



Nordregio News

Issue 2 May 2012

Universities: Drivers of Regional Development?

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ISSN 2001-1725 Source: www.nordregio.se

Regional Actor or Centre of Excellence?

The economic concept of a triple helix was developed during the 1990s and illustrates how the post-industrial, knowledge driven economy depends on collaboration between universities, the business sector and public actors. Seen from a regional development perspective, direct access to universities and other producers of knowledge and a highly educated workforce are crucial preconditions for economic growth. In this issue of Nordregio News, we take a closer look at the interplay between higher education and regional development.

Besides traditional research and education activities, the so called third role of universities has evolved. The third role includes a broad palette of functions ranging from informal contacts between universities and society, to more direct transfers of knowledge and commissioned research activities.

Despite this evolution, the role and impact of regional universities remains under debate. Does knowledge driven development necessarily imply direct face to face access to researchers and universities, or do development and innovation processes take place in networks where modern communication technology compensate for long distances?

Another common question is whether the more traditional and basic research and education activities are being overshadowed by the third role. In the case of small, regional universities, this can result in lower research performance and quality, compared to bigger and more traditional institutions.

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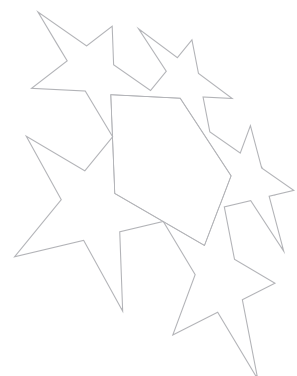
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These questions are discussed in this issue of Nordregio News. In the first article, **The Roles of Universities in Regional Development**, Maria Lindqvist gives an overview of the changing roles and expectations for higher education institutions. Evidence based knowledge about the third role of universities and the direct regional impact is limited. Here, a recent Nordregio study contributes new knowledge to the discussion.

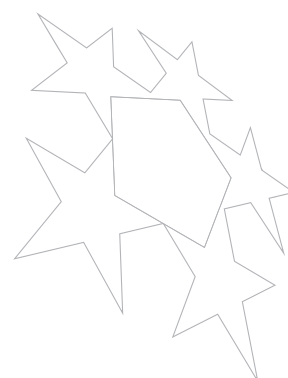
One of the case studies carried out for this study was based on Region Värmland and Karlstad University. In the second article, **Regional Collaboration in Värmland** Anders Olsson and Håkan Spjuth write about how a shared responsibility for regional development has resulted in new cluster strategies and a number of 'third role' activities.

At national level, the Norwegian Ministry of Education and Research has focussed on enhancing the engagement of regional universities in local and regional development during the past decade. At the same time, it has worked to balance this function with the need to develop existing research environments into more internationally competitive entities. In the final article **The Interplay Between Higher Education and Regional Policy: Perspectives from Norway**, Lise Smed Olsen looks deeper into this balance.

We hope that this issue of Nordregio News will contribute to the ongoing discussion on the role of universities and other higher education institutions in a regional development perspective.



Ole Damsgaard
Director
and the **Editorial Board of Nordregio News**



The Roles of Universities in Regional Development

By Maria Lindqvist

Over recent decades, the role of universities has evolved from their traditional focus on education and research to increasingly active participation in regional development processes. Universities are also becoming important actors in regional innovation systems, although their strategies and activities vary across institutions and regions.

Various types of higher education institutions have different foci in their activities. Polytechnics and university colleges have historically had a strong focus on education, often directed towards regional needs for competence in the private or public sector. Traditional universities, on the other hand, have often had a stronger focus on research activities, ranging from basic research to applied research in collaborative projects. In this article, I refer to these collectively as universities. However, there are large differences between universities, including size, range of disciplines, balance between research and education, international commitment and the type of region they are located in.

Increasing expectations for collaboration

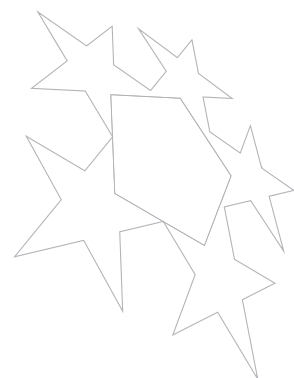
The role of universities has evolved over time. They are no longer simply involved in producing and providing knowledge through education and research, but are also becoming increasingly involved in regional development. In a Nordic context, this development is illustrated by the establishment of new universities outside metropolitan areas from the 1960s onwards. The level of education and research intensity of these newer universities is usually lower than in old universities, but the expectations on them concerning involvement in regional development tend to be high.

Over the past two decades, there has been a general increase in demand for universities to become involved in external collaboration, often considered their third role, mission or task, in addition to education and research. Today, most Nordic countries have introduced formal obligations for universities to engage in external collaboration to disseminate knowledge, promote the social impact of scientific and cultural activities, stimulate commercialisation of research and increase the quality of education and research. In Iceland, the third role is not explicitly mentioned, but universities are increasingly co-operating with firms and other actors in the wider society. Internationally, this development has resulted in the so-called triple helix



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model of regional development, with universities, public agencies and businesses as key actors.

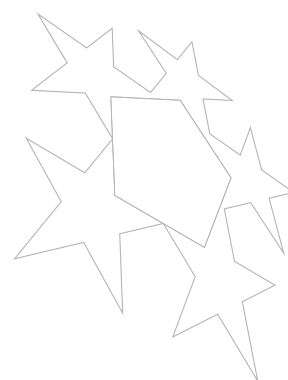
Academic research has identified a number of functions of universities in regional development, including direct economic impact, capital investment, influencing the regional milieu, creation of human capital and knowledge, transfer of existing knowledge, technological innovation, regional leadership and production of knowledge infrastructure. Below, various roles of universities in regional development are presented, ranging from passive, to increasingly strategic roles.

The apparent roles of universities

Without specific strategies to support regional development, a university still plays a passive role. It has a direct economic impact on a region in terms of purchases, investment and employment. This economic impact varies according to type of university and region. A medium-sized university may have an important role as employer and economic actor in a small region, whereas a large university in a metropolitan area may have a less obvious economic impact. A university may also have indirect economic multiplier effects on other sectors. **A study of the Greater Stockholm area**, for example, indicates that 70 per cent of the total income of the Royal Institute of Technology (KTH) is spent in the region and that every job at KTH generates an additional 0.4 jobs in the region. In most regions, the presence of a university also has indirect location effects, by contributing to the image and attractiveness of a region to potential students, employers and investors.

The traditional role of universities is to create knowledge and develop human capital through education and research. Even today, the main function of universities is to develop human capital through education of students and researchers. Access to relevant competence has traditionally been an important issue for regional stakeholders. According to a **recent study by Nordregio**, approximately 60 per cent of the students and 70 per cent of the researchers remain in their study region after graduation. However, there are important regional variations, with the highest retention rates in metropolitan areas.

To keep students in the region, it is important to provide them with the necessary skills to find suitable jobs after graduation. As a result, many universities now invite regional stakeholders to participate in the development of educational programs; for example on boards of education, through problem-based learning or as lecturers and associate professors. To engender a positive attitude towards higher education, many institutions have also become involved in the development of broader regional education infrastructure, ranging from secondary schools to lifelong learning and vocational training. In terms of research, many universities have combined basic with applied research, often in collaboration with large industrial companies in specific disciplines.



Beyond the third role

Over time, the so-called third role has evolved, and now includes a broad range of functions supporting collaboration with the wider society. Interactions between universities and society may range from informal contacts to strategic collaborations. A low level of interaction is a one-way transfer of knowledge and technology, for example, through conferences, research articles and commissioned research. Even if these functions are provided without a specific strategy for regional development, they may have a positive impact on general attitudes towards universities and facilitate future recruitment of students, staff and researchers. This may be of particular importance in regions lacking a tradition of higher education.

Inspired by the US in the 1980s, many Nordic universities have undertaken various activities to stimulate commercialisation of knowledge and research findings. Examples of activities have been development of more professional management of intellectual property (e.g. licences and patents) and provision of internal support structures to stimulate spin-off and start-up companies among students, staff and researchers, such as innovation offices, advisory services, incubators and science parks.

The concepts of clusters, innovation systems and triple helixes developed during the 1990s, and many universities became increasingly involved in collaborative activities, including joint research projects and the development of shared facilities such as research centres and test laboratories. These activities are related more closely to knowledge dissemination and open innovation than to commercialisation activities based only on intellectual property rights.

During the past few years, the concept of the engaged university has developed from the third role, illustrating the increasingly strategic and conscious role of universities in regional development. In the Nordregio study, including **eight case studies**, it is argued that universities in various regions are taking active roles in regional development processes. In the small peripheral municipality of Hornafjörður, for example, the regional research centre of the University of Iceland has an important role in regional cluster development. In the Swedish region of Värmland, Karlstad University is increasing its involvement in regional development, in close collaboration with regional agencies and prioritized cluster organisations. In the Norwegian Nordland region and North Denmark, universities participate in formal partnerships for regional development. Even in the larger metropolitan area of Stockholm, the need to collaborate with other actors and participate in regional development is becoming increasingly important for universities to attract students and researchers to the region as well as to gain access to external funding.

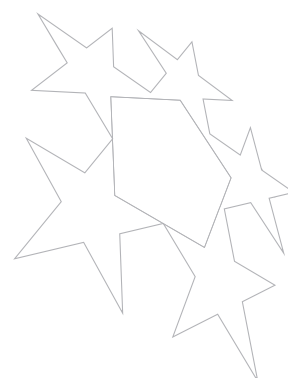
Future challenges

In the aftermath of the economic crisis, and to meet the challenges of globalisation, pressure on limited resources and an aging population, the EU has launched the **Europe 2020 strategy** for smart, sustainable and inclusive growth. One of the three priorities is to develop an economy based on knowledge and innovation. This involves improving the quality of education, strengthening research performance, and promoting innovation and technology transfer throughout the EU.

To implement the Europe 2020 strategy, the **EU flagship initiative Innovation Union** and **Regional Policy Contributing to Smart Growth in Europe 2020** launched the concept of smart specialization, supporting interaction between policymakers, business, and education and research institutions at the EU level, as well as at the national and regional levels. The concept of smart specialization can be seen as a new type of regional specialization, including diversification into related areas, regional collaboration and global outreach. According to Innovation Union, the biggest challenge for the EU and its member states is to adopt a more strategic approach to innovation, whereby innovation becomes an overarching policy objective. In this context, it is important to have a broad understanding of the concept of innovation, including not only scientific or technology-based products (goods or services) or processes, but also such areas as new marketing methods, service innovation and consumer-driven or social innovations.

In the process of developing regional specialisation strategies, universities have an important role to support innovation by providing knowledge, human capital and global connections. It is becoming increasingly important for university management to balance the demand for an international reputation for high academic quality in education and research, with the role of participating in regional entrepreneurship and innovation activities. From a regional policy perspective, this could be supported, for example, by the formation of regional partnerships, stimulation of cluster development, creation of regional attractiveness and multi-sector policy initiatives.

However, for efficient implementation at the regional level, there is a need for supporting policies at the national level. Today, there are conflicting expectations for universities. Academic incentives and research policies tend to prioritise funding of scientific research, while regional, business and innovation policymakers expect participation in applied development. Consequently, there is a need for national cross-policy funding and evaluation systems, taking the different roles of universities into account.



Regional Collaboration in Värmland

By Anders Olsson and Håkan Spjuth

How collaboration between universities and the society may be achieved is not self-evident. In Värmland, some factors contributing to a highly prioritized and shared responsibility for regional development have been identified. Today, close collaboration between regional agencies, the university and prioritized cluster organizations has evolved.

Are universities important for regional development? Can they support regional development in the private and public sectors? Do their strategies encourage collaboration from both academic and regional development perspectives? These questions are discussed at the regional, national and European levels, both within and outside the academic sector. Even if there are no clear-cut answers, these questions are becoming increasingly important. The Swedish region of Värmland has been struggling with these questions over recent years.

A history of collaboration

Even from its beginning as a university college in the 1970s, Karlstad University has had an important role in regional development. Karlstad University College was based on a tradition of teacher training and nursing education, and was intended to provide the region with strategic competence. Over time, research and education has broadened to include other areas, such as humanities and fine arts, social and economic sciences, natural sciences, engineering and technology.

The Vision 2015 plan clearly states that Karlstad University has a role in regional attractiveness and growth. In addition, cluster policies have become an integrated part of regional development strategies of Värmland. During the past decade, cluster organizations such as Compare, Paper Province, Steel & Engineering and Packaging Arena have been invited to participate in the regional development process.

Recent initiatives

An **OECD study of Värmland** in 2006 clearly indicated not only the importance of Karlstad University in regional development, but also the importance of the region for the development of the university. However, although many well functioning collaborative projects and initiatives were initiated, the need for more structured collaboration and a joint regional governance structure remained. This resulted in recommendations for a regional process to develop more structured collaboration in regional development between Karlstad University, Region Värmland, the cluster organizations and other actors. As a result of this process, several initiatives were launched.



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A five-year agreement for research collaboration between Karlstad University and Region Värmland was signed. In the agreement, four research areas of particular interest, related to the priorities of the Regional Development Programme of Värmland, were identified. As part of the collaboration, 10 new professorships were to be co-funded by Region Värmland. The prioritization of research areas and professorships was based on a dialogue between Karlstad University, Region Värmland and the cluster organizations. In addition, Region Värmland provides basic funding for a research centre for regional development (CERUT) at Karlstad University.

Over recent years, a number of test and innovation centres in ICT, steel and pulp and paper have been developed by established cluster organizations in close collaboration with representatives of Karlstad University. Today, these platforms are used by companies, students and researchers from Karlstad University to develop and verify new ideas.

To facilitate meetings between small and medium-sized companies in the cluster organizations and students or researchers at Karlstad University, a cluster room has been established. The room is strategically located close to engineering laboratories at the university and provides facilities for seminars, project meetings and innovation development activities. During the first year, an average of 3-4 meetings were arranged every week, involving approximately 260 researchers, 420 students and 230 business representatives.



Karlstad University Photo: Hans M Karlsson

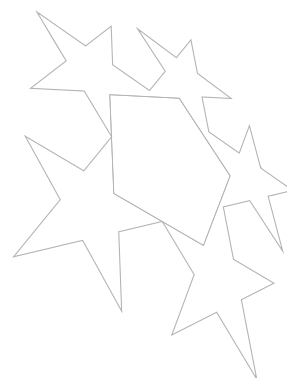
Positive results, but the process continues

The problems of measuring the effects of such activities are well known. Nevertheless, several studies reach a similar conclusion: collaboration between regional actors has been positive for regional development. In 2010, a **follow up of the OECD study** was undertaken. According to a group of international experts, a shared regional governance structure had developed and relations between the university and private as well as public actors had improved at the strategic and operational levels.

From a company perspective, an annual survey of member companies in the cluster organizations indicates that collaboration with the university in education and research is considered important. Approximately 80 per cent of the cluster companies collaborate with the university to some extent. To reveal the university perspective, a survey of attitudes among staff and researchers has been conducted. The results indicate that 90 per cent believe that collaboration with society strengthens research and that it is important to disseminate results externally.

Does this mean that regional actors in Värmland can now relax and simply wait for the results? Certainly not! Many improvements can still be made - both within and between actors - but the collaboration platform in Värmland is an important starting point for further development. At a strategic level, a Memorandum of Understanding has been signed by Region Värmland and Karlstad University and there are several ongoing activities intended to strengthen the regional development process further.

- First, a process has been initiated to develop a new cluster strategy, 'Värmland 2.0', improving long-term strategies for and funding of cluster organizations. There is an ambition to develop a common strategic agenda for the cluster organizations, university and other education providers to undertake research and education. There are also plans to develop open innovation platforms and regional competence for European research programmes.
- Second, a project has been initiated to support growth by strengthening entrepreneurship, encouraging start-ups and stimulating growth in existing businesses. The project is based on collaboration among all actors providing support to entrepreneurs and businesses, including the university support structure.
- Third, the strategy for Karlstad University will be further developed during 2012. The ambition is to further develop collaboration with business and society. As part of this strategy, a system for measuring progress will be developed, including broadly defined indicators of collaboration.



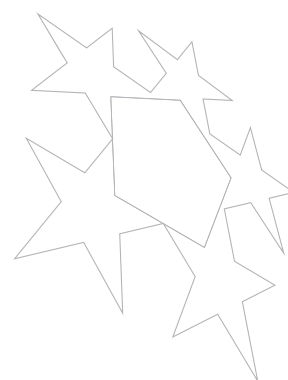
- Fourth, Region Värmland, Karlstad University and the cluster organizations support the transformation and development of the business sector through service innovations. The future potential for this was increased by the recent establishment of a service innovation and research centre at the SP Technical Research Institute of Sweden in Karlstad, partly as a result of the strong development of the CTF (Centre for Service Research) at Karlstad University.

Together, these activities lay the foundation for future development of a regional innovation strategy, a new regional development programme and the operational programme for ERDF (Regional Structural Funds) in 2014–2020.

Remaining challenges

Even if the collaboration in Värmland has developed well over the past decade, there remain several challenges for the future. One of these concerns national funding of the academic system. Today, Swedish research policy prioritizes funding of traditional research, based on scientific publications and citations, while collaboration with society is of no merit to most researchers. This system rewards larger research universities, while small universities such as Karlstad University have difficulty competing for national funding and researchers. There is ongoing discussion about introducing collaboration as an indicator for university evaluation, but focus so far has been on commissioned research and education. This perspective on collaboration is too narrow and we hope that its importance to university education and research will be emphasized in the coming Swedish research and innovation bill.

To influence the national system, regional actors from Värmland have taken an active part in the ongoing national dialogue about a future Swedish innovation strategy. They have also become increasingly involved in international benchmarking and collaborations. Although the concept of smart specialization has not been formally applied in Värmland, regional actors have introduced a number of collaborative activities supporting such a strategy: developing a cluster policy framework, providing cross-regional cluster collaboration through the ERDF-funded SLIM project (System Management for Innovative Platforms and Cluster Organizations in Northern Central Sweden), supporting regional specialization and stimulating cross-sector collaboration. To implement a regional strategy for smart specialization in the future, it is important to continue the development of linkages to decision makers, universities and business sectors at the national and European level.



The Interplay Between Higher Education and Regional Policy: Perspectives from Norway

By Lise Smed Olsen

Norwegian legislation for higher education institutions was amended in 2002 to encourage better coordination of universities and university colleges with the needs of society and the economy. Since then, a number of initiatives have been introduced to provide incentives for higher education institutions to undertake this responsibility, as well as to ensure a high academic standard of education and research.



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Among Nordic countries, Norway provides an interesting example of the combination of traditional education and research policies and regional policy measures. One explanation for this combination may be the inherent role of regional policy in Norway. This article encompasses the perspectives both of higher education and research policy and of regional policy.

The structure of higher education in Norway

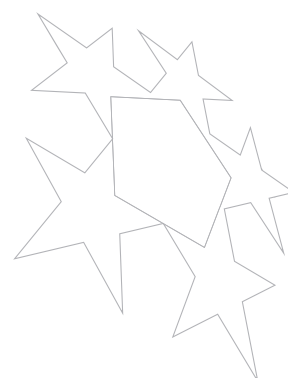
Norway is a country with an elongated shape and large geographical distances. In line with traditionally strong regional policy, the current government has the objective of ensuring that each citizen in the country has real freedom in deciding where to live. This objective is reflected in higher education policy, as Kyrre Lekve, Secretary of State of the Ministry of Education and Research, states:

"A key objective of the higher education policy is to ensure the supply of a skilled workforce to provide staff for welfare state professions in all parts of the country, including preschool and other teachers, and those in the business community."

Today, Norway has eight universities, six specialised universities and 25 university colleges. The higher education sector has a decentralised structure. Nursing and teaching courses in particular are offered at many higher education institutions. In Norway, there is a focus on research at university colleges to increase the quality of education and professional practice. This is a valid aim, not least in regard to schooling and health care.

The decentralised nature of higher education institutions was addressed in 2006 with the establishment of the Government Commission for Higher Education, known as the Stjernø Commission, to evaluate the structure of the higher education sector in Norway. The Commission delivered its report in 2008. Lekve elaborates:

"The Stjernø Commission indicated that the balance between availability and the need for concentration of research environments is a central



issue for further development. The Commission put forward a radical proposal to merge the existing universities and university colleges into 8–10 regional universities. The subsequent hearing of the proposal showed broad agreement on the main features of the Stjernø Commission's analysis of the situation, but there was great opposition to the proposed measures."

Given the overwhelming opposition to the proposal, the Ministry of Education and Research chose not to follow up on the Commission's recommendations for structural changes. Instead, the Ministry established the **Policy for Cooperation, Division of Labour and Academic Concentration**, which has resulted in a number of initiatives for cooperation between higher education institutions in the form of scientific research cooperation or mergers. Importantly, such cooperation initiatives take place on a voluntary basis.

Establishing councils for cooperation with the business community

A recent initiative by the Ministry of Education and Research was the requirement for all higher education institutions to establish 'Councils for Cooperation with the Business Community' by 1 July 2011. Lekve explains the background for this initiative:

"We see that university colleges in different parts of the country have become increasingly similar in their education programmes, and that the trend towards increased coverage of smaller education institutions may occur at the expense of quality, and thereby their ability to fulfil their function as knowledge providers to local business communities."

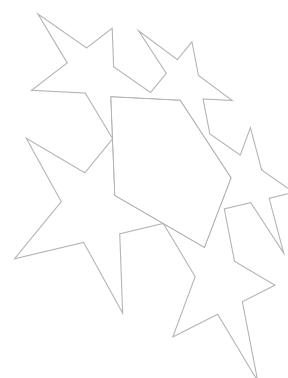
The decision to form councils for cooperation was made to provide higher education institutions with greater incentives to work with local business communities. The higher education institutions are to develop new strategies in cooperation with their councils, which include labour market representatives, students and other stakeholders. Lekve emphasises that the most important role of the councils in cooperation is to develop education and training programmes that meet the needs of the local labour market.

National measures support cooperation on research and innovation

The Norwegian government has also taken measures to develop a support structure for research and development cooperation between higher education institutions and the business community. SIVA - The Industrial Development Corporation of Norway - was founded in 1968 as a governmental corporation developing strong regional and local industrial clusters through ownership of infrastructure, investment and knowledge networks as well as innovation centres. Innovation Norway is the main institution through which regional



Kyrre Lekve is Secretary of State at the Ministry of Education and Research, Norway.



development funds are channelled. Among other areas of responsibility, it offers services to support innovation in the business community nationwide, for example through the tax incentive scheme **SkatteFUNN**.

The Research Council of Norway is responsible for funding both basic and applied research. Examples of its measures to support the development of a strong research environment are the Centres of Excellence and the Centres for Environment-friendly Energy Research. Further, the Research Council of Norway has introduced the Regional Research Fund to support regional research, innovation and development. In a Nordic context, this is a unique approach, as it involves national research funds allocated to the regional level. The Norwegian counties have been grouped on a voluntary basis into seven regions to administer the fund.

These three organisations are responsible for managing a number of national programmes: the VRI programme, designed to support research and innovation at the regional level; the Norwegian Centres of Expertise scheme, concerned with establishing a strong research environment; and the Arena Programme, focused on cluster development. An interesting observation is that these programmes are run in collaboration between three national agencies and are funded by two ministries representing different policy areas: the Ministry of Education and Research and the Ministry of Local Government and Regional Development.

Reflections from a regional policy perspective

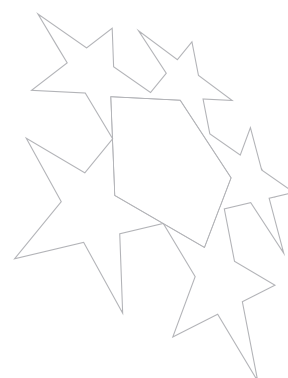
While acknowledging the 'grand measures' - compared with other countries - implemented in Norway, Jan Sandal, former Director General of the Ministry of Local Government and Regional Development, emphasises that this point is also subject to criticism. As in many other countries, there is discussion about creating an appropriate balance between basic research and applied research relating directly to the 'third task' of higher education institutions - to respond to the needs of society and the economy. Sandal notes:

"The opposition criticises the government's budgets, and states there is not enough money for basic research and non-programme research. They argue that research should not always be micromanaged and that here it is too closely tied to programmes. This issue, as well as limited budgets for basic research, has been discussed in the national media."

Sandal stresses that there is an evident tension between strong academic tradition and regional policy. He observes that from the perspective of regional policy, too little consideration is shown for regional concerns in higher education policy, while universities believe regional policy already has too much influence. Despite this tension, Sandal believes it is not impossible to find solutions to reconcile the two points of view:



Jan Sandal is Chairman of the Board of Directors of NIBR and Vice Chairman of the Board of Directors of Nordregio. He is retired from the Ministry for Local Government and Regional Development, Norway, where he last had the position of General Director of the Department for Regional Development.



"It is a matter of finding good compromises that lead to win-win situations. This should not be impossible to achieve because research, business development and societal development are already highly integrated. If we want continued balanced development in Norway we need to find solutions, and the entire country needs to participate in the modernisation process."

The issue of balancing the broad range of higher education opportunities in all parts of the country and the concentration of high-quality research environments is an ongoing concern, but Sandal believes that regional policy will continue to be an integral part of higher education policy:

"The regional policy dimension is strong in Norway, and it will always be there; it is mainly a matter of discussing which form it will take."

White Paper on research

The Ministry of Education and Research is currently preparing a new White Paper (Stortingsmelding) on research. It is in the initial stages, but Lekve stresses that the so-called 'knowledge triangle' will be a central element of the White Paper. The knowledge triangle is a concept that refers to the interplay between education, research and innovation in higher education policy, and thereby involves approaches for addressing the 'third task' of higher education institutions. The concept is the subject of **policy discussions about higher education in other Nordic countries.**

