Theme 2 Land use

System innovation urban and regional land use and area development (SRG)

Habiforum

Expertisenetwerk
Meervoudig
Ruimtegebruik

Theme 2 Land use

System innovation urban and regional land use and area development (SRG)

Habiforum
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Groen
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Wegen
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1.1 Background

In March 2002, the Cabinet decided which main policy issues would in the next few years be eligible for implementation in the knowledge and technology development programme. System Innovation in Land Use was one of those 21 main policy issues.

The immediate cause underlying the decision by Habiforum and InnovatieNetwerk Groene Ruimte en Agrocluster, to submit a programme proposal is the conclusion that there is evidence of a societal issue concerning spatial planning. The belief prevails that the shortcomings of the present manner of planning and design are so great an innovation of the system of spatial planning and design is necessary. Only by a different, innovative approach can the other demands imposed on spatial planning and design be met.

These other demands are:

- *the need for demand management, for example demand by citizens and companies;*
- *the capacity to cope with conflicts of interest*
- *the capacity to deliver spatial quality;*
- *an effective plan formation and implementation;*
- *an integrated approach to town and countryside.*

The belief prevails that the demands listed can no longer be met in the traditional manner in which spatial issues in our country are dealt with, namely through planning by licence. Another approach is needed, oriented to development and realization, referred to in the last few years by the term development planning.

In 1999 Habiforum started with a programme oriented to multiple and intensive land use in which a start was made to meet these demands. That takes place through the development of knowledge. This knowledge is brought about by means of pilot projects and a scientific research programme. A beginning has also been made with the conversion of knowledge into competencies: the combination of knowledge, skills, and attitude. Eventually, those who are responsible for the design and planning of space and making investments in it, must acquire the capacity to do so in practice. To this end there is a practical programme: it must improve practice!

What results has Habiforum achieved in the first period? They include:

- *concept development, by a practical programme with experimental pilot projects / Communities of Practice / Standing Committees;*
- *creation of awareness, by the publication of best practices, starting up discussions;*
- *building knowledge, by a scientific research programme, education and training, linking theory-practice, activities abroad (symposia, comparative studies).*

The conclusion drawn from experiences to date is that multiple and intensive land use is possible: there are several successful examples, and interest from practice, science, and policy is increasing. But we are standing now only at the beginning. Everyone is looking for new ways of dealing with the practical problems that confront us. That societal learning process has only just begun.

The search into how the relationship between science, policy, and practice should be structured is continuous. The relationship between these domains is undergoing change, as shown by the WRR (Scientific Council for Government Policy) for example in the report Ruimtelijke Ontwikkelingspolitiek [Spatial Development Policy]. The changing relationship between science, policy, and society plays tricks on spatial planning. The procedure for converting well-founded scientific conclusions into normative policy assumptions is no longer adequate. Increasingly, knowledge is also produced through other connections and coalitions, leading to competing claims. Companies, citizens, and other market parties become involved in the debate as if they are authorities, seeking to exert an influence on why and where building should take place, sometimes forming new coalitions to attain their own alternatives.

This situation suggests that the programme must also be oriented to the development of new procedures and new arrangements that facilitate knowledge production.

Autonomous and separate working and thinking within the three domains of science, practice, and policy can no longer be considered capable of resolving current questions. "Practice" still perceives scientific research as time-consuming and unrelated to the real questions; in addition, it is difficult to convert available knowledge into procedures. Policy is struggling with the question, how can a good, clear policy be converted into spatial invest-

ments; achievability is evidently determined not only by policy, but relies also on the participation of private and public parties. And when the content of plans is examined, bottlenecks are revealed, such as the failure to get an integrated approach to town-country projects off the ground. The experiences gained by InnovatieNetwerk Groene Ruimte en Agrocluster lead to comparable conclusions.

The SRG Programme proposal is submitted against a background of societal trends:

- *Social-cultural: demography, lifestyle, work-leisure: higher demands are imposed on the availability and accessibility of space. Divergent interests, often impossible to combine, are locked in a struggle for space; the participation of more and divergent interests often leads to lengthy and laborious planning procedures.*
- *Economic: internationalization, the service sector, ICT, the increasing mobility of goods: the pressure on the creation of (also in international respects) a competitive settlement environment, intelligent ways of dealing with land and land use, pushing back mobility, and the accommodation of mobility are the challenges.*
- *Politics: democratization, the role of the government, public-private partnerships: market parties, the demands of citizens and users for more influence and involvement in decisions on spatial investments.*
- *Spatial: pressure on land, changing town-country relations, spatial quality: there is more demand for spatial quality, and we also have to cope with changes in land use; the relationship between town and country is susceptible to change.*

The parties who submit the SRG programme proposal do so because they have experience with the subject and instruments, and have a network available to build on the mission of Habiforum and InnovatieNetwerk Groene Ruimte en Agrocluster to develop competencies based on pilot projects and on scientific research.

The ambition of the parties submitting the knowledge project proposal is to develop competencies that can bring about better, demand oriented spatial planning which can also be more quickly realized.

1.2 The SRG-knowledge project: problem statement

Spatial planning in the Netherlands is determined by three domains, namely: policy, practice, and science. The last few decades have made it clear that the autonomous working and thinking in the three domains is no longer capable of resolving current questions. The separation between the domains may be too rigid; and within the separate worlds of science, practice, and policy there seems to be segregation, narrow vision, and a lack of cohesion. At the same time, what the government puts forward in terms of plans and policy is no longer automatically accepted in practice. Companies, citizens, and other market parties want to have some influence on what should be built and where. These parties also want better quality and more influence on quality.

In short, innovation is needed. And that involves the transition from licensed planning towards development planning. But the question then remains: what is innovation? And in particular: how do you innovate?

The Comité of the Wise had something to say on this matter in their advice *De voortgang van de investeringsimpuls voor de Kennisinfrastructuur 1998. [The progress of the investment impulse for the Knowledge infrastructure 1998].* The vision of the Comité can be summed up as follows: while innovation certainly consists of various stages, such as research, product development, implementation, you cannot separate these activities from each other. There is a connection between the parts, and the parts have to be dealt with at the same time. The Comité therefore called for multidisciplinary research: different scientific disciplines combined together. Only then will there be any chance of system innovation. The Comité appealed further for cooperation between market and public institutes, the removal of the barriers between fundamental and applied research, and for the coordination and cooperation of ministerial departments.

Innovation does not come about simply by producing more knowledge. The main concern is the conversion of knowledge into procedures. It is good to remember that knowledge consists not only of objective and established facts. Knowledge also resides in people, in experiential, or tacit knowledge. People use this knowledge to solve problems in practice.

The programme proposal assumes both forms of knowledge. There is insufficient knowledge

on several content related issues, for example on the manner in which nodes come about, where housing, roads, green-blue structures, and amenities should be built, on the preferences of companies and residents to live and work in such nodes, or on the manner in which decisions are taken. It is important that people working in practical situations are able to use this knowledge in some way, or are capable of acquiring the competencies to do so. These may relate to the removal of obstacles, for example regulations that cannot be carried out, or technical preconditions that lead to unfeasible rises in costs. But they also refer to the capacity to work together and thereby to achieve a better result.

The problem statement of the SRG-knowledge project is as follows:

"How can knowledge gaps be bridged over and competencies promoted so as to bring about a transformation from licence planning to development planning, in which the conditions are created for the achievement of synergy in the design of urban networks and mainports, nodes and connections, regional area development and town-country transitions, the renewal of urban districts, the restructuring of business parks and the (re)development of strategic city projects.

What is at stake is the realization of spatial quality, multiple land use, and the elimination of barriers to enable current and future demand to be met."

It would appear from the problem statement that there is a clear choice for an approach from practice at the level where spatial planning takes place, namely the regional and local level. Where necessary -in particular in the research programme- attention will also be paid to related issues on a national and international scale.

More specifically, answers are sought to the following questions:

- *How can we generate sufficient fundamental scientific knowledge on multiple land use and related matters which can be used at local and regional level and is based on questions derived from practice?*
- *How can competencies be developed in an efficient manner to arrive at plan formation and realization, taking account of the various interests involved?*
- *How can scientific knowledge be made useful in practice and contribute to a better spatial quality?*
- *What questions arise in practice and how can these questions be fed into scientific research?*
- *How can the domains of science, policy, and practice arrive at effective spatial planning procedures and spatial investments through making use of the available fundamental and experiential knowledge and competencies?*

A programme of scientific research and pilot projects will be set up to address these questions. The pilot projects will give substance to the transition to development planning. The pilot projects need to be designed as working and learning environments in which the three domains participate as parties. They will participate with the explicit aim of giving substance to the project in a manner different from that to which they are accustomed. One of the means of achieving that is through making use of the results of the scientific research. Another means is the creation of an environment that promotes competency development.

1.3 Scientific research

To acquire the necessary knowledge concerning content, a scientific research programme will be carried out in the form of clusters of topics connected with the areas listed in the problem statement.

The clusters are:

cluster 1: synergy in urban networks, including the Deltametropolis
cluster 2: green-blue networks for man and nature in sustainable landscapes
cluster 3: multifunctional area development: co-production of policy, public private partnerships, and demand management
cluster 4: economic dynamic and location preferences of companies
cluster 5: housing market dynamic, housing (environment) preferences, portfolio policy, and sustainability
cluster 6: social and cultural dynamic of the city
cluster 7: regeneration of urban districts
cluster 8: strategic city projects and restructuring of business parks

For the implementation and the internal quality assurance a Scientific Steering group will be responsible, consisting of Prof. Hugo

Priemus (TUD), Prof. Geert Teisman (EUR), Prof. Piet Rietveld (VU), Prof. Ronald van Kempen (UU), Prof. Willem Salet (UvA), and Prof. Paul Opdam (WUR). Some foreign researchers, specifically from the Massachusets Institute of Technology (Cambridge Mass) and several European universities, will also participate in the programme . The external quality assurance will be organized by NWO.

The programme relates to recent policy documents from ministerial departments and the Cabinet, together with recommendations made by VROM-raad, SER, and WRR. The innovative character of the development approach is reflected in keywords such as: scope optimization, approach in the form of project envelopes, coproduction of policy, public-private participation, demand management, together with cooperation between scientific disciplines.

The scientific research programme builds on the scientific research from Habiforum-1 and is based on questions raised by market parties. On the basis of the testing of the research questions submitted on the problem statement presented, the scientific quality, innovation, and practical orientation, a selection will be made of the research proposals taken up in the programme proposal.

The research programme, for which some co-financing is already available, links up with several European research programmes, such as the themes incorporated in the 6th Framework Programme (Sustainable energy systems, transport, the environment and sustainable development, and Citizens and government and the knowledge society). Through this an accumulation of ceiling 65% of public support is indicated. Some projects will be conducted by an international consortium. For these projects a ceiling of 75% is adopted.

1.4 Practical programme

With the scientific programme as the first core, the pilot projects form the second core of the programme. These are practical situations where, with the help of the expertise of the proposal submitters and with the knowledge to be developed, attention will be given to the development of competency.

The results to be sought through the practical programme are:

- *the use of the knowledge which is available, and derived from the scientific research programme, and is a consequence of knowledge creation;*
- *the development of the knowledge which is lacking on the basis of demand management;*
- *the development of methodology in the area of content and process;*
- *the development of skills and competencies.*

The team responsible for the implementation of the practical programme will be led by Dr J.H.A. (Hans) Hillebrand and A.B. (Ab) van Luin.

The contribution to be made to the pilot projects from the programme will consist of:

- *ensuring that the project is defined and that it gets off the ground;*
- *ensuring that knowledge starts to flow;*
- *ensuring that the learning process gets underway and bears fruit.*

The demands that are imposed on the pilot projects are that they provide for a societal need; pilot projects will only be started if there is a clear project definition at the beginning and if there are parties who are willing to take it on. Experience has shown that a clear project definition, or process architecture, or a clearly organized commissioning agency is often lacking. Moreover, parties ought to share the ambition to arrive at an innovative approach. Otherwise, uncertainties will arise, or risks be brought in. The parties themselves should also invest in the project. The impulse from the knowledge programme is temporary and limited in scope. The responsibility for the end result remains with the parties in the pilot projects.

The method used to set up the learning process is that of the Community of Practice (CoP). The CoP is a work form in which public and private parties in the pilot projects become associated with the knowledge bearers from science and policy. The perspective is to set up a joint process bringing together a variety of knowledge and experience, which leads to the joint forging of new knowledge and experience. That will take place by means of joint workshops, creative exercises, and shared designs. CoPs will be set up at the level of the individual project, and also for several pilot projects together in order to develop generic knowledge and methodology. At the start, the pilot projects programme will only be partly concerned with concrete projects in order to be able to profit from new developments and new policy, and to acquire scientific insights. In the

course of the project, new pilot projects will be added in order to maximize the realization of the process of system innovation.

Knowledge creation and system innovation

With an eye on the objectives of the programme, it is important to know how the envisaged system innovation can be brought about. It is also important to obtain an insight of effective knowledge production processes and the conditions that promote their effectivity and quality. And it is also important to develop knowledge and competencies to design, facilitate, and manage knowledge production processes.

Supporting research projects will therefore be set up for both topics. To develop general knowledge in the area of system innovations, and to make use of this developed knowledge in the context of SRG, there will be participation in the NIDO/KSI proposal *Knowledge and Competencies for the transitions towards a Sustainable Society.*

A project is to be developed in the area of knowledge about knowledge production processes; it will be implemented by a consortium of (inter)national scientists.

Milestones

In 2004, research projects will be started up in each of the research clusters. Similarly, in 2004 the pilot projects and Communities of Practice will be started. In the first year the relationships between pilot projects on the one hand and research on the other will be set up, so that the researchers can make their input in the pilot projects and Communities of Practice. Within the PhD trajectories, in this first year clarity must be created over the problem statement, the questions, methods, and available empirical data. In 2004 a number of post-docs will be recruited; they will bring out their reports before the end of the year for science, policy, and practice. At the end of the year an external visitation will take place to assess the scientific quality of the research. Pilot projects will be evaluated, and where necessary adjustments will be made and decisions taken over the preparation of new pilot projects.

In 2005, the second segment of pilot projects and CoPs will be started. In addition, decisions will be made concerning which PhD trajectories will continue unchanged, where adjustments are needed, or a stop will have to be set. Considerable attention will be paid in this period to the setting up of multidisciplinary cooperation between the scientists and the pilot projects. The input of the researchers in the CoPs will take shape.

The post-docs will carry out their second year trajectories and report on them. The research projects of the post-docs in the third year will be formulated in part from the experiences of the CoPs. At the end of the second year a visitation will take place: the midterm review. NWO will assess the scientific quality and evaluate and, where necessary, adjust the pilot projects programme .

In 2006, the third segment of pilot projects and CoPs will be started. Many of the PhD trajectories will reach their harvest phase, leading to presentations and publications at national and international levels. Some integrative studies to be carried out in 2007 will be prepared on the basis of the results from the pilot projects and CoPs. There will be another visitation, this occasion being the last that could still lead to a meaningful adjustment.

The harvest year will be 2007. The pilot projects will be delivered wherever possible, or closed down. The results of the CoPs will be presented. Dissertations will be completed and submitted. Publications will be presented in various forms and in various media. Agreements will be drawn up with knowledge and education institutes on the knowledge infrastructure after 2007. An extension of a few activities in the course of 2008 is anticipated; these are expected to switch seamlessly into the knowledge infrastructure developed during the SRG knowledge project.

1.5 Economic and societal relevance

The societal challenges that confront the SRG-knowledge project are the realisation of spatial investments based on development planning and multiple land use. Central to the approach stands the promotion of knowledge that leads to cooperation in policy, science, and practice. At this moment there are signs of market failure. That belief derives among other things from the apparently limited willingness of private parties to invest in societal tasks such as inner city projects or the redevelopment of business parks. The underlying reason is that the results of their efforts are often only partially to their own advantage. In addition there also seems to be some policy failure, and the available public means are too limited to invest in such tasks. That causes difficulties, because

instruments are lacking to weigh up carefully the varied projects submitted; knowledge about setting up public private partnerships falls short of what is required. Also the plan formation takes place too much by sector; by failing to deal with problems together, partial solutions are created. Opportunities for synergy are missed. It appears to be difficult to deal with citizens and other parties demanding more influence; they do not all want the same things.

The effect of all this is that spatial investments are less effective than they could be. In short: money and land is wasted. Moreover, those matters and qualities which citizens and companies need are not attended to. That failure could eventually lead to the deterioration of the international competitive position of the Netherlands as a settlement location for companies and as an environment providing good quality of living for its citizens.

Why a Bsik contribution and what are the alternatives?

A contribution in the context of Bsik is necessary because otherwise the transition to development planning would not take place. The necessary knowledge and competencies are lacking; several parties are involved in the realization of the solution and none of them have the capacity to take on the problem on their own. Moreover, time is needed for the development of solutions and approaches; these cannot be brought about overnight.

Alternative approaches could come about from the strengthening of one of the three domains by a special supporting programme designed for that purpose. In fact, the effects of such an approach would not be optimal and would not bring about the necessary system innovation. For example, strengthening only the science domain would not solve the problem of a lack of multidisciplinarity, or help take advantage of new town-country relationships, or deal with the restricted orientation on competencies for policy and practice. Similarly, strengthening only policy or only practice would also lead to partial solutions, because for example optimal use would not be made of available scientific knowledge.

What are the measurable economic - societal results?

All three domains will profit from the results. The practical field will have at its disposal the innovative projects carried out in the area of multiple land use. Furthermore, the practical field will gain confidence in development planning. Practical people will also have at their disposal the competencies that will be incorporated in future projects. Science will profit from multidisciplinary cooperation in the area of spatial research, by cooperation with research schools such as NETHUR, SENSE and TRAIL.

Dutch research in urban and regional planning will acquire an even stronger international profile. The policy field will acquire the capacity to work together horizontally and vertically and to arrive at a coordinated input of government resources. A knowledge infrastructure will be created which will be capable of giving an adequate answer to integrated, rather than just isolated, questions.

The main characteristic of the approach is that all knowledge and competencies will be developed in the course of the work and will be directly applicable. As a result the project can be concluded in 2007. It is of importance that the belief has grown among the participating people that cooperation pays and that competencies are developed to enable knowledge to be dealt with appropriately. That is the result of the participation in the pilot projects and by becoming deeply involved in education and training. A group of practioners will be created who know how and what knowledge to select. This group will also be capable of formulating questions from the practical field for the science field. In that way the science field will be set well-directed questions. These will probably have a multidisciplinary character, so that putting multidisciplinary science into practice will receive an extra stimulus. Via the pilot projects, a dialogue will also be set up with the policy field so that policy can concentrate better on implementation and can profit from the available knowledge. Policy will benefit and as a result it will have more effect. And the practical field will also profit: there will be fewer barriers and better spatial planning and design.

What are the risks?

The approach being put forward is not without risks. The first group of risks is concerned with whether one of the domains fails to take part, or drops out prematurely. Efforts have been made in various ways to avoid this

happening, for example by involving public and private parties in the preparation of the programme proposal, by contract formation, and by setting up entry and exit regulations. Other risks sit in the results corner. System innovation is brought about in the boundary area between order and chaos. The parties submitting the proposal are used to operating in this area and coping with this sort of contradiction. Moreover, at programme level there is some sign of order. The "chaos" will be situated in the separate projects, where there is every opportunity for creativity and innovation. Another risk consists of being unable to acquire enough people in policy, science, and prac-tice to propagate the message. Having and implementing a programme for communication and learning provides opportunities to reach target groups.

1.6 Consortium: constitution and cooperation

The consortium consists of the following parties:

- ***public stakeholders:*** *ministries of VROM, EZ, V&W, BZK, LNV, IPO, VNG, BNG/OPP, Unie van Waterschappen, Staatsbosbeheer [Forest Management Agency], Bureau Regio Randstad, VROMRaad, RLG, G 30, local authorities, provinces, government service departments;*
- ***private stakeholders:*** *Nederlandse Vereniging van Projectontwikkelaars NEPROM, Vereniging voor ontwikkelaars en Bouwondernemers NVB, AEDES, Algemeen Verbond Bouwbedrijf, VNO/NCW, ONRI, Rabobank, LTO Nederland, Vereniging Natuurmonumenten, Vereniging Natuur en Milieu, ANWB, Vereniging Deltametropool [Delta-metropolis Association], Twijnstra & Gudde, Arcadis, TRN;*
- ***knowledge institutes from home and abroad:*** *Delft University of Technology, Erasmus University Rotterdam, Free University Amsterdam, Utrecht University, University of Amsterdam, Wageningen University and Research Centrum, MIT Cambridge (Mass), Universities of Glasgow, Birmingham, Liverpool, Leuven, Dortmund and knowledge institutes as TNO, Alterra, Delft Hydraulics and scientific institutes of Rijkswaterstaat;*
- ***intermediary organizations:*** *Stichting Bouwresearch, Stowa, TNO, Stichting KEI, Stichting Stuurgroep Experimenten Volkshuisvesting, NIROV, DUBO Centrum, NOVEM, COB, ECON, Kenniscentrum Grote Steden..*

These parties are perceived as the representatives of the three domains. Consultations have been held with them in the last few months for the preparation of the programme proposal. They have been asked for a commitment to the total programme, or at least to parts of it. The members of the consortium, who to some extent will take care of the necessary co-financing, will continue to be involved with progress during the course of the programme and will be invited to help think about the main lines of the manner in which it will be carried out.

The programme will be carried out by Habiforum (main contractor) in cooperation with InnovatieNetwerk Groene Ruimte en Agrocluster. The competencies and networks of both organizations complement each other and will create a basis for successful implementation.

The implementation of the programme stands under the final responsibility of P.W.M. (Paul) de Gouw, the programme director, who functions under the Habiforum executive board. The Habiforum board has been strengthened with a managerial representative from InnovatieNetwerk Groene Ruimte and Agrocluster. The programme director will be supported for the day-to-day implementation by a team of three people: Dr J.H.A. (Hans) Hillebrand and A.B. (Ab) van Luin will lead the practical programme, and Prof. H. (Hugo) Priemus (TUD/OTB) will lead the scientific research programme.

The fact that qualified personnel is available for the implementation of the scientific programme deserves particular attention. The representatives of the knowledge institutes are internationally respected scientists with a track record in the various spatially relevant sciences; the boundary crossing research can be entrusted to them with every confidence. They will work in the knowledge project together with outstanding foreign researchers.

The starting up of new pilot projects and the determination of new questions to be addressed through scientific research will take place following a recommendation by the SRG-Advisory Council. This council is constituted by representatives from the consortium and makes recommendations to the programme director.

Intellectual property

Unless other agreements have been made,

all the knowledge developed in the context of the programme will be considered to be public knowledge. It will be freely accessible. Only in exceptional cases will special arrangements be made concerning the forms of protection of knowledge to be made with parties.

1.7 Knowledge: dissemination and transfer

The task of the knowledge project consists of the development of knowledge and competencies and their transfer. Furthermore, it is of great importance that powerful working and learning environments are created, to ensure that, after the programme has ended, what has been developed and learned will continue to be applied on a permanent basis.

In setting up the knowledge infrastructure, use will be made of existing structures wherever possible. Dutch science has a strong international orientation. There is active participation in international bodies. Scientists will be encouraged to participate and to publish from the SRG programme. The knowledge institutes within the consortium are in fact predominantly situated in the Netherlands. The exchange of scientific knowledge will take place via NWO and KNAW and the recognized research schools. The SRG researchers will make optimal use of the available channels and also take the initiative for publications and workshops featuring a multidisciplinary approach. Within the SRG consortium, the exchange of knowledge will take place in the scientific steering group and the associated research institutes.

The linking of policy and the design of the co-production of policy will take shape through the participation in the consortium of ministerial departments and other government authorities and organizations such as IPO (Association of Provinces) and VNG (Association of Municipalities). Many representatives of government authorities will take part in the pilot projects and CoPs.

In the pilot projects the practical people get their chance; the practical processes will be supported by means of CoPs, workshops and other work forms. An exchange of knowledge will take place through which learning processes will be created for all the people concerned. Where possible, use will be made here of the expertise of intermediary organizations.

Various means will be used to disseminate the available knowledge, such as databases with best practices, reports and books, project websites, fact sheets, theme brochures, news flashes, the journal Nova Terra, excursions, press conferences and press releases, publications in scientific and professional papers, annual reports, symposia, lectures and speeches. The proposal submitters will also have at their disposal a system enabling people who give advice or wish to exchange information to look each other up.

Together with the Nationaal DuboCentrum and the national Sustainable Higher Education Network, the people submitting the proposal will set up a network to facilitate the throughput of knowledge on sustainable construction and multiple land use to higher education.

Course modules will be developed with and for lecturers in university and higher education. The SRG programme will contribute to the BSc and MSc courses of several universities and be developed for post academic courses .

The first claim of the approach outlined is to be found in linking the demand and the supply of knowledge by a targetted knowledge transfer. The connection with existing structures provides a guarantee that the programme can be continued for the long term.

The indicators to measure the effect of the programme are to be found in those asking for knowledge. Evaluation will take place by holding meetings and workshops; the CoPs and pilot projects will be evaluated.

2 Background

RIJKSBEGROTING 2002

[6]

De Troonrede

'In our country we attach increasing value to the quality of space. To make best use of this most scarce good, my government has opted for intensive and multiple land use and, where necessary, the redesign of certain areas.'

Her Majesty Queen Beatrix in her Queen's speech for 2001

2.1 Introduction

In March 2002, the Cabinet decided which main policy issues would in the next few years be eligible for implementation in the knowledge and technology development programme. System Innovation in Land Use is one of the 21 main policy issues.

The concept of multiple land use became popular mainly because of the growing scarcity of physical space in the Netherlands resulting from the increasing number of competing claims on land. The Ministry of Housing, Spatial Planning and the Environment (VROM, 2000) quantified these claims in the publication 'Rekenen with ruimte [Calculating with space].' Having to make the best of the available space concentrates attention on the intensification of land use: buildings with more storeys, underground construction, and the combination of functions. These exemplify high value and multiple land use, leading to a spatial quality that is always subjectively defined. It is those who demand land and the end users who determine how high the spatial quality will be. This situation makes demand management in the allocation, design, and administration of land and real estate of crucial importance. The issue is to achieve area-oriented development in which projects are linked to each other, both public and private, so that a new interweaving of town and country can be brought about. The transition from ICES KIS 2 to ICES KIS 3 is thus marked by the transition from 'Multiple Land Use' to 'System innovation in Urban and Regional Land Use and Area Development' (SRG).

In December 2002, the Order in Council [Algemene Maatregel van Bestuur] announced the Cabinet's intention to strengthen the knowledge infrastructure. Proposals may be submitted for innovative and high value research that leads to new technological and societal concepts on the basis of the Besluit subsidies investeringen kennisinfrastructuur (Bsik) [Subsidies in Investment in the Knowledge Infrastructure Decree] in the context of the third ICES/KIS round.

In the Bsik knowledge project described here, the main policy issue of System Innovation in Land Use has been extended to System Innovation in Urban and Regional Land Use and Area Development (SRG). With this change we make it clear that our concern is not only with land use, but also -and primarily- spatial interventions, preferably in the form of area-oriented development in which synergy between projects is pursued. In that respect it is important, as argued in the following section, for the traditional distinction between town and country to be bridged over. New relationships between town and countryside are called for: the separate consideration of town and country no longer holds out much promise of yielding results.

To strengthen the knowledge consortium and to be able to take optimal advantage of the changed problem statements, the Stichting Habiforum [Habiforum Foundation] submits a programme proposal together with InnovatieNetwerk Groene Ruimte en Agrocluster.

In this programme, the following independent Expressions of Interest have been integrated: D8: Ruimtelijk Investeren in Stedelijke Netwerken [Spatial Investment in Urban Networks] (RISNET; OTB/TUD), D7: Duurzame Stedelijke Herstructurering [Sustainable Urban Restructuring] (DUSTHER; OTB/TUD), D18: Expertisenetwerk Meervoudig Ruimtegebruik [Expertise network Multiple Land use] (Stichting Habiforum); D19: Economische, sociale en culturele dynamiek in verstedelijkend Nederland [Economic, social and cultural dynamic in the urbanized Netherlands] (Stichting Habiforum); D20: 3D Dynamische Duurzame Delta [Dynamic Sustainable Delta] (InnovatieNetwerk Groene Ruimte en Agrocluster) and D9: "Transforming the Rotterdamse Ruit" (Erasmus University Rotterdam).

Reader's guide

In this chapter, the findings of the ICES/KIS programme of Habiforum and of the InnovatieNetwerk Groene Ruimte en Agrocluster programme are discussed. In addition, attention is paid here to current developments in land use, policy, and practice.

In chapter 3, we consider the problem statement that the SRG-programme is designed to address.

In Chapter 4, the scientific relevance of the SRG-programme is discussed.

Chapter 5 consists of a survey of the societal and economics importance of the knowledge project

Chapter 6 features the two pillars of the SRG programme, namely the scientific research and the practical projects, and the manner in which science - policy - practice are linked together. The experimental pilot projects form

the pivot of the practical programme; these are specific practical projects in which new knowledge is forged, solutions generated, and competencies acquired. It is here that science, policy, and practice meet.

Chapter 7 contains a description of the manner in which the knowledge programme is structured as a network organization, and the composition of the consortium. The choice of partners is explained together with the manner in which long-term cooperation is guaranteed, together with the entry and exit regulations, and the business and strategic management of the project. The regulations concerning intellectual property are set out.

Chapter 8 concerns the diffusion of knowledge and competencies. This diffusion is designed to bring about innovation within and between the worlds of science, policy, and practice. All the dissemination activities including the website, symposia, seminars, and publications are presented.

In chapter 9 the project budget is considered, both as a whole and for the separate subprogrammes and budgetary items. The manner in which the co-financing is organized and how the costs development keeps track with the phasing and realization of the milestones is indicated.

2.2 Habiforum, Expertise network for Multiple Land use

In 1999, Habiforum, Expertise network Multiple Land use, started with the development of a knowledge programme oriented to multiple and intensive land use. The Habiforum programme was one of the proposals accepted in the context of the ICES/KIS-2 project. The objective of the programme is as follows: "Habiforum will make available knowledge that counteracts as far as possible the squandering of space so that, on the basis of new concepts and procedures, we can make use of our land in the Netherlands in a manner which is more cost-effective, sustainable, and capable of enhancing the quality of living."

On the basis of the Plan of Approach, practical projects have been started and the scientific programme of Habiforum put into action. A beginning has been made with the development of knowledge, creating awareness, and the elimination of the bottlenecks that appear in practice. It was decided in the course of 2001, partly on the basis of the advice of the Committee of Wise People [Comité van Wijzen] in the monitoring report of 2000, to sharpen up the focus in order to optimize the clout. The notification Koers 2001 Habiforum [The Habiforum Route 2001] puts the emphasis on the parties who are responsible for the making of spatial investments: demand and practice oriented.

Bearing in mind the complexity of the problem issue, the Habiforum programme was set up in 1999 for a period of eight years. The annual monitoring reports to ICES/KIS provide accountability for the activities and the results. For project descriptions and information with respect to content, see the website www.habiforum.nl.

The problem issue with which Habiforum is concerned has undergone a necessary broade-

Multiple land use

During the ICES-KIS 2-period, multiple land use turned out to be a tricky concept. In the publication: Multiple land use: Stimuli and impediments [Multiple land use. Stimulansen and belemmeringen] (Priemus, Nijkamp & Dieleman, 2000) the concept is defined as follows: "The fulfilment of several functions in a certain space and at a certain time." In this definition space, time, and function are the key variables:

Space: Three-dimensional space at various scale levels: part of a building, building, lot, neighbourhood, quarter, district, city and region. The larger the scale, the greater the number of function combinations that arise. Above a certain scale level (neighbourhood) there is always multiple land use.

Time: The definition of 'multiple land use' does not presuppose simultaneity. The concern is for the fulfilment of several functions within a certain period: an hour, twenty-four hours, a week, month, season, year. The longer the time period, the greater is the number of function combinations that arise. Provided the time axis is long enough, it seems that everything will be subject to multiple land use.

Functions: In the first place the concern is for the following main functions: home and work/ business activity/retail-distribution/recreation-traffic/ agriculture-cattle breeding/ nature-biodiversity-water. If so desired, each of these main functions can be further subdivided. The further the functions are subdivided, the more frequent multiple land use becomes.

The conclusion drawn by Priemus, Nijkamp & Dieleman (2000: 5) is clear:

"The definition must not be stretched too far (high scale level, long time axis, marked function splitting), because then everything can be perceived as multiple land use."

ning through issues coming from the green space and the rural areas. Issues in ecological urban quality and transitions from town to countryside appear to have a particularly close relationship with the originally purely urban issues. This relationship is reflected in the research and practical projects that are being carried out in the current Habiforum programme. In organizational respects, the connection of town and countryside is expressed in cooperation with the InnovatieNetwerk Groene Ruimte en Agrocluster.

The Comité van Wijzen has indicated in an evaluation of the quality of the results of Habiforum that the programme is worthy of A-status (Advies Comité van Wijzen on the progress of the investment impulse for knowledge infrastructure 1998, December 2001). The view was expressed that the programme deserves prospects of continuation in a new programme period. This view was supported by a survey among members of the Habiforum network (Gerrichhauzen & Partners, 2002).

2.3 InnovatieNetwerk Groene Ruimte en Agrocluster

Against the background of the persistent problems which confront the Netherlands in terms of green space and agriculture, the InnovatieNetwerk Groene Ruimte en Agrocluster was set up in 2000 by the Minister of LNV as a -clearly differently positioned- successor to the Nationale Raad voor Landbouwkundig Onderzoek [National Council for Agricultural Research] (NRLO). The problems in green space and agriculture, it was concluded, require sustainable solutions in which ecological, economic and social developments can strengthen each other.

The realization of that sort of solution requires innovation and patience (probably for 20 to 30 years). The InnovatieNetwerk Groene Ruimte en Agrocluster endeavours to support this necessary innovation. That support is given in two ways: first, to sustain innovative initiatives taken from the field which envisage gains on several fronts at the same time: system innovative initiatives. And second, to explore apparently impossible target images envisioned, such as a greenhouse that produces energy instead of swallowing it up. Endeavours are then made to try to bring these images closer to reality. Bringing solutions closer to hand for such frequently connected problems requires system innovative methods of working.

Work proceeds according to the KOMBI philosophy. The starting point of this philosophy is that, for the realization of system innovations, five sorts of parties always have to be involved, namely: Knowledge institutions, Government authorities, Societal organizations, Companies/ citizens, and an Intermediary. It is only through working together that these parties have the key to enable them to arrive at optimal combinations.

InnovatieNetwerk Groene Ruimte en Agrocluster works across departments and is independent. With respect to the green space, the innovative task with which Innovatie-Netwerk Groene Ruimte en Agrocluster is concerned can be summarized as: How can economic activity be optimally exploited so as to enhance landscape quality, taking into account not only current, but principally future norms and values? To address this task activities will be developed in several areas. These are: the reconstruction of landscapes and nature, living and working in a green environment; green roads and corridor development; nature and water; new green services; vital and sustainable green clusters.

2.4 OTB Research Institute for Housing, Urban and Mobility Studies, Delft University of Technology

The research programme will be co-ordinated by OTB Research Institute for Housing, Urban and Mobility Studies.

OTB Research Institute for Housing, Urban and Mobility Studies was established in 1985 as an interfaculty research institute in the TU Delft, and is oriented to the planning and management of the built environment. The OTB is an independently managed unit within the TU Delft that combines internationally oriented fundamental research with applied research, and organizes courses, study days, and other forms of knowledge transfer. About half the activities are externally financed; the university finances the rest. The Board of the University has appointed the OTB as the home base for the TUD spearhead Sustainable Urban Areas.

When ICES-KIS 3 started, the OTB submitted two Expressions of Interest: Ruimtelijk Investeren in Stedelijke Netwerken [Spatial Investment in Urban Networks] (RISNET), and Duurzame Stedelijke Herstructurering [Sustainable Urban Restructuring] (DUSTHER). A strong public-private consortium was formed for each theme. In the first proposal, the national and

regional level featured centrally, including the multifunctional area development at a level that crosses municipal boundaries. The second proposal was concerned with the urgent task of urban renewal, oriented towards the restructuring of both urban residential areas as well as of business parks and the (re)development of strategic city projects.

The OTB has acted as the leading partner in a number of European research projects (Terminet, Eurbanet, Corridesign, Build-on-Res) and has recently been further strengthened through two new research groups: Geo-information and Land Development; GIS-Technology. The institute now has more than a hundred staff members, including four professors.

In the transition from Expression of Interest to the final Bsik round the OTB was pleased to become associated with Habiforum and the InnovatieNetwerk Groene Ruimte en Agrocluster. The institute will act as coordinator, with final responsibility, and as co- executor of the scientific research programme. This programme will be carried out by six universities: Delft University of Technology (TUD), Erasmus University Rotterdam (EUR), Free University Amsterdam (VU), Utrecht University (UU), University of Amsterdam (UvA) and Wageningen University & Research (WUR). The project leaders from these six universities form together the Scientific Steering group SRG.

2.5 Societal and spatial processes

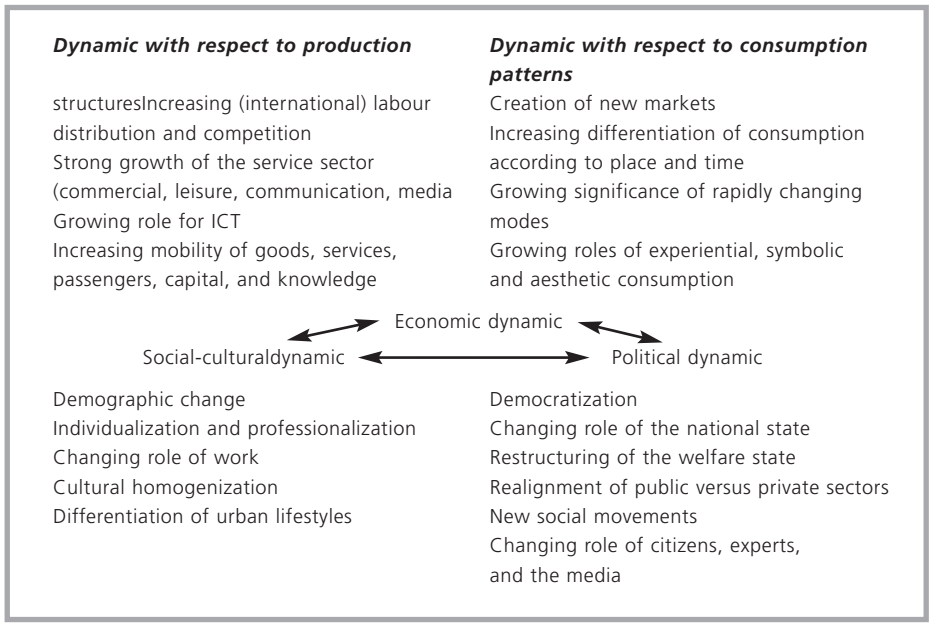
2.5.1 Introduction

Societal and spatial processes operate in the background of the main policy issue 'System Innovation in Land Use'; these processes were recently inventoried by the Scientific Council for Government Policy (WRR) and are featured in what is now referred to as 'the new geography'. In the recent WRR report 'Stad en land in een nieuwe geografie [Town and countryside in a new geography]' Asbeek Brusse and colleagues (2002) have set out the relationship between societal and spatial dynamics.

2.5.2 Societal processes

Figure 2.1 sets out the economic dynamic with respect to consumption and production structures (Asbeek Brusse et al., 2002: 142), together with the social-cultural and political dynamic. Technological changes, such as the ICT revolution, play an important part in the background underlying these processes.

Figure 2.1 Overview of the societal dynamic



Source: Asbeek Brusse et al., 2002: 142.

The following trends are indicated for The Netherlands for the period to 2020/2030 (see, for example, chapter 3 in 'Nederland verandert [The Netherlands is undergoing change]' in part A of the Vijfde Nota over de Ruimtelijke Ordening 2000/2020 [Fifth Memorandum on Spatial Planning 2000/2020], in particular section 3.3, Maatschappelijke trends [Societal trends] (p. 52-100):

Table 2.1 Societal developments according to the Fifth Spatial Planning Memorandum

- Governmental redistribution of power and influence over four scale levels. Internationalization of regulations and economic steering mechanisms. At the same time, decentralization from state level to regional and local level, with a greater role for the citizen to play in spatial development. From this follows a clash of interests at scale levels.
- Climate change with water problems as a consequence. From this follows a water storage task with major consequences for land use.
- The natural growth in population will become more negative and be surpassed less extensively by the migration balance. From about 2038 the population will slowly begin to decline in number. A few years later the number of households will also start to decline.
- Aging, dejuvenation, and increasing multiculturalism will characterize population development. The average household size will fall to some extent. The number of cities with an average household size below 2.0 will rise.
- Household incomes will on average slowly rise. However, through the thinning out of households, this overall increase will be weaker than the growth of the national income.
- The capital of households will on average increase strongly.
- A changing role for agriculture in the Deltametropolis. Other green markets such as nature, water management, and recreation will replace food production for the world market. Agrarian nature associations will offer green services.
- The economic structure will shift further away from the agricultural and industrial sectors to commercial and personal services. The knowledge intensity of economic production will further § increase. This shift has huge consequences for the labour market.
- The development of ICT, biotechnology, nanotechnology, and new materials will continue. The increase of ICT use by households and firms is likely to have substantial spatial implications.
- The demand for more living space and more space around the home will increase. Considerable interest will be shown in locations both in the city and in green areas. Preferences will be increasingly individual and specific. The housing consumer will become more critical.
- Increasing integration of town and countryside, as a result of increasing urbanization and mobility demand, on the scale of Northwest Europe.
- The increasing interest attached by an urbanized society to nature and landscape for recreation, housing, and health. From this follows a space claim for high quality nature and landscape close to and in the urban networks.
- The internationalization of the economy and social life will increase. Globalization and the enlargement of the EU will also have local consequences. The economy will develop into a cross border network economy.
- Mobility will increase in terms of both passenger and freight transport. Corridor formation and the development of logistic principles (such as hub and spoke networks) will have more spatial implications. Utilization of the traffic infrastructure will be improved through the combination of traffic infrastructure and ICT infrastructure. Physical and digital accessibility will be important for firms and homes.
- The three mainports in the Netherlands—the port of Rotterdam, Schiphol airport, and the ICT junction to the southwest of Amsterdam—will remain of crucial importance for the international connections of the Netherlands within Europe and in intercontinental terms.
- Opportunities to enjoy leisure time will become more important in the needs fulfilment of households (sport, culture, theatre, recreation, and so forth). The economic significance of the leisure and culture industry will increase.
- Negative environmental effects (such as the greenhouse effect, noise pollution, the contamination of air, water, and ground soil) and energy use threaten to increase strongly. It is of increasing importance that economic growth should develop within certain environmental limits.
- The significance of external safety and social safety will increase. Citizens will set higher demands and will be more likely to hold government authorities to acount.
- The impacts of economic growth on the income distribution will continue to demand attention and from time to time necessitate government interventions.

2.5.3 Spatial developments

The spatial consequences of all this cannot be absorbed in one glance. The differences per location and per region could be large, partly because of path dependencies. In general terms the pressure on land will increase, as has been quantified in the VROM publication: 'Calculating with space [Rekenen met ruimte]' (1999). The need for land for housing, work, traffic infrastructure, recreation, nature and water will increase. Only one sector will on balance yield land: agriculture. In both the city and the region important spatial transformation processes are anticipated, consisting of both profitable (sometimes even lucrative) and unprofitable investments.

The Fifth Memorandum on Spatial Planning presents the following overview of the development of the need for land (Ministerie van VROM, 2000: 120-129): see Table 2.2.

The first three strategies amend the need for land in the Netherlands; the last three acknowledge this need and try to provide for it resourcefully. The SRG Knowledge Project relates in particular to the last three intervention strategies: intensification, combination, and transformation. We speak of high value land use, often in the form of multiple land use at various scale levels. The achievement of spatial quality as experienced by various categories of users continues to stand to the fore.

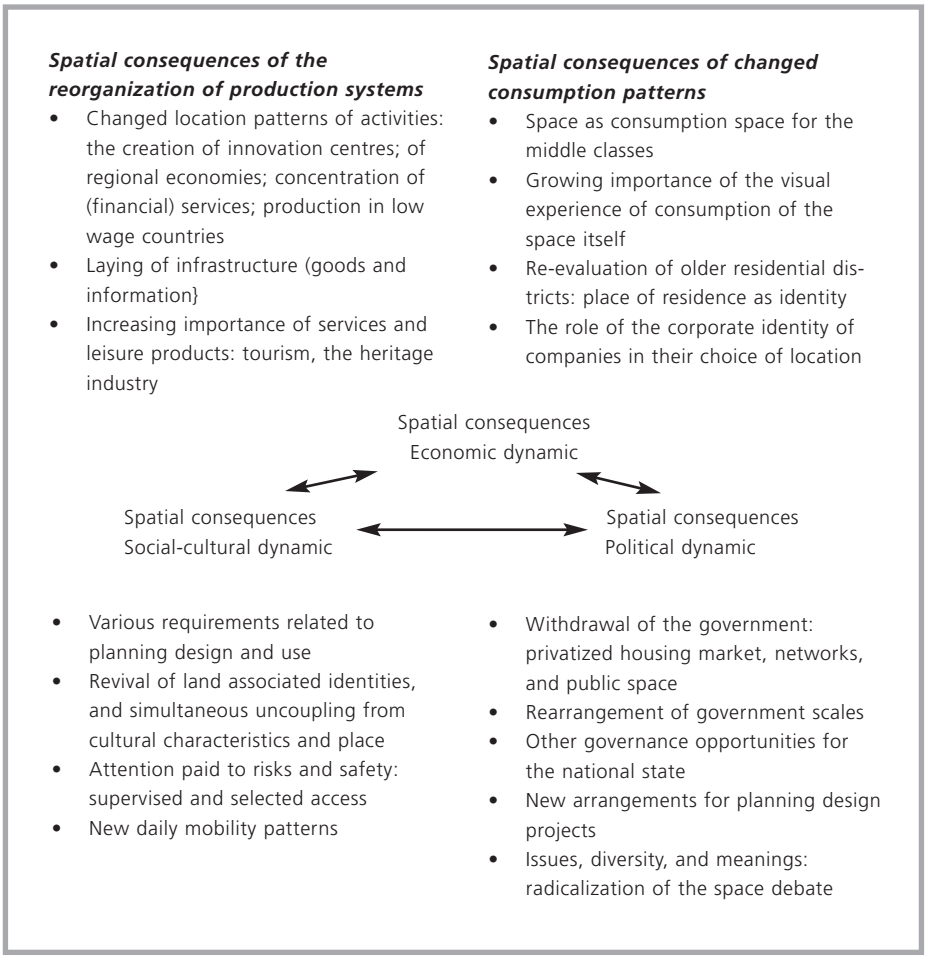
Table 2.2 Spatial needs in the Netherlands 2000-2030

Land needs for housing	39,000 ha low scenario	85,000 ha high scenario
Land needs for work	32,000 ha low	54,000 ha high
Land demand for infrastructure	35,000 ha low	60,000 ha high
Land demand for recreation	144,000 ha	
Land demand for nature and landscape	333,000 ha	
Land demand for water safety	90,000 ha	
Land demand for extra open water	25,000 ha	
Land demand for spatial measures for water management	375,000 ha	
Land demand for agriculture	-170,000 ha low	-475,000 high

In general terms, six intervention strategies can be distinguished (p.120):

(1) the setting of priorities;
(2) the exportation of space needs;
(3) the reduction of the need for space in accordance with policy;
(4) the intensification of land use;
(5) the combination of space needs;
(6) the transformation of spatial structures and buildings.

Figure 2.2 Overview of the spatial dynamic



Source: Asbeek Brusse et al., 2002: 145.

2.5.4 Interaction between societal and spatial dynamics

In figure 2.2 Asbeek Brusse and colleagues (2002) give an overview of the spatial consequences of the economic, social-cultural, and political dynamics. Of great importance is the question how economic, social-cultural and political factors will develop in the future and what consequences they will have in the next few decades for the spatial dynamic. A good insight into these future trends is of great importance for the policy to be implemented.

In the WRR report 'Stad en land in een nieuwe geografie [Town and country in a new geography]' Asbeek Brusse and colleagues (2002) give an extensive overview of recent economic, sociological, and geographical theories on spatial change. They conclude that town and countryside will become increasingly interwoven, so that separate urban analyses and regional analyses will become less worthwhile. The WRR report follows in the footsteps of Castells, who states (Castells, 1996: 410): "Space is the expression of society. Since our societies are undergoing structural transformation, it is a reasonable hypothesis to suggest that new spatial forms and processes are currently emerging." Currently the direct and indirect spatial implications of information and communication technologies attract particular attention. The current pattern of cities, roads, green, and real estate also remains an important source of knowledge and research.

The overviews provided by Asbeek Brusse and colleagues (2002) are far from complete. The WRR analyses refer only to the first two themes of the people-profit-planet triangle; the ecological perspective is completely absent. In the SRG Knowledge Project the full people-profit-planet triangle is placed to the fore in the combination of the economic dynamic, social-cultural values, and the ecological and broader sustainability dimension.

We see an increase in the attention paid to

ecological quality in the urban area and an increase in the importance attached by the urbanized society to nature and landscape for recreation, housing, and health. The result is a claim on land for high quality nature and landscapes in and near the urban networks. Changes in the agricultural sector strengthen these trends; to some extent green markets such as nature, water management, and recreation are replacing food production for the world market. Agricultural Nature Societies will offer green services. Climate change will lead to further water problems and consequently to a water retaining and water storage task.

In the next few years, the anticipated restructuring of the agricultural sector brought about by economic and environmental factors will make land available for non-agricultural, residential and business functions. On the one hand this development raises the danger of undesirable damage to the important values attached to rural areas, while on the other the development offers opportunities for a multifunctional and vital countryside of a higher spatial quality. Moreover, the increase in mobility is of great importance, as is the increase in multiethnicity, in a few urban districts in particular. In the WRR study, the precise nature of the relationships between societal, technological, and spatial processes was not established. Its determination demands further, more sharply focused research, as does the establishment of the relationship with the typical SRG themes of spatial investment in urban and green-blue networks and sustainable renewal, economic vitality, social cohesion, and the accessibility of cities.

"When you keep the artificial distinction between town and country, you are loosing grips on space" (Wim Derksen, NRC Handelsblad 3 October 2002)

The choice of a particular scale level for an analysis or for the spatial policy to be implemented is no simple task. Swyngedouw states (1997: 169): "Starting any geographical analysis from a given geographical scale (local, regional, national) is deeply antagonistic to apprehending the world in a dynamic, processed-based manner. (...) Spatial 'scale' has to be theorized as something that is 'produced'; a process that is always deeply heterogeneous, conflictory and contested."

It is of increasing importance to go 'right through the scales': What are the national and international dimensions of spatial processes at regional level, and how do international developments work out at the local level? The social cohesion at neighbourhood and district level cannot be considered separately from selective house moving processes at urban regional level, or from international political instability, or the lack of economic balance at global level. Similarly the development of rural areas at local level can contribute to the spatial quality of the Ecological main structure at national level.

Question marks are increasingly being set against the conclusion drawn by some authors that distance is no longer of importance (Cairncross, 1998) (Graham & Marvin, 1996: 377-379; Hall, 1998: 960-969). The conclusion that should be drawn is that a new geography is crystallizing out (Sassen, 1996: 1-31; Kotkin, 2000). With the arrival of this new geography social processes will be organized anew, on the one hand through connections on an increasingly large scale, and on the other within existing spaces with separate processes, often separate groups, in separate spaces: residential area, business park, shopping centre (Van Asbeek et al., 2002: 151). The new geography offers a combination of increase of scale and differentiation of place and networks. Places acquire a different significance for different user groups. Competition for the planning and design of space has intensified. Dealing with that competition requires new insights, and new solutions.

Open spaces will become ever more built-up. The physical and ICT networks are developing rapidly. All this development has huge consequences for government intervention with respect to space (Van Asbeek et al., 2002: 154). Land features to an increasing extent in political debates. The government and other actors will have to learn to cope with the diversity of demands and desires concerning land that are presented from various spatial images (Graham & Marvin, 2001: 416-417).

In spatial planning, the allocation plan is now in some difficulties as an administrative instrument. The room for manoeuvre for a successful area-oriented policy is dwindling. The canalizing function of spatial planning is being eroded, because the insight is gaining ground that the planning of land use offers few opportunities for the management of societal processes.

Finally, it is becoming increasingly difficult for the government to mediate over land use in a polarized situation with conflicting claims. In many countries more public spaces are being privatized. Such developments are associated with increasing distribution problems. Political

pronouncements on such distribution problems are unavoidable.

The new geography has far-reaching consequences for the distinction drawn between the dimensions of town and country. With respect to the approach presented in the Fifth Memorandum, according to the WRR an alternative land policy for the Netherlands is necessary (Van Asbeek et al., 2002: 160). The WRR supports the call to abandon the ambition to manage the spatial development of large areas from one integrated framework (Graham & Marvin, 2001: 413-417). Rather, the government should be prepared to deal creatively with social plurality and the differentiated and sometimes ambivalent spatial desires that derive from it. Since the association of activities with a location is a less decisive factor, government influence via the allocation of land use is much reduced.

Following Hajer and Reijndorp (2001: 28-29), the WRR advocates that the government should operate proactively and align itself with the societal dynamic from a positive perspective instead of setting itself against the existing spatial dynamic via a restrictive contours policy (Asbeek et al., 2002: 169). In the event, the red contours described in the National Spatial Policy Position Paper (Ministerie van VROM, 2002) have now been scrapped.

Asbeek et al. (2002) argue that the government should not hold on rigidly to the compact cities policy, but should promote the enhancement of quality in the cities by the laying of parks, green areas, and squares in the urban environment. Suburban residential areas and unstructured business activity at intersections (Garreau, 1991) should not be prejudged, but seen rather as places with valuable design opportunities. The so-called countryside offers a host of development opportunities that ought to be capable of being utilized to some extent.

Distance should be taken from the stance that an integral spatial policy can be implemented for the whole of the Netherlands. The tasks and responsibilities associated with land should be redistributed over several levels of government and between state and community. Selectively, at certain locations, an effective and creative planning design policy can be implemented that supports and strengthens desired developments. In the SRG Knowledge Project many such locations have the status of a pilot project on which various research projects will be based.

The developments outlined set our country some important spatial tasks, such as investment in urban networks in which urban structures and traffic networks are coordinated with each other within blue and green contours, the utilization of the restructuring of agriculture for a more multifunctional development of rural areas, the implementation of national and European goals on the quality of nature within and outside the Ecological Main Structure, and furthermore the restructuring of urban districts and industrial areas and the selective development of strategic city projects.

The SRG Knowledge Project has been set up so as to remove any barriers that might be encountered and give the tasks described more chance of success, leading to high value and multiple land use and a high spatial quality.

The Cabinet indicated the direction which national spatial policy ought to take in the National Spatial Policy Position Paper of November 2002. The Cabinet specified the manner in which the Fifth Memorandum on Spatial Planning and the National Traffic and Transport plan will be adapted. The Cabinet particularly wishes to see the launch of the implementation of policy; the policy alterations will be further worked out in a new Spatial Memorandum (Nota Ruimte).

The policy emphases set by the present Cabinet (National Spatial Policy Position Paper) relate closely to the analysis, presented above. There will be fewer regulations and more land for development. The Cabinet has also incorporated the developments in the agriculture sector and in rural areas in the approach. It has been concluded that the rural part of a monofunctional area will change into an area with multiple use functions such as recreation, homes, and work. The Cabinet does not seek to set the countryside under lock and key, but would rather provide more opportunities for multifunctional use. In the same time the Cabinet maintains the goals, which were formulated for the Ecological Main Structure.

More land will be made available for the multifunctional development of the countryside. Provinces and local authorities will be given a stronger voice concerning housing construction. The Cabinet will maintain the balance between urban and rural areas without regressing to rigid policy frameworks. The provinces are best able to interpret the balance in the context of the area-oriented policy.

2.6 Conclusion

In this chapter an overview is presented of a number of societal transitions, which will impose conditions on system innovation in land use and area development.

The Sociaal en Cultureel Planbureau [Social and Cultural Planning Bureau] (Schnabel, 2000) distinguishes five macro trends:

- ***Internationalization*** *(and the associated globalization, liberalization, migration, and European integration);*
- ***Informatization*** *(enormous increase in ICT applications with important effects on a host of other trends);*
- ***Individualization*** *(promotion of own interests, emancipation, awareness, less hierarchy);*
- ***Intensification*** *(increasing importance for consumers and citizens of experiences, variety, orientation towards personal feelings);*
- ***Increased informality*** *(authority less matter-of-course, no automatic granting of respect, increase of horizontal communication: network society).*

In the Netherlands there are several traditional changes, which also play a part; these include economic growth, economic restructuring (from an industrial economy to a knowledge-based economy, primarily based on commercial and personal services), demographic development, (aging, dejuvenation, immigration and declining population growth), an increasing pressure on nature and an increasing depletion of the environment. For land use in the Netherlands this means an increasing scarcity of land and thus an intense struggle for land and the allocation of land. Not only will the land claims for housing, business activity and infrastructure continue to increase, but we will also be confronted by mounting land claims for nature and water. The only function that on balance is yielding land is the agrarian sector, which is currently undergoing radical restructuring.

The challenge underlying the knowledge project entitled 'System Innovation Urban and Regional Land Use and Area Development' (SRG) is the attainment of the optimal combination of economic dynamics, social-cultural values, and ecological quality. To achieve that end a scientific voyage of discovery will be undertaken into the spatial synergy between the networks in space, between the functions which these networks fulfil for society, and which can lead to this synergy after due examination and steering processes.

The space that makes up the Netherlands can be perceived as a system of networks, spatially connected with each other, which bind town and countryside together. The topics of interest include public and private investments in and the design of urban networks, and mainports, nodes and connections, regional area development and town-country transitions, including the restructuring of city neighbourhoods and business parks and the (re) development of strategic urban projects. All this is envisaged with a view to the realization of spatial quality, high value and multiple land use oriented towards the enhancement of economic vitality, social cohesion, accessibility, and ecological sustainability of town and countryside.

Many people complain about the impenetrable procedures in spatial planning, about the lack of spatial quality, about the monotony and monofuncionality, and inadequate consumer sovereignty. To achieve better results and operate more decisively, area-oriented development planning will be required, involving many actors and achieving synergy between projects.

The belief prevails that the shortcomings of the present manner of planning and design are so great an innovation of the system of spatial planning and design is necessary. Only by a different, innovative approach can the other demands imposed on spatial planning and design be met.

These other demands are:

- *the need for demand management, for example demand by citizens and companies;*
- *the capacity to cope with important differences;*
- *the capacity to deliver spatial quality;*
- *an effective plan formation and implementation;*
- *an integrated approach to town and countryside.*

The belief prevails that the demands listed can no longer be met in the traditional manner in which spatial issues in our country are dealt with, namely through planning by licence. Another approach is needed, oriented to development and realization, referred to in the last few years by the term development planning.

This project will mobilize knowledge to bring about the desired transformation from planning by licence to development planning at both the regional level and the level of town and urban district.

3

Knowledge project:

Problem statement and key issues

3.1 Introduction

The various societal changes and transitions induce a renewal in all sorts of areas at various levels: the modernization of production and consumption processes, technological modernization, institutional transformation and political-administrative developments.

The societal developments outlined call for five requirements with respect to spatial policy: the competency to incorporate demand management; the competency to deal simultaneously with different interests; the competency to deliver spatial quality; the skill to arrive at more effective planning and implementation; and an integrated approach to town and country.

These requirements cannot be met via the current approach of planning by licence. An adjustment is necessary of the current spatial planning and design, which sets out all kinds of opportunities and prohibitions to avoid undesirable situations. To change from that manner of working, the manner in which the whole spatial ensemble plays needs to be altered. It must as it were become another game, one that is more target-directed. This new approach is referred to by the term *development planning*. See in this context the publications of among others the WRR (1998, 2001), Ministerie van VROM (1997; 2001), VROM-Raad (2002) and SER (2001).

The necessary transformation from licence planning to development planning will not come about of its own accord. That is because the three domains capable of developing the required knowledge and competencies (science, policy and practice) are themselves part of the problem. Two reasons can be put forward for this state of affairs.

The first reason relates to the fact that the domains are internally segmented. This leads in practice to the wheel having to be continuously reinvented, because no learning takes place from other practices. In science, the segmentation can be seen where work is undertaken in one discipline while multidisciplinarity is being called for, and the marked separation between research on the town and on the countryside. With respect to policy, both a horizontal and a vertical separation can be observed. Horizontal, in the sense that ministries, for example, do not work from a total vision, but make sectoral plans which then have to be coordinated with associated departments. And vertical, in the sense that the coordination between the State, provincial and local government authorities leaves much to be desired.

The second reason relates to the separation between these domains. The practice domain makes inadequate use of the results of research, is incapable of formulating appropriate questions to enable the science domain to develop the missing knowledge, and is not fully able to deal with the policy domain. With respect to science, demand management is still limited, and just dropping the results of research in the policy and practice domains is fruitless. The situation for the policy domain is that inadequate use is made of the generalized knowledge made available via the science domain and plans may only be implemented with difficulty because they do not relate to (ideas in) the practical domain.

3.2 Innovation processes

A radical change is needed to really implement development-oriented planning. Such a form of integral renewal with a long time horizon is referred to as *system innovation*. System innovations are cross-organizational qualitative renovations that various system participants bring about together through their various contributions of different kinds of knowledge and skills; in the process, the relationships between the system participants change radically (NRLO, 1999). System innovations require the contribution of many different parties and multidisciplinary knowledge.

"When we cannot come beyond talking and writing, there will be so many troublespots in our country that our children will blame us."
(Guido van Woerkum, CEO ANWB)

Transitions and system innovations also demand another form of management; traditional management forms are no longer suitable. The inability to provide adequate management becomes evident in increasing management barriers, leading to a failure to utilize management opportunities adequately.

The Comité van Wijzen [Committee of Wise Men] adopts a similar approach and noted in their recommendations on the progress of the investment impulse for the knowledge infrastructure (2001) that innovation processes themselves need to change:

"Research, product development, implementation, and market forces take place increasingly within the functions of each other. This operational overlap makes evident the necessity of an integral approach for the whole inno-

vation chain, from fundamental research to application with the inclusion of knowledge protection, exploitation, and interactive communication. Only then can research results be made rapidly available to society."

The Comité indicated the conditions that they consider of crucial importance for the role, position, and success of the knowledge infrastructure within a competitive, dynamic knowledge economy:

- *The opportunities for the implementation of interdisciplinary research (including the sciences, arts, and social sciences) must be enhanced and stimulated.*
- *Barriers between fundamental-strategic and applied research must be eliminated.*
- *Also the needs of practitioners have to guide the research agenda.*
- *Cooperation between the market sector and public institutions must be stimulated without at the same time sight being lost of the public knowledge infrastructure's own primary objectives.*
- *The coordination and cooperation of the various specialist departments must be improved.*

Knowledge is the crucial resource to realise a system innovation. To reach this goal several dilemmas need to be worked out which are inherent in the generation and dissemination of knowledge. The authors of the publication "Opdrachtgeverschap: De Burger als Klant [The Awarding Public Authority: The Citizen as Client" (2002) present some of these dilemmas:

- *Improved access to existing knowledge and the development of new knowledge.*
- *Knowledge about the preparation of projects and knowledge about the realization of projects.*
- *Explicit, clearly articulated knowledge versus 'tacit' knowledge.*
- *Knowledge about the progress of projects; that requires transparency.*
- *Knowledge about (networks of) people who are involved in projects.*

The distinction between explicit and 'tacit' knowledge is cited as one of the most fundamental of the dichotomies mentioned. Only a part of the knowledge that is used and generated in the course of the preparation and realization of spatial projects can be articulated, set down in writing, and stored in databanks.

The conclusion that innovation does not simply come about through the mere production of more knowledge is also important. What is concerned is the transformation of knowledge into procedures. In this context, thinking about knowledge productivity is of importance. Central to this thinking stands the notion that knowledge is a personal competency: it concerns a subjective skill that cannot be considered separately from the individual who possesses it. Not only is it a matter of the routine application of regulations and procedures in the approach to standard problems, but also of the improvement of the regulations, the analysis of new situations, the development of new concepts, and obtaining a better grasp on the thinking and learning processes that underlie the skills involved. Knowledge productivity refers to the competency to search out relevant information, to develop a new competency with it, and then to apply it to the improvement by significant shifts and radical innovation of work processes and spatial concepts.

Knowledge based on experience is tied to people or groups of people. The transfer of such knowledge takes place through cooperation in action and interaction between people, groups, or organizations.

3.3 System innovation in land use and area development: many components

What do we understand now by the phrase: *system innovation in urban and regional land use and area development?* The concern is for a system innovation with several components, which can appear simultaneously:

- *Systematic imbedding of local and regional spatial design issues in developments at a higher scale level. Thinking and argument must thread right through the scale levels. That approach entails: having an eye for cross border green, blue, traffic, and ICT networks, the global relationships of the mainports, the spatial consequences of the European integration and the enlargement of the EU, and transnational spatial policy. Orientation points include the economic main structure in NW Europe, the location of mainports in hub and spoke networks, the blue green ecological main structure of Europe, the European Spatial Development Perspective, the NWMA Spatial Vision, and the Trans European Networks (TEN).*
- *The scale of housing markets, labour markets, and mobility markets has grown, so that increasingly a cross municipal border approach to spatial design issues is indica-*

ted. As an answer to this development, the Dutch government has introduced the concept of the urban network as a new context for spatial policy. Within this framework, cities work selectively together and endeavour to achieve a multifunctional approach in which investment projects are linked in project envelopes. This supra municipal, partly supra regional approach implies a new interweaving between town and countryside. The transformation of the Randstad to the Deltametropolis is a unique task.

- *System innovation in land use and area development entails paying attention to the fundamental shifts in land use resulting from the restructuring of the agricultural sector, via the need to realise the high quality of nature where space is increasingly under pressure, to the necessity of land for water, to the necessity of enhancing the interconnectivity and interoperability of infrastructure networks in passenger and freight transport, and to the spatial effects of ICT-infrastructures.*
- *The above aspects culminate in a task for integrated area-oriented development, for the most part crossing municipal borders, in which synergy between various functions is sought and in which there is multiactor decision making, which requires the coproduction of policy, public private cooperation, and demand management. For those functions it is necessary to develop coherent structures (networks) on a proper scale: often regional and even (inter)national. Only such an approach can lead to creative forms of multiple and high value land use and to demand oriented spatial quality. The relation between Spatial-Economic Main Structure and Ecological Main Structure of The Netherlands is at stake here.*
- *The desired synergy between various forms of land use requires a new orientation to the relationship between red and green, red and blue, and an integration of blue-green structures, infrastructure networks, urban nodes, and real-estate development. Greenblue networks can contribute to the quality of life.*
- *Within the city, the urban restructuring task had already appeared as formulated in the VROM Urban Renewal Memorandum of 1997. The task involves a sustainable restructuring and redifferentiation of less popular, monofunctional urban districts, which need to be transformed into multifunctional, differentiated, attractive components of the network city.*
- *The economic transformation of industry (goods) to commercial and personal services requires a sustainable restructuring of business parks with a more intensive and higher value land use and the (re)development of multifunctional strategic urban projects, such as urban (sub)centres, key projects and railway station surrounds. The tendency towards sustainable entrepreneurship (people, profit, planet) creates a need to know how firms can contribute to social and ecological sustainability of the environment.*
- *The emphasis on sustainability in combination with the increasing scarcity of land implies a transformation from greenfield development to the restructuring of town and country. Arguments must consistently be in terms of lifespan and lifespan costs. Barriers to high value and multiple land use must be removed.*
- *A new, improved knowledge infrastructure for land use and area development will have to be set up to attain the system innovation of land use and area development striven for in an effective and efficient manner. A systematic interchange needs to be brought about between thinking and doing, between researching and learning, between doing-while-learning and learning-while-doing. Government authorities, market parties, societal organizations and knowledge institutions are all involved in this joint search-and-learn process. When the ICES-KIS 3 period has been completed, the knowledge infrastructure must be capable of continuing under its own resources and must then continue to combine research, policy, and practice.*

3.4 Problem statement

The high level economic, social-cultural, and political dynamic outlined here is accompanied by an unremitting reassessment of our spatial environment. Through their high levels of consumption, prosperous Western societies set ever-higher demands on the quality of life and on the spatial environment. The achievement of spatial quality through the accommodation of the dynamic in production and consumption imposes high demands on spatial planning and policy. In a large part of our densely populated country, this task means that

resourceful combinations of red, green, and blue functions must be sought, while economic dynamic, social-cultural values and ecologic quality have to be combined optimally.

In a rapidly changing political environment and rapidly changing markets the traditional forms of planning and policy are no longer adequate. The process of (re)allocation, (re)design and (re)use of land is ripe for a fundamental revision. There needs to be a transformation of planning through licences to development planning, both at the regional level and at the levels of city, city neighbourhoods, and green areas. The principles for this revision have already been formulated in WRR (1998, 2001), Ministerie of VROM (1997; 2001) VROM-Raad (2002) and SER (2001).

The current planning through license is strongly related with the following problems and challenges:

- *Monofunctional and sector managed spatial planning leads to a claim culture in spatial planning, in which the potential synergy between various forms of land use are not fully utilized. Efforts should be made to achieve spatial synergy in spatial networks.*
- *The governmental and administrative division over the different scale levels requires the clarification of how the spatial development on one scale level contributes to that on other scale levels and via what processes of deliberation that can be achieved. Efforts should be made to achieve spatial synergy between the scale levels.*
- *Spatial planning leads only too often to unsatisfactory spatial quality: that is to say, the intended spatial pattern does not always suit the functional demands that ought to have been met, or the citizens and enterprises are not satisfied with the results. Efforts should be made to realize more spatial quality.*

The knowledge that is currently available is inadequate for the achievement of the transformation required. Insofar as knowledge is available, the skills and tools are lacking to incorporate current knowledge in practical procedures. This knowledge project is intended not only to enhance fundamental knowledge in relevant areas, but also to put new solutions to the test in (planning and policy) practice.

The 'System Innovation in Urban and Regional Land Use and Area Development' programme is set up to allow the necessary system innovation to be thought through, elaborated and operationalized in practice.

The overarching problem statement of the SRG knowledge project reads as follows:

"How can knowledge gaps be bridged over and competencies promoted so as to bring about a transformation from planning by licence to development planning, in which the conditions are created for the achievement of synergy in the design of urban networks and mainports, nodes and connections, regional area development and town-country transitions, the renewal of urban districts, the restructuring of business parks, and the (re)development of strategic city projects? What is at stake is the realization of spatial quality following current and future demand, high value and multiple land use, and the elimination of the barriers hindering this realization."

The SRG-programme makes a clear choice for a level where spatial interventions take place: the regional and local level, which are more and more related to developments on a national and international scale.

More specifically, answers are sought for the following questions:

- *Ho do we generate sufficient fundamental scientific knowledge on multiple land use and associated matters that can be used at local and regional level and is based on questions derived from the practice.*
- *How can competencies be developed to arrive at efficient planning and implementation in a manner that takes account of the various interests involved.*
- *How can scientific knowledge be made usable in practice and so contribute to better spatial quality.*
- *What questions arise in the course of practical implementation and how can they be translated into scientific research.*
- *How can the domains of science, policy and practice arrive at effective spatial planning and design procedures and spatial investments through making use of the available fundamental and experiential knowledge and competencies?*

3.5 Two lines

To develop the required knowledge and competencies, work will be undertaken along

two, mutually interacting lines:

- *a practical programme;*
- *a scientific programme.*

A central feature in the practical programme are the pilot projects. These are specific practical situations at various scale levels in both town and green space and are related to the various themes listed above (urban networks and mainports; nodes and connections; regional area development and town-country transitions; restructuring of city districts; urban renewal and business parks).

The innovative processes and ideas for development planning will be tried out in the pilot projects: innovation, experimentation, and learning in practice. The three domains of science, policy and practice participate in the pilot projects. In this way, the gulf between these domains and between thinking and doing are bridged over. The processes of knowledge fusion, knowledge creation, and knowledge dissemination take place in the pilot projects. Because of the manner in which they are designed, the pilot projects are powerful learning environments for the acquisition and application of new procedural skills and competencies.

The second line concerns the scientific programme. The core question here is how optimal use can be made of the most recent scientific insights with respect to the urban and regional spatial dynamic in an advanced economy such as the Netherlands. The preconditions linked to successful spatial investment strategies will be sought out. Attention will be paid here to the realization of the current and future demand-oriented spatial quality and the elimination of the barriers that occur.

The process architecture to be developed and utilized will put the emphasis on the development of procedures and practices for an area-oriented development in which long-term stakeholders are identified and involved and in which the coproduction of policy, multilevel governance, public-private cooperation, citizen participation, and demand orientation can proceed effectively. Through the linking of public and private investments in project envelopes a new perspective will be given to the ICES-procedures on spatial economic investments, currently at a standstill. The knowledge project is oriented towards the establishment of a knowledge infrastructure in which public actors, market parties, societal organizations, and knowledge institutions participate. This knowledge infrastructure must be capable of continuing to operate under its own resources after the knowledge project has been completed.

Six universities will participate in the scientific programme; together, they cover a wide range of disciplines (including economics, social geography, planning, sociology, public/social administration, and ecology).

The connection between science and practice takes place in the pilot projects. There, post-docs and professors participate. That joint activity has two goals: a. the incorporation of current scientific knowledge; b. the identification of the questions which science must address. In addition, the PhD trajectories will be used to generalize knowledge from practice wherever possible and from there to develop new approaches which practitioners can use.

4 Scientific Relevance

4.1 Introduction

Several different scientific frameworks and references will receive attention in the knowledge project. We specify the following scientific traditions, to which the programme will refer:

- *The first issue concerns the economic, social, cultural, demographic and technological changes and the spatial effects that can be ascribed to these changes. The project will refer to WRR publications (2002) about the relationships between town and country and the economic, sociological, and geographic theories they put forward.*
- *Special attention will be paid to the spatial implications of ICT use and ICT infrastructures. In the last few decades, many theories have been developed, several of which contradict each other (Toffler, 1980; Cairncross, 1995; 1997; Castells, 1989; 1996; Janelle & Hodge, 1999; Townsend, 2001; Warf, 2001; Priemus, 2002 and particularly Graham & Marvin, 1996; 2001). Specifically, the spatial effects of ICT on the settlement preferences of various categories of firms and the housing (environment) preferences of households, together with the home-and-work relationship will be further researched. Here a link will be made with research recently financed by NWO in the context of the MES programme (Society & the Electronic Highway).*
- *Several theories have recently been developed which seek to account for the dynamic of network cities, urban networks, and polynuclear urban regions (Batten, 1995; Capello, 2000; Townsend, 2001; Warf, 2001; Drewe, 1998; Dieleman & Faludi, 1998). This approach is far from having crystallized out; nevertheless, it has been embraced in recent Dutch policy documents (Ministerie van VROM et al, 1999; Ministerie van VROM, 2001) without a previous opportunity to review the implications.*
- *There is a long history of city theories, which will doubtless be overtaken by theories with respect to polynuclear urban regions. For urban renewal and the restructuring of city districts, an up-to-date insight is necessary into the economic, social, cultural and demographic dynamic to which cities and districts are currently subject. The processes of immigration, selective outmigration, social integration, and des-integration also play an important part. A host of theories about social cohesion and social capital in city districts has recently been developed, the value of which for those preparing urban policy remains to a large extent to be demonstrated. These theories will be inventoried, evaluated, and where necessary adjusted.*
- *The points above take up the existing residential environment preference theories, theories with respect to residential mobility, business location preferences and company mobility and consider them critically and, where necessary, amended and updated.*
- *In the last few decades, theories and methods involving the concepts of sustainability and economical energy use have been developed, largely based on the analysis of areas, actors, flows (materials, water, energy) and lifespan analysis. Methods have been developed to measure the sustainability and the quality of energy use: Ecoquantum, the Energy performance coefficient respectively. These theories and methods will be built on further. In the process, attention will be paid to institutional factors and behavioural reactions, such as rebound effects.*
- *Landscape ecology is developing into a scientific basis for the development of ecologically sustainable landscapes. Through the deepening and underpinning of the concept of ecological networks, it is beginning to become possible to formulate the spatial conditions for greenblue structures that support in a sustainable manner ecological (biodiversity, for example) and social (recreation for example) functions. This development will thread through the whole programme. Attention will also be paid to knowledge carriers and methods that make possible the interactive application of this knowledge in spatial planning processes.*
- *The project will build on decision making theories which utilize the multi-actor perspective and on governance theories in which particular attention will be paid to multilevel governance. Theoretical concepts and methods relating to public-private partnerships, for the most part developed in the United States, will receive particular attention, together with theories that seek to explain citizen participation, consumer sovereignty, or their lack. Links will be made with the NWO Netherlands Multicultural and Pluriform Society programme.*

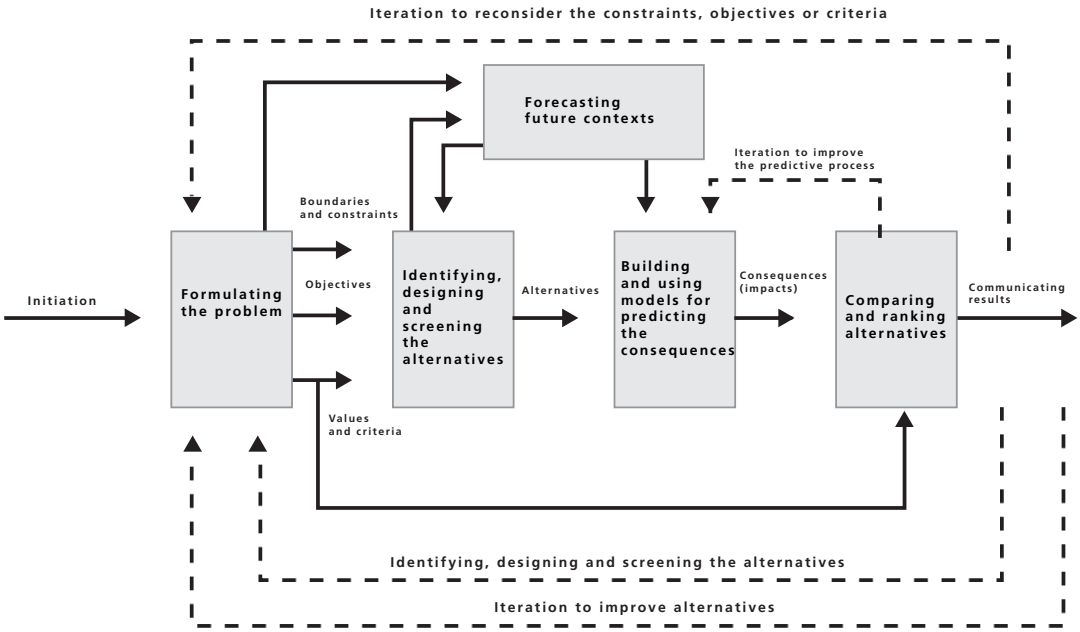
- *Finally, attention will be paid to innovation theories and theories about learning processes and learning organization. These theories will not be developed within the SRG knowledge project, but they will be absorbed and applied there.*

The innovative nature of the SRG programme is that the instrumental aspect forms a connection between internationally rooted theories and the current Dutch spatial development challenges. The current gap between international theory and Dutch practice is still astonishingly large.

The specification given here is far from complete. The knowledge project is not orientated towards one scientific framework, or one homogeneous collection of theories, but is multidisciplinary in nature. An eclectic approach will be taken in the endeavour to derive concrete applicable instruments and tools from the scientific theories. A system theory perspective has been chosen to bring the theories together. This approach is future oriented and presents a tool to compare alternatives, given a set of objectives, values and criteria, boundaries and constraints.

The methodology of System Analysis, developed by Findeisen and Quade (see figure 4.1), provides the framework that will be used for the identification, design, testing, comparison, and ranking of alternatives (policies, models).

Figure 4.1 The Methodology of Systems Analysis



Source: Miser, H.J. & E.S. Quade, 1985, Handbook of System Analysis

4.2 Scientific and technological innovation (national and international)

The necessity of a transfer from restrictive planning through allocation to development planning has been indicated, partly explicitly and partly implicitly, in a number of policy documents recently published by the Ministries of Housing, Spatial Planning and the Environment (VROM), Transport, Public Works and Water Management (V&W), Economic Affairs (EZ), and Agriculture, Nature Management and Fisheries (LNV) and in policy recommendations made by the WRR, SER, and VROM Raad. Here is a necessity for the coproduction of policy by various policy institutions, result-oriented public-private partnerships, and participation by citizens and end users such that democratic legitimacy and effective demand management can justifiably be claimed.

Furthermore, the necessity has been formulated of the renewal and revitalization of cities so as to enhance substantially their economic vitality, accessibility, cultural attractiveness, social cohesion, and the quality and sustainability of the urban housing and living environment. The trends of the selective migration of middle and high income groups from the city and the deteriorating levels of safety in the city must be counteracted by among other things the regeneration of less popular city districts, the restructuring of business parks, and the (re)development of strategic city projects. The progress made in the desired urban renewal remains so far behind the ambitions of the Cabinet and the city councils concerned, a new, more effective approach is considered necessary.

"Innovation needs learning by doing." (Ton Duffhues, coordinator Agriculture and Society ZLTO)

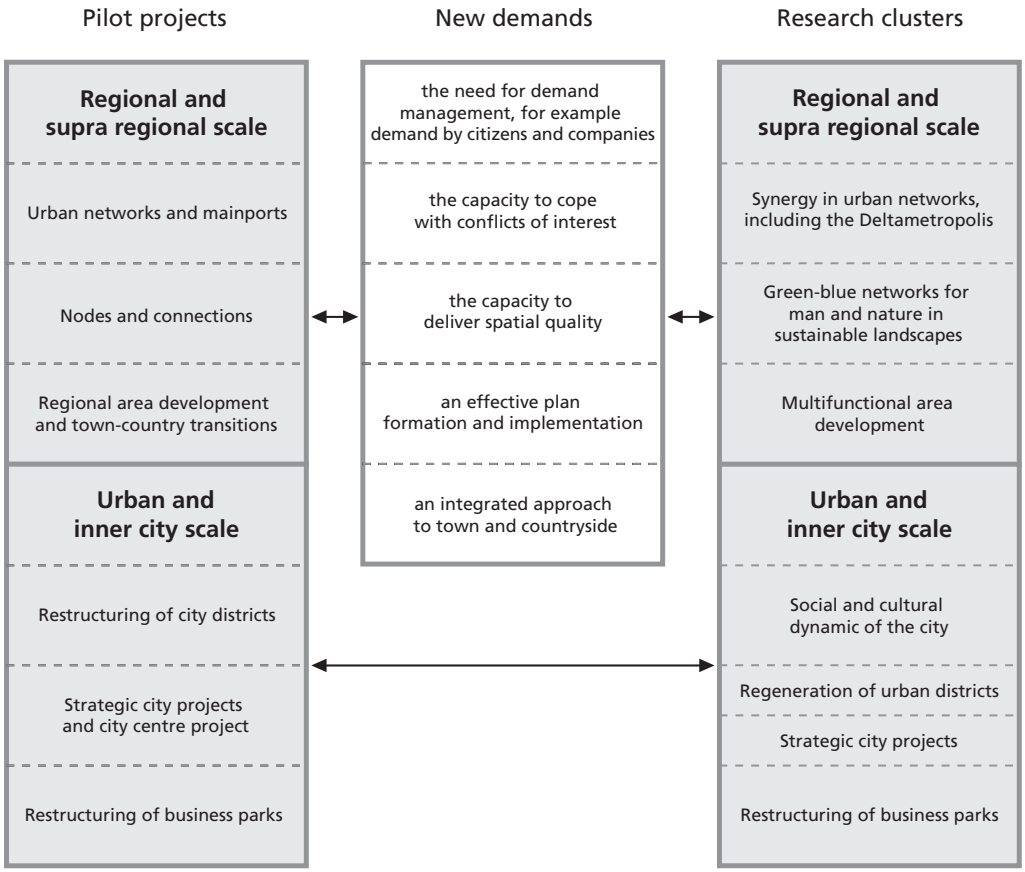
The innovative aspect of the development approach is encapsulated in a number of key words: scope optimization, project envelopes, benefit sharing, value capturing, multilevel governance, coproduction of policy, public-private partnerships, citizen participation, demand management, thinking in terms of lifecycle costs, high value and multiple land use, and the planning and design of urban networks and network cities which are appropriate to the rapidly developing network society, network economy, and the spatial consequences of ICT use. Area-oriented development planning must be the answer to the societal and spatial dynamic as outlined in WRR (2002), which in turn determines the new geography.

Much has been written in the international literature since the standard works of Castells (1989) and Sassen (1991) about the urban and spatial dynamic in the network society and about the spatial impact of ICT (Graham & Marvin, 1996; 2001), which on balance would seem to facilitate the development of polynuclear urban regions. Use will be made of these insights in the SRG programme. Contributions to international literature and to international workshops, will draw on these insights from the SRG programme. In this context, the envisaged cooperation with a number of leading European research groups (University College London, University of Central England, Birmingham, University of Liverpool, University of Glasgow, Université Lyon, Dortmund Universität, and KU Leuven) is of importance, as is the intensive cooperation with the Department of Urban Studies & Planning of MIT (Cambridge, Mass.). The emphasis in the SRG programme lies however on the development and application of effective and efficient intervention strategies, which link state-of-the-art international insights in the urban and regional dynamic with the Dutch planning tasks on a regional scale and the renewal tasks within the city.

4.3 The scope of the SRG programme

The SRG proposal consists of a scientific programme and a development programme for practical applications referred to collectively as pilot projects. These will yield empirical data and references for the scientific projects, from which in their turn expertise and insights will be made available to the public and private actors involved in the pilot projects. The choice of pilot projects is derived from the ambitions of those involved that should relate to the envisaged SRG system innovation. The information to be mobilized in the pilot projects should coordinate with the research problem statement of one or more research projects. The intention to embark on a particular pilot project can also function as a source of inspiration to formulate a research proposal, to broaden it, or to give it a focus. There will be close interaction during the whole course of the SRG programme between the research projects and the pilot projects, with the preservation of the specific responsibilities of the project leaders and other actors in the pilot projects and the independence of the scientists involved.

Figure 4.2 Pilot projects categories and research clusters



The research projects and pilot projects relate to the regional and interregional scale level (integrated area-orientation, oriented in particular to town and country relationships, or zoomed in on traffic networks, or blue green networks), to the urban scale level (urban transformation, the development of network cities) and the scale level of rural landscapes and the scale of areas in the city (housing estates, business parks, city centres, strategic city projects). Thinking will be extended relatively often right through the scales: on the one hand the relationship with national policy and international developments will be considered, while on the other there will be discussions on the implications for the project level down to and including the single dwelling, or the company building.

In the SRG knowledge project, both the pilot projects and the research projects are clustered (see table 4.1). Research cluster nr. 1, Synergy in urban networks, including the Deltametropolis, covers the higher scale level and also establishes the international relationships, via mainports for example. The pilot projects at this scale level are bundled under theme 1: *Urban networks and mainports; and under theme* 2: *Nodes and connections.*

Research cluster 2: *Green-blue networks, and research cluster* 3: *Multifunctional area development,* run parallel with the pilot projects that belong to theme 3. *Regional area development and town-country transitions.*

On the urban and inner city scale, we first encounter the mutually connected research clusters 6: *Social and cultural dynamic of the city,* and 7: *Regeneration of urban districts: multifunctional and multi-actor.* Both of these clusters are correlated with the pilot projects fitting within theme 4: *Restructuring of urban districts.*

Finally, there is research cluster 8 that concerns Strategic city projects and the restructuring of business parks, and that maintains a close relationship with pilot projects which belong to theme 6: *Strategic city projects and restructuring of business parks.*

The research clusters 4: *Economic dynamic and the location preferences of companies,* and 5: *Housing market dynamic, residential (envi-*

ronment) preferences, strategic portfolio policy and sustainability, are oriented to the underlying dynamic of settlement and residential environment preferences of companies and households. Both of these clusters provide knowledge for the pilot projects where these essential themes are at issue.

4.4 The scientific and technical knowledge and competencies to be acquired

The SRG programme is aimed at the development of multidisciplinary knowledge. This will take place within such disciplines as spatial planning, geography, economics, sociology, management science, organizational science, civil engineering, town and country planning, ecology and landscape architecture, but the development will be primarily at the interdisciplinary level. The project orientation is towards spatial processes, spatial products (artefacts), and decision-making as expressed in spatial interventions. System theory will to a considerable extent build bridges between the many disciplines involved.

Economic, sociological, and geographical knowledge will be deepened and worked out within the framework of the SRG programme. The emphasis nevertheless falls on the question of which spatial intervention strategies and which spatial investments are most suitable for the societal and spatial dynamic. It is not so much a matter of the development of new technological knowledge, but rather of the assessment of the spatial-economic implications of new technologies (ICT technology, GIS-techniques, new transport systems such as high speed trains, light rail, people movers and civil engineering innovations such as building underground and water management), as well as the opportunities which these technologies offer for decision-making arrangements for the purposes of spatial intervention (E-government, E-learning, virtual reality as a resource in the evaluation of alternatives, decision making support, risk sharing, methods of enhancing the sustainability and economic energy use in buildings). The aim is always to bridge the gap between theory and practice.

4.5 Scientific approach and method of working

The scientific approach and method of working will be defined per research cluster and per research project. A variety of research strategies and methods will be applied. Every effort will be made to achieve a close cooperation between the projects, as a multi-disciplinary and interdisciplinary perspective requires. The focus is the spatial dynamic and spatial interventions. Here an eclectic approach will be applied, adjusted to suit the issues that arise in the pilot projects. A project organization will be set up for each pilot project. Thematically related pilot projects will provide the basis for the formation of thematic Communities of Practice (COP) in which practical actors, policymakers, and researchers meet each other regularly and exchange views and experiences. In chapter 6 we elaborate the way the relation between research projects, pilot projects and Communities of Practice will be designed.

By definition, scientific research is oriented to the generalization of insights, and thus to the proposal and modification of theories. The emphasis in the SRG proposal lies on instrument development and instrument application, so that the connection is made between unique pilot projects and insights of general validity. Here international comparative research can sharpen insights and set the people involved in the Dutch pilot projects on the track of other instruments and procedures which have been successful elsewhere, but have yet to be utilized in the Netherlands. However, what may be effective in Dutch spatial policy will not per definition be effective in the United States or Belgium. The generalizability of insights is limited by institutional factors and path dependencies.

4.6 Why the approach chosen is to be preferred above other alternatives

A case-oriented approach, such as that used by consultants, would probably be capable of resolving short-term problems with success, but would not lead to very much generalizable knowledge and would doubtless fail to reveal the underlying connections and processes.

A more academic approach, undertaken at a respectable distance from practical applications, runs the risk of failing to take adequate account of the current policy challenges as formulated by the government, the provinces, and the councils of local government authorities, and threatens moreover to take too little account of specific Dutch facts and figures, such as the spatial points of departure, the positioning of our country in a delta in the middle of international networks, the management culture, the planning tradition, the demograp-

hic and economic characteristics.

The SRG programme is pre-eminently oriented to the spatial dimension of ICES-policy. The SRG programme is directed not only to the enhancement of academic knowledge and the improvement of the knowledge infrastructure with respect to land use and area development, but also to the strengthening of the spatial-economic structure of the Netherlands. In the light of this task, a multidisciplinary and interdisciplinary approach is indicated and an intensive interaction with pilot project actors is the appropriate approach to ensure that the acquired scientific insights are applicable in Dutch practice in the short and the long term.

4.7 Specific problems and requirements from utilization policy

A multi-disciplinary approach requires the contribution of many universities and other knowledge institutions. In that way a strong international imbedding is ensured. For the implementation of the research programme, the projects fall under the responsibility of professors who participate in research schools recognized by the KNAW.

The problems that are particularly likely to arise in the course of the SRG programme are that the pilot projects will acquire their own dynamic, and that the policy of the various ministries and decentralized government authorities will also develop independently of the SRG programme. Many external societal and technological trends will make their impact as well. The SRG programme has been thoroughly prepared, but nevertheless space will have to be left in it to accommodate the interim problem issues that the pilot projects will raise and the questions that the policy issues of the time will produce. While this flexibility is essential, it will not, however, be at the cost of the robustness of the SRG programme.

As indicated above, in the SRG proposal a mutual intensive interaction between the research projects, and between the research projects and the pilot projects has been chosen. This approach requires a multi-actor environment with both public and private actors, in which knowledge management is of crucial importance in the achievement of societal gain. The participation of citizens and end users together with the facilitation of individual and collective articulation of demand are required for the achievement of the desired system innovation.

4.8 Links with European research programmes

In a number of respects the SRG programme relates to KP6. Specifically, the following main themes are involved:

- *Sustainable energy systems, transport, the environment, and sustainable development*
- *Citizens and government in the knowledge society.*

The 'Sustainable Energy Systems' programme (6.1) includes:

- *Ecobuilding*
- *Civitas II: City-Vitality-Sustainability, in which the emphasis falls on cities with less than 500,000 inhabitants*
- *New technologies for energy carriers, transport, and storage, in particular hydrogen*
- *Application of PV in buildings and habitat*

These themes are prominently present in the research clusters 1 and 5, and are dealt with in other research clusters as well.

In the area of transport the principal themes are:

- *Freight transport corridors*
- *City logistics*
- *Road infrastructure safety*

These themes are dealt with mainly in research cluster 1.

The programme 'Sustainable Surface Transport' (1.6.2) includes:

- *European transport policy*
- *High quality public transport*
- *Clean urban transport*
- *New concepts for the distribution of goods*
- *Intermodal transport and logistics*
- *City logistics*

Closely related to the above is the emphasis of the SRG-programme on networks and nodes, together with the interconnectivity and interoperability of networks.

Finally, the 'Policy-orientated Research' programme (8.1) incorporates the following themes:

1.1 The modernization and sustainability of agriculture and forestry, including their multifunctional role in order to ensure the sustainable development and promotion of rural areas

1.2 Tools and assessment methods for sustainable agriculture and forestry management

1.5 Environmental assessment (soil, water, air, noise, including the effects of chemical substances)

2.3 The impact of environmental issues of health....
2.5 Comparative research of factors underlying migration and refugee flows, including illegal immigration and trafficking in human beings
2.6 ....crime prevention policies
2.7 Issues related to civil protection (including biosecurity and protection against risks arising from terrorist attacks) and crisis management
3. Underpinning the economic potential and cohesion of a larger and more integrated EU
3.1 European integration, sustainable development, competitiveness, and trade policies
3.2 Tools, indicators, operational parameters for assessing sustainable transport and energy systems performance
3.4 Forecasting and developing innovative policies for sustainability in the medium and long term
3.5 Information society issues.

The themes specified above are central in the research clusters 2, 4, 6, 7 and 8.

Conclusion: on certain vital points the SRG programme relates to KP6 and to a number of other programmes (the Fifth Framework programme, Interreg III, Espon, and Save Altener), so that the accumulation ceiling of 65% public support is indicated. For projects in which we cooperate with an international consortium, this accumulation can rise to 75%. Various projects will establish the relationship with research groups abroad via international networks (AESOP, STELLA, NECTAR, ENHR, IAPS, CIB) and via bilateral participation connections (for example, MIT-TUD; MIT-EUR). In the SRG proposal a number of MIT PhD students and one MIT postdoc will be involved who will compare the approach in American regions and the Deltametropolis on certain vital points.

5 Economic and Societal relevance

5.1 Introduction

Some of the important tasks currently confronting the Netherlands are the spatial planning and design of urban networks in which urban structures and traffic networks are coordinated together within blue and green contours, the restructuring of urban districts and business parks, and the selective development of strategic city projects and nodes. Acute bottlenecks occur at these points: a serious shortage of public resources to finance spatial investments, a shortage of incentives to mobilize private investments, a shortage of new dwellings through an obscure bureaucracy, an incoherent system of building regulations, environmental regulations, and planning regulations which make procedures of an unacceptably long duration, together with a shortage of locations for companies and house building and a stagnating urban renewal.

Currently, spatial planning and implementation is usually undertaken per sector. Since problems are not tied together, partial solutions are often realized; these in their turn lead to new problems. Moreover, opportunities for synergy are missed; it also seems to be difficult to cope in an adequate manner with citizens demanding more influence. In general, it can be concluded that the power to obstruct is better organized than the power to persevere.

The consequence of all this is that spatial investments are not always effective or efficient. The spatial planning projects are too monofunctional and possess too little variety.

5.2 Societal tasks and market failures

An important task currently confronting the Netherlands is the spatial planning of urban networks within which urban structures and traffic networks are coordinated within blue and green contours. The restructuring of urban districts and business parks, and the selective development of strategic city projects and nodes, the transformation of agriculture and the desired quality impulse for landscape and nature are also important spatial-societal tasks. At the same time, we see that the realization of spatial planning is becoming increasingly difficult, particularly if it is very ambitious with respect to the number of sectors involved and to the realization of spatial quality. We may think in this connection of the problems involved in achieving sufficient new housing. Without the intervention of ICES/KIS the problem of realizing ambitious spatial plans, will not be solved.

There is thus clear evidence of market failure. There are several reasons for that state of affairs:

- *The willingness of private parties to invest in societal tasks is apparently limited, because the benefits of their efforts are often only partially to their own advantage. This relates to the partly public character of many of the tasks to be undertaken. Adequate methods to adjust the imbalance between the distribution of costs and profits are lacking.*
- *Public resources to invest in societal tasks are insufficient. That causes difficulties, because instruments are lacking to weigh up carefully the varied projects that could help resolve the societal tasks.*
- *Current spatial planning and implementation usually runs per sector. Since problems are not bundled together, partial solutions are obtained, which often in their turn call up newer problems. Moreover, chances for synergy are missed..*
- *It appears to be difficult to deal with citizens demanding more influence; they do not all want the same things. It is also frequently found that the citizen behaves differently as a voter than as a consumer. In general, it must be concluded that the power to obstruct is better organized than the drive to persevere.*

The knowledge and skills that would enable us to deal with the causes of market failure have been insufficiently developed. This is to do with two shortcomings in the organization of knowledge. First, it can be concluded that the three domains (science, practice, and policy) that together should generate the required knowledge and skills are segregated. This separation leads to sectoral rather than integrated policy, monodisciplinary instead of multidisciplinary science, with either the town or the countryside as the object of study, and isolated instead of mutually enriching procedures.

"The Netherlands are smaller than you would expect." (Walter Kooy, secretary Raad voor het Landelijk Gebied)

The second shortcoming in the organization of knowledge relates to the fact that the three domains indicated do not work together properly. One consequence is that the practical

domain struggles with problems for which the science domain has already found a solution and runs into barriers from the policy domain. Another consequence is that policy may run up against considerable resistance and so can only be implemented with long delays, if at all. A final consequence is that pressing questions from society either do not reach the science domain at all or, if they do, only in a distorted form.

The effect of all this is that spatial investment is less effective than it could be. In short, a great deal of money and land is wasted. Moreover, those matters and qualities of concern to citizens and businesses are not attended to. That leads to the international deterioration of the competitive position of the Netherlands as a settlement location for businesses and as a living environment for citizens.

5.3 Wat can the SRG programme contribute to the policy domain

We have observed that it has cost the ministries concerned considerably more difficulty to come into line in terms of their policies in spatial planning, housing, urban renewal, real estate, infrastructure and spatial investment. The lack of consensus has led the difference between formulated policy and practice to be uncomfortably large.

A selection from current policy problems:

- *There is an unbridgeable gap between the investment claims of investment departments and the provinces on the one hand and the available public resources on the other. Consequently, ICES policy has reached a dead end (VROM-Raad, 2002; Priemus, 2002). The SRG programme offers fresh prospects of new relationships between public and private actors and more synergy between public and private investment.*
- *In many arenas there has been impassioned debate on the Fifth Spatial Planning Memorandum. The Cabinet's Position Paper on National Spatial Policy has not succeeded in finally settling the discussions. There is a reasonable consensus on the potential importance of urban networks, but the distance to an operational and effective coordination of spatial planning at this level is still great. Opinions are still divided concerning the relationship between green-and-red and blue-and-red contours respectively. How we should proceed with green contours and what feasible alternative there may be for red contours is unclear and still disputed. The SRG programme is oriented towards an innovative relationship between town and country and the research domain is strongly oriented to practical issues. As a result the SRG programme will be capable of contributing to more consensus over the spatial policy to be carried out.*
- *Since the publication of the Land Policy Memorandum, policy discussions have become relatively quiet. Nevertheless, in practice there is still considerable confusion about the land policy to be carried out. Opinions on an active municipal land policy and a facilitating land policy are often directly opposed to each other. A Grondexploitatiewet [Land Development Act] has yet to appear on the Statute Book. In the SRG programme research and practical experiments will be directed towards the enhancement of the synergy in the relationship between municipal land policy and private development policy.*
- *The Cabinet outlined new perspectives for an approach to rural areas in the memorandum Natuur voor mensen, mensen voor natuur [Nature for people, people for nature] and the memorandum Bevédère. In the Fifth Memorandum on Spatial Planning, both documents featured the complete isolation of urban developments by green and red contours. The SRG programme assumes, in the wake of the WRR memorandum Town and country in a new geography, a new interweaving of town and county, in which red contours do not fit. The SRG programme offers a well-founded basis for the forthcoming memorandum Space in which town and country will be linked together.*
- *In practice, there is an impeding field of tension between infrastructure policy and spatial planning. Each policy sector follow its own path, but it is becoming increasingly clear that there ought to be a strong complementarity between infrastructure networks and node development in urban networks. Spatial planning, real estate development and infrastructure policy ought to reinforce each other. Only then can the triplet exploit, price, construct of the National Traffic and Transport plan come into its own. The SRG programme is designed to bring about synergy between networks and also to close the*

gulf between infrastructure policy, spatial planning, and real estate policy.

- *The flow on the housing market has slowed down. The figures for new construction remain far behind the target figures of the Memorandum Mensen-Wensen-Wonen [What people want, Where people live]. This has to do among other things with a too limited differentiation in new house construction and the increasing scarcity of house building locations. The SRG programme points the way to more demand-oriented house building and to a new relationship between town and country in which a varied scale of residential environments can be developed.*
- *The high ambitions in urban renewal remain undiminished, both at State and city government levels; however, performance lags far behind. In practice, the physical, social, and economic pillars are still poorly linked. The improvement of housing and housing environment lags behind the intentions. The SRG programme will provide an input into urban processes, both the urban economy and the social and cultural dynamic of the city. The gap between policy development and urban renewal practice bridged, specifically in the G30 and the priority neighbourhoods shortly to be announced.*
- *In close association with the economic transformation processes, the task of the restructuring of business parks is becoming greater. What is required is joint action by businesses, in cooperation with local authorities, the region, and province, within which the basis can be laid for effective park management. Here too the SRG programme points the way through the connection between research, policy, and practice and also through the analysis of inspiring examples from abroad.*
- *The Fifth Memorandum on Spatial Planning indicated new key projects. Actually realizing these projects costs exceptional efforts. There are many daunting complications and barriers. The SRG programme is also concerned with the realization of strategic city projects, which include the redevelopment of station precincts and city centres. Here too, the SRG programme builds a bridge between research, policy, and practice and endeavours to reduce the barriers that arise in multi-actor decision-making and multifunctional area-oriented development.*

Many of the practice problems surrounding spatial planning, real estate development, and land use are linked to differences in insight and communication breakdowns between policy sectors (horizontal coordination), central and decentralized government authorities (vertical coordination), and a lack of cooperation between public and private actors. The emphasis on fruitful interaction between research, policy, and practice and the prominence of such themes as the co-production of policy, public private participation, citizen participation, and demand management enable the SRG programme to contribute to the resolution of a number of obstinate policy problems in the domain of the ministries participating in the SRG: VROM, EZ, V&W, LNV and BZK.

5.4 Challenges with respect to knowledge and the knowledge infrastructure

In chapter 3, several questions formulated for the SRG knowledge programme were presented. These may also be seen as challenges with respect to knowledge and knowledge infrastructures:

- *The generation of adequate fundamental scientific knowledge on multiple land use and associated matters based on issues originating from practice;*
- *The development of competencies to reach planning formation and realization in an efficient manner, taking into account the various interests concerned;*
- *Making scientific knowledge useful in practice and contributing to a better spatial quality;*
- *Making an inventory of issues which arise in practice and the conversion of these issues for scientific research purposes;*
- *Ensuring that the domains of science, policy, and practice arrive at effective spatial planning procedures and spatial investment by making use of the available knowledge and competencies.*

These challenges will be addressed by the approaches set out in section 3.5. They are discussed further in Chapter 6.

5.5 Bsik contribution

As indicated above, market failures lead to many spatial plans failing to be implemented at all, or only with difficulty while failing to achieve the desired spatial quality. It has also been asserted that the root cause of these market

failures lies in the organization of knowledge. Through their segmented and barely interactive organization, the three domains required to achieve together the knowledge and skills capable of bringing about development planning are themselves part of the problem to be resolved. This organization must be changed if the root causes of the problem are to be removed. That cannot be achieved without an impulse, because the current funding flows are directed so as to perpetuate this detrimental situation. The impulse must last for several years, because developing new solutions and approaches costs time; they are not brought about overnight.

5.6 Alternative solutions

There are at least four conceivable alternative approaches, all of which would however be less effective than a Bsik contribution or even fail to help realize the envisaged goal:

- *Do nothing. Experience shows however that the current situation (including shortcomings) would remain (see above).*
- *Put more money in the science domain. But this would not resolve the problems of disciplinarity, town-country partition, and too little orientation to procedural perspectives for policy and practice.*
- *Give more money to policy, for an inter-departmental programme System innovation in Land use, for example. A link with practice could be made via an approach such as that used in the BANS-trajectory. But the involvement of science would then remain a difficult issue. Moreover, it is doubtful whether sufficient boundary breaking ideas could be expected from policy.*
- *Give more money to practice. For specific improvements, this strategy could be effective: see the IFD contributions, the IPSV contributions, or the BIRK subsidies. Such contributions would not, however, bring about any system innovation. It is any case the question whether the practical domain would of itself, considering all the short-term interests, be sufficiently interested in the involvement of the science domain (which of course can frequently only come up with the answers being sought in a somewhat longer term). Moreover, private parties seek to make investments that can deliver a reasonable profit without too much risk. The path of System innovation in Land use envisaged here would not satisfy that criterion. In short: giving money to the practical domain would be unlikely to lead to the desired result.*

5.7 Measurable economic-societal results

5.7.1 Direct results

Practice:

- *Completed system innovative projects in the area of development planning that function as examples for future cases.*
- *Completed and evaluated methodologies to come to an optimal conversion of available knowledge to appropriately adjusted procedures.*
- *Competencies developed in various people to select knowledge themselves and decide whether or not to use it.*
- *Knowledge discovered that is usable in practice in system innovation, knowledge production, and land use. With respect to land use, the concern is for spatial planning, methodologies for demand management, conditions for effective cooperation, and so forth.*
- *Clear articulation of questions to be directed to the science and policy domains.*

Science:

- *Research better related to practice and therefore more effective.*
- *Multidisciplinary cooperation in spatial research, including cooperation between the research schools NETHUR, SENSE and TRAIL and between the research groups from the SRG consortium.*
- *A stronger international profile of Dutch research in town and country planning.*
- *A firm embedding of the SRG domain in forthcoming relevant MSc courses of the TUD, VU, UvA, UU, EUR and WUR and HBO institutes.*
- *Knowledge on development planning and multiple land use well attuned to practice.*

Policy:

- *Horizontal (between ministries, for example) and vertical (between State and province, for example) coordination of policy in town and country planning.*
- *A systematic exchange of knowledge between policy, science, and practice.*

General

- *Greater confidence between the policy, science, and practice domains, so that they can more readily contact each other and be more prepared to invest together in better spatial quality.*

5.7.2 Benefit for society

The benefit of SRG for society is expressed in three areas:

- *SRG will lead to more rapid implemen tation of projects.*
- *SRG will lead to better projects (more capable of meeting the spatial tasks confronting the Netherlands).*
- *SRG will lead to competitive advantages.*

The more rapid implementation of projects involves the following:

- *More effective input of spatial investment, in the sense that the same objectives can be achieved with less money through faster procedures.*
- *The power to obstruct will be converted through new approaches to the power to work together.*
- *Projects for which there are insufficient public resources (ICES projects, for example) will be stimulated. This will take place via the linking of public and private investment initiatives, thereby generating extra resources.*

The better projects will be the result of:

- *The utilization of the advantages of synergy through the linking of sub problems and projects and the involvement of the various scale levels in the analysis.*
- *A more integrated approach to town and country planning issues.*
- *A more matter-of-course and constructive introduction of ecological and sustainability considerations in the development of projects.*

The competitive advantages listed refer to the following aspects:

- *Developed knowledge (in terms of content and process) on development planning, multi-actor decision-making, area-oriented development, and high-value, multiple land use. This knowledge (including the associated procedures) can be exported, to other densely populated deltas in the world, for example.*
- *Developed knowledge of knowledge production processes, which lead to more effective procedures. The possession of this knowledge leads to a strengthening of the position of Dutch trade and industry.*
- *Better reactions to the demands of citizens and businesses leads to the strengthening of the Netherlands' international competitive position as a settlement location and enhances its attraction for foreign investors.*

The benefits of SRG for society on the basis of a pilot project are set out in the textbox.

An example of a multi layer business area in Alphen aan den Rijn

The multilayer business park project in Alphen aan the Rijn started at the beginning of 2001. Public and private parties together took the initiative to set up two "Communities of Practice" (see chapter 6) to work towards:

1. *The fulfilment of spatial needs with as few m2 as possible (realization of space for new businesses, the extension of existing businesses, recreational functions, and distribution & logistics)*
2. *The improvement of spatial quality (appropriateness of the business parks in the landscape, careful use of open, green space and making rural areas accessible).*

Although the project has yet to be carried out (it is included in the list of pilot projects) we anticipate the following results:

- *There are 15 ha of agricultural land available for the business park, but at least double the gross floor area of business and leisure space will be realized (300,000 m2 gross floor area);*
- *The smart combination of remaining space and the needs for space brings new solutions (tennis courts on the roof of a business building, for example);*
- *Cooperation between government authorities, private parties, and science produces added value, for example:*
- *The provincial government authority has already made a multilayer business park possible in the regional plan (acceleration procedures);*
- *Private parties plan actively and at their own cost help arrive at a feasible plan (increased financial feasibility);*
- *Science works on the modelling of the mixing of functions in relation to the many legal restrictions, for example the environmental legislation, the living and working conditions of planning (fundamental knowledge);*
- *A system innovation oriented to innovative land use offers participants a comparative advantage that they can also market outside the Netherlands;*
- *The societal and financial added value stimulates public and private parties to rapid realization;*
- *A plan with an area 300,000 m2 for a business park means an investment of minimal 90 million euro. Each year's acceleration of this plan will save about euro 5.4 mln in interest.*
- *Thanks to the implementation of the plan at least 15 ha. of green space can be retained as open space. This provides a saving in the purchase, or the laying out of nature. Assuming 5 euro per m2 this means a saving of 0.75 mln euro*
- Against the savings and societal yields listed stands a contribution from BSIK of about 200,000 euro.

5.8 Risks

The proposed programme asks a great deal from the participants. One risk is thus that one or more of them may not function well. This risk can be minimized in the practical projects by drawing up a contract from a total vision in each case for the smaller subprojects. In the scientific part of the programme this will be dealt with through clear evaluation regulations, including a well-regulated exit.

Another risk concerns policy remaining aloof, as indicated above; one of the main problems is the internal segmentation of policy and its lack of interaction with practice and science. Attempts will be made to reduce this risk through the involvement of all the relevant ministries in the proposal. Lower level government authorities will also participate. That does not necessarily resolve the problem, however. It remains a point of attention.

A third risk is that the multidisciplinary research approach will develop inadequately. Endeavours will be made in various ways to limit that risk: first, through recruiting a relatively large number of post-docs, who are better able to work in a multidisciplinary manner than PhD students. Second, risks will be limited through the installation of a heavyweight scientific steering group within which all the relevant disciplines will be represented. Third, cross-disciplinary projects will be included from the beginning. Fourth, the budget will allow gradually for the extra attention needed in the programme for multidisciplinary issues. Finally, multidisciplinarity will be promoted through the close link between practice and science.

A fourth risk is that, through rigid organization, the programme will lead to insufficient innovation. Innovation, as has often been said, is the art of the balancing on the borderline between chaos and order. Here an important balancing factor is the experience of both implementation organizations (Habiforum and InnovatieNetwerk Groene Ruimte en Agrocluster). They are both used to coping with this sort of contradiction. Moreover, order is particularly well catered for at the programme level; within the separate projects there is, should it be needed, every opportunity for the chaos that can lead to creativity and innovation.

A fifth danger is that the ideas developed may come no further than the paper on which a report or a plan is written. This risk is limited by following through the practical projects that are in highly divergent stages of development.

A sixth risk is that insufficient qualified people can be found for the implementation of the programme, in particular the research programme. To some extent this risk has been reduced by the deteriorating labour market. Cooperation with foreign research institutions will also contribute to the reduction of this risk.

A seventh risk concerns the period after the investment impulse. There is a chance that even if everything runs smoothly according to plan in the Bsik period, after that support has disappeared everything will revert to the old situation. This danger is discussed in the last section of this chapter.

5.9 After the close of the Bsik

It is the intention that the SRG programme will be terminated in 2007, apart from a limited extension (PhD students who still have to defend their dissertations, and so forth). We consider the chance to be small of a regression to the situation in which the knowledge domains of science, policy, and practice operate in segments, and in isolation from each other. Briefly recapitulating the following arguments can be put forward for this view.

The most important guarantee that the innovation will not regress after the investment impulse lies in the fact that parties from the three domains of science, practice, and policy in the pilot projects will learn to feel that cooperation has a clear added value. As a result, this cooperation can be expected to continue after the impulse is terminated.

It is also very important that people in the programme develop the competencies to deal with knowledge in an appropriate manner. That takes place through participation in practical projects and through incorporating this aspect in courses and training. There will be increasingly larger groups of people who are capable of selecting useful knowledge and setting it in appropriately adapted procedures.

From the pilot projects, sharply formulated societal questions are derived and directed to the science domain. Such questions will in general have an integrated character, so that putting multidisciplinary science into practice will receive an extra stimulus. This multidiscipli-

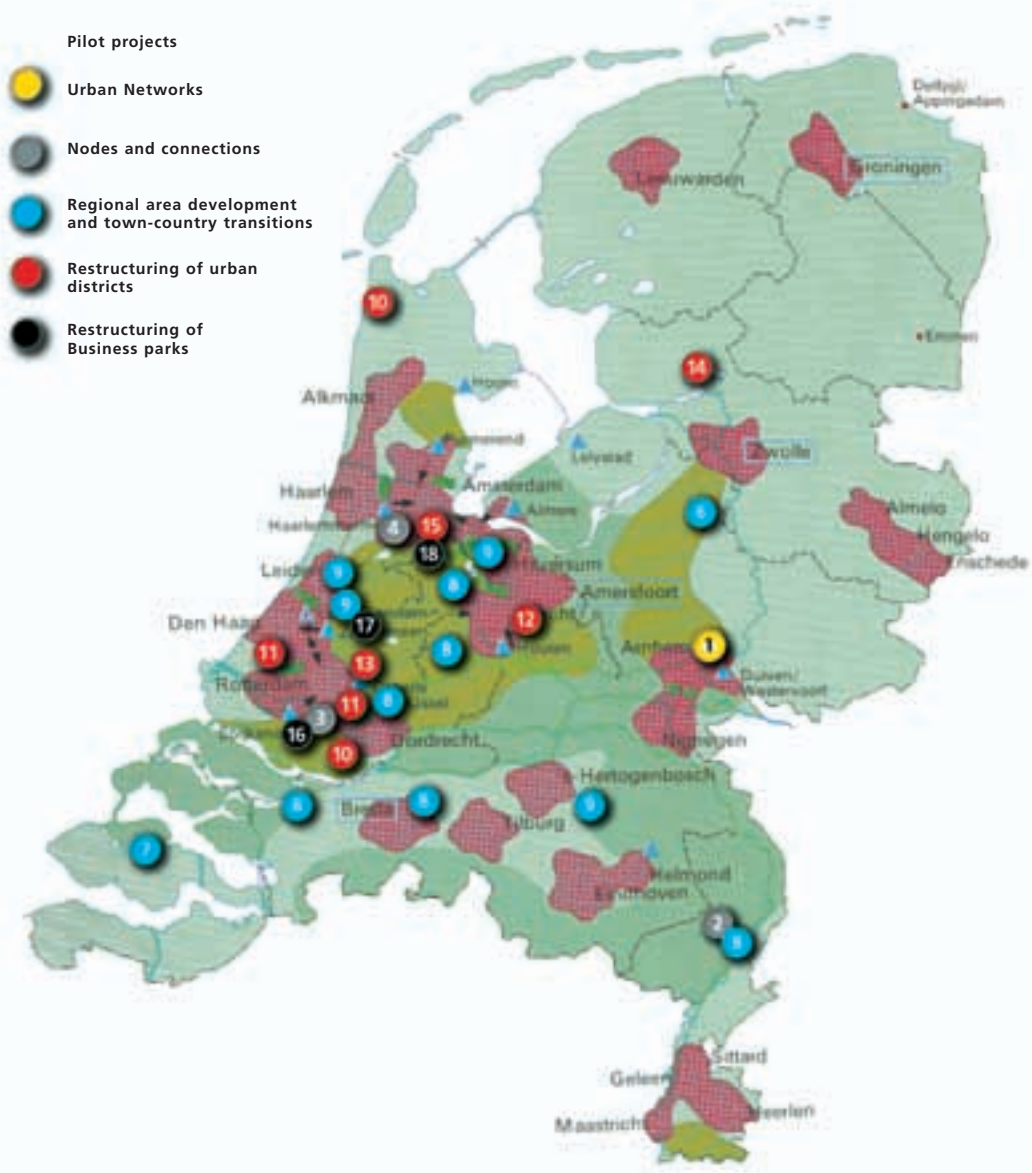
narity will also be promoted through the setting up of the process of disciplinary (and university!) cooperation in the scientific team.

Via the pilot projects, a dialogue will also be started with the policy domain, so that policy may become more sharply directed to implementation and can profit from available knowledge. That would be to the benefit of the policy domain (policy will have more effect) and for the practical domain (fewer barriers will be encountered); it may therefore be concluded that this dialogue will also be continued after the termination of the Bsik contribution.

6

Knowledge project:

Implementation



6.1 Introduction

The knowledge project *System Innovation in Urban and Regional Land Use and Area Development* comprises two interconnected components:

1. *Scientific research programme.*
2. *Practical development programme of selected pilot projects.*

6.2 Scientific research programme

6.2.1 Structure of the research clusters

The SRG research programme consists of eight research clusters (see Figure 6.1), in which various scale levels and sectors are linked with each other.

The scientific research programme is concerned with the development of multifunctional and high quality areas in urban and blue-green networks. The aspiration is area-oriented development planning which links town and countryside together, combines projects in project envelopes, and develops a process architecture characterized by the co production of policy, public-private partnerships, and demand management. The aim is high-value and multifunctional land use in accordance with the preferences of citizens and end users.

Furthermore, the location preferences of companies and the housing environment preferences of households will be brought into the frame. Developments and trends that condition these preferences now and in the future will be investigated.

Finally, the research programme will consider the economic, social, and cultural dynamic of the city and city districts. Particular attention will be given here to the portfolio policy of housing associations and real estate investors, the regeneration task for less popular urban districts, the restructuring of business parks, and the (re) development of strategic city projects. In addition to the economic dynamic and social aspects, ecologic sustainability is also an explicit research topic. The people-profit-planet triangle is involved in all the components of the research programme.

We describe briefly below the content of each of the research clusters. The programme, including a preliminary selection of research projects, is further elaborated in a number of appendices. At this stage, the programme has not yet been completely worked out, because space must be left for issues which may come up in the pilot projects, or be derived from current policy developments, and also because initiatives will be taken in the course of the programme for integrative research projects, both within each of the clusters and (importantly) between them.

Cluster 1. Synergy in urban networks, including the Deltametropolis

Coordination:	*Salet (UvA)*
Associated with:	*VROM-DGR; V&W; LNV; EZ*
Associated with:	*New Generation Infrastructures; Transition to Sustainable Mobility; Land or Water; Agricultural Renewal, Geo-information.*

The central feature in this cluster is the synergy between transport networks and urban cores in a polynuclear urban region in which endeavours are being made to achieve a coherent spatial development through cooperation between (selected) local authorities, a province, and specialist ministry departments. The integration with green-blue networks (cluster 2) is also of essential importance here. The dynamic in urban networks will be identified, measured, and accounted for, and the emphasis will be put on the issue whether in this dynamic an increasing function specialization develops through market and/or policy influences and whether in this manner support is created for top segments in residential environments, company locations, shopping centres, and facilities for sport, culture and recreation.

The relationship between traffic networks and urban centres will be investigated from transport technology, spatial, and decision-making perspectives. The relationship between urban patterns and transport (commuter traffic in particular) will thereby be subjected to a further analysis. The spatial implications of leisure behaviour will also be thoroughly discussed. Attention will be paid to the risks associated with land use in urban networks, such as external safety in the tunnelling and covering of infrastructure and the risks of flooding alongside inland waterways and the seacoast.

A number of research studies will be specially oriented to the transformation from Randstad to Deltametropolis. The international position of the Deltametropolis will be brought into the frame, as will the manner in which land use can be managed in an urban network such

as the Deltametropolis. A regional monitoring system will be developed, together with a system for regional benchmarking. An instrument will be developed to coordinate and to monitor public and private spatial-economic investments.

Cluster 2. Green-blue networks for man and nature in sustainable landscapes

Coordination: *Opdam (WUR)*
Associated with: *VROM-DGR; V&W; LNV; EZ*
Associated with: *New Generation Infrastructures; Transition to Sustainable Mobility; Land for Water; Climate and Space; Restructuring of Agriculture.*

A central feature in cluster 2 is the blue-green networks, in close association with the networks under discussion in cluster 1. How the blue-green veining of landscapes can strengthen the National Ecological Main Structure will be investigated. Instruments will be developed and applied to arrive at landscapes in which green and red networks are integrated with each other. Attention will be paid to the functions that green areas can have not only for the agrarian sector and nature, but also for the residential functions, recreational functions, and business activities that the visual and experiential quality of the blue-green networks support. Considerable attention will be paid in this respect to the transition zones linking town and countryside.

One important research study will be oriented to the valuation of open space in cost-benefit analyses of spatial-economic investments. The key issue here is how through ex ante evaluations the importance of open space can be ensured, so that in practice open space does not become silted up through neglect.

Cluster 3. Multifunctional area development and transitions:

co production in policy chains and policy networks, public-private partnerships, and new arrangements for demand oriented approaches

Coordination: *Teisman (EUR)*
Associated with: *VROM-DGR; V&W; LNV; EZ*
Associated with: *System innovation in Construction processes.*

This cluster is closely linked with a number of pilot projects. The main concern here is the efficacy of public-private participation, and agreement on the apportioning of profits and risks within it. Feasible forms of public-public cooperation will be sought, both vertically (State, province, local authority) and horizontally (between ministry departments and between local authorities). And there is also an interest in incentive structures and other ways in which to arrive at a consensus and to make land available for citizen participation and management by consumer demand. For all these aspects of an integrated area oriented development, foreign examples that deserve reproduction in the Netherlands will be examined. A specific project will be dedicated to the relation of property rights, land policy and spatial planning.

Cluster 4. Economic dynamics and locational preferences of firms

Coordination: *Rietveld (VU)*
Associated with: *EZ and VROM-DGR*
Associated with: *Knowledge and competencies in sustainable system innovations; Geo-information*

In this cluster, we will direct our attention to the dynamic in the development of trade, business services and industry and the spatial conditions and implications that play a part in that. First to be investigated will be the spatial conditions that best bring out the innovative capacity of companies. Included here will be the importance of high-technology clusters (à la Porter) and the influence that these clusters have on local economic developments. There will be an investigation of how much space new production processes need: this is the issue of the spatial efficiency of production processes.

Considerable attention will be paid to shifting preferences in business locations. What are the spatial effects of change in accessibility and of radical innovations? A substantial research study will be concerned with the spatial consequences of ICT applications and ICT infrastructure for labour, retail, leisure, and mobility.

In all these research studies, a distinction will consistently be drawn between various kinds of trade and industry and the need of companies for flexibility and space for dynamic. The framework of the Spatial-economic structure of the Netherlands, advocated (among others) by VNO-NCW, will be kept constantly in mind and be placed in an international context.

Cluster 5. Housing market dynamics, residential (environment) preferences, strategic portfolio policy and sustainability

Coordination:	*Boelhouwer/Vijverberg (TUD)*
Associated with:	*VROM-DGW*
Associated with:	*Geo-information; Knowledge and competencies in sustainable system innovation*

This cluster is placed in the context of changing housing preferences and housing environment preferences of households and future housing need developments. In this cluster the impact on housing preferences and housing environment preferences will be determined of ICT applications and ICT-infrastructure in and around the home. Particular attention will be paid to the Dutch housing system and the manner in which the efficacy and efficiency of this system can be enhanced so that the tasks of low cost housing and urban renewal can be more readily accomplished. The emphasis will lie on the strategic portfolio policy of real-estate investors and housing associations. The sustainability aspect is associated with green and blue areas in the cities, the improvement in the levels of domestic and neighbourhood energy efficiency and the optimization of the environmental quality of housing and neighbourhoods undergoing regeneration. Finally, a health test will be developed with which the influence of housing on the health of residents can be determined.

Cluster 6. Social and cultural dynamics of the city

Coordination:	*Van Kempen (UU)*
Associated with:	*VROM-DGW; BZK-GSB; VROM-DGR*
Associated with:	*Knowledge and competencies in sustainable system innovations*

A reliable insight must be obtained in the social and cultural dynamic of the city if an effective spatial intervention in and around cities is to be achieved. Cluster 6 is devoted to achieving such an insight. What the sustainable effects of urban restructuring are, and what lessons can be learnt from European experiences will be investigated. The relationship will be extracted from European experiences. The relationship will be investigated between urban governance, social cohesion and urban economic vitality. A relatively large amount of attention will be paid to the multicultural city. The phenomenon of black flight will be investigated, as will the role and the spatial distribution of illegal immigrants and immigrant entrepreneurs respectively. The housing preferences and the role of urban elites will also be subjected to research, which will relate these topics to the spatial dynamic of urban areas.

On the one hand we will consider the importance of green areas for city dwellers' perceptions of their environment, while on the other hand the spatial implications of new economic activities in the city, such as cultural industries will be brought into the frame. Urban regeneration will moreover be placed in an international perspective by establishing the relationship with globalization processes.

Cluster 7. Regeneration of urban districts: multifunctional and multi-actor

Coordination:	*Priemus/Ouwehand (TUD)*
Associated with:	*VROM-DGW; V&W; EZ; LNV; BZK-GSB*
Associated with:	*Knowledge and competencies in sustainable system innovations;Geo-information*

Cluster 7 is devoted to the task of urban renewal. The issue here is how the regeneration of urban districts can be managed and organized, and what instrumental role can be played by land policy. This research cluster will build on the results of the ESRC-research programme on 'Cities' which recently was finished. professor Michael Parkinson director of the ESRC-programme, and director of the European Institute for Urban Affairs will be involved in this research cluster.

In the urban renewal of neighbourhoods it is advisable to follow in time the development of neighbourhoods that have undergone renewal. Lessons can perhaps be learnt from problem-free neighbourhoods, which in fact belong to problematic district types. Attention will be paid to the role of identity in the transformation of neighbourhoods.

Consideration will be given to the benefits and obligations of unfettered access to the city. The residents' perceptions of the neighbourhoods in concentration areas will be investigated, together with their choice of housing and constraints. What is the social impact of regeneration and rehousing on the residents, and what are the impacts on social capital? How, in the approach to urban districts, can the physical, economic, and social pillars of current Big Cities Policy be linked with each other and with social safety?

Cluster 8. Strategic city projects and restructuring of business parks

Coordination: *Korthals Altes (TUD)*
Associated with: *EZ; V&W; LNV; VROM-DGW; VROM-DGR*
Associated with: *Knowledge and competencies in sustainable system innovations; Geo-information*

Cluster 8 is concentrated on two tasks that are of great importance for urban economic vitality: strategic urban projects (such as inner city projects, the development of nodes and railway station surrounds); and the restructuring of trade and industry areas. The task of the sustainable regeneration of business parks must be achieved in such a way that, with good park management, sustainable quality is ensured. The regeneration will furthermore be linked with the economic transformation from industry to commercial and personal services. That transformation will lead increasingly to mixed business parks on which offices and industrial buildings are combined. International benchmarks for the restructuring of business parks will be sought. Finally, we will study the approach taken in key projects such as Rotterdam Central and in a further number of strategic city projects to be selected.

6.2.2 Structure of the components

The SRG knowledge project contains both a scientific research programme and a programme of pilot projects. The scientific research programme is subdivided into PhD projects, post-doc projects, and short-term research and consultancy trajectories that will involve a combination of experienced and young researchers.

The duration of the PhD projects will in general be four years (2004 through 2007); they will establish the relationship between theory and experimental results. The experimentation is derived from the practice and policy in force and is directed as far as possible (but not exclusively) to the SRG pilot projects. In a certain sense, the PhD projects will lay the foundation under the scientific programme. In general PhD candidates will be encouraged to base their theses on a series of articles in scientific journals, thereby avoiding the danger of a four-year radio silence. The phasing to be maintained will ensure that publication takes place at a relatively early stage. Papers will first be presented during scientific conferences and then will follow articles in scientific journals and professional journals. Efforts will be made to retain sufficient flexibility in the phasing of each PhD project so that in its later stages it will be possible to take on board new developments and the latest insights. Each year, every PhD student will be called upon to present a progress report. No PhD-project will start later than 1-1-2005.

The duration of the post-doc projects will in general be of one year. They may require a full-time or a part-time commitment. Two or more PhD projects may often be undertaken in combination with each other and with a post-doc project.

The post-docs are experienced researchers capable of unravelling a complex problem in a relatively short time. For the first year of the knowledge project, the post-doc projects have been defined. For the second year and later, the post-doc projects will only be formulated when it can be ascertained which knowledge issues are then the most urgent. In that way practical participants and policy officials provide an input, while respecting the independence of the researchers. There is thus no obligation to a commitment longer than one or (exceptionally) two years. Every endeavour will however be made to see that the post-docs who produce good work are likely to be further involved so that profit can immediately be gained from their increasing experience.

Both the PhD candidates and the post-docs will be supervised by professors and readers/ senior lecturers (universitaire hoofddocenten) who each spend a substantial part of their time on the SRG knowledge project. It is not so much a matter of specialized PhD projects, but rather of mutually coordinated projects involving various disciplines and requiring an intensive interaction between research and policy and practice.

To reinforce this interaction, the SRG professors, senior lecturers, post-docs and PhD candidates concerned will also carry out short-term research and consultancy trajectories, which within a short time will be capable of yielding useful insights from which policy and practice can take advantage. In the eyes of practical participants and policy officials, scientific research often takes so long that the findings come far too late in the day. The short-term trajectories are designed to produce timely recommendations, often based to a large extent on existing knowledge, which can be effectively incorporated in the concurrent decision making in the preparation of practice and policy. The short-term trajectories referred to here will be defined in the course of the know-

ledge project, usually on the basis of signals emanating from policy and practice. This approach enhances the flexibility of the research programme and ensures the problem orientation remains in place, through to the later phases of the knowledge project. To avoid the more fundamental research being submerged by the short-term trajectories, the short-term trajectories will take up at most 20% of the total scientific research capacity. These trajectories will in general be financed from the pilot projects.

An important contribution will also be made to the research by selected foreign researchers. Cooperation with well-known foreign research groups will guard against participants in the knowledge project taking a too one-sided approach, will generate a good basis for international comparative research, and will also help resolve bottlenecks (selectively) in current Dutch research capacity. Here, advantage will be taken of a tendency observable for some time of a markedly increasing share of foreigners among PhD candidates. The Dutch planning, urban development, urban renewal and housing scene appears to exert a powerful force of attraction on capable and well-established foreign researchers.

6.3 Organization in research clusters

The implementation of the research programme will be organized in contracts, which the TU Delft, as the central SRG knowledge institute, will conclude with the Erasmus University Rotterdam, the Free University Research, Utrecht University, the University of Amsterdam, and Wageningen University & Research Center. Research groups from these six universities will consent to a multi year commitment to the implementation of the SRG research programme. Other universities will also provide incidental contributions.

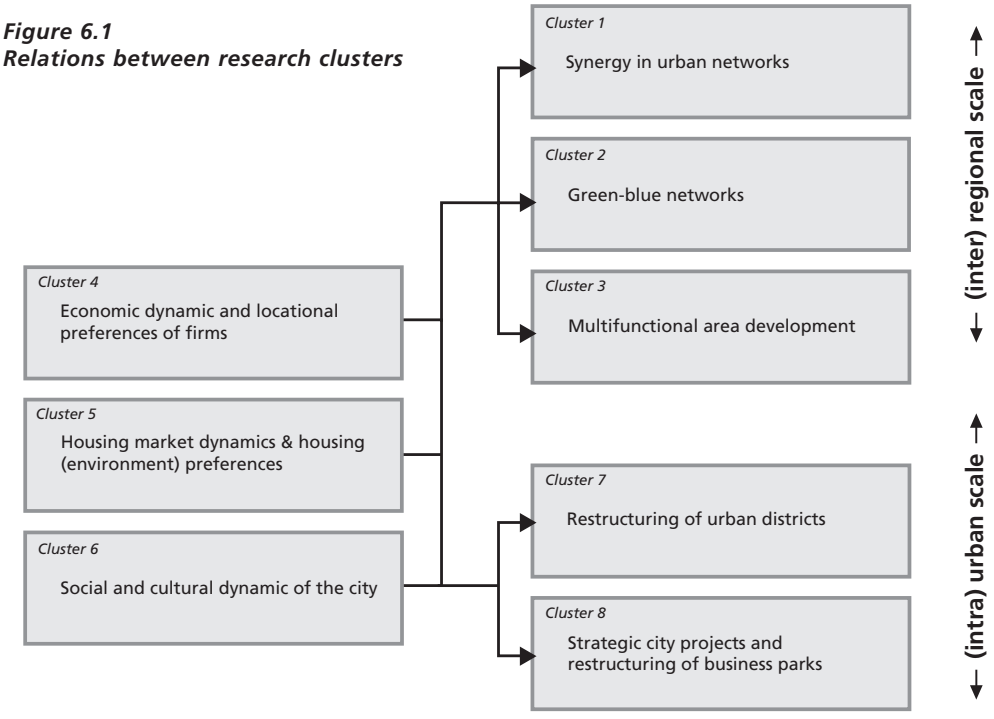
The scientific research programme will be led by a scientific steering group, which will consist of Professor Hugo Priemus (TUD), Professor Geert R. Teisman (EUR), Professor Piet Rietveld (VU), Professor Ronald van Kempen (UU), Professor Willem Salet (UvA), and Professor Paul Opdam (WUR).

Integrative research projects coordinated by the scientific steering group SRG will run through the research clusters.

6.4 Specification of research projects per cluster

A substantial part of the research projects have been worked out (see the appendices) Some of the research programme is yet to be finalized, because room must be saved for the questions that will doubtless come up in the pilot projects, for issues that may arise in relation to policy development, and for the integrative research projects (both within and between the research clusters) to be started in the third

Figure 6.1
Relations between research clusters



and fourth years. The research projects specified in the appendix are further elaborated below.

Cluster 1. Synergy in urban networks, including the Deltametropolis
Salet (UvA)

1.1 Complementary development in polycentric urban regions
Priemus, Spaans, Meyers (OTB)
1.2 Clustering versus sprawling
Ferreira, Wheaton, Liou Cao (MIT), Priemus (OTB)
1.3 The global reach of Deltametropolis as a world city
Priemus, Lambregts (0.5 post-doc) (OTB)
1.4 Challenges for Dutch strategic spatial planning:
multilevel governance and discourse
Zonneveld (0.8 uhd), Waterhout (1.0 post-doc) (OTB)
1.5 Between competition and complementarity
Salet, Le Clerq, Tordoir (UvA)
1.6 Dynamics in commuting and spatial configurations
Dieleman, Dijst, 3 PhD (UU)
1.7 Effects on activity and travel patterns of needs preferences and attitudes concerning urban form and mobility
Maat, Stead, PhD (OTB)
1.8 Leisure and spatial dynamic of urban networks
Priemus, Romein (post-doc 0.4)
1.9 Spatial Risk Assessment and Valuation: An Integrative Approach
Rietveld, Scholten, Florax, Van den Brink (VU, WUR, DLG), 1 post-doc

Cluster 2. Green-blue networks for people and nature in sustainable landscapes
Opdam (WUR)

2.1 Added value of combining green-blue networks on different spatial scales
Opdam, Grashof, Vos (WUR)
2.2 Interactive tool development for integrative landscape design of red and green networks
Opdam, Verboom, Van Dobben, Baveco (WUR)
2.3 Green-blue networks: coordination and design guidelines for achieving sustainable nature and recreation networks
Schanz, Opdam, Lengkeek, PhD (WUR)
2.4 Living = landscape, green-blue networks for living
Lengkeek, Jonkhof, Van den Berg, PhD (WUR)
2.5 Dynamic networks for a coherent planning and design process
Van der Valk, Van der Knaap PhD (WUR)
2.6 Economic valuation of fragmentation of greenblue networks
Verhoef, Van den Bergh 1 PhD, 0,4 postdoc (VU)

Cluster 3. Multifunctional area development and transitions: Coproduction in policy chains and policy networks, public-private partnerships, and new arrangements for demand oriented approaches
Teisman (EUR)

3.1 Coproduction in dynamic multi-layer governance networks
Teisman, Hafkamp, Soeterbroek, Bekkers, Schaap, Van der Meer, postdoc, PhD (EUR)
3.2 Arrangements for transition-management in public-private partnerships
Teisman, Klijn, Edelenbos (EUR), Van Twist (KUN)
3.3 Public Participation and Consensus Building. A multidisciplinary research perspective on interactive Decision-making
Hafkamp (EUR), Laws (MIT)
3.4 New spatial planning approaches oriented towards co-production, partnership and citizens participation: an international comparison
Priemus, Spaans (0.4 post-doc) (OTB)

Cluster 4.Economic dynamics and locational preferences of firms
Rietveld (VU)

4.1 The spatial efficiency of production processes
Needham (KUN), Louw (OTB), PhD
4.2 Innovation and growth in the city: The theory and empiries of urban clustering of innovative activity
Florax, De Groot, 0.5 post-doc, 1 PhD (VU)
4.3 Dynamics of High-Technology Clusters and their Impact on Local Economic Development
Connors, Sable (MIT), Priemus (TUD)
4.4 Shifting preferences in business locations: spatial effects of radical innovation in the Netherlands
Atzema, Frenken, PhD (UU)

4.5 The impact of accessibility levels on the location of offices around transport nodes
Rietveld, Bruinsma, 0.5 post-doc, 1 PhD (VU)

4.6+4.7 Changing Location behaviour in the E-economy
Thissen, Priemus, Rietveld, Wagenaar, Van Geenhuizen, 3 PhD (TUD-TBM)
4.6 Monitoring New Location Behaviour
4.7 From Place to Cyber Space? New Business Strategies and Location Behaviour

4.8 Residential location, skilled labour and urban development
Rouwendal, Florax 0.5 post-doc, 1 PhD (VU)

4.9 Indirect effects in the cost-benefit analysis of spatial investments
Verhoef, Rouwendal 0.4 post-doc, 1 PhD (VU)

Cluster 5. Housing market dynamics, residential (environment) preferences, strategic portfolio policy and sustainability
Boelhouwer/Vijverberg (TUD/OTB)

5.1 Housing preferences and housing environment preferences of individuals and households
Boelhouwer, Coolen, Zwarts, Mariën, Hoekstra, De Vries (OTB)

5.2 Development of the Dutch housing system in international perspective
Boelhouwer, Haffner, Van der Heijden, Hoekstra (OTB)

5.3+5.4
5.3 Accessibility in the Information Age: Modelling the Effects of Information and Telecommunication Technology Adoption on Action Spaces in the Physical World
Dijst, Schwanen, PhD (UU)
5.4 The House as the Central Activity Base in the Network Society: the impact of ICT on the housing choice
Boelhouwer, Goetgeluk, PhD

5.5 Strategic housing stock policy and restructuring by social and commercial landlords in Europe
Priemus, Vijverberg, Nieboer (OTB), Gruis (TUD)

5.6 Sustainability and energy efficiency in urban renewal
Priemus, Vijverberg, Sunikka (OTB), Thomsen (TUD)

5.7 Effectiveness of energy policies in achieving CO2 reductionin the building sector
Priemus, Vijverberg, Beerepoot (OTB)

5.8 Performance agreements in environmental quality and sustainable developments in urban renewal
Priemus, Vijverberg, Boon (OTB)

5.9 Optimization of the environment quality of housing
Priemus, Vijverberg, Klunder (OTB), Hendriks (TUE)

5.10 Evaluation and improvement of health performance of housing
Vijverberg, Hasselaar, Van Ginkel (OTB)

5.11 Performance-based cooperation in technical management of the housing stock
Vijverberg, Straub (OTB)

5.12 Building regulations for the improvement of the quality of the housing stock
Visscher, Meijer, Van der Bos (OTB)

5.13 Transfer of Knowledge Stichting Bouwresearch

Cluster 6. Social and cultural dynamics of the city
Van Kempen (UU)

6.1 Sustainable effects of urban restructuring: European lessons for the Netherlands
Van Kempen, Dekker (UU)

6.2 Urban policy and social cohesion
Van Kempen, Bolt, PhD (UU)

6.3 The inventive city: urban competitiveness and sustainable urban development
Musterd, Ostendorf, Arnoldus (UvA)

6.4 The institutional and regional embeddednes of best practices in urban renewal and housing market restructuring
Musterd, Ostendorf, Aalbers (UvA)

6.5 Black flight. The Suburbanization and Suburbanization
Potential of the Emerging Migrant Middle Class in the Dutch Big Cities
Burgers (EUR)

6.6 The spatial concentration of illegal immigrants and the interrelation of illegality and criminality
Engbersen (EUR), Leerkes (EUR)

6.7 Second-generation immigrant entrepreneurs
Kloosterman (UvA), Van der Leun (UL), Rusinovic (EUR)

6.8 Urban elites. A study of urban social cohesion
Burgers (EUR)

6.9 Spatial footprints of new economic activities in advanced cities. The nodes and networks of path-creation and path-reproduction in cultural industries in Dutch metropolitan environments
Kloosterman (UvA)

6.10 The effects of a green living environment on individual and social well-being

Lengkeek, Van den Berg (WUR)

6.11 The regional participation monitor: a new knowledge infrastructure in the development of sustainable urban areas
Musterd, Deurloo (UvA)

Cluster 7. Regeneration of urban districts: multifunctional and multi-actor
Priemus/Ouwehand (TUD)

7.1 The development of restructured neighbourhoods in time
Boelhouwer, Ouwehand, PhD (OTB)

7.2 Success factors of problem-free neighbourhoods belonging to problematic neighbourhood types
Priemus, Ouwehand, Kruythoff, PhD (OTB)

7.3 The role of identity in the transformation of neighbourhoods
Boelhouwer, Ouwehand, Reinders (OTB)

7.4 The social impact of restructuring and rehousing:
Impacts on social capital
Priemus, Kleinhans (OTB), Engbersen (EUR)

7.5 Choice of housing, choice limitations, and perceptions of the environment of residents in concentration areas
Boelhouwer, Ouwehand, Kruythoff, Van Daalen (OTB)

7.6 Organization of urban restructuring
Korthals Altes, Ouwehand, post-doc, Sluis (OTB)

7.7 Urban governance and the quality of urban restructuring
Van Kempen, Dekker, PhD (UU)

7.8 Land development and urban restructuring
Korthals Altes, De Wolff, PhD (OTB)

7.9 Property rights and land-use plans
Needham (KUN)

7.10 Boon or bane of public space
Van Weesep, Van Aalst, Bergenhenegouwen (UU)

7.11 Housing and Neighbourhood Revitalization in the era of Globalization: NL – USA – China
Vale, Yan Zhang (MIT); Priemus (TUD)

7.12 Urban Restructuring, Housing Associations, and Housing Market Outcomes
Rietveld, Rouwendal, Van der Vlist, 1.0 post-doc, 1 PhD (VU)

7.13 Shaping Urban problems and Sustainable Solutions: Discourses in European Urban Policy
Musterd, Ostendorf, Dukes (UvA)

Cluster 8. Strategic city projects and restructuring of business parks
Korthals Altes (TUD)

8.1 Early regeneration of industrial areas, landowner behaviour, and evolutionary economics
Korthals Altes (TUD), Atzema (UU), 2 PhD

8.2 Aging and renewal of industrial estates; the re-use potential
Priemus, Louw, PhD (OTB), Rietveld, Bruinsma (VU)

8.3 Business parks development: exploring excess value for the economy, people, and nature by introducing landscape ecological principles
Van Ierland, Opdam (WUR)

8.4 Cost benefit analysis for restructuring urban industrial sites and implications for public private partnerships
Rietveld, Bruinsma, 0.5 post-doc, 2 PhD (VU)

8.5 Run and fun at Rotterdam Central Station. A Case of urban renewal in a railroad station area
De Jonge, Kooijman (post-doc), Wigmans (post-doc), Verstappen (post-doc) (TUD-Bk)

8.6 Realisation of the Spatial-economic main structure of the Netherlands: barriers and opportunities
Korthals Altes (TUD), Atzema (UU)

6.5 Phasing and milestones

6.5.1 Introduction

In Appendix IV A-G the research projects in each cluster are specified. In Appendix IV-I the costs of the research projects are estimated. In total a Bsik-subsidy of 18,693 million is calculated. However, the Bsik budget for research is fixed at 17,5 million. Before the start of the SRG-knowledge project a further selection of research projects will be made, based on the academic quality and the innovative value of the proposals and based on the concrete availability of external match funding for the proposals. When private and public parties will give commitments to quarantee the cofinancing (at least 30%), this will produce synergy between the planning and development practice and the research activities. Each research proposal has to be flexible in order to give opportunities for participants in pilot projects and other practical situations to raise problems and dilemmas, which could be dealt with in an appropriate way by the researchers. Often those issues demand a quick and alert action of researchers.

In addition a certain flexibility in the research program is needed to start research activities in the second half of the Bsik-period, which could contribute to the multi-disciplinary integration of research activities, and the integration between research, planning practice and pilot projects.

Within the preliminary specification of research projects, presented in Appendix IV A-G, further priorities have to be set in order to remain within the total research budget and to quarantee a high degree of flexibility.

The main priorities are:

- *high academic quality of the research proposal;*
- *innovative value of the research proposal;*
- *matchfunding available by private and/or public stakeholders;*
- *proposal meets urgent questions, raised by partners in one or more pilot projects and Communities of Practice;*
- *saveguarding flexibility in the research programme, not only at the beginning but in the second half of the Bsik-period in particular.*

Table 9 Budget allocation per research cluster (x € 1000)

	Bsik	*cofinance*	*total**
Cluster 1	*2,500*	*2,500*	*5,000*
Cluster 2	*1,250*	*1,250*	*2,500*
Cluster 3	*1,250*	*1,250*	*2,500*
Cluster 4	*2,000*	*2,000*	*4,000*
Cluster 5	*4,500*	*4,500*	*9,000*
Cluster 6	*1,500*	*1,500*	*3,000*
Cluster 7	*2,500*	*2,500*	*5,000*
Cluster 8	*1,500*	*1,500*	*3,000*
Management; quality assesment	*500*	*500*	*1,000*
Total	*17,500*	*17,500*	*35,000*

**One should take into account that € 5 million is budgetted for problem-orientated scientific reseach and scientific consulting activities in the pilot projects, as explaned in chapter 9.*

Table 10 Overview of specified research projects, compared with cluster budgets (x € 1000)

	a	*b*	*b-a*
	Bsik-budget	*Bsik- demand of specified research projects*	
Cluster 1	*2,500*	*2,929*	*-429*
Cluster 2	*1,250*	*1,244*	*-6*
Cluster 3	*1,250*	*1,180*	*-70*
Cluster 4	*2,000*	*2,086*	*+86*
Cluster 5	*4,500*	*5,000*	*-500*
Cluster 6	*1,500*	*1,398*	*-102*
Cluster 7	*2,500*	*2,610*	*-110*
Cluster 8	*1,500*	*1,746*	*-246*
Management; quality assesment	*500*	*500*	*-*
Total	*17,500*	*18,693*	*+1,193*

To promote flexibility in the research programme a reduction of the Bsik-claim from 18.693 million to 15.750 million is needed, as a result of which there is, on top of the flexibility within each research project, there is a flexibility margin of 10%.

There is a host of practical limitations associated with the planning of a scientific programme in combination with a programme of pilot projects. When in the course of 2003 it becomes clear that the consortium per 1-1-2004 can expect a BSIK grant, the remaining months of 2003 will be used to make it possible to hit the ground running per 1-1-2004. This perspective is a real one, because the SRG knowledge project stands on the shoulders of the experiences of Habiforum in the context of ICES-KIS 2, the experiences of Innovatie Netwerk Groene Ruimte en Agrocluster, and the experiences of the research groups and some research schools which are already cooperating with each other in the context of ICES-KIS 2.

Nevertheless, account will no doubt have to be taken from the very first with difficulties in the synchronization of activities. Candidates will have to be sought for vacant PhD posts, and recruitment often takes a considerable time. In addition, the pilot projects have a dynamic of their own which cannot be determined by the SRG directorate. The researchers will constantly have to be prepared to react creatively to issues that arise in the pilot projects. In addition, there is the policy dynamic at national and decentralized government levels, partly determined by elections, cabinet formations,

coalition agreements, and the forming of municipal cabinets, so that new policy issues may come up at unpredictable moments, and the scientific programme and pilot projects will have to take them on board in a selective way.

To ensure the safe take-up of the input from the research groups in the pilot projects, within each of the research groups a sort of first aid post will be set up capable of exporting knowledge relatively rapidly into the special pilot projects.

In the light of the above, the need to keep to a strict phasing per calendar will be evident. The calendar years coincide with the financial years, so that progress with respect to content and progress concerning finance can readily be related to each other

6.5.2 First year

In year 1 (2004), in each of the clusters several strategic research projects will have to be put into place. That is certainly the case for the PhD trajectories, which should not start after 1-1-2005. Because unforeseen circumstances may lead some dissertation trajectories to require longer than four years, preliminary permission has been requested to be able to continue the SRG knowledge project after the final date of 31-12-2007.

In year 1 (2004), a substantial number of pilot projects will be started. During the first year, the relationships between these pilot projects and some of the research projects will be established, to enable the researchers to make a contribution to these pilot projects and for the pilot projects to provide relevant empirical material for the research. In the PhD projects, after year 1 the precise problem statement, the research questions, the research methods to be applied, the available empirical data, and the state-of-the-art in the research area in question should all have become clear.

In year 1 (2004), a number of post-docs will also be appointed who will have to produce their reports before the end of the year; these studies will bring into the frame in precise terms a number of research fields for science, policy, and practice.

At the end of the first year there will be an external review of the scientific quality. NWO will be responsible for arranging this review, which will be focussed on increasing the learning capacity of the consortium.

6.5.3 Second year

Decisions will be made at the beginning of the second year (2005) with respect to which PhD projects will proceed unchanged, which will be adjusted or further specified, and which will be discontinued. In this year, the first papers will be written and put into the arena of national and international workshops. In most of the PhD projects, the second year will be devoted to the preparation and implementation of fieldwork. Here the research projects will in general be related to one or more pilot projects. Considerable attention will be paid to the interaction between research projects and multidisciplinary cooperation. The input from the research projects will take shape in the Communities of Practice in the second year. The post-docs will carry out their second year projects and report on them before the end of the year. The research projects of post-docs in the third year will be formulated in part from the experiences in the COPs.

At the end of the second year (2005), there will be an external midterm review of the scientific quality. This review will also take place under the auspices of NWO.

6.5.4 Third year

In general terms, the third year (2006) will be devoted to the analysis of empirical data that will already have been assembled. In parallel with that analysis, a further reflection will take place over the theories, concepts, and instruments to be utilized. Each research project will seek to form a link between (internationally oriented) theory forming and the development of feasible practical instruments, particularly where the empirical data have been derived from the pilot projects. In the course of 2006, many of the PhD projects will reach their harvest phase, expressed in congress papers, articles for international scientific journals and Dutch professional journals, together with oral presentations for the scientific and professional worlds.

The postdoc researchers will complete their reports before the end of the year and establish as many content-based relationships as possible within the research clusters (multidisciplinary and interdisciplinary perspective) and between research and pilot projects (via the Communities of Practice). The preparations will be undertaken for a number of integrative studies, which for the most part will be carried out in 2007.

At the end of the third year (2006) there will again be a review of the scientific quality. In principle, this will be the last review that can

lead to any meaningful adjustments. The review will take place under the auspices of NWO.

6.5.5 Fourth year

The fourth year (2007) will be the harvest year. In this year, the lion's share of the dissertations will be completed and defended. In addition, many papers will be presented in workshops and conferences, and articles will be published in international scientific journals and Dutch professional journals. Definitive agreements will be concluded among the research schools participating in the SRG knowledge project with respect to the way in which the scientific knowledge infrastructure will be continued after 2007. The post-docs will complete their studies in 2007. The emphasis will then lie on an interdisciplinary and multidisciplinary approach and integration with the pilot projects via the Communities of Practice.

Considerable attention will be paid to the diffusion of knowledge: within the scientific world and between science, policy, and practice. The knowledge infrastructure as it will function after 2007 on its own resources will be put in place definitively in 2007.

After the fourth year (2007), preferably at the beginning of 2008, a final evaluation will take place under the auspices of NWO. The recommendations of NWO will apply in particular to the science policy to be undertaken by the participating research schools, the policy of KNAW and NWO, and the knowledge infrastructure in which the interaction of knowledge between science, policy, and practice will take shape.

6.5.6 Aftercare

In 2008, whatever delayed projects remain will also have to be completed. A few integrative studies may also be completed then. The greater the extent to which the cooperative links remain in place in 2008 (and transfer smoothly to the SRG knowledge infrastructure as this will be continued after 2007 without ICES-KIS-support), the greater will be the spin-off from the SRG knowledge project. In this year, the institutions concerned can put into effect the recommendations made in the final NWO evaluation.

6.6 Programme of pilot projects

6.6.1 Pilot projects

The second vital component of the SRG knowledge project comprises the programme of pilot projects. In the context of the SRG knowledge project, Habiforum and Innovatie Netwerk Groene Ruimte en Agrocluster have taken the initiative of an approach that will lead to higher yielding spatial investments, including the realization of forms of high value and multiple land use.

Pilot projects are practical projects at regional and local scale in which innovative designs for multiple land usage and innovative processes are developed. They offer opportunities to experiment and learn in the arena in which practice, science and policy meet.

The gulf between thinking and doing will be bridged. The renewal of knowledge and the diffusion of knowledge must be implanted in pilot projects. The search is on for inspiring ideas, new ways of proceeding, innovative processes, and the removal of barriers for high value and multiple land use. Attention points here are the co production of policy, public-private partnerships, citizen participation, and demand management; through these, the efficacy, efficiency, and legitimacy of the spatial investments can be strengthened.

"Appealing examples are best for knowledge disseminiation" (Marko Bos, director Economisch Affairs SER).

The form of the pilot projects will rely on the 'Community of Practice' approach. In addition to the pilot projects, the practical programme will contain two supporting activities:

- *Development of knowledge regarding system innovations*
- *Development of knowledge regarding knowledge productivity.*

Pilot projects may be regarded as an arena in which to develop knowledge and competencies in system innovation and in high-yield knowledge production processes. The activities are further described below.

A pilot project in the SRG knowledge project will enjoy support given in the following ways:

- ***Provision of openness and accessibility of wider sources of knowledge.*** *These include people and experiences in the area of such topics as multiple land use, financing arrangements, process organization*

and design, prevailing policy and policy ambitions, public-public cooperation and public-private partnerships. These opportunities may come through surveys, workshops, ateliers, and reviews. Considerable scientific knowledge, policy expertise and practical experience is being produced and is, in principle, available. However, much of the available knowledge is not being put to good use, either because its existence is not known or because the knowledge current in one area is seen as difficult to apply to other areas. The pilot projects will make available knowledge accessible through the main knowledge carriers in those other areas. Special use will be made of the available expertise of present in other Bsik programmes. Practical projects provide opportunities to combine programmes together and facilitate the assimilation of knowledge.

- ***Design of knowledge creation processes*** *through Communities of Practice, in which various carriers of knowledge from policy, practice, and science can pool their knowledge and experience and forge them into new knowledge and new ways of proceeding. These knowledge carriers will be involved in the pilot project and will be supplemented where necessary by other experts. The Communities of Practice will be working and learning communities oriented towards doing, towards action.*

Example of instrument development

In the Rotterdamse Ruit project, a process of interactive consultation with stakeholders has been initiated to examine how space can be used in a more intensive manner, and how alternative design proposals can be implemented. It is then relevant to examine the effects of the design alternatives (such as new urban centres connected by various transport modalities) on traffic and transport, identifying locations at which congestion is likely to increase, going on to consider the effects of changes to the transport infrastructure and the overall spatial design in terms of 'liveability' (health, noise, smell, general satisfaction, etc.). Instruments which can be used to measure such aspects are to be developed by TNO, both for use in workshops with stakeholders (to identify the effects of design alternatives fairly rapidly), and for producing more detailed results in the longer term.

- ***Monitoring, reflection and exploration.*** *Monitoring and reflection on ongoing processes are effective in making the interim learning experiences explicit and rendering them available for immediate use in the process. In certain cases, it is essential to undertake complementary explorations to promote the knowledge creation processes. Support from the SRG knowledge project will be forthcoming where the research is seen to be innovative in form and implementation, and where the results can be used both in the pilot project and within a wider arena.*

- ***Stimulation of use of instruments.*** *With regard to the development of instruments for effects analysis, social costs-returns analysis and prioritization (where these can also be applied in interactive and experimental processes), coordination with knowledge development within the TNO programme New Initiative for Regional and Urban Innovation; NIRSI) and other relevant programmes conducted under the auspices of the TNO will be sought.*

A link between the SRG knowledge programme and the TNO NIRSI programme will be attractive to both parties, given the SRG programme's input of pilot projects in which the TNO can develop fundamental and applied knowledge. The TNO is an important participant in spatial knowledge production processes and a co-carrier of the spatial knowledge infrastructure.

- ***Evaluation,*** *to bring into the frame the progress of the project and the learning experiences, and to translate these into generic applicable knowledge.*

The envisaged returns are on the one hand specifically oriented to the pilot projects; on the other hand, pilot projects must also yield generic products, applicable in other, comparable situations and contributing to effective policy development.

What will be the products of the pilot projects?

1. *The pilot projects will result in knowledge which has been developed in the practical situation and can therefore be used in such. It is demand-led knowledge which is applicable in other, comparable situations. The knowledge represents a 'fusion' of scientific knowledge, knowledge from implementation practice and that from policy practice. The objective is to achieve breakthroughs by means of gaining experience within a new context, to 'lubricate' ossified systems, to remove or alleviate*

obstacles and to create 'policy space' within planning and implementation processes, and within legislation. The knowledge gained will be described and disseminated whereupon it will be available to all.

2. *Within the pilot projects, new knowledge will be gained based on actual demand from the field, and will be incorporated into other scientific-academic research programmes (as a knowledge question) as well as into policy. The perspective of both the public sector and the private sector (owners, tendering parties, developers and stakeholders) will be taken into account in defining demand for, and the application of, knowledge.*
3. *The pilot projects will form the learning and working environment in which competencies can be developed to make the knowledge and competencies applicable to other areas of endeavour.*
4. *The pilot projects will provide a setting within which methodologies and instruments can be developed to bring about an innovative approach, both in implementation and process, to the spatial issues addressed by this programme. There will also be an opportunity to develop methodologies geared towards the processes of 'knowledge flows' between policy, science and practice.*

What areas will the pilot projects address?

The issues to be examined may be derived from the challenges in spatial planning and design now faced by the field. These include:

- *demand-led processes based on the requirements of the public and other users of space, whereby the effectiveness, efficiency and legitimacy of the spatial investments can be enhanced.*
- *dealing with (potential) conflicts of interest, resulting in effective cooperation between levels of government and performance -oriented public- private partnership*
- *the realization of spatial quality*
- *the formulation of effective planning and implementation processes, to include measures to remove obstacles and exploit opportunities for multiple space usage*
- *an integrated approach to town and countryside.*

Delineation of the working arena

The practical programme including the pilot projects will focus on spatial development processes at the regional and urban levels of scale. National or international development concepts will not be considered. This may be regarded as the first delimitation. The second is that all pilot projects will address *multiple space usage*.

The programme will consider a number of themes or topics:

Regional scale

- *Urban networks and mainports*
- *Nodes and connections*
- *Regional area development and town-country transitions*

Urban scale

- *Restructuring of urban districts*
- *Strategic city projects, citycenter projects and station areas*
- *Restructuring of business parks*

Requirements of the pilot projects

Each SRG pilot project must satisfy a number of requirements. In the first place it is important that the public and the private parties involved can offer enough (policy) space for innovation. Policy must be capable of being open to innovation and reflection. Involved parties will have to make evident the actual and mutual appeal of the project. They will have to be able to cite their own envisaged benefits and those of others.

Parties must be prepared to take a risk; participation is not free of obligations. They must have confidence in the design of a project approach that differs from that to which they are accustomed. The experimental knowledge and learning path must indeed relate to the spatial tasks to be achieved. In addition, they must be prepared to work on the translation of the experiences that the pilot project provides to more generally applicable conclusions. Results operate as examples and can be made transferable and applicable to other situations.

The basis of the project rests on an underlying vision, which expresses and represents the ambition level and the contours of the desired end situation. This vision is broad and invites the participation of others. At the same time, a judicious choice of the scope of the project is essential: the 'weight' of the parties involved must correspond with this scope.

Furthermore, there should be evidence of the 'leadership' that generates enthusiasm and can bind the stakeholders together.

The available knowledge and competencies

of the people involved will be brought into the frame and be enriched with the knowledge and experience they were lacking. The incorporation of interdisciplinary knowledge is of importance.

6.6.2 Pilot projects: an overview

The pilot projects which can be commenced in 2004 are listed below. No attempt has been made to elaborate the entire programme for the next four years, since this would not be in keeping with the character of the programme. The approach is specifically demand-led, where upon it would be inconsistent to allow no room for additional relevant issues which may arise. Moreover, this is a programme in which learning from practical experience and the development of learning ability are important factors. Those learning experiences must be allowed to determine the form of the programme as it progresses.

It should also be noted that experience within the ongoing Habiforum programme (ICES/KIS-2) demonstrates that co-financing by knowledge institutes and by public and private parties during the course of the programme need not present a problem.

The approach selected is one in which a package of firm practical projects has been defined for the first year, together with an indicative package of projects thereafter. Of these, some may be deleted while others may be added at a later date. The selection will depend on the likely contribution to the objectives of the SRG knowledge programme, the possibility of arriving at a breakthrough, relevance to the selected themes and the ability to meet the formulated requirements.

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The overview presented here shows the selected pilot projects which can be commenced in 2004. Each is described in brief, together with an account of the results envisaged and the relevance to the scientific programme. Appendix III contains more comprehensive descriptions. However, it should be noted that in many cases the exact details are of the activities programme will depend on the results achieved in 2003.

Regional and urban scale

Urban networks and mainports

1. *The Apeldoorn-Zutphen-Deventer urban triangle*
2. *Regional dialogue in Noord-Limburg (Venlo)*

Nodes and connections

3. *Rotterdamse Ruit*
4. *Cluster Multiple Land Use and Overcapping of Infrastructure*

Regional area development and town-country transitions

5. *Cluster Regional Strategies*
6. *IJsselzone region / Buurtschap Zwolle*
7. *Zeeland: multiple use of sea and land*
8. *Cluster Multiple Land Use and Water*
9. *Cluster Red and Green*

Restructuring of urban districts

10. *Cluster Sustainable Urban Renewal*
11. *Cluster Vital City*

Strategic city projects, city-centre projects, station areas

12 *Amersfoort station*
13. *Gouda station*
14. *Steenwijk 'transferium'*
15. *IJburg*

Restructuring of Business parks

16. *Waalhavenpolder*
17. *Poort van Alphen development area*
18. *Overamstel*

1. The Apeldoorn-Zutphen-Deventer urban triangle

In the Fifth Memorandum on Spatial Planning, the Apeldoorn-Deventer-Zutphen Stedendriehoek (urban triangle) is described as a regional urban network. This means that, for the next 20 to 30 years, the central government expects the local authorities in the Stedendriehoek to make joint agreements on new residential and work locations, urban restructuring, the planning of the rural area, infrastructure and public transport. The local authorities of the Stedendriehoek, together with the provinces of Gelderland and Overijssel, wish to set up a "Regionale Structuurvisie Stedendriehoek".

The key issue here is the strengthening of the core qualities of the Stedendriehoek: the

special green quality of the Veluwe and the IJsselvallei, in combination with the high value and cultural historic quality of the towns and villages The concern is for an integrated ambition: the strengthening of the cohesion and variety of residential and working areas with the simultaneous development of new qualities in water, nature, landscape and agriculture. In short: the strengthening of the spatial quality. This vision provides the basis for agreements with the central government on the envisaged programmes and investments. The concern is for a planning process where there are conflicts of interests between local authorities, provinces and the many involved external parties and implementation processes in which the primacy of the implementation usually lies with other private and public parties. The experiences in this process may also be of importance outside the planning area.

It is essential for the effectivity of the regional structure vision that it should relate to the demands of the residents and other land users in the planning area. The structure vision must also have the support of the public and private parties from whom the desired spatial investments are anticipated. Certain components will require some form of PPP arrangement for the realization of the spatial objectives. The planning process will be designed so as to obtain the support of the residents, societal organizations, market parties and other government authorities, and to ensure that their knowledge and skills will be called upon during the planning process and used in an effective manner.

A successful process and result can lead to breakthroughs at various levels. In terms of spatial development and quality, the following are included: sustainable water management as a basis for spatial development, synergy between water home economics measures in the context of Ruimte voor de Rivier (bypassing the IJssel at Deventer and Zutphen), new residential environments, and extensive and exclusive housing and working developments in the green areas. In terms of cooperation, the need is for governmental/administrative preparedness to allow common interests to prevail above local interests and to spread and share risks; and the commissioning of other public and private parties.

2. Regional dialogue in Noord Limburg (Venlo)

In the urban corridor Randstad-Ruhrgebiet, the Venlo-region forms a focal point in the rural-urban confrontation. Here, quality of life is under pressure, space claims are multifunctional. New solutions in spatial planning are required and new approaches in the working process between people and organisational actors are involved. Many initiatives to realise a "green framework" (groene mal) for the region are on the shelf. Stagnation occurs the implementation process, the integration of projects and in the democratic legitimation. With the "green framework" as a leading principle, there is search in for other ways of working, for new coalitions, for experimental space in rules of the game, laws and procedures and for cooperation. The objective is to realise better quality of life in urban renovation program, development of industrial areas, infrastructure and linkage with the German area.

Dealing with "green" values, it is the task to come to transformation from defensive to offensive thinking, on all levels. This asks for institutional learning, another set up of the process. Emphasis on creating instead of negotiating. This pilot project wants to give an impulse to this creating process, to induce learning as a mental attitude. Attention is focussed on process architecture, content, organisational process, using the new insights on system innovation and spatial planning.

3. Rotterdamse Ruit

Problem statement

The Rotterdam Ruit todays functions as a symbol for congestion as well as a divisive barrier. Urban sprawl and fragmentation cut neighborhoods off from one another and disruptions between cities, the port, and the countryside. Physical and economic alienation feed ethnic tensions and social conflict. This combined effect is a gradual disruption of the professional, technical, and social networks that drive economic vitality and the Ruit's image as an attractive home for new firms. Achieving a sustainable Randstad hinges on the development of new design and management processes that avoid these pitfalls. Furthermore it could develop robust and effective visions for the region, and create conditions that support local initiative. This would make the Rotterdam Ruit a more vital node in the governance network of the Delta metropolis.

Targets

1. *Initiate and facilitate local initiatives to effectively transform unused land around the Ruit for economic and social purposes, fight safety- and health problems; and prevent the barrier-effect of the Ruit and enhance spatial quality.*
2. *Connecting fragmented local initiatives for redevelopment of area's near the Ruit to an overall process of transforming the Ruit into a vital and sustainable axis for the city and the Randstad/Deltametropolis.*
3. *Experimenting with new ways of co-production and participation to make the transformation of the Ruit-area an innovative societal process that is 'expert-fed' instead of 'expert-lead'.*

If we link these efforts to the ambitions of the overall program, you can say that they fit well with all the ambitions of the 'pilot projects': placing citizens in the center of redesign and redevelopment, developing new forms of co-operation, improving spatial quality and working on new procedures and processes on spatial development.

Design of the experiment

The project spans a period of four years (2004-2008). Our aim is to develop and facilitate 16 + 1 experiments. Each of the 16 experiment is developed in a specific location around the Rotterdam Ruit and has a special focus. The +1-experiment is a "meta-experiment", the central learning process in which all data, reports, learning experiences, etc. from the experiments are collected and reinterpreted in the "heart of the Ruit-project".

The experiments are closely related to and interacting with the actual policy process in the city of Rotterdam. This policy process is aimed at implementing the solutions that result as a consequence of the experiments.

Connection to the scientific program

The experiments connect to the cluster multifunctional area development in the SRG-scientific program. Especially the projects "co-production in multi-layer governance networks" and "public participation and consensus building".

These experiments are excellent empirical real life laboratory for the application of theoretical analytical models and research methods. It gives the opportunity to explore the effects of new arrangements, management strategies and process designs.

The scientific knowledge should be actively used in the design and management of the experiments and the result of these experiments will feed the scientific knowledge. The scientific part of the program will document the development of the process and make it available for broader discussion.

Expected outcome

1. *An impulse to the economic and social vitality as well as the spatial quality in the city of Rotterdam*
2. *Effectively breaking through institutional barriers for sustainable development, city-development and social reconstruction by means of new forms of co-production and participation in the south-wing of the Delta metropolis.*
3. *New methods of linking infrastructure-development to the ambitions of tackling problems of the city and the region.*
4. *New (practice-oriented and scientific) knowledge and techniques on interactive policymaking, deliberation and spatial (re)design.*

Rotterdamse Ruit will be executed by Erasmus University Rotterdam (EUR) (principal applicant), MIT and TNO. Program leader is Prof. dr. W. Hafkamp (EUR)

4. Cluster Multiple Land use and overcapping of infrastructure

The realization of multiple Land use in the vicinity of infrastructure presents a particular challenge. Considerable space can often be found alongside and above infrastructure in which the urban structure, large construction projects, building transformations and spatial quality may be accommodated.

The dominance of the existing system, with road managers on the one hand and the public authorities and developers responsible for spatial development on the other, stands in the way of achieving attractive multiple design concepts. Legislation, safety, fiscal regimes, sectoral financing structures, risks and liability, and the unpredictability of effects at network level are the most familiar obstacles.

At administrative level, there is a need to qualify and/or quantify the social added value of multiple land use projects within the feasibility study. Besides to local interests, those of the region, network and city must be taken into account, as must considerations of function,

(commercial) management and maintenance. The proposed research will examine the place of multiple land use projects within the general spatial quality framework for infrastructure. Projects will be assessed in terms of their potential social costs and returns, in the 'zero reference' (no multiple space usage) situation and in that following a multiple land use intervention (short term and long term).

The envisaged breakthrough will be a new, future-proof approach involving short-term and long-term stakeholders. Restrictive, closed planning processes will give way to the 'development planning: an open and convergent planning process which is both flexible and future-oriented. The following issues are to be examined:

- *How 'future-proof' can a multiple land use project be made?*
- *What sectoral boundaries (sectoral quality, space, safety, accessibility, noise, environmental impact) does the current 'step-by step' practice meet, compared to the integrated approach based on the most desirable main structure?*
- *What added value will the one approach provide compared to the other, measured in terms of spatial quality (functional value, perceptive value, future value)?*
- *How can these considerations be included in the planning and decision-making stages, and what effect will they have?*

The results of this pilot project will be in the form of case study reports (the cases to include the A10 (West) in Amsterdam, and new practices incorporating a scan methodology to assess social costs and returns. The generic result will be the integration of spatial quality considerations within multiple land use projects involving infrastructure.

5. Cluster Regional Strategies

Cause

Governmental boundaries do not always coincide with coherent social and economic areas. Therefore in planning urban and rural projects it is not always possible to adress the planning task tot our specific governmental authority. Particularly this is the case on the regional scale. This problem of not matching scale is known as the "regional gap".

The government has paid a lot attention to the subject of *regional and spatial planning* during the last decade. But people from the government aren't the only ones who dabble with this subject. In 1996 e.g. six professors set up the foundation Het Metropolitane Debat (HMD). HMD aims to develop processes that speed up and improve decision-making. HMD also has created an interactive method of decisionmaking. This method fits in well with new concept of regional planning presented by the WRR.

Within a short period, the initiative taken by HMD has attracted representatives and organizations that deal with regional spatial strategies. In the course of 2002 it has been decided that more structure should be brought in this informal collaboration in the form of a Community of Practice. This resulted in the foundation of *Community of Practice Regional Strategies* on January 23rd 2003.

Core group

Initiators of CoP are De Stichting Het Metropolitane Debat, Het Instituut voor Publiek en Politiek, Bureau De Stad, ABF Research / ABF Strategie, De Nieuwe Kaart van Nederland and Nieuwland Advies / Automatisering. They are the core group of the CoP. This group shall strive to bring in new participants, to initiate experiments, and to create opportunities to exchange knowledge and ***experiences.*** All initiators have experience in strategy development as a professional expertise.

Aim

The CoP Regional Strategies aims to improve the quality of regional strategies by means of collectively initiating projects and experiments. Clearly, the arrangement of the decision-making process is of great importance too. The quality of the regional strategy can be measured by different levels:

1. *creation of spatial quality*
2. *impact on economical and social development, mobility and environment of the area*
3. *the needs of civilians and others who are present in the region. In other words the degree of demand orientation.*
4. *collaboration between public-private partners and of collaboration among municipalities themselves.*

During the CoP-association, several ***efficiency indicators*** will be developed to determine the quality of a regional strategy. These indicators refer to: (1) the democratic value of the decision-making process, (2) effect on the spatial quality, (3) economical efficiency, (4)

social efficiency, (5) effect on mobility, (6) effect on environment.

As for ***the arrangement of the decision-making process*** the initiators have decided to stick to the HMD-method and use it as a guideline to develop the experiments. It turned out that the differences between the regional spatial perspectives and local investment projects, could create a very useful framework for strategic discussions and strategic decisions based on these discussions.

Participation

The CoP Regional Strategies is open to those who are dealing with the development of regional strategies and is based on the exchange of knowledge and experiences as a surplus value. It turned out that there is interest in participation by representatives of:

- *Authorities that encounter the problem of the regional gap in real terms.*
- *Universities that are involved in the research of efficiency and legitimacy of decision-making processes.*
- *Organizations and consultants that are involved in the planning of regional strategies.*
- *Social organizations and enterprises that are more and more aware of the importance of active participation in the development of regional strategies.*

It is intended to start with the following experimental pilot projects:

- *KAN-gebied*
- *Deltametropool*
- *Brabantstad*
- *Kustgebied (Katwijk / Den Helder)*

6. IJsselzone region/ Buurtschap Zwolle

In the IJssel zone region -the area surrounding the IJssel between Ketelmeer and Olst Wijhe- intensive work has been carried out in the last two years in cooperation with Habiforum on a structure vision. This brings the relationships between agriculture, nature, housing, culture, recreation, traffic and infrastructure into the frame. Projects being implemented, being taken on, or already completed, have a place there. Ideas about new projects are also being made available.

In structure vision, combinations of use favoured by interested parties (and no allocation plans) are indicated. The next step is for the parties to realize the desired multiple use in projects (or processes). Examples include the node at Hattemerbroek (transition from Hattem and Zwolle to the open polder area where landscape and infrastructure must be combined with agricultural use, walking and cycling, industrial area and extension of housing) and Kampen Bypass (where there is a combination of housing, recreation, nature, green and blue, agricultural use, the Hanse line). There are parties interested in taking up the opportunities from the structure vision.

The Buurtschap IJssel zone Zwolle process is an example in which nine interested parties (private and public) have already worked out a town-country transition and the first steps have been taken in its realization (including landscape enhancement, routes, information point, and setting up funds). The next step is to put the cooperation on a permanent legal basis (with the participation of public and private parties and citizens). This step will make it possible to assemble the development funds for green and blue amenities (with contributions from public and private parties and citizens), to take up the further design of the area and to facilitate the desired multiple uses (landscape and recreation planning, zoning, subdivision, multiple business developments).

The basic lines of the practical development project IJsselregion/Buurtschap Zwolle are to address the questions:

- *In what ways can the chances deriving from the IJssel zone development vision take shape in projects and other activities of entrepreneurs (stimulation)?*
- *And the reverse: how can projects such as the Buurtschap (as a practical example of development planning) stand as a model for the interpretation of the regional structure vision through new projects (flywheel)?*

The parties in the IJssel zone programme are striving towards a breakthrough in the development, use and management of green space, in particular in the peripheral zones. The ambition is to transfer from licence to development planning. An important motive here is that a design strategy based on allocation plans can be static and smother creativity (allocation plans cannot be altered very quickly), while joint development on the basis of use ambitions offers much better chances of realizing the common final goals and formulated vision for the IJssel zone and the Buurtschap. Work does not therefore proceed primarily from the alloca-

tion plan as a testing context for licensing developments, but from the wishes of the parties concerned and their common ambition to realize their wishes on the location. That approach leads to the multiple use and development of the Ijssel zone. Parties look for cooperation and forms of internal regulation (desired qualities and use as an ambition to be included in the first layer of the allocation plan). Should that fail, the opportunity remains to fall back on the testing context of the allocation plan (second layer in allocation plan).

The following questions are raised:

- *How does the internal regulation between authorized powers, citizens, owners, entrepreneurs and users take shape at the level of a local development project such as the Buurtschap and at the level of the IJssel zone? In the last few years, the mistrust between the parties has disappeared and been transformed into (for the Buurtschap) intensive cooperation.*
- *How can a sustainable cooperative project undertaken by citizens, owners and users be brought to fruition? What strategy, distribution of responsibilities and organizational form is best suited to retain involvement so as to ensure continuity in the development process and, moreover, to leave room for creativity so as to be able to continue to react to change? Is it also possible to achieve this sustainable form of cooperation at the level of the IJssel zone and what would the relationship with respect to cooperation in the projects then be?*
- *Over which content-related points must the dialogue take place, and how detailed should these points be? It appeared from the session on spatial quality in the Buurtschap that the social component had been snowed under. The Breed Maatschappelijke Discussie [Broad Societal Discussion] will also emphasize the social component.*
- *Is an underlying testing context always necessary in the development process? If so, must that be in the form of the parties' joint formulation of users' goals and results and/or the formulation of the physical and social-economic qualities?*
- *How can participants in one project learn from another project, particularly where the concern is for experiences in building up the confidence and bringing about the cooperation of the parties, citizens and owners/ users involved?*

7. Zeeland: multiple use of land and sea

The Innovation Network Multiple Use of Sea and Land has the aim to bring private and public parties together to realize multiple space use projects in the Hollands-Zeeuwse-Brabantse delta. The problem statement is: How can multiple space use be realized so that the economic, ecological and social development and the spatial quality are promoted. The qualities that are particularly to be seen in the unique transitions from water to land and from city to open space are being strengthened. In collaboration analogous to that in the IBA-Emscher Park, new projects will be set up and supported. They will make new combinations between business activity and spatial qualities and will protect the area through developing it, under the motto: don't slow down, link up. Favourable first test projects are the multifunctional use of the new coastal defences at Goerree, Schouwen and Zeeuws Vlaanderen, and an agro-logistic-industrial business park at Terneuzen. The innovative Sea and Land Multiple Use network provides knowledge and a relevant private and public network for (initiatives for) projects that will enable them to move from thinking to doing.

8. Cluster Multiple Land Use and Water

('mirror projects')

Within the Habiforum programme (ICES/KIS-2) a number of 'mirror' projects have been initiated, in which public and private parties join in devising spatial and process-related strategies and solutions to combine water with other functions, resulting in vital and attractive waterside landscapes. Activities in six areas have now commenced: Horstermeerpolder, Overdiepse Polder, Dotterlandschap, Volkerak Zoommeer, Mare Minor (Roermond) and Krimpenerwaard. Discussions are taking place on the project Floating City (Haarlemmermeer) A significant new development is the organization of active participation by local residents and the users of the space. Several pioneering spatial designs have been created in this interactive fashion. Important challenges include the creation of integrated financing arrangements, that of development-oriented planning processes and multiple cooperation arrangements involving residents alongside public sector and market parties. The intended results are: innovative spatial designs, innovative processes and arrangements whereby the designs may be realized, and an explicit account of the know-

ledge, experience and competencies jointly developed, which can then be applied in other fields.

9. Cluster Red and Green

There is considerable interest in the Red with Green theme and a more prominent role is being considered for it in the realization of spatial quality on the town-country interface and the rural area itself. The power of Red with Green lies specifically in the fact that the joint development can have a strong economic basis. In addition to the spatial sustainability perspective (develop a balance), the perspective of social-economic added value translates into a higher quality living environment, increases collective green amenities, and creates a better settlement climate and spatial quality. The need felt by local and regional initiatives, private parties and societal organizations to make Red for Green operational is growing strongly.

The retrenchment of the central government, and the sometimes inadequate directive and steering role of the provinces combined with the limited experience of local authorities, threaten to create a vacuum in the policy and responsibility for the spatial quality of the open space. Strong standardized demands set by the government have an inhibiting effect on the discovery of opportunities for Red with Green. The monofuncionality that results from the current planning by licence offers little opportunity for the implementation of multiple land use such as Red with Green. Since Red with Green is only marginally implemented and has the image of building for the elite the concept also has to contend with the undeserved lack of interest on the part of local and sometimes provincial government and politics. Concern for the loss of the steering and responsibility of the central government for nature, landscape, and open space is evident. And a (possibly unspoken) negative voice can be heard regarding Red with Green from the side of societal interests organizations. Objectivity and communication of the added value of Red with Green would seem to be of great importance.

A Community of Practice Red with Green for various scale levels can be defined as follows; "A joint linking, envisaged as a final goal and guaranteed, in the realization of Green and Red developments." The CoP will start with four specific cases, namely: a reconstruction area in the vicinity of Oss, a Strategic Green project area in the Haarlemmermeer, a future green spatial framework to the east of Almere, and a cultivation under glass area in Alkemade. At the level of cases, the problem is how to make Red with Green operational in them. At the level of the theme, the problem is to make Red with Green broadly applicable through the application of instruments, regulations, processes, and so forth.

10. Cluster Sustainable Urban Renewal

NIDO will implement the Sustainable Urban Renewal (DSV) programme. It is associated with the drive to increase innovation in urban renewal through the pursuit of sustainable development. There will be intensive cooperation with KEI (knowledge centre for urban renewal). The programme will terminate at the end of 2003. Subsections of that programme would be suitable for continuation within the SRG pilot projects programme.

Sustainable urban renewal has two important pillars:

Transformation space: the arrangement of a town and country planning structure which can take change on board;

Neighbourhood dynamic: the linking of social and physical tasks in such a way that a positive and self-sustaining dynamic is created.

Sustainability may be added to these two pillars: the awareness of the qualities of the current structures, both physical and social, and the effects plans will have on them, and then the stimulation of careful management of these previously available structures.

Finally, sustainable urban renewal requires an open planning process oriented towards innovation.

Around these themes, an pilot project cluster will be organized related to the following components of the scientific programme: the organization of urban restructuring; landlords' strategic housing stock policy; the social impact of restructuring.

The pilot project is entitled 'Sustainable urban renewal'. It features the districts of Vlaardingen Holy Zuid Oost (housing association Waterweg Wonen) and Nieuw Den Helder in Den Helder (Woningstichting Den Helder). Work is already being carried out in these districts with a view to improving the effectivity of the planning process, to be able to achieve the envisaged high ambition level.

The breakthroughs to be achieved in this pilot project are in:

- *effectivity of planning processes*
- *demand management by residents/ users*
- *spatial quality*

In Vlaardingen, the intention is to take the existing housing stock carefully in hand, without large-scale interventions, but still realizing an ambitious programme with the emphasis on future value. Demand management will be a central feature in the process: cooperation with residents is intensive; the help of neighbourhood coaches is included. Amenities and the social network will function as carriers for the plans.

In Den Helder, the restructuring will possibly be undertaken together with the demolition of dwellings. There will be an endeavour to find ways to build up the self-innovative capacity of the neighbourhood in social/ economic respects (neighbourhood dynamic). The spatial quality will be oriented to the achievement of adaptability to future needs (transformation space). The pilot projects will draw on the intervention and intervision methods, which NIDO and KEI have already used successfully.

Expansion to incorporate other projects will take place in 2004, including some from the KEI/NIDO-network. In the appendix there is an extended description of this cluster Sustainable Urban Renewal.

11. Cluster Vital City

At present, there is no clear vision with regard to the way people will live in the future. If all spatial claims are added up, it becomes clear that we must make carefully considered choices and must learn to think in an innovative manner. Decision-making regarding space usage in the Netherlands is fragmented, rendering it difficult to coordinate plans. The result is suboptimum spatial interventions. Future residential property construction will be determined by increased demand for homes in the urban setting as well as that for homes in the semi-rural environment. Furthermore, there has been a deliberate shift of policy whereby the traditional separation of functions is to be superseded by a system geared towards mixed functions. Urban expansion will meet some of the future demand for residential and business property, but demand must also be met by means of interventions in the existing urban areas.

The challenge is to devise a new urbanization strategy whereby local initiatives in new and existing residential areas can be given form in such as way as to ensure that the regional 'whole' is greater than the sum of the parts.

To meet the dual demand for greater density on the one hand and 'living amid the greenery' on the other, it is essential to identify the possibilities of a location within the existing area in terms of realizing the (spatial) qualities demanded by various population groups, against the background of regional developments. This must give rise to a competitive residential environment that will encourage the more affluent residents to remain in, or return to, the city. In short, what is possible within the inner-city setting, and how will this fit in with regional development. What will the future residents gain? What qualities will be realized? And is it possible to give an extra stimulus to the restructuring of adjacent districts?

The CoP has developed a number of alternative strategies for the Zuidvleugel as part of the first phase of the Vital City project. These address the themes of environment, city, infrastructure and regional business activity. Two districts - Feijenoord in Rotterdam and Binckhorst in The Hague, provide examples of the challenges faced.

Feijenoord, Rotterdam

Noordereiland and Feijenoord are centrally located in the city, alongside the River Maas and adjacent to the Kop district. The area includes some old commercial property, harbours and housing dating from the 19th and 20th centuries. Incidental improvements are being undertaken. The district has become a patchwork quilt of area plans with little or no cohesion. Much social housing has shifted elsewhere. A new bridge has been the subject of a study. The challenge is to find an innovative approach whereby interesting green urban residential environments may be realized.

Binckhorst, The Hague

Binkhorst is an inner-city area with some water-related commercial activity, a cemetery, housing and some characteristics of the less urban region. A renewal process has commenced but remains limited to the fringes of the district. Restructuring of the entire area demands a nuanced approach, in which the challenge will be to find ways in which to implement innovative concepts.

12. Amersfoort station area

In the centre of Amersfoort is a railway marshalling yard covering some 45 hectares and forming a physical barrier to good urban functioning. The project hopes to alleviate the barrier effect of the yard while also implementing an intensive urban programme. Through multiple space usage, the project intends to bring about urban intensification in and around the railway premises in Amersfoort. In any such intensification, involving for example the creation of a second street level at this location, the environmental and safety problems which are inherent in the transport and marshalling function of the railway will be prominent. The project must therefore fit within the future legislative framework with regard to external safety. Accordingly, the use of the Safety Effects Assessment and Report methodology for area-specific development around an urban hub is indicated and will be incorporated into the project. Generic knowledge on this theme will be an important product of the project.

Realization of the project will demand the creation of a multiple principal, public and private. The necessary co-production of policy will address not only the interests of Amersfoort itself, but also the organizational and legal arrangements between the organizations involved, such as NS Vastgoed and Prorail in terms of land management and that of the physical structures. It is, after all, essential to create a high-quality urban environment at such a hub, and equally important to ensure that the railway-related activities can be accommodated without disruption and at an acceptable level of safety.

A feasibility study will be conducted in 2003 to identify the main risks of the project, most of which will relate to the strength and influence of the consortium. The subsequent activities can be determined according to the results.

13. Gouda station zone: 'the connecting link'

Integrated spatial development of station areas and railway zones is notoriously difficult to achieve. Despite local ambitions and the good intentions of NS organizations, it frequently proves impossible to make any connection between the real estate market and the transport market. The fragmentation of tasks and interests tends to supersede the interests of an integrated spatial approach. Problems of safety also play a part.

A town's station and its immediate area are of strategic importance to the local authority and the general public in terms of urban development in the regional context. The town of Gouda typifies the situation which applies in many other Dutch locations. In 2002, the project addressing Gouda's station zone was given the subtitle 'the connecting link', which applies at several spatial levels of scale.

The ambition is to achieve multiplicity in all its forms, from intensification and double land usage, to function combination and transformation processes. This can only be achieved through multiple cooperation arrangements: the 'connection' between the market parties and those affected by the interventions. This is where a project is most likely to flounder. Exceptional opportunities in terms of interconnecting the transport function, the real estate function and the city-regional function remain untapped by the more traditional approaches. Pioneering cooperation arrangements, development processes and financing constructions will provide the breakthrough.

The intended results of this project are the design of a development-oriented planning process, the design of the 'Stations NV' concept and the design of a multiple investment concept. More generic results will include a practical and academic insight into development perspectives for the 'Hub within the Network' concept, a breakthrough in terms of cooperation between NS organizations and operating companies, and a learning history drawn from an unorthodox, broad, yet potentially fragile approach to a complex problem.

14. Steenwijk 'transferium'

Many local authorities face the task of combining an integrated town and countryside development approach with the development of a sound regional economy, entailing attention to new industry and service sector activities, better quality in homes and the residential environment, the further improvement of natural values and the landscape in the city and its environs, enhanced quality of recreation and tourism facilities (e.g. accommodation). Steenwijk wishes to become a modern town with a fresh and dynamic image, amid a historic and green setting. The station zone forms an important hub connecting the town centre with various amenities and the outlying areas, offering many attractive possibilities. The station area must present a dynamic face, making it

attractive as the starting point for other activities and experiences.

In association with a number of market parties and knowledge institutes, Steenwijk has developed a spatial concept which will help achieve these ambitions. The intention is to implement a growth plan for a 'transferium' (a point at which transport modalities converge, allowing passengers to 'park and ride') within two years. Various parties are now working on this scheme within an interactive policy process. Here the breakthrough will be: *the perception that the transferium can play an important role in the further development of this region.*

The Steenwijk pilot project will seek to answer the following questions:

- *Can a deliberate mixture of functions in the Steenwijk transferium contribute to the spatial quality of the region?*
- *Can the input of a CoP enhance the use of the 'development planology' and the process quality?*
- *What form must process management take in order to ensure an appropriate contribution to flexible planning?*
- *How can existing theoretical knowledge and experience of those concerned (stakeholders and shareholders) be imbedded in the development of plans, and how can this knowledge be mobilized in implementing a joint plan?*
- *What contribution can regional red-green-blue hubs make in terms of the further development of outlying areas and how can they strengthen the relationship between town and countryside?*
- *How can the dividing line between town and countryside be made less distinct (the town falls outside the formal boundaries of the 'area development' plans)?*

Given its size, scale and the nature of the challenges faced, Steenwijk is typical of many comparable towns and will act as a useful reference.

15 IJburg

The coming years, there will be built a new dwelling area, the socalled IJburg area, in the eastern part of the city of Amsterdam. After years of rethinking, discussing, planning and feasibility studies, the construction of IJburg is in full operation now. The complete development of the new district will take years. As expected, IJburg will not be totally finished until 2012. By following the development of the area through research, it will be possible to leap on it while the process is still in progress.

The results will be used by Amsterdam municipality, housing association and project developers in the further construction and creation of IJburg and so to optimise the use of space.

From a sociological point of view the development of space and the use of it, is very interesting to study. Fact is that all social life takes place in a physical space and space therefore is undeniably a social phenomenon. A place is never natural or neutral, but is always a product of society. The relation between people and space, how they use it and what space does to them, varies and can never be seen apart from other variables. Herbert Gans recently made a plea for more attention to space in sociology. According to Gans this subject deserves attention not only from a scientific point of view, it also has relevance for policy. Sociological research on the 'shaping of place' can point out how spatial decisions effect the use of it. It also effects on people, the responsible agents and their driving forces.

IJburg is, as a completely men-made space, highly cut out for a 'sociology of place-making'. The collective expectations about the development of the area are marked by assumptions, visions, images, ideas, emotions and spatial determinism. The designers and policymakers have high hopes about the diversity of urban lifestyles, heterogeneity, and social integration. Most of them look on IJburg as the place for social experiments. The media and other critics, mostly see IJburg as a new suburban district of which they don't expect any good. The residents will however be the ones who will really shape the area. Since the beginning of 2003 the first IJburgers have taken there residence in there new homes and by this the development of IJburg has come in a new phase.

Study of this process can be of great value to the future "place shaping" of IJburg and other districts to come.

The research will focus on:

- *The propositions, principles, beliefs and opinions the professionals and entrepreneurs have in building the IJburg areas.*
- *The difference between the collective expectations and the actual dynamics of living environments and lifestyles.*
- *The turn of events and surprises which will take place in the actual development*

of this new part of the city.

- *The relation and possible interaction between the social and cultural lifestyles and the physical space.*
- *The rise of formal (organised) patterns of social interaction in the public life of the new district and informal relations between residents.*

16. Waalhavenpolder

This project encompasses the gradual modernization, restructuring and transformation of a six-hundred hectare harbour area in Rotterdam, to become a mixed harbour and urban district. Some harbour-related activities will give way to homes, recreation and other forms of commercial activity. In 2001, the City of Rotterdam's Department of Engineering Works unveiled its concept for Waalhavenpolder. Multiple space usage, with layered buildings making full use of the depth of the location, is just one of the variants put forward. In order to direct the process of gradual transformation effectively, a development company (Ontwikkelingsmaatschappij Stadshavens) was formed in early 2003.

The main ambition of this project is to bring about the desired gradual transformation of the area. Over time, harbour-related functions are to be complemented and replaced by urban functions to create a mixed district. The project takes place within a fully urban area, representing both a unique element and the most significant project risk. It is neither possible nor desirable to opt for the 'traditional' approach of 'first take the harbour out and then put the city in'.

In the context of the SRG programme, the main knowledge question for this project relates to the strategy for mixing functions. What urban functions lend themselves to incorporation, and in what proportions? Determining factors include the requirements of the city as a whole, the target groups to be addressed and the assimilation of the concept within the (immediate) area, with potentially conflicting spatial functions in close proximity to each other.

This project demands an innovative approach making use of knowledge (technical, social, juridical and financial) from the SRG programme. A demand-led planning approach must not only consider the wishes and requirements of future users but also those of the businesses currently active in the area.

17. Poort van Alphen development area multiple-layer business complex

Industrial sites have developed, particularly in times of dynamic economic conditions, as mono-functional complexes with little or no social value. In the longer term, the negative effects such as degeneration, excessive space usage, lack of aesthetic variety, traffic nuisance, clustering alongside infrastructure, etc., have become apparent. Too few business complexes have been developed in any socially or spatially responsible manner.

In early 2002, business representatives within the Habiforum project approached the town of Alphen a/d Rijn with a proposal for a new and innovative multi-layer business site. The local authority adopted the plan and is now working on its implementation. The initiative is remarkable for the layered form and the multi-functionality of the complex, its supra-regional character and the cooperation between private and public sectors which has led to improvements to the concept as well as an accelerated planning process. The extent of investments and the likely benefits to be gained render this an extremely relevant project, economically and in several other ways.

The greatest risk is that the ambitions will become diluted by the pressure of time, disparate interests, sectoral considerations or cost factors. The dominant practice of 'admissive planology' is to be eschewed in favour of a process of co-creation, partnership and development planology, thus leading to improvements and shorter lead times than in the traditional approach.

The results will include a design and monitoring process for the development-oriented planning process. Evaluations of spatial quality and a study of the (perceived) economic effects in a wider area will be included in an extensive Environmental Impact assessment. There will be a feasibility study focusing on public-private development concepts and a costs-returns analysis with regard to the formation of a regional development company. Finally, material will be generated to support an application for a Spatial Quality Investment Budget.

The generic result will be a contribution to the studies 'Concept development for multiple-layer business complexes' (by the Province of Zuid-Holland), Best Practice in Process Management, and various scientific analyses. This pilot project will prove inspirational and will set the tone for many other developments.

18. Overamstel

Amsterdam wants to achieve greater mixing of functions, intensification and, in particular, more room for housing given the shift in the regional living/working balance. The Overamstel industrial estate has been designated one of the strategic city locations in this respect. It is unique, given its location alongside the River Amstel and the Amstelscheg, part of the 'main green structure' of the city. The transition between water and greenery is an essential component of the plan. In the area immediately alongside the river, there is room for a boulevard and greenery. The proximity of existing urban districts and the excellent accessibility enhance the possibilities for the area.

The main ambition of this pilot project is to produce generic knowledge regarding strategies for the mixing of functions in an urban-rural transition zone. At what scale is this possible? How should a clear objective be formulated while allowing room to be created for dealing with unforeseen threats or opportunities? How can a high yet realistic level of ambition be established and maintained? As yet, there is little knowledge regarding such transition zones and the most appropriate directive approach in a project of this scale. This also represents the main challenges faced by the project. The transformation approach must consider the existing possibilities and limitations of the area, in terms of noise, social safety, the level of amenities and the increased traffic in the plan area given any intensification of land usage.

Political discussions concerning the living/working balance conducted further to the regional and structure plans have shown that the City of Amsterdam recognizes the need for an innovative public-private approach. The risks are to be found in terms of the consequences of relocating business activities, addressing the various ownership situations, maintaining the quality of the industrial site and the residential environment during the transformation process, and ensuring active participation of the businesses that will remain in the area, or allowed to return following project completion.

Further pilot projects

It is the intention that further pilot projects will be commenced after 2004. Some will be sought within the plans and projects which have been selected by VNO/NCW to be undertaken before 2020 with regard to the urban networks, including those further to the Fifth Memorandum on Spatial Planning. Others will be sought among key projects, among the fifty priority urban renewal projects to be presented by the Ministry of Housing, Spatial Planning and the Environment, and are in preparation within Habiforum and InnovatieNetwerk Groene Ruimte en Agrocluster programmes. In addition, we will link in with the research programme of the Deltametropolis and its pilot projects. Discussions have already been commenced regarding:

- *A4-Delfland*
- *Leiden-Oost/Zoeterwoude*
- *Leiden-West*
- *Rijnland*
- *Zuidplaspolder*
- *The Arnhem-Nijmegen node (to include a light rail connection)*
- *A6-A9*
- *Spoorzone Delft.*
- *Haarlemmermeer*
- *Deltametropolis*
- *Groen Kamer, Tilburg*
- *Urban Agriculture*

6.7 Community of Practice (CoP): Network management at the crossroads of knowledge, policy, and practice

In order to arrive at knowledge creation processes within the pilot projects, the 'Community of Practice' approach will be used, which also serves to create a very strong learning environment. Experience with this working method has already been gained within the current Habiforum programme (ICES/KIS-2), in which over one hundred public and private organizations are now involved. The method inspires and generates new spatial concepts as well as new practical approaches. Achievements to date will be further built upon in the SRG practical programme.

Example products

The Community of Practice approach has been studied and described by Etienne Wenger. It was developed in an era in which the network emerged as the most important social organization form. In this context, it is appropriate to refer to the book 'The Network Society' (Castells 1966) which introduces the concept of network direction with various actors striving to achieve common objectives

It is now widely recognized that traditional, hierarchical management models produce suboptimal results and that government, market parties, social organizations and knowledge

institutes must work together to explore new avenues, develop into effective learning organizations and arrive at system innovation.

Based in part on Wenger's concepts, the Community of Practice approach has been adopted on two levels within the SRG programme: that of the individual pilot project, and that of clusters of pilot projects.

In individual pilot projects, the key aim is the creation of knowledge for the pilot project itself. With regard to project clusters, the aim is to encourage an exchange of knowledge and to establish the generic importance of the knowledge gained to each of the various projects within the cluster.

The Habiforum programme has provided valuable experience in the application of the method at both levels. There are Communities of Practice active in various themes, such as residential areas, industrial sites and regional hubs. All focus on the issue of multiple space usage. These Communities of Practice are linked to actual practical projects.

Within the SRG programme, a Community of Practice is regarded as a group of people or parties with a joint interest who, through the exchange of knowledge, insights and experience, can learn and can develop new approaches to the challenges they face.

Community of Practice at pilot project level

In a pilot project, public and private parties come together with the knowledge carriers from the academic-scientific world and that of policy, partly from other Bsik-programmes. The knowledge carriers can then participate on the basis of other comparable practical situations. The essential feature is the connection and interaction between practice, policy and science. The objective is to join forces in designing a process in which, rather than negotiation and 'horse-trading', the contribution of a variety of knowledge and experience will lead to a 'fusion' of new common knowledge and skills.

Two elements are central: community and practice. The 'community' is a group of people who seek to learn together and produce common, shared knowledge. The 'practice' refers to the manner in which they do so, emphasizing the practical orientation, the action, the doing. The process involves joint activities, such as workshops, creative exercises, cooperative design processes, etc. The phases of the process are described in greater detail below, although it must be stressed that each pilot project will be different and will require a 'customized' approach. The results of the process include new concepts for multiple space usage, new processes with regard to planning, public-private partnerships, the participation of the public and users of the space, new tools, and jointly developed competencies and practical approaches geared towards realization.

Communities of Practice at cluster level

Building upon the learning experiences gained within the Habiforum programme, a number of 'thematic' Communities of Practice are to be formed. These will be allied to the selected spatial themes and level of scale, but also with topics which straddle the boundaries of spatial themes, such as demand-led design, development-oriented planning, spatial quality and land policy. No new permanent knowledge institute is to be created, but a number of meetings will be scheduled on the basis of the pilot project results, serving to determine the further lead time of the activities.

Within these 'thematic' communities, the knowledge, competencies and learning experiences gained on each of the separate pilot projects will be brought together and their significance given form by means of reflection on specific pilot project results and the generic results which are readily applicable elsewhere.

Within this context, the confrontation and interaction with the 'practices' of policy and science is also extremely importance. The results of scientific research will be introduced to the process and the further knowledge questions formulated. Policy requirements and 'policy room' will be explored in order to create means of removing the obstacles experienced in practice. Within the Communities of Practice, the overall objective is the development of knowledge and competencies in the three interrelated arenas of practice, science and policy.

The Communities of Practice can also be considered as a component of the knowledge infrastructure in which knowledge and experience from various Bsik-programmes are brought together.

6.8 The process of knowledge creation within pilot projects: an example

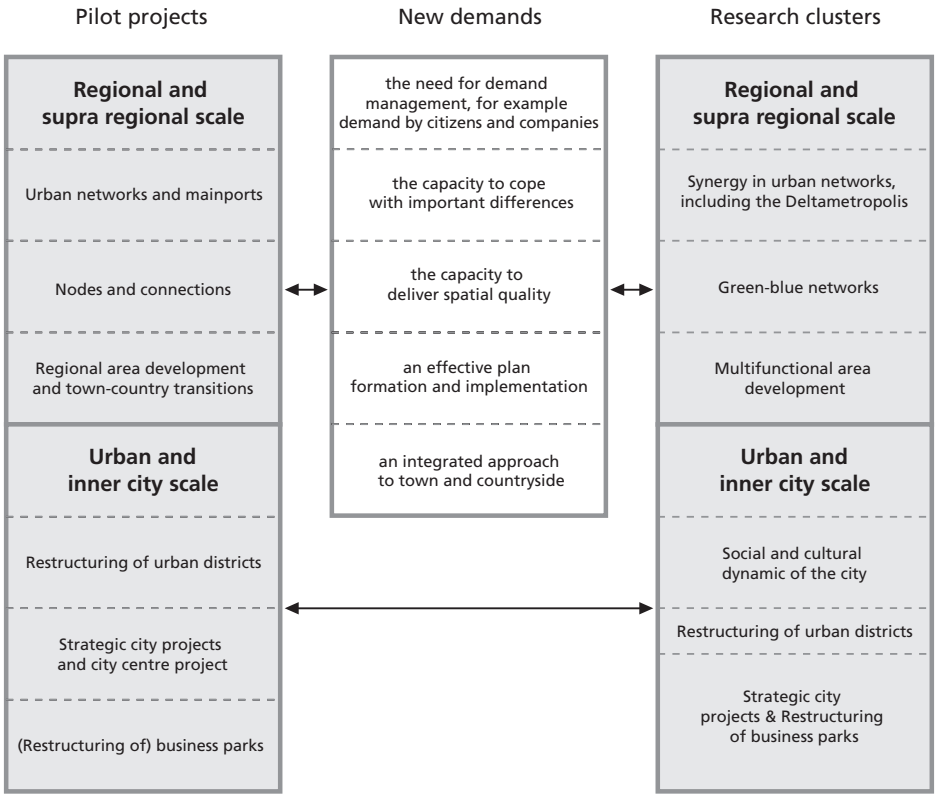
The knowledge development processes within pilot projects do not rely on predetermined blueprints. Each project requires a customized approach. Nevertheless, to give an impression of the activities undertaken on a pilot project, a description of the proposed form of the Rotterdamse Ruit project is presented here.

- *A convening phase in which stakeholders are engaged, an assessment is made of the range of issues that they are concerned with and the interests that are affected by these issues, an agenda is framed that establishes a starting point for interaction, and initial rules of the game are set;*
  The experiments will engage stakeholders from the following categories:
  - *People who reside and work in the area.*
  - *Members of the business community.*
  - *Representatives of organizations from civil society that have interest in and knowledge about the issues on the table.*
  - *Representatives of other ad hoc or unorganized groups that are affected by the issues under discussion, such as commuters.*
  - *Experts who can bring the technical knowledge and analytic skills necessary to make the process appropriately fact regarding.*
  - *Civil servants who represent the ministries and other agencies that have responsibility for issues on the table or competencies that can influence or will be influenced by the issues on the agenda.*
  - *Political representatives from local, provincial, and national government.*
- *A phase of deliberation and exploration in which issues are analyzed and explored, the agenda is reframed by participants, and relationships between interests, value commitments, and perspectives are explored;*
- *A design phase in which action strategies are invented and shaped through interaction and negotiation that balances competing demands by crafting proposals that create mutual gains rather than by encouraging compromise;*
  We expect the design of processes will respond to the grain and texture of local issues, patterns of organization, and challenges to political participation. The variation in designs will be part of what will create the "differences that make a difference" and yield insights. At the same time, these processes will have to respond to a common agenda that will include, but not be limited to, an affirmative effort to:
  - *be inclusive and engage the broad range of stakeholders listed above, even those who may initially view the invitation to participate with skepticism or disinterest*
  - *respond to the diverse histories and varying levels of trust and understanding that provide the starting point for interaction*
  - *promote discussion that are "fact regarding" and benefit from the full range of technical and scientific analysis that can be brought to bear on an agenda that is shaped by the stakeholders*
  - *provide a procedural framework that encourages and supports the type of open discussion that can produce learning/understanding, invention, enhanced legitimacy*
  - *use information technology and other soft procedural technologies to enhance deliberative capacity of participants*
  - *encourage reflection on the rules of the game and accept criticism of how they may be illicitly, if unintentionally, shaping the development of deliberations and negotiations.*
- *A* **dialogue between the present and future** *in which the implications of present action for the future and the future for present action are plumbed.*
- *In the* **evaluation phase** *the learning experience and knowledge transfer is a central issue. Sessions with all the relevant stakeholders will be organized. Several items are open to discussion:*
  - *How do we interpret the outcomes from the experiments?*
  - *What kind of actions will be taken by whom?*
  - *How do we connect these actions to the level of policy making and planning process? What kind of policy measures are needed?*
  - *What do we learn from the experiments and what does that mean for policy making and planning processes?*

6.9 Interaction between the practical development programme and the scientific programme

The table below shows the interrelationship and cohesion between the themes of the practical programme and those of the scientific programme. The scientific research themes are derived from the Habiforum research programme, policy memoranda and recommendations and are all based on the problems identified by the market.

Figure 6.2. Pilot projects categories and research clusters



As stated above, this knowledge project consists of both a scientific programme and a practical development programme. An important success factor for the knowledge project as a whole is the manner in which strong links are made between both programmes, so that knowledge can merge, new knowledge and competencies can be developed, and can also be disseminated via these same links in a continuously innovative knowledge production process.

In order to realize the above, the following formalized provision will be made:

- *Some of the pilot projects, in particular those where monitoring and reflection and evaluation have been cited as supporting activities, will be taken up in the scientific research programme. Spatial problem issues, knowledge production processes, and the processes of transition and system innovation will be scientifically investigated in these practical projects and the results transformed into -where practice is concerned- general and specific procedural perspectives.*
- *Researchers from the scientific programme will participate in other pilot projects, in particular those where knowledge creation processes are set up. They will take care of the input from the scientific knowledge sources and thereby take part in the knowledge production process. The researchers also have a part to play in the translation of knowledge questions from practice to scientific research.*
- *The Communities of Practice function above the level of an individual pilot project. They assess and evaluate at meta-level the results from the pilot projects, link them with scientific research results, make learning experiences explicit, and*

then give them meaning in the sense of new knowledge questions and procedural perspectives for science, policy, and practice.

6.10 Selection and evaluation of the pilot projects

Selection

An Advisory Board will be responsible for assessing the proposals for pilot projects and will report to the programme directors. The Advisory Board will require the objectives to be well defined and sufficiently challenging, and will wish to see a clear description of the manner in which the results are to be developed. Pilot projects can only be successful if the parties involved in the pilot project join forces to formulate the objectives and suitably probing questions beforehand. There must be a explicit description of the desired results. Selection of pilot projects will also be subject to the requirements stated elsewhere in this document..

Evaluation

Unlike projects which strive to arrive at predetermined results, the pilot projects are dynamic processes in which the final results and products develop over time. The objectives and the direction are known, but a quantified statement of the actual results cannot be given in advance. In such dynamic processes, it becomes necessary to incorporate 'systems' of monitoring and reflection.

The practical programme will use two methods in this respect:

1. *Periodic evaluation by means of two supporting activities, as described below.*
2. *Mid-term reviews (at two and three-and-a-half years into the project) by an independent panel of experts.*

The two supporting activities are designed to gain an impression of the content and processes of system innovation and knowledge productivity displayed, whereby the pilot projects may be regarded as the arena of research. The programmes are structured in such a way that the results can be used reflectively at the level of the pilot projects themselves. This offers a set of instruments with which the programme as a whole can be kept on course.

The overall working method can only succeed if the system remains 'open'. Accordingly, the reviews will be conducted by experts who are not directly involved in the programme. These experts will be appointed prior to the commencement of the programme and will be asked to devise the assessment criteria. The assessment itself will form yet another learning moment which will contribute to the further development of the programme. The exact form and structure of the visits will be devised in cooperation with NWO, which will also be responsible for the interim evaluation of the scientific programme.

The following aspects will be subject to assessment:

- *The knowledge and competencies developed thus far.*
- *The realization of 'breakthroughs' with regard to development planology and the related tasks and challenges (as described in Section 2 and with specific reference to multiple space usage).*
- *The creation of interrelationships between practice, science and policy.*
- *A demand-led approach with regard to science and policy.*
- *Maintenance of the level of ambition during the planning and implementation process.*

6.11 Supporting activities

6.11.1 General

With a view to achieving the objectives of the programme, it is essential to establish the extent to which the desired system innovations can be implemented.

In addition, it is important to gain a clear understanding of effective knowledge production processes and the conditions which will promote the effectiveness and quality of such processes. It must be remembered that the SRG programme is itself a knowledge development programme, the overall aims of which include the design, structuring, facilitation and management of knowledge production processes.

Accordingly, supporting activities for both lines of endeavour will be undertaken. In terms of the design of system innovation, there will be participation in the NIDO/KSI proposal 'Knowledge and Competencies for the Transition to a Sustainable Society', while a specific project has been developed to cover activities further to the Knowledge of Knowledge Production Processes track.

The activities are described in further detail below.

6.11.2 Knowledge relating to system innovations

Objective

The objective of this supporting activity is to gain knowledge and competencies regarding system innovations in the spatial domain, and to establish, initiate, design and implement the relevant processes. Results will also be used for periodic reflection and to keep the overall programme on the desired course.

This objective will be realized through participation in the NIDO/KSI knowledge development programme.

The link with the NIDO/KSI programme will be established in two ways: the deployment of researchers from System innovations Knowledge network on pilot projects within the practical programme, and participation in the practice-oriented research conducted within the NIDO/KSI programme.

System Innovations Knowledge Network (KSI)

The System innovations Knowledge Network: Transition to a Sustainable Society (KSI) comprises some fifty researchers with specific knowledge and expertise in the field of transitions and system innovations. In other words, their knowledge is not domain-specific (in, say, energy, agriculture, transport or spatial interventions) but relates to the process architecture, systems, learning processes and competency development involved in transitions, as well as the instruments required to initiate, guide, monitor and evaluate those transitions.

The KSI researchers have been selected on the basis of their multidisciplinary outlook. They have experience in applied and practical research.

Deployment of system innovations researchers on the pilot projects

Within the pilot projects, the KSI researchers will fill three distinct roles.

- *Firstly, KSI researchers will examine the pilot projects from the systems perspective. They will study the intended transition and the relevant system innovations, as well as the linked objective at systems level. They will determine the extent to which a pilot project is likely to contribute to the systems objectives and the desired transition. They will examine the extent to which different pilot projects reinforce each other so that systems objectives can be attained. Finally, they will investigate the barriers and obstacles within the system: lock-ins and lock-outs, path dependency, regime analysis, macro-trends, niches for experiments, uncertainties, the phase which a transition has now reached, etc.*
- *Secondly, the KSI researchers will carry out ex-poste studies of the pilot projects already conducted. They will reflect on the form, structure and performance of the pilot projects, as well as the results achieved. They will examine the extent to which the experiments have contributed to the previously formulated results at systems level, and will examine whether there was any deliberate control, and if so, in what form. They will abstract the learning effects and experiences, and will examine the extent to which these can be used as the starting point for new experiments.*
- *Thirdly, KSI researchers will participate in ongoing pilot projects, or those about to commence. They will examine the process architecture: is it appropriate to speak of arenas (innovation networks) or is there some other organizational form? What is the underlying participative process enabling the general public to become involved? Is there a transition manager? What competencies must the participants in the transition process possess? The researchers will further establish links with experiments in other transition domains. They may also analyse the learning environment: how much is 'learning by doing' and how much 'doing by learning'? Do the learning experiences form a sound basis for further research strategies? The experiments will be subject to scrutiny: can they be described as innovative? Do they contribute to incremental development? Do they further the systems objective, either directly or indirectly? Are they repeatable and accountable?*

Participation in the NIDO/KSI practice-oriented research

In general terms, practical research consists of two components. First, there is a KSI knowledge basis concerning transitions and system innovations at various levels: from energy to transport and from agriculture to space usage. This enables direct comparison between the various types of transition and system innovation, comparison of the process architecture of the various transition processes, of the transition experiments in the various transitions domains, of the learning experiences drawn from the various transition experiments.

The second component relates to the set of instruments for transitions and system innovations that is to be developed. The instruments are to be developed within the KSI research programme, which calls for a monitoring system for transitions. How can we establish which phase of a transition we have now reached? There must also be an 'uncertainty management system': what sources and types of uncertainty will be of significance? There must be a database of historic transitions, providing an assessment framework for transition experiments. There must be transition models to allow description and explanation of the dynamic of transition processes. There must also be a scenario generator with which transition scenarios can be developed.

For other aspects, please refer to the NIDO/KSI knowledge development programme previously submitted.

6.11.3 Knowledge about knowledge productivity

Experience with various forms of knowledge developments within the Habiforum and programmes has shown the existence of a clear requirement for knowledge concerning knowledge productivity. The development, dissemination and application of knowledge seems to be a process which is somewhat difficult to understand, and which cannot be managed or controlled in the traditional way. In a world with an increasing emphasis on the 'knowledge economy' it is undesirable to leave this process to chance.

Neither science nor practice has been able to provide many tried-and-tested answers with regard to knowledge productivity. And yet 'knowledge about knowledge productivity' will surely form the motor for sustainable economic and social development in today's 'knowledge society'.

Objective

The objective of this activity is to gain a greater understanding of the processes which give rise to knowledge productivity, of the competencies required to ensure the success of those processes and of the conditions which promote or impede the processes. In other words, we wish to know more about the 'knowledge yield' of the approaches and activities within the SRG programme, enabling their timely modification where necessary. The key factors are therefore the interrelationships between the scientific-academic programme and the practical programme, the form and structure of the pilot projects, and the use of methodologies such as the Communities of Practice. In addition, this study will provide greater understanding of how the knowledge infrastructure functions and ways in which it can be strengthened. The results will also be used for periodic reflection and adjustment of the programme.

The central research questions are:

1. *What are the useful products of knowledge processes? What types of knowledge should they provide?*
2. *What are the characteristics of the knowledge productivity processes and what phases can be identified within it? What competencies do people need in order to develop, disseminate and apply new knowledge?*
3. *How can the process of developing, disseminating and applying knowledge be structured in such a way as to maximize knowledge productivity. What implications will this have in terms of planning, methods, systems, de interventions, organization, timing and materials?*

Approach

The following activities will be undertaken during the SRG programme:

1. *Analysis of the experience gained within the Habiforum and Innovatie Netwerk Groene Ruimte en Agrocluster knowledge development programmes (first year).*
2. *Analysis of practical experiences outside the SRG programme (ongoing). This will involve collecting practice-based knowledge from the pilot projects and from experts in the Netherlands and elsewhere, by means of interviews, workshops and desk research.*
3. *Analysis of scientific insights (ongoing) for the purposes of benchmarking and reference. There will be links with various scientific programmes, including those of the universities of Twente and Amsterdam.*
4. *Monitoring of the pilot projects within the SRG programme (ongoing). This will involve linking an evaluation of the SRG projects to the development of knowledge about knowledge productivity.*
5. *Development and testing of methodologies and interventions in the pilot projects (from year two).*

Based on the working hypotheses, an active

contribution will be made to various SRG pilot projects.

These various activities will largely be undertaken in parallel, whereby a process of cross-pollination will emerge. Co-financing for these activities will be requested from the relevant pilot projects.

The activities listed will be undertaken in cooperation with the University of Twente, the Vrije Universiteit Amsterdam and with other partners at home and abroad. A project proposal is currently in preparation, to be submitted under the European Unions' Sixth Framework Programme.

Programme staff

The core team will be:

- *Dr Paul Keursten, University of Twente*
- *Prof. Joseph Kessels, University of Twente*
- *Dr Marleen Huysman, Vrije Universiteit Amsterdam*

These researchers will coordinate and direct the programme as a whole. Researchers from the universities concerned will be appointed to carry out the relevant practical activities.

The core team will also bring together a research community, comprising:

- *Prof. Mathieu Weggeman, University of Eindhoven (knowledge productivity, innovation and organization).*
- *Prof. Robert-Jan Simons, University of Utrecht (learning psychology, social constructivism and ICT)*
- *Prof. Georg von Korgh, University of St. Gallen, Switzerland, (knowledge creation and strategic management).*
- *Dr. Bob Garvey, Sheffield University (knowledge productivity and organization).*
- *Prof. Tom Schuller, University of London (human capital, knowledge capital and social capital).*

Appendix III describes the project 'Knowledge productivity' in further detail, together with an account of current thinking on knowledge and the historic academic context.

6.12 Phasing and milestones

The pilot projects will commence in 2004. During the first year, the relationship between the pilot projects and the research will be established, enabling the researchers to make their contribution to the projects.

In 2005, the second group of pilot projects and CoPs will begin. The PhD studies to be continued, amended or abandoned will be identified.

In late 2005, the midterm review of progress and examination of likely results will take place. The data collected thus far will be analysed, parallel to reflection on theories and concepts.

Based on the findings of the review, all processes may be subject to adjustment, perhaps also with regard to the participation of science and policy representatives, whereupon new knowledge questions relevant to these fields may be formulated. Learning experiences will be drawn upon in commencing the next group of pilot projects and Communities of Practice.

During the second half of the programme, considerable attention will be devoted to reflective studies, the development of methodologies, and the process of rendering the results of the pilot projects generic in order to enable knowledge transfer and dissemination. Competency development will also take a central place. The supporting research projects will provide results which can then be incorporated in the next group of pilot projects and Communi-ties of Practice. A further set of pilot projects and Communities of Practice will commence in 2006.

In late 2006 or early 2007, there will be another review, being the last which can give rise to any meaningful adjustment of the programme.

The harvest year will be 2007. Wherever possible, the pilot projects will be brought to a conclusion. Dissertations will be completed and defended. Publications concerning the interrelationships between science, policy and practice will be produced. Agreements with knowledge institutes and educational institutes will be made concerning the knowledge infrastructure beyond 2007.

6.13 The SRG programme in a wider Bsik context

There are several main policy points that are closely related to the SRG theme. Once it is known which proposals in the ICES-KIS 3 round have been approved, the cooperation with a number of these proposals will have to be further arranged, including through interface projects. The following at least will be involved:

- ***System Innovation in Construction Processes (PSIB):*** *when the appropriate*

intervention strategies have been developed to support system innovation in land use, it is important for these strategies to be implemented in construction processes which yield a high value quality and promote innovation and dynamic, and where market forces ensure efficiency. The relationship between the SRG proposal and the main policy point System innovation in construction processes is therefore essential. That holds in particular for the PSIB research cluster Institutional framework that links system innovation in land use and area development with system innovation in construction processes;

- ***Living with Water.*** *Part of the programme are the pilot projects on red and green structures, in combination with water (blue structures). The projects, a continuation of the ICES KIS 2 programme, are called The Mirror Projects. It has been agreed upon by the SRG programme and the Living with Water programme, that there will be an operational cooperation and a shared evaluation of the results. The SRG programme is based on a spatial perspective and is focused on new combinations of functions, such as water, housing, leisure, nature, infrastructure etc and will bring in the management of the processes and planning. The Living with Water programme will provide the specific water expertise.*
- ***ECON:*** *Expertise Centrum Subsoil – ECON. ECON is a joint initiative of the Stichting Kennisontwikkeling en Kennisoverdracht [Knowledge development and Knowledge transfer] Bodem (SKB), the Netherlands Centre for Underground Construction (COB) and Habiforum. These cooperating parties, together with ECON, will start a joint knowledge project for the development, dissemination and application of (new) knowledge oriented to a sustainable use of the subsoil below ground level. Four main issues have been formulated: subsoil/underground and energy, subsoil/underground and water, subsoil/underground and safety, subsoil/underground and design.*
- ***Geo-information:*** *geo-information systems should support the system innovation in land use and area-oriented development as far as possible; specifically, several monitoring systems will make the connection between geo-information and system innovation in land use and area oriented development;*
- ***Climate and Land:*** *the transition to sustainable domestic energy use. Where the sustainability and energy efficiency in real estate and urban structures is involved, there lies an evident intensive relationship between SRG and the main policy points Climate and land and Transition towards sustainable domestic energy use. In addition, the mutual coordination will be sought with the proposal sustainable chemistry. In this main policy point, the transformation of carbon chemistry to hydrogen chemistry stands to the fore;*
- ***Transition to Sustainable Mobility:*** *since the SRG pays considerable attention to accessibility, network relationships, and sustainability, the necessity of the mutual coordination of the SRG and this programme proposal is evident;*
- ***Next Generation Infrastructures:*** *in this main policy point the relationship between various sorts of infrastructure networks stands to the fore. Specifically, the SRG will work closely with the research subprogramme Sustainable Spatial Infrastructures;*
- ***transition to sustainable agriculture (TDL):*** *this proposal is focussed on the transition from the current industrial production agriculture to a sustainable multiple agriculture. Three scenarios are at stake here: vital clusters of high-grade provision of food and nice rural areas, rural services, strengthening the management of nature, landscape and water, care and recreation, and governance in international agrifood networks.*
  The SRG programme focuses on the spatial impacts of the transition to sustainable agriculture.
- ***Knowledge and competencies enabling the transition to a sustainable society****. NIDO/KSI seeks to become the centre in the Netherlands for the development of fundamental knowledge and competencies enabling the transition to a sustainable society. The aim is the acquisition of knowledge that makes it possible to identify, design, manage, evaluate, and transfer the processes that lead to the desired transitions.*

SRG will open up a number of its projects as pilot projects for NIDO/KSI. Researchers from NIDO/KSI can be placed in them as process evaluators (providing reflection and advice), or to address knowledge problems through specific short-term research. At the same time, for the NIDO/KSI researchers these experimental test

beds will function as an environment in which transitions being implemented can be observed and supervised, where fresh scientific insights can be tested, and new questions for scientific research generated.

- ***Delft Cluster:*** *the Delft Cluster will concentrate on civil engineering themes in ICES-KIS 3 and the GWW sector. Particular efforts will be made to establish close cooperation in the area of urban infrastructure between the Delft Cluster and SRG. Here is also a relationship with the main policy issue Sustainable use of the subsoil.*

6.14 What will not be done in the SRG programme?

The SRG programme covers a broad problem area in which land use and area-oriented development will be considered on several scale levels and where the mutually related spatial, social, economic and ecologic dimensions will come under scrutiny. Moreover, the SRG programme is designed so that research, with the secure underpinning of theoretical soundness, is directed to practice and policy.

There is much that the SRG programme does not include. That is also to be seen with the help of section 6.11. Construction processes remain outside the scope of the SRG programme. The topical theme of water will not be considered in subject matter terms, although attention will be paid to its relationship with spatial planning and design. Geo-information and monitoring systems will not be worked out in detail in the SRG programme: that will be done in the Bsik programme Geo-information.

Purely civil engineering and construction technology problems will not be elaborated in the SRG programme; these subject areas are the core business of the Delft Cluster. Sustainable energy and sustainable chemistry also remain beyond the scope of the SRG programme. Considerable attention will however be paid to the manner in which real estate and spatial design can promote sustainability and the economical use of energy, and the consequences of sustainable energy for the built environment.

Traffic and mobility problems are not featured to any significant extent in the SRG programme: however, the manner in which traffic infrastructures are connected with urban networks and green-blue networks is centrally featured. The theme of the interconnection of traffic, ICT infrastructures, and the infrastructures of public utilities will be left to the Next Generation Infrastructures programme.

Finally, the SRG programme is not oriented to the development of theories about competencies, system innovations and transitions, but to the development and utilization of such competencies in the achievement of system innovation in land use and area-oriented town and country development.

7

Consortium:

Composition and cooperation

7.1 Introduction

The Habiforum Foundation was founded on 26 June 2001. Its initiators are the CUR Foundation and NIROV. On the basis of the Plan of Approach, Habiforum has received a financial contribution in the context of the programme ICES/KIS-2. The programme is currently being carried out and will be completed at the end of 2003.

InnovatieNetwerk Groene Ruimte en Agrocluster was set up in 2000 by the Minister of *Landbouw, Natuurbeheer en Visserij* [Ministry of Agriculture, Nature Management and Fisheries]. InnovatieNetwerk Groene Ruimte en Agrocluster works across departments and is independent.

The reasons why both parties are submitting the Programme proposal are as follows:

- *Content of the programme: the initiators are both active in town and country planning. They are moreover both involved in bringing about innovative ideas and methods.*
- *Network: both initiators have a network at their disposal in the science, policy, and practice domains involved in the spatial planning process. The challenge is to bring about the combination and cooperation of the networks, which would enable a better result to be achieved. Habiforum and InnovatieNetwerk Groene Ruimte en Agrocluster are already working together closely in a number of projects.*
- *Experience: expertise is available within both organizations; it has been obtained from work experience in the domains of science, policy and practice. The staff members have an understanding of the work processes and ways of thinking of the stakeholders involved. In the context of their first programme period, Habiforum developed their procedures, for example the pilot projects and the CoPs; these have been evaluated. Experience has been acquired in the development of ideas, awareness and knowledge.*

7.2 Consortium

The SRG consortium, led by the Habiforum Foundation, consists of four categories:

- *Public stakeholders.*
- *Private stakeholders.*
- *Knowledge institutions.*
- *Intermediary organizations.*

In addition, the consortium has a number of associate foreign members.

The two first categories named above can be perceived as the most important groups with major problems to be addressed and who would be capable of profiting from a thorough system innovation in land use and area-oriented development urban and regional.

The representatives of the knowledge institutions are internationally renowned scientists, all with an outstanding track record in various geographically relevant sciences, to whom the development of boundary crossing knowledge can safely be entrusted. These scientists will work together with additional first-rate researchers from abroad.

The intermediary organizations have the task of conveying knowledge from an academic discipline to policy and practice, so that the triangle of science-policy-practice can determine the relevant knowledge infrastructure. This infrastructure must be sufficiently robust for it to be capable of continuing under its own resources on termination of the ICES-KIS 3-period 2004-2007.

7.3 Public stakeholders

The public stakeholders participating in the consortium are:

- *Ministerie van VROM - [Ministry of Housing, Spatial Planning and the Environment VROM].*
- *Ministerie van Economische Zaken [Ministry of Economic Affairs].*
- *Ministerie van Verkeer en Waterstaat [Ministry of Transport, Public Works and Water Management].*
- *Ministerie van Landbouw, Natuurbeheer en Visserij [Ministry of Agriculture. Nature Management and Fisheries].*
- *Ministerie van Binnenlandse Zaken en Koninkrijksrelaties [Ministry of the Interior and Kingdom Relations], DG Grotestedenbeleid [DG Big Cities Policy].*
- *Interprovinciaal Overleg IPO [Association of Provincial Authorities IPO].*
- *Vereniging Nederlandse Gemeenten VNG [Association of Netherlands Municipalities VNG].*
- *Bank Nederlandse Gemeenten [Bank for Netherlands Municipalities].*
- *Staatsbosbeheer [Forest Management Agency].*
- *Bureau Regio Randstad.*

Individual municipalities, provinces, and representatives of services in the separate departments participate at the level of the pilot projects and research clusters.

7.4 Private stakeholders

For the most part, the private stakeholders are represented in the consortium at the level of a number of umbrella organizations:

- *NEPROM Nederlandse Vereniging van Projectontwikkelaars [NEPROM Dutch Association of Project developers]*
- *ONRI*
- *NVB Nederlandse Vereniging van Bouwondernemers [NVB Dutch Association of Building contractors]*
- *Aedes, Vereniging van Woningcorporaties [Aedes, Association of Housing associations]*
- *Algemeen Verbond Bouwbedrijf AVBB [Federation of Dutch Contractors' Organizations]*
- *VNO/NCW [Association of Employers]*
- *Vereniging Natuurmonumenten [Natuurmonumenten Association]*
- *Stichting Natuur en Milieu*
- *ANWB*
- *Vereniging Deltametropool [Deltametropolis Association]*
- *Twijnstra Gudde (Amersfoort)*
- *ARCADIS*

Individual development companies, real estate investors, housing associations, building contractors and construction companies participate at the level of the pilot projects and research clusters.

7.5 Knowledge institutions

The Scientific steering group comprises Prof. dr. ir. Hugo Priemus (TUD), Prof dr. Geert Teisman (EUR), Prof. dr. Piet Rietveld (VU), Prof. dr. Ronald van Kempen (UU), Prof. dr. Willem Salet and Prof. dr. Paul Opdam (WUR).

Advisors are prof. dr. Jan Lambooy (emeritus UvA and UU) and professor Michael Parkinson (European Institute for Urban Affairs, Liverpool John Moores University). Parkinson was the director of the British ESRC research programme 'Cities'.

Six universities will participate in the knowledge project; they will be represented by internationally renowned professors and research groups:

- *Delft University of Technology OTB (Priemus, Boelhouwer, Korthals Altes).*
- *Erasmus University Rotterdam (Teisman, Hafkamp, Engbersen, Burgers).*
- *Vrije University Amsterdam [Free University Amsterdam] (Rietveld, Scholten, Verhoef).*
- *Utrecht University (Van Kempen, Dieleman, Van Weesep, Atzema, Lambooy).*
- *University of Amsterdam (Salet, Le Clercq, Musterd, Tordoir, Kloosterman).*
- *Wageningen Universiteit Research [Wageningen University Research] (Opdam, Van Ierland, Lengkeek, Schanz, Van der Valk).*

From the University of Nijmegen professor Barrie Needham will participate in the SRG-programme.

In addition knowledge institutions such as TNO, Alterra, Delft Hydraulics, the technical scientific institutes of the Ministry of Transport, Public Works and Water Management will participate.

The international research groups that will be involved include:

- *MIT, Cambridge (Mass.) (professors Vale, Marks, Susskind, Laws, Connors, Atkinson).*
- *Catholic University of Leuven (professor Albrechts).*
- *University of Glasgow (professor Turok, professor Goodlad).*
- *Institut für Landes- und Stadtentwicklungsforschung des Landes Nordrhein-Westfalen (dr. Knapp).*
- *University of Central England at Birmingham (professor David Chapman).*

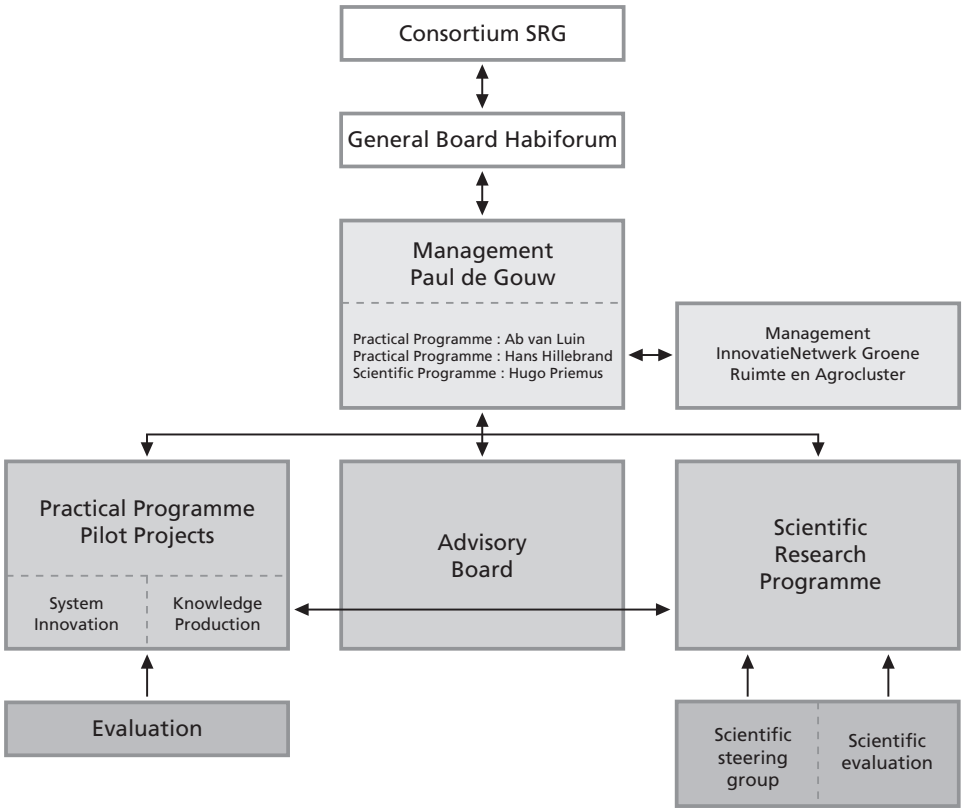
7.6 Intermediary organizations

To support the diffusion of knowledge and the embedding of the knowledge project in the professional world and the society at large, the following intermediary organizations will participate in the knowledge project:

- *Stichting Bouwresearch [Foundation for Building Research]*
- *Stichting KEI*
- *Kenniscentrum Grote Steden [Big Cities Information Centre]*
- *Stichting Stuurgroep Experimenten Volkshuisvesting [Foundation Steering group for Housing Experiments]*
- *NIROV*
- *DUBO- Centre*
- *NOVEM*
- *COB*
- *ECON*

7.7 Project organization

A straightforward project organization will be set up for the implementation of the knowledge project. The public and private stakeholders will constitute the consortium; the consortium will meet as a consortium council. The management team will be placed at the centre of the work organization. The management team will consist of four people; the implementation of the work in the pilot projects will take place by employees of Habiforum and InnovatieNetwerk Groene Ruimte en Agrocluster. The employees of Habiforum and InnovatieNetwerk Groene Ruimte en Agrocluster have gathered experience in the ICES/KIS-2 programme. Furthermore specialists from the network will be engaged. The scientific steering group responsible for the implementation of the research is described in section 7.5.



For further clarification.

The consortium consists of parties coming from the three domains and who have made a commitment to the knowledge project. The consortium is involved by means of the input of various means of communication, will be kept informed about the progress of the implementation, and will keep an eye on the implementation in the content-related and financial aspects of the knowledge project.

The executive board is responsible for the formulation of the objectives of the project and the policy to realize these objectives. The executive board includes certain members of the consortium and the two participating organizations. The executive board will be advised by key representatives involved in the implementation of the practical project and the scientific world (Consortium and Advisory Council). Representatives from the consortium will sit in the Advisory Council. The Advisory Council will make recommendations to the programme management concerning the starting up of new experimental pilot projects and new scientific research.

The programme director will be responsible for working out the objectives at the level of implementation. The programme director will also be responsible for the design of the organization, the financial management. and the general direction of the implementation organization.

The scientific director is responsible for the implementation and quality assessment of the

research programme.

The programme managers will be responsible for the implementation of the programme of experimental pilot projects and scientific research, the identification of research topics, and the generation of research proposals and projects.

7.8 Qualifications of the personnel

Research projects, policy development trajectories, and pilot projects will be combined in the knowledge project so that the knowledge developed will remain oriented towards policy development and the resolution of practical problems. Particularly rigorous demands will be set on the track records of the researchers responsible for the preparation and implementation of research projects.

A selection of the important internationally oriented achievements of the participating professors are recorded in an appendix. Stringently selected post-docs and PhD students will be brought in for the implementation of the research, together with a number of professors and research fellows from abroad.

There may be some bottlenecks on the Dutch labour market of promising young researchers. It is however anticipated that the difficulty these local bottlenecks may represent be overcome by recruiting talented foreign PhD students (as, for example, the four PhD students already selected from the Department of Urban Studies and Planning of MIT, Cambridge Mass) and by the recruiting power of the knowledge project.

Qualified staff is available in both Habiforum and InnovatieNetwerk Groene Ruimte en Agrocluster for the management of the practical programme. For specific experience, e.g. in financial engineering, law, design, technique there is access to a wide network of specialist.

7.9 Project organization

The project organization is presented schematically in figure 7.1. The *scientific steering group* will be supported by OTB Research Institute for Housing, Urban and Mobility Studies (TU Delft).

The research programme is divided into eight research clusters in total; research groups from various universities and disciplines will work together within each of these. Each research cluster is specified in an Appendix.

An *international quality assurance panel* will be set up via NWO; the panel will be consulted annually and stand as guarantor for the quality of the scientific work. The scientific team comprising the panel will evaluate their colleagues' approach to their research and their results, and will make interim suggestions. Regular national and (mainly) international workshops will form a part of the research programme to allow interim findings to be presented and for advantage to be taken of external feedback.

Finally, there is an Advisory Board made up of public and private representatives from the consortium who will endeavour to bring research findings into practice and vice-versa, and who will have the task of pointing out where policy ambitions and practical experiences are at odds with each other.

A special role has been set out for the organizations that represent the demand side of the real estate and land markets, such as the Vereniging Eigen Huis [Homeowners Association], the Nederlandse Woonbond [Dutch Tenants Federation,] environmental groups, and the trade unions. These organizations will take no part in the consortium, but will be consulted regularly to verify whether the demand management ambitions of the knowledge project come fully into their own and live up to their promise.

7.10 Entry and exit rules

In the course of the SRG knowledge project, a new member may join the consortium and a consortium member may leave it. The following entry and exit rules apply.

Initially, all consortium members express their intention to remain members to the end of the ICES-KIS 3 period (31-12-2007), and where possible to the actual completion of the SRG knowledge project in the course of 2008. Should a member of the consortium repeatedly come into conflict with the SRG programme and/or the Consortium, on due consideration of the matter by the Algemeen Bestuur [General Board], Habiforum may rule that the member concerned be removed from the Consortium. A ruling has to be taken to arrange for the fulfilment of the consortium member's outstanding obligations. If the retiring (knowledge) institute is not in agreement with the enforced resignation and/or with the resignation ruling, the conflict will be resolved via arbitration. The costs of arbi-

tration will be borne by the party calling for it.

Should a (knowledge) institution be repeatedly in conflict with the SRG programme and/or the Consortium Agreement, and/or fail to follow up adequately the instructions given by the NWO quality control, Habiforum may remove that institution from the consortium on a binding recommendation by Prof. dr. ir. Hugo Priemus by the General Board of the Consortium. Measures will be taken to deal with the outstanding financial and scientific obligations of the institution concerned. The outstanding research projects will be spread as far as possible over the remaining institutions. Should the retiring institution not be in accord with the enforced resignation and/or with the resignation ruling, it is also the case here that the conflict may be resolved via arbitration. NWO is responsible for this arbitration.

If, in spite of having the best of intentions at the start, a consortium member nevertheless later wishes to resign, that would only be made possible if a ruling can be made for the obligations with respect to finance and concerning content. Any outstanding commitments can then be taken over by another consortium member. Such a ruling requires the approval of the Habiforum Foundation and -should it concern a knowledge institution- of Prof. Hugo Priemus. A decision only becomes final when it has been considered and approved by the General Board of the Consortium.

A new member may join the consortium in the course of the programme, if in the opinion of the Habiforum Foundation that member is capable of adding sufficient innovative capacity and quality to the programme. A knowledge institution may only join if it has a sufficient Bsik-budget available for the financing of the research it is to undertake. The same requirements are set on a newly joining knowledge institution as those imposed on the knowledge institutions that participated in the consortium from the beginning. The accession of the new knowledge institution requires the approval of Prof. Hugo Priemus. A new knowledge institution for which the entrance is blocked may appeal to the NWO, whose judgment in the matter will be final.

7.11 Intellectual property

Unless a different agreement has previous been made, all knowledge generated in, or brought into, the consortium will be perceived as public knowledge. The endeavours to achieve the coproduction of policy, public-private participation, citizen participation, and demand management require the unrestricted exchange of knowledge. Subject to charges in accordance with the market that are involved in participation in conferences, courses and so forth and the acquisition of publications, the knowledge acquired in SRG will be freely accessible and freely available.

A market party may state that it would only be willing to move over to co-financing if the knowledge created by partly financed activities were protected. That would only be allowed however in the form of a lead-time of maximal one year. Should a market party wish to go further, then that would not be possible in the SRG programme. A similar ruling will also apply *mutatis mutandis* to central and decentralized government authorities together with societal organizations.

8

Diffusion of knowledge and competencies

8.1 Introduction

With a view to the realization of the objectives of the SRG programme, an important assignment is transferring and making available the knowledge and competencies developed to those who are involved in one way or another in spatial planning and implementation tasks.

That is a complex task for a number of reasons:

- *The programme draws a distinction between knowledge as information and knowledge as competency. Information can be transferred, but competencies can only be acquired. The consequence is that the transfer of written and verbal reports of knowledge (information transfer) will not suffice; particular care must also be given to the diffusion of developed competencies.*
- *A distinction can be drawn between people within the network and directly involved in the implementation of the various subdivisions of the programme and people outside the network, interested but at a distance from programme implementation. The necessity of providing for the diffusion of knowledge and competencies applies to both groups.*
- *A distinction can be drawn between people working within or involved with the spatial planning of the Netherlands -and there too a further subdivision can be made- and people in education and training. The forms of diffusion ought to be different.*
- *A distinction can also be drawn between professionals (and professionals in education and training) and involved non-professionals, such as citizens and residents' organizations, farmers, and other users of land.*
- *The programme is being set up from the necessity to bring about innovation within and between the worlds of science, policy, and practice. The diffusion of knowledge and competencies must therefore also be directed within and between these worlds.*

The field of players involved in one way or another with the spatial planning of the Netherlands is too large to include and serve as a whole within the SRG programme. Choices have to be made. Taking into account the need for as high a return as possible from the output of the SRG programme and building on the expertise of Habiforum and InnovatieNetwerk Groene Ruimte en Agrocluster, the following choices have been made.

- *The transfer of knowledge and competencies will be as broad as possible, oriented towards the professionals/professionals in education and training and non-professionals also involved, so that the emphasis is on professionals working in public and private organizations within the worlds of practice, policy, and science.*
- *Arranging and organizing expert meetings with and for professionals for the interactive transfer of knowledge and competencies.*
- *Competency diffusion will be oriented to the professionalization of the professionals working in the spatial sector.*
- *Considering the importance of the professionalization of non-professionals involved in spatial planning of the Netherlands, the further development of methodology and work forms will be brought in on the basis of the experiences in the pilot projects.*

In the following sections further consideration will be given to the proposed activities with respect to information diffusion, expert meetings, competency diffusion and higher education. We then zoom in on the knowledge transfer within and between the worlds of science, policy, and practice. Finally the continuation of the knowledge infrastructure after 2007 is considered.

8.2 Information diffusion

Building on the experiences with the Habiforum en InnovatieNetwerk Groene Ruimte en Agrocluster programmes a varied supply of forms of transfer and diffusion of information will be incorporated:

- ***Digital:*** *website (www.habiforum.nl and www.traverse.nl) with daily electronic (newspaper) cuttings, digital newsletter, (inter)national database with good practices (www.msu.com).*
- ***Reportages:*** *research reports, books, fact sheets per research project, theme reportages, press releases.*
- ***Journal:*** *NOVA TERRA, interviews and publications in (inter)national (scientific) journals.*
- ***Congresses and study days:*** *organization of symposia, congresses, study days, and lectures and speeches.*
- ***Excursions and study tours:*** *(inter)national excursions and study tours to be organized in cooperation with NIROV.*

8.3 Expert meetings

In addition to the verbal, written, or digital transfer of developed knowledge and competencies, expert meetings will be arranged. Interaction seems to create powerful learning moments and provides opportunities to develop new knowledge and competencies.

Expert-dating-service: virtual meetings between inquirers and suppliers

Habiforum and InnovatieNetwerk Groene Ruimte and Agrocluster have available a learning and development network of professionals who are gaining experience and who have extensive experience with the tasks to which the SRG programme is oriented.

Demand from professionals is increasing for making contacts and using each other's knowledge and experience. Provision to meet this need will be made by setting up an 'expert-dating-service' via the Habiforum website. Inquirers and suppliers of knowledge can contact each other directly. Use will be made of the experiences of other comparable systems in setting up the system.

Visitations

In cooperation with KEI, visitations will be held as a result of questions coming from practice (pilot projects). The aim of a visitation is to examine the practical task from the perspective of an interaction between theory and practice. The formula is one of intervision (location visit, analysis of practice, and theory forming) by a quality assurance panel of independent experts, originating from the SRG network. KEI has successfully applied the formula to restructuring projects in post-war neighbourhoods.

Fieldwork produces more useful, specific questions than those generated from behind a desk. Moreover, experience has shown that it is important take a broad look over the whole of the Netherlands and, for example, to set a Rotterdam situation next to a Groningen case.

Consultancy by scientists from the scientific team

Space will be created within the scientific programme for studies leading within a short time to useful insights that can inform policy and practice. These short-term trajectories will be oriented to timely advice, often based largely on existing knowledge, which can be involved in the current decision-making in practice and effective policy preparation. These trajectories will be defined during the course of the programme, usually on the basis of signals and questions arising from policy and practice. Where necessary, teams of international experts will be brought in to answer questions.

International expert teams Multifunctional and Intensive Land Use

In 2000, an international expertise network was started in the form of the Working Party Multifunctional and Intensive Land Use (MILU) under the auspices of the International Federation on Housing and Planning (IFHP), and on the initiative of Habiforum and the Ministry of VROM. This Working Party has developed as an international information exchange platform and has built up expertise so that cities such as Oslo and Vienna have presented their multiple land use related planning issues to the study meetings. The pressure cooker formula in which within a few days an expert group generates a multitude of comments and concrete suggestions for improvement will also be made available for the planning issues that confront the Dutch authorities.

8.4 Competency diffusion: Centres for competency development

The diffusion of competencies is difficult, because competencies are personally acquired capabilities that strictly speaking are not to be shared. Within this programme, the diffusion of competencies involves the following three paths:

1. *Bringing together participants from within SRG projects to analyse and evaluate (developed) competencies, develop them further and incorporate them in projects through working/learning environments.*
2. *Bringing together people from outside the SRG programme to make the competencies developed within the SRG programme their own.*
3. *Developing methodologies and work forms for the professionalization of non-professionals.*

Centres for competency development for SRG participants.

The Communities of Practice will function as centres for competency development for SRG participants within pilot projects, at the levels of individual and clusters of pilot projects. To be sure, the assignment is directed in the first instance to bringing together knowledge and experience and smelting out new knowledge from them. But in the 'doing' and the orientation to a specific practical task the input

also involves bringing in personal competencies and the collective development of new competencies.

In consultation with the Communities of Practice, activities will be arranged for analysing and making explicit the developed and necessary competencies, the formulation of competency profiles, and the design of working-learning environments to make competencies one's own.

Centres for competency development for non SRG participants.

The SRG programme seeks to develop knowledge and competencies that will lead to different behaviours and different procedures, so that the spatial tasks set out in the previous chapters can be dealt with effectively.

New competencies are developed and acquired through doing and learning. The SRG programme will function as the core of a movement that in the course of time will bring new learning experiences for many people involved in spatial planning in the Netherlands.

This SRG programme does not profess to be capable of realizing the transition as a whole, but rather to initiate activity. It therefore looks in the first instance to the professionalization of project leaders, facilitators, and coaches who will be responsible for competency development with respect to spatial issues within (their own) organizations. In short, it is a 'training-the-trainer' programme.

The yield: people who, with the knowledge developed from the SRG programme have acquired the competencies to lead and support competency development trajectories within organizations.

Along this line from the SRG network, in addition to the actual production of knowledge, the (collective) capacity will be developed to set knowledge effectively in practical procedures. In a society in which knowledge is one of the most important production factors, the possession of that capacity and the speed of learning make a difference (A. de Geus, 1997).

In 2004, a start will be made with the organization of two pilot learning centres based on a development plan set up in 2003. Under the leadership of experienced supervisors and trainers, project leaders from the arenas of policy, practice, and research will train and educate themselves in powerful working/ learning environments on the basis of the results of the current programmes of Habiforum and Innovatie-Netwerk Groene Ruimte en Agrocluster and other intermediary spatial organizations. Following an evaluation, in 2005 the further planning of the development centres will be continued

The development centres will be set up per domain or topic, or type of problem or approach, or per region. It is important that the development centres should have a low threshold and be of excellent quality and well served by coaches who know their way round the spatial network.

Development methodology and work forms for the professionalization of non-professionals

The importance of the participation of citizens and users of land in spatial planning and decision making is regularly discussed with a view to the realization of better and faster decision making processes resulting in better quality and democratic legitimacy. It is therefore evident that the knowledge and competencies developed within the SRG programme should also be incorporated in the further 'professionalization' of these 'non-professionals'. The great variety of actors, processes, and tasks makes this issue extremely complex: too complex and extensive to be taken up as a whole within the SRG.

The curtailed version will be derived from experiences in the generic development of methodology and work forms in the pilot projects. There, the theme of the involvement of users of space is emphasized. Experience is gained and methodology and work forms are developed.

8.5 Higher education (University and HBO)

For students in universities and HBO, courses and knowledge dissemination networks will be set up, again building on what has already been started within the Habiforum programme.

Courses and course modules

Courses and course modules will be developed in various cooperative frameworks:

- *There will be an active input from the SRG programme to the MSc courses at TU Delft, Erasmus University, the Free University, the University of Amsterdam, Utrecht University, and Wageningen UR.*
- *From 2003, two courses on land use will be provided each year at the University of Amsterdam and Delft University of Technology under the auspices of the*

Stichting Leergang Intensief en Meervoudig [Intensive and Multiple Course] (sLIM) and with financial support from the Stichting Hoogbouw.

- *The AME Research Institute of the University of Amsterdam will organize a fortnightly course on the management of urbanization in various countries in order to learn from them for Dutch practice.*
- *Various courses will be given in cooperation with Postacademisch Education (PAO) and Post Hoger Landbouwkundig Onderwijs [Postgraduate Education in Agricultural Sciences] (PHLO). In 2003 a start will be made with a PAO course "Goed (meervoudig) opdrachtgeverschap" "Well functioning (multiple) commissioning" which will make available the knowledge developed concerning prescriptions for commissioning work.*
- *In addition, in cooperative interuniversity links, curricula and professorial chairs oriented wholly or in part to multiple and intensive land use will be developed, which will draw on the knowledge arising from the Habiforum and InnovatieNetwerk Groene Ruimte and Agrocluster programmes. Use will be made of this infrastructure in the SRG programme.*
- *Contributions will be made to the demand-managed development of course modules by and for lecturers in university and HBO education. To date, the following partners have taken part in the development of course modules:*
  - *Eindhoven University of Technology*
  - *University of Amsterdam*
  - *Fontys Hogeschool Eindhoven*
  - *Saxion Hogeschool Deventer*
  - *Hogeschool In Holland, Alkmaar*
  - *Hogeschool Windesheim*

8.6 Knowledge dissemination within and between the worlds of science, policy and practice

The transfer of knowledge and competencies has been discussed above. The science-policy-practice triangle is placed to the fore in the SRG knowledge programme. In the following section, we zoom in on these worlds and their interaction. This topic is further elaborated in chapters 4 and 6.

Science

The scientific arena is increasingly internationally oriented. The number of scientific journals and books on urban, regional, and environmental issues is increasing. For some of these (usually English language) journals, the field-impact factor is determined each year. Furthermore, there are various international associations and networks (such as: AESOP, IAPS, STELLA, NECTAR, ENHR, CIB), which fulfil an essential role in the exchange of scientific knowledge through the organization of international conferences and workshops. Usually the networks and journals are discipline oriented, but in housing, urban, environmental, and mobility issues a more problem directed orientation can be observed. From the Netherlands, there is intensive participation in international networks and frequent publications in international journals. This will be encouraged and continued in full from the SRG consortium. These (generally already available and well functioning) channels provide important feedback from highly reputed foreign researchers and peers, to the advantage of Dutch researchers.

The knowledge institutes within the SRG consortium are situated predominantly in the Netherlands. There, the exchange of scientific knowledge will take place principally via the NWO, KNAW, and through the research schools recognized by the KNAW. For the SRG consortium, NETHUR, SENSE, TRAIL and Mansholt Institute are of particular importance. In addition, many research studies are undertaken in research schools organized per discipline, such as the Tinbergen Institute; these studies are of great importance for the SRG domain. On the one hand, the researchers within the SRG consortium will make maximal use of the channels via the research schools, and on the other they will take the initiative to organize workshops and other activities which feature a multidisciplinary approach. This will be brought about through organizing and supporting activities that are under the auspices of several research schools and several disciplines.

Within the SRG consortium, the exchange of scientific knowledge will take place within the scientific steering group. This is discussed extensively in chapter 6.

Policy

Policy development, implementation, and enforcement take place at various government levels: the EU, the Netherlands, the province, and the local authority. Vertical coordination is frequently necessary for synergy to be attained in the policy process to be created. Moreover, policy suffers from an institutional segmenta-

tion at each of these levels, which in the case of urban and regional policy tasks must be broken up by horizontal coordination and integration. Where policy coordination or integration (vertical and horizontal) is concerned, we speak of the coproduction of policy. Here there have been great problems for years and they are increasing rather than decreasing. Government authorities struggle with the task of involving citizens more in policy development and providing more opportunities for demand management in their policy. An interactive and open planning approach is sought in this context.

The development and decision making on policy take place in the bodies and institutions that form part of the policy arena and take place outside the SRG consortium. The SRG knowledge programme is well placed to supply the policy domain with new knowledge at the various levels and in the various sectors. It is therefore of importance that the public bodies directly involved should be represented in the SRG consortium: the ministries of VROM, EZ, V&W, LNV and BZK (big city policy), IPO and VNG. Furthermore, the participants in the pilot projects include a series of local authority and provincial administrators and civil servants, in addition to ministerial civil servants, who will contribute their knowledge of government and policy. Scientific and practical experts will also participate in the experimental pilot projects.

Practice

The practice of land use and area development in town and country is expressly featured in the pilot projects. Actors in these projects will be provided with policy insights and scientific knowledge. Meetings will be organized periodically in the SRG context to inform the actors in the practical domain, and to put practical problems and experiences before the policy officials and scientists. The forms of information transfer listed under section 8.2 will support these practical processes. The search system on the Habiforum website plays an important part here. Everything will be set up so as to make a learning network of the SRG network in which system innovation can be put into effect.

Exchange between science, policy, and practice

The manner in which the pilot projects become organized will lead to an exchange of knowledge and competencies between science, policy, and practice that will create new insights and learning processes for all concerned. The firm establishment of scientists, policy officials, and practical people in regional, national, and partly international networks ensures that the SRG network is open to the outside world, open to external impulses and feedback, and can also spread the knowledge acquired within SRG as quickly as possible outside the SRG consortium.

A substantial part is played in this dissemination of knowledge by several successful organizations, including NIROV, RMNO, CUR, SEV, NOVEM, Stichting KEI, Big Cities Information Centre, Dubo Centre, and Stichting Bouw Research. In addition, there are the Expertise Centrum LNV and KIC. These organizations will work together within the SRG knowledge programme, coordinate their activities programmatically, and incorporate their particular strengths and facilities.

8.7 How will the knowledge infrastructuur be continued after 2007

The SRG knowledge programme seeks to give an impulse to the strengthening of the knowledge infrastructure within and between the worlds of science, policy, and practice. New connections will be made for knowledge creation and knowledge diffusion, with the involvement of existing scientific institutions, research schools, and other knowledge institutions such as TNO, Alterra, and the knowledge institutions of *Verkeer & Waterstaat [Ministry of Transport, Public Works and Water Management]* and other ministerial departments, government authorities, private parties, and intermediary organizations as KEI, SEV and NIROV, and with the support of such organizations as Habiforum and InnovatieNetwerk Groene Ruimte and Agrocluster.

The efforts made have been directed to building up a *knowledge creation and knowledge diffusion tradition* that can be continued without government support after the knowledge project SRG has been completed. The project *Kennis over Kennisproductiviteit [Knowledge about Knowledge productivity]* (see 6.12.3.) will also contribute some insights.

After 2007, the research institutes will have to be capable of managing on their own resources the mutual exchange of scientific information at home and abroad, not only within the traditional disciplines, but also in particular problem oriented, multidisciplinary information. Here is an exceptional task for the

NETHUR research school, where a multidisciplinary perspective is already customary. A separate recommendation will be brought out over the manner in which the insights to which the SRG programme has led will be embedded after 2007 in Master's degrees, higher, and secondary education.

The practical exchange and the interaction between policy and practice is a task requiring innovative network structures. A developmental trajectory will be put in place with intermediary organizations such as NIROV. For housing issues, the SEV would be appropriate; for urban renewal, KEI and the Big Cities Information Centre; for sustainable building, the Dubo Centre; for building in general, the Stichting Bouwresearch; and for green issues, the Expertise centre LNV and KIC.

At present, the weakest link seems to be the interchange between science on the one hand and policy and practice on the other. In the International benchmark for the Netherlands, that is seen as the weak point of Dutch universities. In general, university research is too introspective and is insufficiently oriented to societal issues. There are many favourable exceptions with respect to land use and area-oriented development, but in general it has to be acknowledged that also in this domain the interaction between science and the execution of policy leaves much to be desired. A sustainable knowledge infrastructure will be built from the experiences in the pilot projects. This is a task of vital importance for the SRG programme.

9 Finance

9.1 Introduction

The costs of the knowledge programme comprise the costs of the following components:

- *practical programme*
- *scientific research programme*
- *corporate knowledge transfer*
- *management and organization.*

9.2 The costs of the practical programme

Initiatives and selection of pilot projects

On the basis of the provisional programme of pilot projects, estimates have been made for the development of the plans and meetings for selected experimental pilot projects. A joint role as a principal for all actors in the pilot project is an important issue. In addition initiatives will be taken to select new pilot projects. The activities will take the form of meetings with representatives from the supply and demand sides. The programme directorate will make the selection on the basis of recommendations by the Advisory Board.

The costs for project initiation and selection amount to € 2,1 mln.

Implementation and supervision of the pilot projects

Pilot projects will need to be incorporated during the implementation to achieve the stated objectives, to provide feedback to the scientific programme. The activities include:

- *Introduction of knowledge and expertise from the network*
- *Planning and implementation of the knowledge development processes oriented to the generation of a breakthrough*
- *Implementation of in-depth studies and iterative and problem oriented research*
- *Process and project supervision*
- *Coaching and education in competency development*
- *Monitoring, reflection and evaluation (including making learning experiences explicit)*
- *Reportage of results*

The costs may vary per pilot project, depending on the intensity of the activities from the SRG programme. The main points at issue will differ. In some cases, the endeavours will involve the planning and implementation of knowledge creation processes. In other pilot projects the main activity will be monitoring and evaluation. A detailed budgeting of the costs forms part of the start-up of a pilot project and will be carried out interactively with parties the involved.

On the basis of the experience with the Habiforum and InnovatieNetwerk Groene Ruimte en Agrocluster programmes a reliable estimation can be made.

- Pilot Projects with intensive knowledge development processes. The pilot projects have been calculated to take 2 to 3 years with average costs of € 500.000 for each project.

It is assumed that 35 pilot projects will be designed and implemented in the course of the programme. That number is necessary to develop sufficient fullness of knowledge and experiences at the various scale levels and within the various themes, to set up a powerful and sustainable knowledge infrastructure, and to mobilize a critical mass capable of supporting the change trajectories after 2007 without further financial Bsik impulses.

The costs are € 17,5 mln.

- Pilot projects with monitoring and evaluation. The average costs of these pilot projects are € 100.000 per project. The programme will contain 35 projects.

The costs are € 3,5 mln.

The first segment of pilot projects is described in the programme. Following segments will be started in the course of the project as described in chapter 6.

The costs for implementation and supervision amount to € 21 mln.

Performance of problem-oriented scientific research and scientific consultancy activities

Within the pilot projects, demand-led, problem-oriented research will be performed by staff attached to the scientific programme. In addition, scientific recommendations will be made. The costs involved are € 5 mln.

Implementation of supporting activities

As described in chapter 6, the practical programme includes two supporting activities. The costs of these amount to:

- *Participation in NIDO/KSI-knowledge programme 0.9 mln*
- *Knowledge about Knowledge productivity: 0.5 mln*

Costs for theme-based Communities of Practice

For the transfer of knowledge and learning experiences from the pilot projects and the generic knowledge and competencies that can be applied elsewhere, 20 CoPs will be set up. The costs of these are estimated to be € 200,000 each. Total costs: € 4 mln.

The total costs for the practical programme will amount to: € 33,5 mln.

As a general rule, the costs of each of these activities will be covered as follows: 50% from Bsik, 10% of knowledge institutions and 40% from private and public stakeholders.

9.3 The costs of the scientific research programme

With reference to the classification of the research programme as presented in chapter 4, the costs amount to:

Scientific programme	€ 26,5 mln.
Management, coordination, quality assurance	€ 3,5 mln.

The total costs of the research programme are € 30 mln. (One should take into account an additional € 5 mln. for problem-oriented scientific research and scientific consultancy activities as mentioned in previous paragraph.)

As a general rule, the research activities will be covered according to the formula:

50% from Bsik; 20% from knowledge institutions; 15% from government authorities and EU; 15% from private stakeholders.

9.4 The costs of knowledge transfer

The activities referring to the transfer and diffusion of knowledge and competencies are summarized in Chapter 8.

It should be noted that the stated costs relate to the programme-wide dissemination of knowledge. The costs relating to the transfer of knowledge linked to projects within the separate programme components (scientific research and practical programme) have been included in the budgets for the relevant components.

Corporate communication and expert meetings

The experiences and knowledge acquired have to be made tangible in order to be communicated successfully. The knowledge will be transformed and made accessible to the various target groups. Following its distribution via the appropriate channels, the knowledge can then be used. The communication instruments include a wide range of products, namely theme brochures, websites, published documents, press releases and press conferences, the journal Nova Terra, documentaries, a yearbook, visualizations, lectures and speeches, congresses. Specifically for the pilot projects the following instruments will be introduced: project and fact sheets, good practices via the web, scientific publications, databases, expert database, professional paper publications, newsletter. In addition, visitations and other forms of expert meetings will be organized.

Costs for corporate communication: € 1,9 mln.

Competency development

Contributions to the development and provision of the education and training programmes for professionals working in the field of spatial planning:

Costs for education and training: € 0,8 mln.

Education

Contributions to the development of education and knowledge dissemination networks for university and HBO education amount to: € 0,8 mln.

The total costs for this component of the programme amount to: € 3,5 mln.

9.5 Management and organization costs

Programme management

A programme bureau has been created to oversee the structuring and implementation of the programme. It comprises one programme director, one deputy director/manager of knowledge and competency development within the practical programme, project developers/supervisors, and a programme secretariat (also responsible for corporate communications). Their efforts will be supported by the manager of the scientific programme and the second manager for the practical programme (InnovatieNetwerk Groene Ruimte en Agrocluster).

A substantial proportion of the activities relate to, and are therefore chargeable to, the practical programme: 40% for the director up to 80% for the project developers/supervisors.

The programme bureau costs which can not

be charged directly to the practical or scientific programme budgets amount to € 3 mln.

Programme support and general costs

Programme support will take the form of third-party activities procured from or via the CUR, such as management support (secretarial, legal, financial), financial administration, general technical and household services, accommodation, accountancy and insurance. The general external costs relate to travel and accommodation expenses, telephone charges, subscriptions, office supplies and printing.

The costs for programme and general support are budgeted at € 1,9 mln.

Board costs

The costs arising from the activities of the administrative/advisory board relate to the facilities for general meetings and consortium meetings, and are budgeted at € 0,1 mln.

The total costs for management and organization are € 5 mln.

9.6 The project budget

The project budget for the programme period of 4 years is as follows.

		mln.
• *Practical programme*	€	*33,5*
• *Scientific research programme*	€	*30,0*
• *Corporate knowledge dissemination*	€	*3,5*
• *Management and organization:*	€	*5,0*
Total budget:	€	72,0

9.7 Co-financing

At this moment, part of the proposed programme is already covered by co-financing. By the nature of the activities, the co-financing that has been put in place refers specifically to the scientific research programme. For the practical programme the definitive co-financing is still to be established in consultation with the public and private parties involved. It would appear from the programme period of Habiforum that the acquisition of co-financing for pilot projects should not pose any problem.

Up to date there is a commitment on 15 pilot projects from public and private parties. Commitment implies the participation in the projects; financial arrangements have to be made.

For the scientific research co-financing is assumed which, next to the Bsik contribution of 50%, consists of 20% from the knowledge institutions, and 30% from private and public stakeholders. For the pilot projects, a Bsik contribution of 50%, a 10% contribution of knowledge institutions and a total contribution from private and public stakeholders of 40% are assumed. It is to be expected that €2 mln. can be obtained as extra subsidies in relation to european frameworkprogrammes.

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