

THE RELATION BETWEEN THEMATIC AND REGIONAL FORESIGHT IN NORWAY

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ABSTRACT

This paper aims to elaborate the relation between thematic and regional foresight in Norway. Point of departure is five foresight studies carried out by the Research Council of Norway and the Norwegian Government in the period between 1997 and 2005 and the foresight ambitions within a new regional R&D and Innovation programme called VRI. Are there main differences in approaches and issues addressed?

Key words: Foresight studies, regional foresight, thematic foresight, innovation, sociological imagination, futures research, ontology & epistemology, policy building, strategic planning, sociology of knowledge, communicative actions democratic dialogue, action research.

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INTRODUCTION

Foresight projects in Norway, both thematic and regional, differ in a less degree concerning methodology used although the quality and comprehensiveness varies substantially. In both regional foresight processes and thematic prospective studies there are huge differences regarding the quality of both process and content. This is mainly due to the weak links foresight practitioners in Norway have to substantial research communities. At the one hand there are several “quick-fix” processes called foresight, but by a more thorough assessment you will find few criteria fulfilled to defend the labelling of these projects as such. At the other hand, however, foresight has lately got increased attention by policymakers, research institutions and central governmental agencies promoting both research and innovation.

Foresight approaches have been actively implemented by the Research Council of Norway (RCN). Following an evaluation of the Council's activities in 2000 (Kuhlman and Arnold, 2001), a foresight project group was established to design and implement foresight exercises as a strategic input to the Council's funding activities. Early 2006 the Governmental Innovation Policy Agency, Innovation Norway, established a project called INfuture, which aimed at developing and adapt foresight methodology to its strategic Agenda. In spring 2006 The Royal Ministry of Education and Research established a new unit

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within the Department for Higher Education addressing Research and Innovation Policy issues and the use and development of foresight methodology. This is the case for both thematic and regional foresight. We already see a tendency towards better quality and improved outcomes of the foresight processes.

In both thematic and regional foresight the hegemonic methodological approach is scenario methodology dominated by a very traditional operationalization marked by three or four scenarios, 4 variable tables, less focus at the whole strategic value chain in which strategic scenarios should be presented and perspectives misunderstanding or ignoring discourses within scientific communities (see Øverland (ed), 2000; Neumann & Øverland, 2001). Thematically there has been some more heterogeneity, but social and political issues have dominated. Related to many other countries Norway do not have many projects under the heading “Technology foresight”. On the other side and paradoxically, the majority of social, political and cultural foresight projects in Norway lack an explicit reference to sociological discourse and social scientific reasoning, or other scientific discourses. For some projects this is due to low quality of the perspectives developed, while there for other projects is due to only indirect references to social scientific discourse.

The paper looks specifically at five of the most comprehensive foresight studies in Norway in the period between 1997 and 2005 – three so called technology foresight studies, one sector oriented innovation policy study and one study trying to elaborate the future of public sector. The material consists of data reported in four thematic foresight studies conducted by the Research Council of Norway 2003-2006 (Aquaculture 2020, Energy 2020+, Advanced Materials 2020, Biotech 2020) and Norway2030, a study conducted by the Ministry of Labour and Government Administration 1998-2000. In addition the emerging effort on combining regional R&D and innovation to foresight (VRI by the RCN and the Ministry of Education and Research) will be commented on. Especially the latter one is of importance when foresight as regional foresight, increasingly, must respond to specific needs in the regions. How to anticipate the issues at stake and needs of a specific sector, build the strategy for a sphere of activities and lay the groundwork for development agencies, should be a few questions to investigate. In all cases, foresight places these issues in a long term context, activates cross-cutting approaches and attempts to provide specific responses. The big question is – are there differences in this respect between the comprehensive national thematic foresight projects and regional foresight projects? Does Norway need a special regional foresight approach or are several of the development challenges mentioned above taken care of within more thematic oriented foresight studies?

The rationale is to approach this issue along two lines. First, I will focus at the theoretical and methodological backgrounds and similarities within both thematic and regional foresight, illustrated with selected contents. In which

degree did the foresight studies addresses topics and challenges both discussed and investigated within the sociological discourse on regional innovation and development the last years? Second, the rationale is also related to process. Following contemporary constructivists and communication sociologists the way we communicate, practice dialogues, and relate to each other in social contexts are decisive for our ability to mobilise regional actors and stakeholders and to develop regional strategies for R&D and innovation. To illustrate some points here I will present the way the dialogue- and work groups in these projects where organised and carried through in their efforts to discuss possible realities (futures) and analyse how far we could say that these work groups contributed to specific regional practiced principles for dialogues/communications /discourses discussed in the sociological tradition.

FORESIGHT IN NORWAY

- THEORETICAL BACKGROUNDS AND METHODOLOGIES

Foresight, and especially scenario building, is usually considered conducive to strategic reasoning, research processes and policy development. The status of futures literacy, however, is both undefined and under-communicated as part of a scientific research process itself. What could be a fruitful relation between foresight and scenario-development and common research methodologies, in particular methods of sociological imaginations? Could we talk about an epistemology of futures intelligence and therefore consider systematic futures orientations as research activities and therefore also as a part of sociology of knowledge scheme?

An example here is the question about social technologies and the social context of doing technological research, that both transcend ethics and the view about social dimension is an “additional” dimension to the material/technological realities (read: an implicit critic of Jürgen Habermas’ distinction between “Erkenntnis and Interesse” instrumental action/communicative action). The door towards radical constructivism is hereby opened.

Within both thematic and regional foresight we are facing methodological challenges, which in many ways have similarities with contemporary methodological discourse within the field of sociology. The post positivistic and post modern turn within the social sciences has its counterpart in the foresight tradition as a growing concern that predictive quantitative models are too limiting to serve as tools used in foresight analysis is now met by the emerging application of qualitative approaches to complement and compensate for the weaknesses of the more formalised approaches. Quantitative approaches, like mathematical models, cannot reproduce or reflect the possible changes or detect the weak signals of change seen in real societies. Several recent foresight programs and projects have challenged this issue by combining narratives and thick descriptions with games, simulations, or computer based models and calculations. In addition, the rationale of foresight, and especially regional foresight, is increasingly said to be found in the dialogues, in the creative processes and arenas of futures intelligence, in which the construction

of realities by relevant stakeholders through systematic play with languages and metaphors dominates. Again, we are witnesses to a clear analogue to the sociological discourse on experiencing the social. Dependent on how the foresight processes are conducted, what kind of principles that for example scenario building relate on, we might see parallels to how we organise foresight processes. Thematic foresight might be carried out by a limited number of experts without a strong participative orientation. Regional foresight, however, is somehow unthinkable as a dialogue between experts only.

The following definition of foresight might be the best way to illustrate the point that regional and thematic foresight have a lot in common, but also differ due to the level of participation. This differs a bit from the definition of foresight presented by the FOREN network as it relate both thematic and regional foresight to the need for interaction, strategy development and actions.

Foresight is (Eerola & Jørgensen 2002):

“A systematic, future-oriented, analytical and interactive process contributing to shared visions concerning long-term developments. In foresight exercises dynamics in the innovation system (market and industrial structure, knowledge-production structure, forms of interaction and wider framing conditions) are examined in their real-world, economic and societal context. The purpose is to facilitate interaction between the interest groups and to increase the knowledge base of key actors, so that desirable developments can be supported with relevant strategies, decisions and actions.”

THE PUBLIC SECTOR SCENARIO «Norway*2030»

Norway still have a long term planning institution (Long Term Programme), which since the early 1950's has dominated the work on long term planning within the Norwegian Government Administration. This is mainly based on macro-economic modelling and forecasting. Over the last two decades or so, criticism has been raised against this approach to strategic political planning. In the process anchoring the Norway*2030 Foresight project aimed at dealing with the following three «challenges»:

First, there is the problem of one-dimensionality.

There is no real «search» for possible futures in plural numbers, but a one-sided focus at the one most probable future with the aim of reducing uncertainty at the most.

Second, if you look at the history of forecasts in Norway, for instance the forecasts of the future oil-prices made in the period between the late 1950s to the present, you will not only be astonished that the forecasts were utterly wrong.

You would be even more astonished to find that the predictions made were so wrong that a scenario builder who, by accident, was able to suggest the right price when the forecasts were made, immediately would have been categorised

as an illusionary wizard telling fairy-tales or presenting wishful thinking. Instead you need an approach that is not focusing at what seems probable today but which may open up for surprises, ideas and perspectives that are a bit more “far out” and “political incorrect”. You have to break with the demand for probability. The Norway*2030 project team used to say: There is no point being right about the Future in the future – The point is to raise interesting and breakthrough questions and issues here and now!

Third, the Long-term programme and other policy oriented forecast activities and prognoses have paid little attention to how to induce processes of change within society.

The result was mainly the report itself, which too often had very little impact on how people actually work, think and act. If future studies, scenario-building and vision-making should be able to contribute to the overall ambition for every politician: - to implement powerful actions! – the strategic planning process itself has to be designed in a manner that stimulates processes of change.

Similar too many other countries, there were and still are in Norway a widespread dissatisfaction and disappointment as a result of the ineffective, and somehow stereotype achievements of traditional planning approaches. Traditional approaches of foresight based on forecasts, predictions, prognoses and expert panels, have lost their significance as the main tool for policy planning and vision-building.

It is therefore very tempting to declare that forecasts are often superfluous. However, forecasts and prognoses might still be relevant within a new framework intending to develop different plausible scenarios about the future. They might be wrong in content but not necessarily irrelevant. The insights of traditional planning approaches have also had only limited impact on planning about the future. In the future we have to consider this aspect more

consequently when we plan, organise and make strategic policy planning.

As a consequence of these experiences, future studies and future «diagnostics» should mainly be considered as tools for inducing change. The key objective of Norway*2030 was accordingly defined to be a process-oriented one. On this background the

Norway*2030

The transition from a petroleum-based offshore industry to a mainland economy will give rise to readjustment needs that will demand considerable public sector investments. What will be the consequences of the changes that can be envisaged for the national economy and for the services provided by the public sector to the public at large? Is it at all possible for us to address all of the challenges that these changes give rise to? Ought we to involve ourselves in the almost infinite series of challenges that the future, and a Norwegian society after the petroleum age, may bring – during a time when it seems that we will have enough to do in tackling our immediate national problems and the everyday work of the Ministries? The roles to be played by the public sector and the working situation of government employees in such a transformation process are still unclear, and the future structuring of these roles will demand not a little creative thinking.

The selection of scenario methodology for the development of long-term public administration policy strategies is also founded indirectly on the assumption that the ordinary models for planning and forecasting do not satisfactorily describe the challenges of the future. The future is uncertain and multidimensional, and good planning requires that one is prepared for several different possible courses of development, not least those involving disruption of the expected paths of development. For this purpose we need alternative scenarios as well as the more traditional socio-economic forecasts. We believe that scenario development more closely reflects the complexity and unpredictability that characterises today's social developments. (...) We can define a scenario as a consistent and focused description of a potential development that is not claimed to be the only development possible.

project team prepared a kind of project philosophy and some basic organisational principles, which were mainly developed to take account of making the process as relevant for action as possible. The text box gives a glimpse of how the team argued when the project was launched.

One of the main considerations was how we could contribute to a public administration that is both able to renew itself and that contributes to the renewal in other areas of society? It was every reason to believe that this would be necessary if Norway, as a nation in a global world, should be able to enter the new millennium with a reasonable degree of security.

Thus, the project Norway*2030 was primarily recognised as an instrument for invoking alternative strategies for public sector development during a longer time frame than usually applied in the Long Term Planning schemes. Consequently, a major objective became how Foresight (i.e. scenario methodology) could contribute to public management reform and concrete action in different fields. The regional dimension was not the main focus, but taken care of as several of the scenarios discussed regional matters and possible regional strategies for regional organisation of public sector in the future.

The primary goal of the project was to strengthen the Ministries' capacity to address long-term challenges. What would be the consequences for the public sector of these different views of the future? It was a matter of asking the fundamental questions concerning long-term challenges, and viewing these in relation to development of the public sector. By working across the ministries in developing some views of how we believed society might appear in 30 years' time, we hoped to be able to strengthen the strategic work of the Ministries. The building of the scenarios was thus supposed to provide an early basis for long-term thinking in relation to a broad range of challenges for the country.

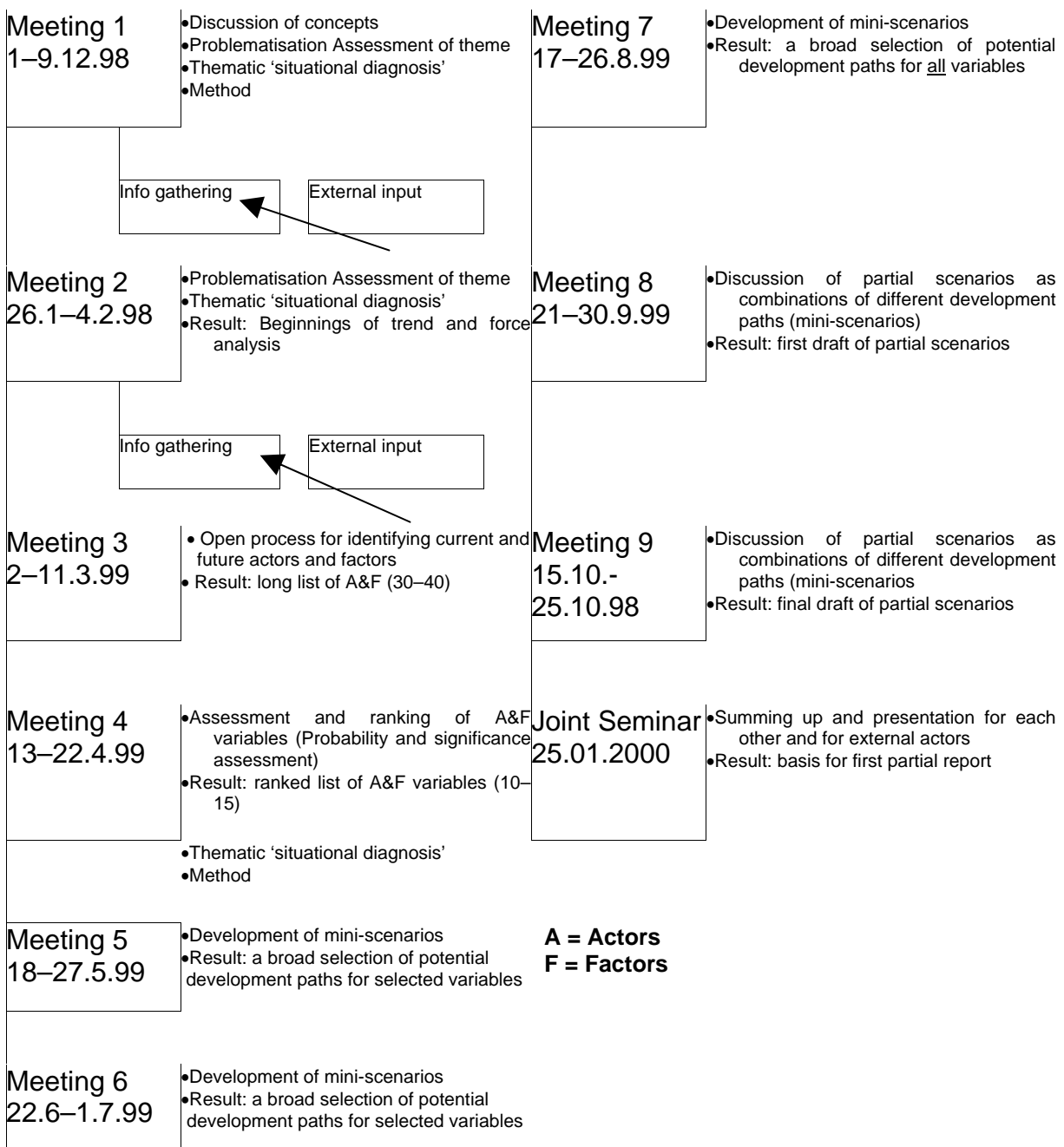
In this way, the scenarios could contribute to readjustment in important areas where changes usually take a long time to accomplish. The project was also considered to function as a broad competence building measure within the public administration. The goal of strengthening strategic preparedness clearly was beyond the purposes associated with the structuring of the scenarios themselves. The way in which we organised this process was therefore a matter of major importance. The project was very ambitious and of course it was recognised that it would be very difficult to achieve these main objectives. On the other hand it was also a shared belief that you had to formulate very ambitious objectives to be successful at all. Later we have seen that this strategy proved to be right.

There were also a number of subsidiary objectives. The development of five alternative views of the situation in Norway in the year 2030 was of major importance. The main reason for proposing to produce a total of five final or main scenarios was that we wished to avoid 'Utopia' and 'Apocalypse' scenarios and combinations of these and a scenario midway between the two. It was relevant and surprising scenarios that we were aiming for. The purpose of

these scenarios was accordingly to describe meaningful alternative frames of reference for public policy decisions and the private sector alike; in other words, frames of reference that could contribute to action and debate concerning our own society, and the choices we make through our practical decisions.

Both the objectives and the organisations of this project were aimed at demonstrating new works form for policymakers within a ministerial setting. As the actors invited mainly were civil servants from the ministries, often responsible for tasks that were in the need of long-term consequence analysis, this project also must be considered as a change management instrument within the ministries themselves.

Organization of the scenario process for working groups in phase I was the following:



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FORESIGHT AT THE RESEARCH COUNCIL OF NORWAY

From 2003 to 2005, the Research Council implemented and carried out five foresight projects: Biotechnology Norway 2020, Advanced Materials Norway 2020, Aquaculture 2020, Energy 2020+, and Utsikt (New Prospective for ICT). Each project was run by a project group with representatives from business and industry, academia and the public sector. In total, more than 380 people from all three sectors participated in the five subprojects.

The foresight projects in Energy and Aquaculture were embedded in two large scale NRC concurrently running programs, and foresight was seen as a tool for generating new ideas and advice that could be used to improve the programs. The foresight projects within the generic technologies Biotechnology, Materials and ICT, on the other hand, were not embedded in particular research programs. The aims of these projects were to generate a knowledge base and provide strategic advice as input for national research strategies.

The background of the foresight initiative was the 2001 evaluation of the Norwegian Research Council by Technopolis recommending the Council to initiate an open foresight process. The Research Council decided in 2002 to initiate pilot projects to gain experiences with foresight as a tool in program planning and strategy processes. The Research Council emphasized the role that foresight processes could play in stimulating creative dialogues with a broader set of stakeholders than had traditionally been involved in program planning and strategy processes. By utilizing a scenario-based foresight methodology and emphasizing broad participation, the aim was to enhance the quality of strategic plans and program development processes. In 2003, the Norwegian Research Council decided to use foresight as an integrated element in the planning of a new type of strategic programs – the so-called large scale programs.

In 2006 the RCN concluded a self-evaluation of the council's foresight initiative from 2003 to 2005. The overall assessment of the foresight projects is that the dialogue-based foresight approach represented a positive initiative in establishing new and more creative arenas of interaction between the research council and its environment, and that all of the projects were successful in mobilizing a more diverse set of

participants than before and in increasing public attention. At the same time, the projects show certain shortcomings with regard to using the results from the programme development and strategy processes that they were intended to support. The self-evaluation panel recommends a strategy for organizing such

work where committed horizontal partnerships between key actors in defined innovation systems are responsible for organizing future dialogues.

One aspect of the assessment deals with the generation of new knowledge, stating that:

The five foresight projects have to a limited extent created new knowledge, but have to a larger extent contributed to new combinations of knowledge elements. The projects have helped to identify future opportunities for innovation and value creation, and the R&D efforts needed to be successful. Not all of the projects were equally successful in this regard, but the experiences from the five projects indicate that future dialogues with broad participation create learning, new combinations of knowledge and new insights. The foresight projects have also received a lot of public attention, and have thus promoted these research and technology fields in the public domain and in national research policy arenas.

The RCN now plans several new foresight-oriented and forward-looking initiatives to address new challenges in national and regional innovation and in priority setting for new R&D initiatives. Furthermore, it is concluded that laymen should have a stronger role in future foresights and that they are also expected to contribute with certain forms of creativity that is not usually anticipated from experts.

The main objective for the foresight processes at the RCN was not the «future as such» but creating a different and more creative interface between different stakeholders as the authorities, researchers, business and the Research Council itself. By making the interface more open, dialogue oriented and startling the whole process of planning large-scale research programmes could be improved. This goal, however, was established by the main project group CREATE, while the different thematic project groups were much more oriented towards the content, and therefore considered substantial technological ideas and perspectives as the only valuable outcome of the processes. In fact, a kind of «institutionalised paradox» was established already before the projects even started. This dilemma, of course, is also due to less experience with foresight exercises and foresight processes, even by some of the people heading the different thematic projects.

If we look more thoroughly at the design and process of i.e. Biotech2020 (Johnes & Øverland (ed) 2007) we will discover how the process actually reflected the main objectives of the whole foresight programme. We will also see that the approach of perspective scenario building (Neumann & Øverland, 2001), the identification of actors and factors, the construction of mini-scenarios with the synthesis of these five main scenarios and, at last, the use of these discussing strategic research priorities as input to a new large-scale research programme on e.g. biotech, altogether reflects a bouquet of sociological insights. First, the perspectivist scenario approach relies heavily on the post positivistic discourse on the theory of science and sociologist as Latour and Habermas, and philosophers like Derrida. Derrida's ideas are relevant in the mini- and scenario dialogues which were aimed at no consensus, rather the opposite, while Habermas' reasoning could be more relevant for the strategic discourse after the scenario dialogues as such (WS 3). Latour is relevant if we look at the thematic, i.e. the construction of possible scientific facts – here – the case of

biotechnology. We also see that the development of metaphors within this project and within the scientific discourse itself also could be a good case for scholars like Donald Schön and others arguing in favour of a kind of metaphoric management in scientific policy discourses, a kind of vague headlines, which because they are vague, are turning strong because they actually organise the discourse as such. This is of tremendous importance when it comes to the mobilisation of stakeholders and actors within a region. Often as a consequence, national policies are broken down and adapted to the regional level.

The whole project, however, could be a typical project for action researchers discussing processes of «practising democratic dialogue», «making tacit knowledge applicable», «in action/situational knowledge building» and so forth. Especially the overall objective is a well formulated objective by several sociologists, i.e. Habermas with his concepts «communicative action» and «deliberation». The process was a deliberative process in which both researchers, authorities, industry and RCN employees participated.

The RCN in November 2006 published the results of an internal evaluation of the Council's experiences with these foresight and dialogue based activities. The overall conclusion of this evaluation was that the foresight initiatives and the projects have achieved the overall goal of developing competence and experiences in foresight as a tool for strategy and program work. Furthermore, the evaluation concluded that the foresight projects have represented a positive initiative in establishing new and more creative arenas of interaction between RCN and its environment and that all the projects were successful in mobilizing a more diverse set of participants than before and in increased public attention.

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REGIONAL FORESIGHT - VRI

The VRI programme is a new Research Council of Norway initiative initiated both by the Ministry of Education and Research, the Ministry of Municipalities and Regions and the Ministry of Trade and Industry, targeted toward research and innovation at the regional level in Norway. Foresight is launched as one important tool to for the actors within this program to improve regional r&d strategies and implementation.

Between other with the help of foresight, the VRI programme offers professional and financial support to long-term, research-based development processes in the regions. The programme is designed to promote greater regional collaboration between trade and industry, R&D institutions and the government authorities, and to establish close ties to other national and international network and innovation measures such as the Arena programme, Norwegian Centres of Expertise (NCE) and the Regions of Knowledge initiative.

The Research Council will employ national, merit-based competition to ensure the quality of the activities and projects funded under the programme. Fundamental components of the VRI programme include research activity, exchange of experience, learning, and cooperation across scientific, professional and administrative boundaries.

The VRI programme is a national programme with an initial time-frame of ten years (2007-2017). Important input has been obtained from a programme planning group with broad representation and from a series of regional dialogue conferences. In addition, a draft of the work programme has been circulated for review at the national level.

Why is the VRI programme needed?

One of the main ambitions is taking advantage of Norway's national and regional advantages. The VRI programme is designed to increase value creation in regional trade and industry by promoting R&D projects that both expand existing business areas and create new ones. Norwegian companies compete in regional, national and global markets. To succeed in these competitive markets, the companies must continually innovate and seek renewal. R&D activity can and should be given a much more major role in these efforts. In Norway as well as in other parts of Europe, research, development and innovation are increasingly being recognised as crucial to the effort to create dynamic regions. Resilient R&D institutions that understand the challenges related to innovation and industrial development will play an important role in this context. If R&D institutions are to avoid becoming isolated, however, they must actively apply their local knowledge while at the same time viewing their own role in a national and international context.

Norway has certain advantages that can be utilised to devise more effective instruments for promoting knowledge development at the regional level. The cultural and geographic proximity of the players in the Norwegian regions

makes greater interaction possible. A regional knowledge system consisting of university colleges and independent research institutes is already in place. Moreover, Norwegian society in general is characterised by a cooperative relationship based on trust between the social partners. The Nordic model, as manifested in practical tripartite cooperation and cooperation between employers' and employee's organisations within companies, provides a sound basis for innovation-oriented efforts.

Strengthen the role of the R&D community as a regional development stakeholder

The R&D community must be equipped to assume greater responsibility as a stakeholder in regional development. This can only be achieved through active collaboration with trade and industry on specific R&D projects, mobility projects, mobilisation of companies to conduct research, and wide-ranging participation processes within companies. Furthermore, the R&D community must generate knowledge from which trade and industry can draw benefit, and must assume a more strategic role in the regional partnership efforts.

Strengthen instruments based on modern innovation research

New innovation research emphasises that innovation is generated for the most part through dialogue and cooperation. The VRI programme builds on a system-oriented perspective in which innovation is viewed as a collective, interactive process. It is collective because companies pick up new impulses and expertise from many different players. It is an interactive process because it involves reciprocal learning among the players. The expertise, technology and attitudes found in the individual company are crucial to whether it will be successful in developing a new product or service, for instance. At the same time, the ability of companies to find and utilise the expertise of others, i.e. their absorption capacity, is important for their ability to innovate. Thus, in innovation research, the quality of the companies' environment and their ability to exploit that environment comprise key factors for understanding the power of companies and organisations to innovate. The threat of lock-in if closed local networks prevent the incorporation of new ideas and expertise must also be given focus.

It is especially on this point that regional foresight approaches could make a difference. In both identifying crucial actors, get them out of lock-ins and challenge them on their long-term thinking could be aims within different regional foresight approaches.

Follow up of Government regional policy

The inaugural declaration of the current Government and the white papers on research and regional policy all point to the need to stimulate growth in the regions through greater investment in R&D and innovation as well as the application of more targeted instruments. The government renewal initiative also emphasises the importance of this, and proposes the establishment of a

regional research fund. Furthermore, it is recommended that responsibility for basic allocations to the regional research institutes be transferred to the regions themselves, and that responsibility for the remaining basic funding to these institutes be given to the VRI programme. Thus, within the framework of a cohesive national effort, the VRI programme will be an important instrument in the lead-up to 2010, when the regions will assume greater responsibility for R&D activity.

In cooperation with the ministries that are funding the programme,¹ the Research Council will use the VRI programme to administer initiatives targeted at specific industries or research institutions considered to be important to regional development. In addition, the Research Council will work together with the Ministry of Local Government and Regional Development to assess the possibility of strengthening the focus on women and young people within the programme framework. The VRI programme applies throughout the whole of Norway and will be used to augment the Research Council's initiative on the Northern Areas.

In VRI regional foresight, done in a proper and creative way, might contribute to several of the goals of the VRI project. The challenge, however, is to develop a concept for regional foresight that could contribute to the achievement of these goals. Contemporary thematic foresights and regional foresights do not differ nor principally nor regarding methods and processes. Experiences from thematic foresight studies might help you quite a distance along this line, but it is obviously necessary to develop a more specific regional foresight approach that support concrete regional change management in an effective way. RCN and VRI is not there at the moment.

DISCUSSION AND CONCLUSION

At the one hand findings in these foresight projects and the regional development program indicate that thematic foresight studies at national and seminal-national level address regional challenges and issues. At the other hand the development in Norway is contemporary marked by establishing several regional means within the research- and innovation policy area. Primo 2009 a new structure of regional research funds was established. We see new kinds of cooperation beyond traditional regional borders (Norway has 19 regional counties), and higher educational institutions and research environments are increasingly focused at contributing to regional innovation and corporation. This means that there is an emerging need to develop more specialized regional foresight approaches and perspectives in Norway, both to further develop the regional innovation and research policy, and to implement strategies already decided on. Both thematic and regional foresight use "democratic-dialogue"-oriented approaches and social constructivism and are as such very well able to meet central challenges in regional development, innovation and foresight. which and there is also a need to develop level are not aware of the impact of sociological perspectives in the written results,

neither methodologically nor theoretically nor related to topics and issues discussed.

The initiatives in the EU, both through the Regions of Knowledge initiative under the Seventh Framework Programme, the new Competitiveness and Innovation Framework Programme, and the structural funds, also demonstrate the need for an expanded Norwegian commitment to regional R&D and innovation and foresight.

In many ways this study unveils an original approach studying and evaluating foresight projects in which you can relate on the last decades discourse on how to involve stakeholders and being participative.

Some lessons seem to emerge from the study, pointing at options for improvement of regional foresight in Norway, such as:

- Thematic foresight, regional foresight and even technology foresight, shows similarities in both processes and the choice of methods.
- Foresight projects in Norway differ substantially according to both quality and impact, although the emerging focus at foresight by central governmental actors might change this in the long and medium turn.
- Thematic and regional foresight differs when it comes to the ability to fulfil future needs of promoting regional development and innovation.
- Thematic foresight might be organised as a dialogue between a limited numbers of experts. Regional foresight cannot. The level of participation and interactions is of importance. There is a need to specialise foresight in Norway in both directions.
- Both thematic and regional foresight aim at improving the concept of social dialogue
- Both thematic and regional foresight reinforces the concept of communicative action also based on non-consensus, dependent on how the foresight processes are conducted. This is of importance when it comes to the challenge of involving a substantial number of stakeholders.
- Norway needs an improved focus at regional foresight in the future, especially due to the contemporary changes within national and regional research- and innovation policies.
- Both thematic and regional foresight methodologies should be more integrated in both policy development processes done by central governmental institutions and in research processes and discourses as such.
- It is possible to overcome the gap between policy development, long term planning of national and regional innovation programmes and foresight/futures studies

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