knowledge management. Partly, questions of economic and political power overruled knowledge-utilisation. Partly knowledge was suppressed as irrelevant - in the East as well as in the West - as long as supposed certainties of an often ideological character could be kept up in the housing sector. Especially in the Eastern countries, the neglect of knowledge was striking. Despite Western experience with technologic faults and residents rejecting the urban form and architecture during the late 1970s, all former Eastern block countries continued building these estates right to the implosion of the economic system at the end of the century. Especially the staunchly held assumption of a sustainable special relation of the socialist personality towards the panel block, could have been easily brought down to its rational core, had Western knowledge of the 1970s and 1980s not been deliberately blocked (Kipta, 1998).<sup>1</sup> However, things might be changing with the transformation of the housing systems in Western as well as Eastern and Central Europe from bureaucratic regulation to more market and customer orientation. With the partial change from a demand driven housing economy to a situation of oversupply and competition, the utilisation of knowledge and knowledge management might become an important element in securing the sustainability of housing in general, not least in the large housing estates.

## **2 Knowledge types and their place in the rehabilitation of large housing estates**

For the following a broad definition of knowledge is important in order to describe better management. The focus is on the difference between data, information, knowledge and learning (Matthiesen, 2004).

Whereas data are representatives of conditions and differences without a specific value attributed to them, information combines data with criteria of relevance. Bateson (1992) describes information as a statement on '*a difference, which makes a difference*'. In consequence, without a system of references, there is no information, and different actors with different systems of reference can easily conclude quite different information from the same data. Knowledge, however, relates information in a selective

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<sup>1</sup> At the East German Building Academy, the results of a report on Eastern housing estates being unsustainable technically and of constantly decreasing support amongst the population since the 1970s was politically suppressed knowledge (Interview F. Staufenbiel).

process of cognition to context; it tries to externalise irrelevant information, and is combined with a process of sense-making and reflection. Knowledge *'implies comparisons, consequences, linking and dialogic practice, has to do with experience, judgement, intuition and values'* (Matthiesen, 2004). Insofar, knowledge describes the result of learning and thus is *'a thing'* and *'a flow'* (Snowden, 2002). Stating the importance of context, Snowden argues that three important features of knowledge are that *'we only know what we know when we need it'*, that *'we can always know more than we can tell'*,<sup>2</sup> and *'that knowledge can only be volunteered, not conscripted'* as barriers known and unknown may prevent the utilisation of knowledge in a certain context.

The above mentioned problems in the utilisation and management of knowledge with respect to the large housing estates show how important respecting the differences between data, information and knowledge is. Especially in those parts of the RESTATE national reports, dealing with the recent history of policies and actions for the improvement of the large estates, the lack of proof of the contextualisation of data and the differences in the systems of reference between the actors are stated (Chignier-Riboulon, 2003, p. 22; Mezzeti, 2003, p. 22; Aalbers, 2003, p. 22, to name but a few of the RESTATE studies).

But in addition, the development of the large housing estates as well as theoretical approaches at collaborative planning (Healey 1997) show that different forms of knowledge should be taken into account, as they are represented in the estates. Relating only to the concept of an abstract type of knowledge when describing the estates' state, planning and the management of actions would deny that knowledge is deeply rooted in the everyday lives of their populations, of individuals, groups and that the use of knowledge is interest related.

A differentiation between different forms of knowledge, and the links between these needs to be taken account of, in order to reach a concept for the utilisation of knowledge in socio-spatial development (Willke, 2002, p. 17). Matthiesen (2004) states that the commonplace dual schemes of explicit/implicit knowledge, codified/un-codified knowledge and institutionalised/personalised knowledge *'are helpful, but not sufficient'*. To get to a working understanding of knowledge in spatial research, he suggests structuring the knowledge landscape along the following interrelated and partly overlapping fields.

*Everyday-knowledge* of common-sense relevance for action in an everyday environment was often neglected as irrelevant in the professional realm of estate management, until its value became apparent - though often contradicted - in the debates over resident participation. All actors on the housing estates have their specific everyday knowledge, framing their actions. Irrespective of different roles, it is context related and individual-

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<sup>2</sup> Followed by the interesting statement that *'we will always tell more than we write'*; a message drawn from his experience as a major practitioner and theoretician in knowledge development and management at IBM.

ised, and shapes opinions about the reality. Thus, everyday-knowledge is by no means a simple form of knowledge. It is easily argued that local housewives with children may have a different form of understanding of how the estate ticks than a plumber or a manager, who either only live or live and work on the estate. Age, gender and ethnicity are factors of shaping individual everyday-knowledge as well as specific overflows from other types of knowledge. To make things more complex, everyday-knowledge is increasingly becoming hybrid and influenced by professional and expert knowledge (Matthiesen, 2004) with the growing intrusion of scientific and technological codes into everyday life.

*Expert and professional knowledge* describes the scientific and codified knowledge about technology, the institutional (and legal) structures, and what lies behind it. It mostly derives from a disciplinary background and is often oriented at the refinement of professional practices and the generation of new expert knowledge. This realm of the professionals, planners, administrators and politicians, the place-makers in a narrower sense of the word, is often bound to exclusive milieus, some of them overlapping as in the architectural and financial implementation of improvements. But also often strictly hermetical (as often in the case of financial management of the estates or those in management developing strategies of renting to certain customer groups). Expert and institutional knowledge often relate directly to leadership knowledge.

*Milieu-knowledge* describes the social conception of 'how things are going' within social networks and milieus. Large housing estates, easily understood as 'networks within networks' (Mega, 1999) constitute different milieus, ranging from the different resident groups (ethnic, gender, age, social status, institutional embedding and forms incorporating a mix of these factors) to the estate management and the administrative and the political realm. These are usually interrelated and milieu-relations partly outreach the estates, though with a different reach for different individuals and social groups. Especially in the very large estates, the range differs widely between 'locked-in' milieus of an often ethnic character and many of the professionals, whose milieus easily allow a more distanced and reflexive look at the estates.

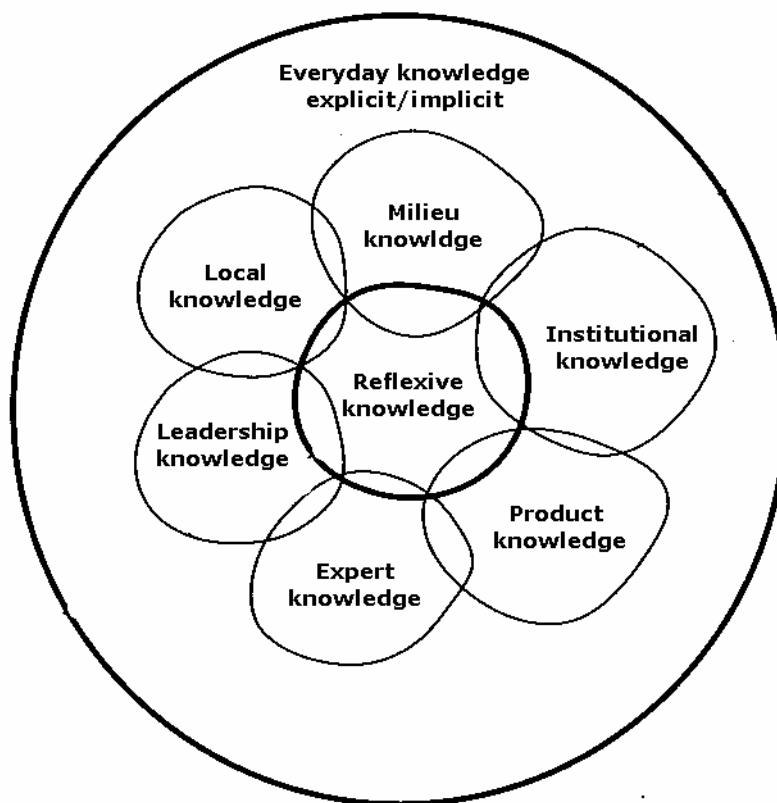
*Local knowledge* combining different forms of knowledge, is based in and enhances the perception of local potentials and deficits. On the estates, the concept of local knowledge (Knorr-Siedow and Gandelsonas, 2004) combines many different forms to the knowledge, which is only available under the specific circumstances of a specific locality. As sectoral knowledge of the different milieus needs to be communicated into a joint space (Snowden, 2002, p. 6), it is not simply the addition of all other forms of knowledge, but restricted to what is volunteered or what can be made available in social practice. Thus, the local knowledge of socio-spatial entities, and amongst them large estates, differs for different milieus and actors, but can be enhanced and activated by appropriate forms of management.

*Institutional knowledge* is the knowledge about the functional logics of technology and processes within organisations and institutional arrangements. Related to the large housing estates, institutional knowledge is highly unevenly distributed between the different actor-milieus. Whereas

professional milieus often have considerable institutional knowledge and the capacity to use it, especially culturally marginalised milieus, some of the aged and also children usually are bearers of important parts of local knowledge, but have little institutional knowledge. Thus certain groups are highly dependent on socially inclusive forms of knowledge management, in order to develop their systems of relevance, and becoming heard.

*Reflective knowledge*, finally, is related to the interdependence between the types of knowledge named above and context, and includes the capacity for critically understanding relations. Reflexive knowledge on an estate level is dependent on an inclusive form of knowledge processing in cognitive processes, as they are produced over time in forums, by allowing and activating participation and by collaboration.

Figure 1 - Landscape of knowledge



Source: adapted from Matthiesen, 2004

Within the RESTATE research, the utilisation of different forms of knowledge was explicitly addressed. Comparing with the graph above, it however becomes clear that mostly the regions of expert and, to a certain extent, milieu knowledge of the map were analysed.

Knowledge and the empowerment of women (Holland) and enhancing (local) health knowledge was seen as an element of improving specific life-situations and of making special culturally coded abilities available (milieu-

knowledge), as in Germany, France and Sweden with enhancing the language competence of immigrants.

Local knowledge was addressed in the Dutch and German cases, when residents were seen as providers of specific knowledge for improved development/action planning and for the understanding of regional processes with an influence on the locale as in Hungary and Poland. Training the unemployed and especially migrants (Sweden, Spain) falls within the same realm of improving inclusion into the neighbourhood through the introduction of specific knowledge for the non specific goal of allowing for more individual and neighbourhood identity (United Kingdom).

More often than specifically addressing knowledge as a decisive factor to enhance sustainable estate development, the lack of specialist knowledge was stated (United Kingdom, the Netherlands, Germany). Building new knowledge for condominium management (Hungary) was seen as a major factor for a resident-oriented development within the estates. And a lack of knowledge in the allocation of residents and institutions (Italy) was understood as leading to counterproductive consequences of well intended policies..

Within the fields of planning and policy, the management of specialist knowledge was seen as a prior demand: introducing elements of the knowledge society into peripheral estates (Sweden) and enabling local populations for policy related action (Spain) was seen as a precondition for a more socially included development leading to better individual and group opportunities.

Despite an undertone in many of the reports that the lack of knowledge may be problematic and that the means of carrying and combining different forms of knowledge for a more secure success of rehabilitation processes are insufficient, there is hardly any explicit mention of a need for an improvement in enhancing the area of reflexive knowledge, which was placed as centrally important on the above map of knowledge. However, the United Kingdom report states the importance of knowledge of and understanding for the social, economic and cultural relations within space. But even though many of the reported actions are based on the concept of collaborative planning, which is based on the idea of sharing and organising knowledge, the need for special forms of managing knowledge, in order to find sustainable solutions was hardly stressed except for France and Spain, where the need for an inherent knowledge base was stated.

### **3 The theory and practice of knowledge management**

Knowledge management has quasi invaded the economic world since the late 1980s (Grünberg and Hermann, 2003). It has become obvious that casual and random combination of existing knowledge did not sufficiently lead to robust and realistic estimations of given situations and per se does not lead to the production of satisfactory and sustainable innovations. Organised forms of a strategic management of knowledge were hoped to improve this, leading to a targeted exploitation and recombination of existing knowledge in order to further the emergence of new usable knowledge, which has a social and economic relevance (Katenkamp and Peter, 2003).



In the first place, knowledge management was introduced in an effort to boost the generation of new knowledge, often in attempts to enhance the competitiveness of single companies as it became clear that in a situation of acceleration of knowledge production and decreasing time spans between knowledge production and knowledge utilisation, new efforts needed to be made, to work with the '*gold between the ears*' as an increasingly important means of production. The intentions linked to the introduction of knowledge management ranged from company's wanting to internally share the full scale of their knowledge to newly organising knowledge, unearthing unused and only seemingly unusable knowledge from the company's memories, to starting self-reflecting processes of re-defining the company's strategic position, often in situations of a crisis of perspective.

The theories of knowledge management are mostly based in the social sciences, ranging from psychology to the sociology of knowledge and are often under a stark influence of the managerial sciences (Peter, 2003), which again are closely related to economics. In contrast, the practice of knowledge management has developed into two strands, of which only one is related in the social theories of knowledge and interaction. On the one hand, an almost inflationary amount of it-technology based methods and tools has emerged or is being labelled as knowledge management. In the extreme, even simple databases or intranet systems on a company level, based on a rational filing system are proclaimed knowledge management. On the other hand, complex communicative methodologies exist, which are based on the social sciences.

For the housing sector and the almost unavoidably collaborative urban development strategies which are the background to sustainable change of large housing estates, the technology tools are of some interest. The availability of knowledge is vital to as rational as possible forms of strategic action. However, in urban management and development, the information and knowledge that is needed, is often much more complex than single issue research and development on a one-company level, and often blurred by influences from other realms. Thus the communication-based forms of knowledge management, relating to the more central fields on the landscape of knowledge, will be of even greater interest.

#### **4 Knowledge management as a methodology of optimal utilisation of knowledge and generating new knowledge**

Different models of knowledge management were debated in the recent literature. Roughly, four strategy types have emerged: '*Knowledge-management, knowledge networks, process oriented knowledge-flow concepts and hybrid models of a mix nature*' (Katenkamp and Peter, 2003, p. 24). Whereas e-knowledge oriented technology applications are usually based on making in-house information available in easily accessible and well organised data-banks for people working with knowledge, the other three strands are related to institutions (rules of actions) and forms of social organisation.

In urban and estate planning and management, the technology based forms of knowledge management are probably of minor importance for se-

curing context awareness and reflexivity. However, they help in making existing specialist and codified knowledge available. In the management of the large estates and more general in the social housing sector, especially rent-law data-banks and access to expert systems on technical and financial issues were found to be central for the housing companies on the managerial level. However, with the internet, to a large degree, formerly hermetic forms of expert knowledge, like legal case data-banks and information, which was hitherto quasi fixed to disciplines, has been opened to other ranks within the housing company hierarchy: desk-workers linked to an intra- or the internet can easily answer to complex problems of residents, which formerly lay only in the hands of the legal professions. Even across the organisations' boundaries, tenants also have access to these forms of information, which can be used in limiting knowledge restrictions for lay-people, thus enhancing residents rights as claimants.

But even though (in a German case), deliberately opening access to different forms of expert knowledge has changed the culture of the housing company, the more flow- and network oriented forms of knowledge management might be of a greater influence on generating new action oriented knowledge and capacity (Fichter et al., 2004) for the large estates.

Under an urban and estate perspective, knowledge-networks, which are often sub-divided into vision and competence oriented work, *communities of knowledge* and attempts to produce a new organisational *culture of knowledge* are of more relevance, as they are targeted at interdisciplinary and collaborative work, which was found as an almost common action paradigm within the RESTATE projects. They are about sharing personalised knowledge, enhancing the depth of milieu knowledge (probably by linking it to data-bases). Also knowledge flow oriented concepts, dedicated to improving the processing of knowledge are, although often during a first period focussed on the deconstruction of knowledge-use in institutions, finally of a type which changes organisations, often overriding traditional departmentalisation.

- *Knowledge networks* relate directly to the introduction of formal and informal processing of existing knowledge into securing a rationale between the available knowledge and sustainable action. *Story telling* amongst knowledge workers had become a prime source of securing the success of complex action (i.e. with Rank-Xerox; Katenkamp and Peter, 2003, p. 26), which often was above the competence of single actors and needed collaboration and linking knowledge and experience. They utilise communicative approaches to relate to and produce milieu-knowledge out of different forms of codified specialist knowledge in a mix with everyday-knowledge. Knowledge networks are dependent on an amount of specific infrastructure in the every-day work of those included. Team-work should be allowed bridging hierarchic and disciplinary boundaries, which however in many industries has become common practice. Also communicating about work experience rather than only collaborating in work should be understood to be a precondition for the development of reflexive networks. Usually, knowledge networks have a thematic core and are limited on specified tasks, as to prevent them from being too time consuming and petering out (Brödner et al., 1999).

- *Communities of knowledge (or practice)* are usually oriented at focal questions to be solved through the development of new knowledge. Originating in multinational companies, they are bringing actors together, either in person, virtually through e-communication or in mix-forms. Communities of knowledge, once installed are in principle (though often only partly) outside of the everyday working structures and develop their own codes of conduct by sharing knowledge outside of a controlled process. In managing large housing companies, strategic planning groups are often organised as communities of knowledge. Communities of knowledge exceeding the institutional boundaries of one actor and linking, i.e. housing companies, local authorities and other partners, are found much less often.
- *Culture of knowledge* and hybrid approaches often use elements of the above mentioned forms of knowledge management and spread them throughout the institutional framework of the actors. Their aim is to abstract from single targeted actions in order to change the attitude towards the use of knowledge, to question structural and institutional limitations to the utilisation of knowledge. Culture of knowledge oriented approaches are often found implicitly in the policies for urban problem areas, when, e.g. throughout Europe, public participation is requested, to secure the use of local knowledge (Mega, 1999).

Although knowledge management was mostly introduced to serve the demand for innovation in single companies, cases of project oriented knowledge management across company boundaries are also numerous, especially in advanced industries, which are highly dependent on relations to their suppliers (Howaldt et al., 2003). For an urban context of managing knowledge within complex actor networks, these approaches will be of most interest, as city and estate are paradigmatic fields of interrelated action.

By now, the almost inflationary hype over knowledge management of the 1990s within industry and technology oriented research has slightly calmed down and often has made way for pragmatic approaches. Especially the e-technology oriented approaches have on the one hand lead to a better and more open use of knowledge across the board, and thus have made the institutions more open. On the other, in industry and administration, many information graveyards were produced, which could not be made useful. This has led to a critical evaluation of the use of the technology oriented methods of knowledge management. Although effects polarising between the included bearers of knowledge and those left out are reported as negligible in contrast to the democratising and knowledge enhancing effects of better access to information and communication, Katenkamp stresses that context matters also in the introduction of knowledge management. A culture of the acceptance of faults (*Fehlerfreundlichkeit*), of a culture of work, which allows for the conversion of specific knowledge into experience and everyday knowledge (within the institution) also on an experimental basis seems vital for achieving the situations of productive knowledge development, which the protagonists envisaged (Brüssing and Herbst, 2003). The acceptance and development of certain roles also seems to be important. Knowledge managers and moderators of networks and communities are instrumental and help avoiding self-referential processes, which loosen their

links to the targets of the institutions, probably producing new ideas, but failing in meeting the aim of improving the problem solving capacity. Pardon (2003, p. 144) states that the communicative performance is the core to success, and that often the deficits lie in institutional structures which are unfriendly towards communication. Especially the institutional competence, which is often missing in traditional administrations and bureaucratic environments are hindering the success of knowledge management.

## **5 Knowledge, housing and estate development**

In one respect, introducing knowledge management into the development of large housing estates differs from most other experience in industrial or administrative practice. Whereas it was usually oriented at the internal use of knowledge in one key acting institution, the sustainable development of large housing estates incorporates (at least) three often contrasting fields of action, which are in themselves carried by a multitude of actors and interests: urban development in a broader socio-spatial sense, housing and social policy.

Urban and neighbourhood development, although highly economically influenced, are on the neighbourhood and estate level generally a highly politicised field, ploughed by diverse groups of professionals and the public. Shared knowledge as well as the inclusion of the residents into planning has been a - though constantly contested - field of action since the 1970s. In contrast housing has not been a traditional focus of knowledge driven innovation from outside the professional and expert realm, although the scope differs widely in Europe. Whereas in Central and Eastern Europe, the market actors in this former state sector are just emerging and professionalising, French and German companies usually have long traditions of moving between the poles of public interest (social and spatial politics) and, increasingly, the market (Donner, 2000; Hall, 2003). On the other hand, housing and asset management have been only very reluctantly accepted as a topic of scientific training in most continental countries, whereas it has been of focal interest in the United Kingdom.

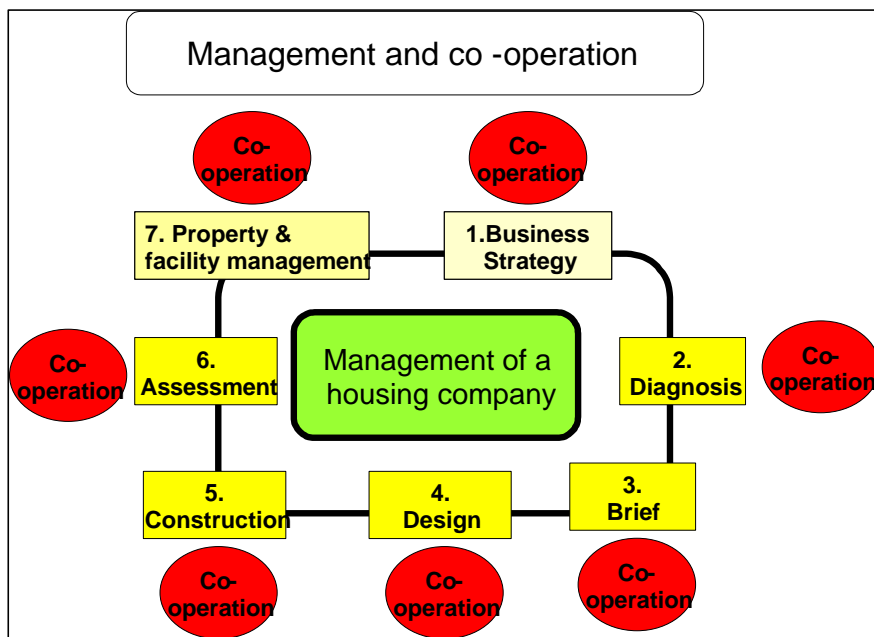
For a long time, many actions of the housing industry and urban administrations were routine-driven, and in some cases, like in the German 1980s (and later) rehabilitation programme for the large housing estates, government evaluators stated that mostly public funds allocated to integrative socio-spatial projects were used by the housing actors within traditional routines, rarely referring to other than specialist knowledge. As late as during the 1990s, including the everyday and local knowledge of residents, and other actors from business and civil society, was judged as being out of the imagination of many German housing managers (BMVBW, 1998). Only recently, modern management methods infiltrated this sector, as especially the publicly owned sector responsible for social housing, lost its care-free package of subsidies and at the same time a constant undersupply of quality homes at an affordable price.

Thus, it is not astonishing that an explicit in-house management of knowledge only appeared in the German public housing sector, when and where competition came about, and when vacancies started to hurt since the mid-1990s. Only when knowledge about what happened in the company

and with its assets became vital, another layer of specialist knowledge, a perspective on the socio-economically and culturally embedded long term development of the value of real-estate (long term facility management, ISO certification of companies) was introduced into a market, where the suppliers before were taking refinancing through public loans for granted. Generally, the introduction of IT technologies led to a wider accessibility of knowledge in the companies, and to more openness towards the tenants as bearers of important information and knowledge.

Above the level of direct customer relations (contracts, repairs), the managers of large housing estates opted in the residents' every-day knowledge by adopting *resident-councils* and other forms of participation, often though in direct consequence of public debates over disturbing urban problems. Different forms of exploiting other than the companies' expert knowledge were chosen, from *theme-centred public debates* of what the public thought about projects for rehabilitation, to generally asking residents and other specialists to supply their knowledge in *permanent tenant-councils*, forums, steering group models, community planning and other methods.

Figure 2 - Knowledge demand in a rehabilitation process



Source: Sureuro, 2004

The graph, describing the decision-making process of a typical technical rehabilitation process in large housing estates (from research project on sustainable rehabilitation; SUREURO 2004), shows the different demands for cooperation. Each cooperative step includes the demand for a mix of expert and everyday knowledge from different actors, companies, policy makers, and not least, the residents. The development of the economy and of employment, of cultural diversity and culturally as well as economically coded choice often become more important for the sustainability of investments than the internal process of the management of expert knowledge for the rehabilitation process as such.

The major difference between the knowledge-management on a company level and on an estate level lies within the territorial and actor network aspect of estates constituting networks within networks. Thus ways need to be found to include different actors' knowledge across organisational boundaries, at the same time respecting that they are often competitors and have different vested interests in the running of the estates. The aim must be to find a common space of overlapping interests and matching it pro-actively with methods respecting conflicting interests. At the same time, self-referential processes of data collection and processing should be avoided, which can lead to processes of planning and participation becoming a factor inhibiting action - sometimes through an information overflow, which is not boiled down to manageable and usable knowledge.

Knowledge management with regard to housing estates had a quite different history in the socialist countries. As here all aspects of the construction process were strictly controlled by state institutions (see e.g. Hegedüs and Tosics, 1992, 1996) the rules and possibilities of any type of knowledge management were regulated. Whereas technical-types of knowledge (e.g. product or some versions of expert knowledge) were in demand, even though often in a very parochial and narrow sense, in the centralised housing research institutes, reflexive and open forms of knowledge of a social or political relevance was usually left unattended as ingenuously overstretching the bureaucratic system.

In the socialist countries the control over knowledge through subsidies was very common. This can easily be illustrated in the way how housing estates were built before the 1980s. State subsidies were present in each phase of construction, influencing the behaviour of each actor. Monopolised state owned enterprises could sell their products, the flats built with prefabricated technology, on a price well below the construction costs, due to the supply-side subsidies. Families assigned as buyers could pay for this low price (or rent) with further (demand-side) subsidies. No wonder that in this process neither the seller nor the buyer were interested in the improvement of the product or in the expression of critics.

The effect of subsidy withdrawal on knowledge use was already to be seen before the change of the political system. In the early 1980s the Hungarian state - due to economic difficulties - withdraw almost all specified subsidies from prefabricated housing. Very soon, within a few months, housing factories started to produce prefabricated buildings with pitched roofs, with corner sections, with ground-floor units for shops - innovations just unthinkable some years earlier. The reason for that was the emergence of competition based on knowing what customers wanted: families not getting any more the extra subsidies when buying prefabricated dwellings started to consider other options, such as private construction of single-family or small multi-family houses.

One of the most substantial misuse of knowledge came with the political changes. At the very beginning of the 1990s the new market economies were again dominated by ideologies - this time about the advantages of the free market. Political considerations dominated again, pushing for give-away (low price) housing privatisation, despite expert warnings on the potential disastrous social consequences, based on the well-known examples of the Thatcher era (Tosics, 2001).

In the 1990s, under the new conditions, the fragmented and privatised post-socialist societies were forced to improve their knowledge management. Besides some limited results in central policy-making, most positive developments happened on the lowest level: in condominiums, in private enterprises and in local governments. On condominium level it became of prime interest to use expert knowledge and coordinate the different ideas of the residents. Even so, there were very limited examples of well functioning condominiums, mostly as a result of enthusiastic residents as knowledge (and condominium-) managers. The private building industry was forced by the critical buyers and also by the hesitant-to-lend banks to improve their economic and marketing skills. Local governments became very independent to develop their own ideas, even so, only a small number of them managed to improve their knowledge management systems and introduce complex innovative processes. As an example, among the 23 districts of Budapest only one was able to carry out complex area rehabilitation, and even in this case one of the keys to success was the implementation of the French know-how on non-profit area development companies.

## **6 A knowledge milieu and capacity oriented approach at knowledge management**

Starting from the notion that knowledge is best developed, processed and reflexively adapted in a milieu context (Matthiesen, 2004), a milieu-oriented approach to knowledge management for the sustainability of large housing estates is proposed. By knowledge milieu a special socio-spatial relation of the actors is meant, which allows communication above the level of disciplines and organisations and is based in a common culture and the acceptance of a certain set of joint topics (Matthiesen, 2004). Stickiness (Markusen, 2002) of the environment for communication is a main element, making knowledge-milieu productive as an open and interesting environment for life and work. On the one hand, the joint understanding within milieu 'tempts' the actors to get and stay involved, and on the other, it opens the institutional scope for the inclusion of the different types of knowledge; especially in its more tacit forms. Thus, knowledge milieu can become a space for the development of new capacity to act in a socially embedded manner, based on reflexive knowledge. However, milieu, which at their best can be engines of development, can also develop sclerotic forms of communication. Hermetically shutting themselves off from the outside environment, they might then be seemingly productive within their own circle, but lack the context orientation which is vital for a sustainable estate development. Keeping the milieu based assets of possible knowledge generation and inbreeding in a balance in favour of a target orientation, will be the main task of the management of the process.

As knowledge management as such has hardly become an explicit type of action in the housing environment, forms of action found within the project's case studies will be analysed for their openness towards an implicit use of knowledge.

*Between planning and project:* The 1980s and 1990s turn from the orientation on planning concepts for estate development to more targeted

projects that are achievable in a given time and with set means, may be understood as a reaction to the difficulties of managing comprehensive plans and boil them down to action bites, which are not overloaded by necessary relations to context. As the RESTATE experiences of estate rehabilitation shows in many of the case studies, a project orientation makes it easier to include the knowledge needed for the projects short-term 'technical' success, but it can lead to a neglect of context knowledge, which is necessary for the long term sustainability of in a given context. Probably the Eastern German experience of rehabilitating the Eastern large housing estates is an appropriate example: whereas on a project level, excellence was achieved through the inclusion of expert technical knowledge, the demographic and economic context was left aside, and presently tens of thousands of the 1.3 million empty flats in the east are in freshly rehabilitated panel estates. Keeping the balance between avoiding information overload and neglect of knowledge through an appropriate management could have saved billions of Euros.

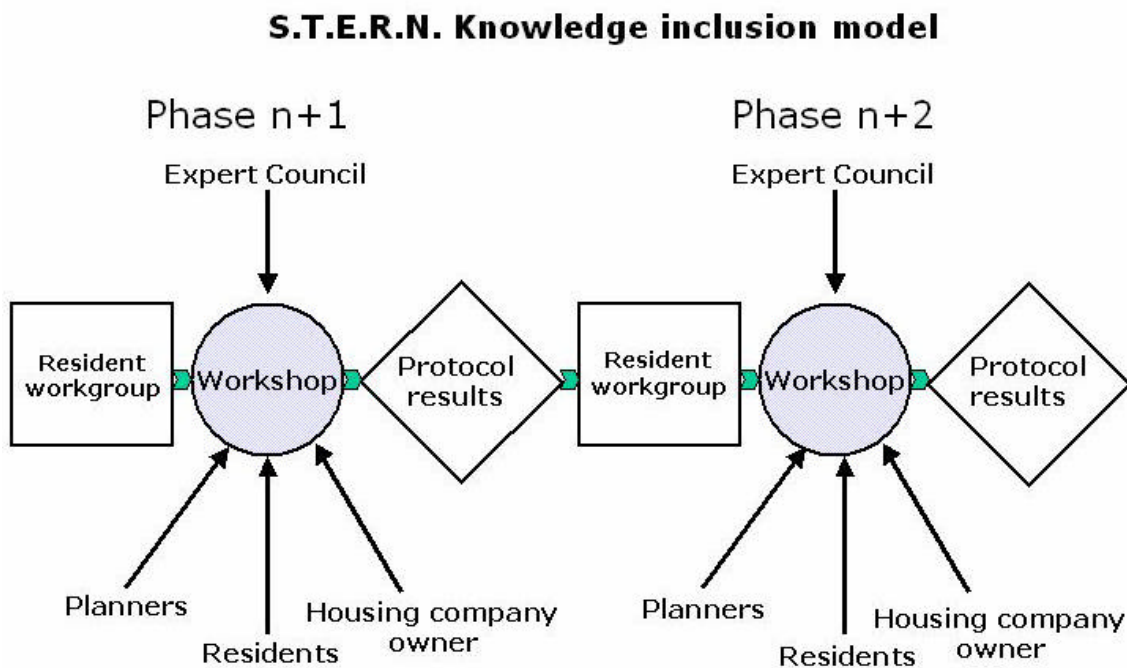
*Targeted planning and action group*: thematically oriented groups have become almost everyday practice in the development of large housing estates looked at in the RESTATE project. They usually include actors from different realms, uniting technical, economic and housing specialist knowledge. As the problems have been generally understood to be of a dynamic and non linear type collaboration from different parties over a longer time and relating to the changes in the estate and in its environment are in demand. Thus, the context of the project usually comes more into the open, as different professional views can enrich each other, and knowledge gaps between actors become a topic. A group leadership or a collaborative work-form, which does not externalise context questions ('... we extra have specialists for that ...'), and still manages the group according to target, has proved to be a pre-condition for a knowledge-oriented work-form in teams. Building trust and allowing an open communication utilising the strength of weak ties rather than relating to hierarchic strong-tie relations (Granovetter, 1999) seems to unleash new visions. However, the usual exclusion of residents from work- and action teams with an outwardly technical topic, often still leaves the end-user perspective out of attention, which finally will judge over the sustainability of the project. Often iterative workshops are used as an element of stabilising the development of knowledge across actor boundaries. This apparent need for a professional management of groups – knowledge networks, communities of knowledge or other forms – shows that even in this field expert knowledge is in demand, however rather on a serving than on a dictating level.

*Community action planning, planning cells* (Dienel, 2002) and *planning for real* (Neighborhood Initiatives Foundation, 1995) exercises have been introduced as means of opening professional planning to the everyday knowledge of residents with some success. Being part of conceptual planning processes for longer term physical and social development, they are a special form of providing a space for a social process of joint cognition, professionally translated into concepts and plans. Often an initial stage for more prolonged forms of sharing knowledge between experts and lay people, the major problem with these short-term flash-lights of knowledge pro-



duction is keeping the momentum going, after the *show* is ove, which needs a carrying environment.

Figure 3 - Iterative workshop in Marzahn/Hellersdorf estate management



Source: S.T.E.R.N., 2003, p. 14

*Forum*: inviting the public to a civic discourse allows the planning actors from the political and professional realm to open a space for debates, an easy form of finding out trends and permanent back-reporting from the everyday-life of the estates. They can take the form of very informal, though thematic regular meetings in a public place, or they can be highly structured with a regular plenary and work-groups, connected to planning and running the estate's affairs. The advantage is that different forms of knowledge can be activated, as in a given time structure, newly appearing problems can be introduced to the debates. In contrast to the before-mentions methods, which have a background in professional planning practice, forums need a higher degree of content- and process-management, including knowledge management: special roles need to be defined, in order to find relevant topics that arouse the non-professionals interest and initiate their knowledge to be brought into the open.

Forums need a reflexive form of planning themselves and a well balanced interaction between experts, civic groups and the rehabilitation process. Often they have become cores for participation and at the same time of the utilisation of different forms of knowledge for sustainable development. An example for a comprehensive form of a knowledge oriented forum is the Platform Marzahn in Berlin. Over more than a decade, it has proved to be a

focal point for professional debates and at the same time a link to the residents' more tacit knowledge. Due to a repetitive exchange of knowledge in an inner professional circle and a wider debate with residents, a new culture of communication could develop. It provided the experts with unexpected informations from an unknown realm and enabled the residents to follow and/or criticise actions on the basis of a new vicinity to expert knowledge, which would be closed for them without this 'agora'.

*Integrated policies, programmes and projects:* they are a response to the difficulty to match reductionist disciplinary action with the complexity of the urban problems, faced by the estates. In all European Union countries, elements of integrated measures are to be found, that allow action to be focussed on problems by combining social, economic, and cultural action with spatial change. However, a high degree of process and knowledge management seems to be vital for producing an optimal link between the different actors and their actions. Codified professional knowledge as well as tacit knowledge must be activated - and then starts being an activating item itself - to surpass sectorised routines, hermetical professional cultures and often plain fear of losing competence as others look across the professional fences. Besides managing different forms of knowledge - i.e. engineering and social work logics - an insight into the interdependencies between different actors and actions needs to be established in order to avoid block-ages.

In addition to the above mentioned needs of knowledge management, a special emphasis must be given to the vertical knowledge flow between the policy actors, programme-makers and the actors on a project level.

*Single rehabilitation budget or neighbourhood budgeting* (Bürger-budget) are oncoming debates in many European countries formulating an answer to the withdrawal of the state from direct policy intervention and an attempt to enable local actors by quasi turning the old logic of a top-down budgeting around to a bottom up steering of local affairs, based on local needs. Within certain limits, which are different due to political traditions and the structure of development problems, the locale needs more than outside visions on problems that are allowed to drive development and to allocate the appropriate means. Examples from both developing countries (Brazilian Porto Alegre and others) and Europe, such as the community centred British neighbourhood development, the French urban policy and the German social city programme seem to prove that single budget strategies at the same time provide accountable solutions to problems, activate citizens to take responsibility for their affairs and save money, as less by-work for action needs to be tackled.

Single budget models being dependent on the establishment of a space of communication and knowledge exchange between all relevant actors, are only viable within a concept of a strong local civil society and local democracy and need the respective change in the culture of action.

Central to the Establishment of a knowledge driven development is a joint institutional capacity (Fichter et al., 2004) within and between the actors concerned with the sustainable improvement of the large estates. As a lack of awareness for the importance of joint knowledge was as well stated as institutional inhibitions, this implies also the need for institutional change

and the introduction of special actors as change agents. As knowledge management is highly dependent on personal action, a new task within the housing industry is emerging. But also special tasks outside of the company realm are coming up with new professions like knowledge-brokers.

Then, an independent actor/contractor can work with a slight distance to the process, which probably allows an easier inclusion of other than the routinely involved actors, as the process-involvement is on a professional basis, rather than on loyalty towards one actor, be it the housing company or the urban administration. Through these informing and enabling persons, often from the local civil society, the personal and institutional elements of knowledge management - balancing the needed openness and targeting of action - can be facilitated. They can also establish the links to the technology driven parts of the exercise, access to data banks and other forms of codified knowledge. This task within planning processes, at present often taken on by professional planners, will probably change the planning professions as much as company management and social intervention into spatial issues has changed urban management over the last decades.

## **7 Conclusions**

Towards the end of the introduction, the question was raised, whether knowledge management could develop into a 'tool' for the development of large housing estates. It has been found that getting knowledge into a balance between collecting information, processing and evaluating in order to make it usable in a promising manner, cannot be achieved by applying a single tool. However, knowledge management should be understood as a process leading towards a culture of openness for information, which constantly needs to be reflected with respect to aims and means. Only, if it is integrated into the actor network structures of the development and management of the estates as a reflexive structural element of running the estate, a process of constantly gathering information, developing it into knowledge based action, and checking the outcome of actions in order to fine-tune next steps, can be transformed into the generation of new knowledge. In order to utilise the needed relevant information, knowledge management should be context related and thus look across the boundaries of the estates, and it needs to be actor inclusive in order not to miss important pieces. All this leads to the conclusion that utilising knowledge in an estate context has democratisation on the local level and enabling actors to participate as a precondition to the sustainability of the large housing estates.

Knowledge management is a relatively new phenomenon, not evenly discussed in the planning and housing literature. The practical application of the results achieved so far within this approach is especially important in the Central-East European cities, where it is not only less known - due to language barriers - but also the conditions are worse for its application. Important actors of the knowledge management process are either weak (as the civil organisations) or not really made interested yet (politicians or the housing managers).

Knowledge management in these countries would not only be important regarding the substantive issues, e.g. the improvement of large housing estates, but also because of partly replacing - at the beginning at least - the public actors pro-active in the urban development field, which are largely missing at the moment.

For all these reasons it is of prime importance to help to improve the knowledge management skills in these societies, not only for enabling the badly needed knowledge transfer, but also for the improvement of the institutional structures and policy making. Besides bilateral technical assistance programmes, also the European Union could play an important role here, with the introduction of the 'Open Method of Coordination', after social policy, also for the urban development field.

Finally, whereas knowledge management can become an important asset to the sustainable rehabilitation of large housing estates, it remains targeted at solving information problems that could jeopardise sustainability. Thus, it eases the way into collaborative forms of development action, and opens the scope for more democratic forms of action through putting the actors on a more equal level of information and enhancing capacity. Also, especially in urban and estate development, a conscious form of introducing knowledge management can be interpreted as a sign of this sector finally entering the knowledge-society. But, as knowledge cannot be conscripted, finally the power balance and the cultural frame encouraging or discouraging the utilisation of knowledge remains decisive for the opportunities opened by it.

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