



Work Programme Report

AREA AND NATURE-BASED INDUSTRIAL DEVELOPMENT

- the AREA Programme

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1. SUMMARY

The programme primarily focuses on knowledge production to support industrial development based on sustainable use of area resources. The primary target groups of the programme are area-based trade and industry and public authorities in fisheries and aquaculture, agriculture (land farming, horticulture and forestry) and reindeer breeding. The tourist and travel industry is an additional target group under the programme.

The programme has two principal objectives:

Firstly, the programme is to develop knowledge to support area-based and *nature-based* industrial development and contribute to innovations aimed at achieving increased knowledge, diversity and competitiveness throughout the value chain. The initiatives under the programme are first and foremost intended to contribute to increasing the possibilities of profitable production of goods and services – not least by focusing on costs – as an alternative to the traditional volume productions used in rural and coastal communities. The programme does not comprise industrial development connected with food production, which comes under the Food Programme and the Aquaculture Programme. Nor does the programme comprise industrial development connected with wood production, which comes under the Wood Programme.

Secondly, the programme is to develop knowledge to support *industrial policy, trade policy, area policy and related use of public instruments* in fisheries, aquaculture, reindeer breeding and agriculture. In connection with the implementation of this part of the programme, the planning group proposes that a separate reference group be set up with members from the public administration and trade and industry to support the work of the Programme Committee.

There will be a need to define responsibilities, co-operation and co-ordination within several theme areas, concurrently with the possibilities for synergies across the different programmes being stimulated. In addition, forums should be created for trade and industry, the public administration and the research communities to support the development of several of the central research themes under the programme.

2. INTRODUCTION

Agriculture, reindeer breeding and fisheries have been essential to national wealth creation and to the settlement pattern in Norway. The fisheries and agricultural industries with the accompanying processing industry make up a total of approximately 170,000 man-years and have an annual production value of around NOK 150 billion, distributed on NOK 50 billion at the producer level and NOK 100 billion in the food and processing industries. The total export value is just over NOK 40 billion. Added to this are the economic and social ripple effects of these industrial activities. The turnover in the Norwegian food processing industry alone amounts to approximately NOK 105 billion. Processing and preservation of fish and fish products constitute NOK 26.5 billion of this turnover. The framework conditions for Norwegian agriculture and the Norwegian food processing industry are changing. International agreements, national conditions and changes in consumer needs mean that the industry players must find new ways of approaching the market in order to ensure future profitability and wealth creation. It is important that the public authorities implement measures and lay down priorities that support such future wealth creation. The principal objective for industrial development in the agricultural sector is to achieve increased profitability in the enterprises based on sustainable use of agricultural and rural resources.

Forestry industries are of great importance to employment and wealth creation. The first-hand value of the annual timber felling is approximately NOK 4 billion, whereas the forestry industries' turnover is approximately NOK 40 billion. The forestry industries operate on international markets and meet international market requirements, whereas the framework conditions for these industries are laid down nationally. Exports of forest products amount to NOK 12-14 billion per annum. The draft action plan for outfield industries, which was prepared recently for the Ministry of Agriculture and Food (LMD), focuses on measures that can contribute to increasing the income possibilities from outfield-based tourism and travel.

For the fisheries and aquacultural industries, resource management and cost-effective production are the main challenges. Market demands have become more rigorous in recent years, including through requirements for environmentally certified raw materials and through sharpened competition on the traditional markets. The Norwegian fisheries industry depends on exporting more than 90 % of its production. This means that the conditions for access to international markets are of critical importance to the fisheries industry. This concerns trade policy, trade rules and agreements, the level of customs duties and tariffs as well as a number of non-tariff conditions. The fisheries and aquacultural industries have a large potential for processing of raw materials in Norway. This is a field that offers synergies with the agricultural food industry, which can generate considerable wealth creation and growth in vulnerable regions.

Reindeer breeding is a small, but very area-intensive, industry in national terms. It is of great importance – economically and in terms of employment – in both Saami and local contexts. The reindeer breeding industry is of great cultural importance both locally and nationally. To ensure that the reindeer breeding industry remains a central part of the material basis for Saami culture also in the future, it is important that reindeer breeding is regarded and managed as an industry. This will be among the principal challenges.

The natural resource-based industries are to be developed further under political framework conditions laid down by the public authorities in charge of the various sectors. The policy instruments from the environmental, fisheries, aquacultural, reindeer breeding and agricultural policies each lay down guidelines that have consequences for *industrial development, area utilisation* and *settlement*. There will also be frictions between deregulations, which are to contribute to increasing the *economic efficiency of the industries*, and new regulations, which are to contribute to the industries meeting requirements laid down on the basis of *other socio-political objectives*. Supranational bodies, like the WTO and EEA/EU codes and institutions, increasingly lay down guidelines for national industrial policy. In terms of trade policy, the framework conditions will be characterised by increased competition from low-cost countries and countries with economies of scale in food production and food processing. Trade in food products is one of the most heavily regulated areas in world trade. A large number of policy instruments are used to regulate the trade between nations, for example customs duties and import quotas. In addition, various types of quality requirements are made for trade in agricultural products. In connection with trade in seafood, Norway has also experienced accusations of dumping. The development in the WTO towards increased trade globalisation, in parallel with the establishment of regional trading blocs through free trade agreements, also creates new challenges for Norwegian trade and industry. The existing WTO agreement entails deregulation for a number of products, but it also imposes extensive obligations regarding import protection, export and production subsidies and quality requirements. Standardisation requirements are increasingly being implemented in Norwegian legislation.

These processes have had (and will continue to have) great impact on the activities of the various industries in Norway.

Norway has clear advantages with settlement and thriving local communities throughout the country, combined with unique outfield areas. The Norwegian cultural landscape and a well-developed infrastructure are of great value to tourism. The outfield resources provide a basis for environmentally friendly production and products with special properties and characteristics for both the national and international markets. The common public right of access (“everyman’s right”) allows private players to create special tour and travel offers in which free access to public areas plays an important part. There is also a great potential for increased industrial use and tourism in mountain areas, both in protected areas and in adjacent areas. There is an inherent potential in offering new and better culinary experiences based on Norwegian raw materials, food culture and cooking. There is still a significant potential in offering travellers various services and products, based on local culture. In addition, offers of activities connected with health, fitness, sports, animals, food, nature, hunting, fishing, etc. can increase the income possibilities for tour and travel operators considerably. The coast and the sea represent important recreational values and coastal tourism and travel can become an important growth industry. In the coastal areas, integration with other activities (for example fishing and tourism) can open up for adjustments to new commercial opportunities.

There are strong links between agriculture, reindeer breeding, fisheries, other trade and industry as well as tourism and travel. There is also an increasing recognition of joint challenges and opportunities in both the tourist and travel industry and the agricultural sector. In order to realise the potential in this field, co-ordination is required regarding both industrial policy and research. To some extent, the programme can provide such co-ordination in the field of research.

Norway is a high-cost country in most areas, which creates special challenges for labour-intensive production, but good human resources and material resources provide opportunities in many types of financial activity. Research will play an important role in the further development of area and nature-based industries and contribute to realising the opportunities of these industries on markets that are facing increasingly sharp competition and changed requirements.

The *primary target groups* of the programme are first and foremost future-oriented trade and industry and public authorities in fisheries and aquaculture, agriculture, reindeer breeding, forestry and tourism and travel. The R&D communities are an important target group for realising the innovation potential and assisting with public administration-oriented knowledge production. The programme will therefore also contribute to the development of relevant scientific knowledge, expertise and capacity in relation to national requirements and at an international scientific level.

3. VISION AND MISSION

3.1. Vision

Increased wealth creation in the area-based and nature-based industries.

3.2. Mission

The mission of the programme is

- to be an active partner for trade and industry in area-based industrial development (except for food and timber) in the production of knowledge that strengthens innovation, profitability and market structure
- to develop knowledge to support sustainable industrial policy, management and administration in area-based industries, including fisheries, aquaculture, agriculture, reindeer breeding and tourism and travel
- to contribute to ensuring that the R&D communities have knowledge and expertise at international level in areas that are of relevance to the corporate sector and the public sector

4. RESEARCH PRIORITIES. THEMATIC TARGET AREAS UNDER THE PROGRAMME

The programme consists of two principal thematic target areas. The objective for the target area *Area resources, innovation and industrial development* is first and foremost to develop knowledge and contribute to innovations in order to strengthen area-based industries. The initiatives will cover the whole value chain, and research that focuses on several links in the value chain will be given priority.

The other principal target area *Industrial policy and public administration* focuses on the role of the public sector as a regulatory and stimulating body for various types of industrial activity in fisheries, aquaculture, agriculture, reindeer breeding, tourism and travel and other services.

In the following, themes are listed in the two principal target areas that the programme will comprise:

4.1. Area Resources, Innovation and Industrial Development

Further industrial development based on area resources depends greatly on the ability to coordinate production and market potential and prospects. The need for R&D-based knowledge will increase in an economy that is becoming more and more dependent on increased innovativeness, entrepreneurship, adaptability and the ability to adjust to constant market changes and changes in the framework conditions.

4.1.1. Areas and Landscape as a Commercial and Industrial Basis

The programme primarily focuses on knowledge production *in support of industrial development based on sustainable use of area resources*. The focus should be on the opportunities that exist when traditional types of operations are combined with new production activities under basic conditions that can handle and further develop existing advantages and values connected with commercial and industrial activities, cultural monuments and attractions and natural surroundings. New products, new production types and new services are relevant as well as new combinations of products and services as a basis for commercial and industrial activities. Use of area resources for production of products that are aimed at leisure and recreational needs offers opportunities for commercial and industrial development. For example, horse keeping offers a considerable potential, but dog sports may also be a field of opportunities. Areas and the use of areas entail culture, history and traditions that may provide a basis for commercial and industrial development. The Norwegian cultural

landscape is of great value to tourism, but it faces great challenges because of structural changes and land development. In parts of Norway, the cultural landscape is threatened by overgrowth, whereas impacts on the natural surroundings and land development constitute a large challenge in densely populated areas. The sharper competition for area resources raises the issue of industry players' and the general public's access to and right to these resources.

There is a need for knowledge about the role of the cultural landscape as a basis for the development of new area-based industries. How can the cultural landscape, history and traditions as public goods be used for commercial purposes and what synergies and conflicts of interests may arise in this connection? Important themes will be: Attractive residential dwellings with accompanying area resources as a basis for settlement, industrial development and innovation. What conditions affect the supply of area resources and what makes the individual property attractive? Does the increasingly sharp competition for area resources make itself felt in conservation of ownership conditions and the possibilities for industrial development and innovation? The common right of access to public property ("everyman's right") as a prerequisite for local industrial development is also an interesting theme. The question of commercial and industrial area use in connection with areas where there are different protection interests (nature protection as well as land protection) is another relevant issue, as is the question of how to combine industrial and commercial considerations with environmental protection. Another field of interest is the grey area between the two parts of the programme: The municipal authorities are both the administrator of area resources and an industry player. What problems follow from this dual role?

4.1.2. Innovation and Industrial Development

A very large number of the players in area-based industries consist of small enterprises with limited financial and knowledge-based resources. The ability to connect resources is a characteristic feature of entrepreneurship and innovation, and it will be an important task for the programme to create conditions that may be used as a basis for strengthening this ability. A large part of the innovation activities takes place in interaction between players, and it is important to develop good systems for how such networks can be used actively to implement innovations. Development of industrial models based on co-operation solutions or collective entrepreneurship is an important task. The same applies to the creation of connections and integration between different types of industrial activity. There is also a need for studies that focus on innovation management in small enterprises. How are innovation projects managed in the companies and industries and what type of knowledge and management principles are important in order to increase the rate of innovation in the industries?

The wide range of industrial and commercial activities that are carried on based on the human resources and material resources of the agricultural sector includes so-called "green service production", defined as the agricultural sector's offer of services aimed at the health and care services and educational sectors. The interest in "green services" from the agricultural sector is increasing. The development in the health and care services sector may increase the possibilities of offering services to the public sector. For example, services offered to schools can contribute to children and youngsters acquiring more knowledge about and interest in agriculture and biological processes. Green service production is one of the most rapidly growing areas in alternative commercial activities in the agricultural sector, and it is an area of great potential. Bioenergy is a desired alternative energy form, as it is based on a renewable, CO₂-neutral resource. This is an important agricultural policy target area for

creating income and jobs in the agricultural sector. Increased use of bioenergy may also produce positive synergies in relation to the maintenance of the cultural landscape.

The importance of local communities and local environments is a significant issue in connection with innovation and area-based industrial development. There are great variations in the success of business establishments under socio-economic conditions that are otherwise apparently equal. Attitudes among people in the local community may also be of importance to the level of success of new business establishments. There is a need for greater insight into how local and regional production systems, cultures and knowledge systems provide a basis for development and wealth creation.

Another factor is the aggregate effects of several players establishing new business activities based on the same resources or joint market segment. For example, new industrial development initiatives may provide synergies for one player at the same time as it has a negative effect on another player's possibilities of establishing other new commercial and industrial activities. How should industry clusters be stimulated and how are synergies between the traditional primary industries and the new industrial activities created? What social, cultural and structural conditions promote dynamic co-operation on industrial development in an area? What obstacles exist and how are unintended consequences of public instruments avoided? How will the situation for the primary industries, seen overall, affect the possibilities of establishing new industrial activities. The relations to established players in service production such as the care services industry and the tourist and travel industry. What are the prerequisites for co-operation? In a number of areas, research-based knowledge is required if the potential for industrial development is to be realised.

4.1.3. Market Research

Market-oriented, sustainable production of goods and services must be based on customer expectations for products, services, quality and price. The programme will therefore comprise market research connected with consumer behaviour, development trends on the markets, product standards and quality requirements as well as market adjustments for area and nature-based products.

The objective in service production based on rights of use of areas is increased profitability and more providers of services based on the resources and assets of the agricultural sector. In this connection, a central objective will be to contribute new knowledge that will make it possible to utilise the potential for the development of profitable products and services aimed at national and international demand for recreation and travel.

Effective production and good quality are not sufficient if product values are not communicated to, perceived by and accepted by consumers. Consumption and shopping patterns differ, they change over time and they are affected by a number of cultural and structural conditions, which, in turn, have an effect on the development of individual preferences and requirements. Effective communication of environmental qualities and the origin of the products will be an important competitive element in the future. The fact that advertising and market communication are becoming increasingly important and often cost more than the actual product development makes this an important area of knowledge. There is a need to create research expertise in the conditions, mechanisms and processes that form the basis of the development of regional brands across industries and products connected with area and nature-based products in order to succeed on international markets. The same applies

to strategies for brand building of regional brands for marketing of tourism and travel, products and services.

4.1.4. Organisation, Competence and Management

One characteristic feature of area-based industries is the large number of small and medium-sized enterprises, often organised as family businesses. There is a need for more systematic knowledge about the conditions and requirements that are made for these enterprises if they are to be able to succeed on a market characterised by increasingly sharp competition. It is important to find suitable organisational solutions, both internally in the individual enterprise and, not least, between enterprises. Knowledge about organisation and logistics is an important prerequisite for growth in area-based trade and industry. There is also a need for knowledge about expertise, motivation and management as competitive factors.

There is a need for knowledge about the organisation of the tourist and travel industries and the co-operation between the area-based industries and the tourist and travel industries. There is a need for better and more in-depth product organisation that connects products to form a holistic experience, that connects suppliers with destinations or thematic initiatives and to marketing, sales and distribution channels. What are the characteristic features of the areas that have been good at achieving this? Small players have limited resources. How does this affect their access to knowledge and the possibilities and willingness to take risks and make strategic choices? How are small enterprises and industry players in the primary industries equipped in relation to competence and organisational models for new industrial development? What obstacles do small primary industry enterprises meet when they are to co-operate with larger, established enterprises, for example in the tourist and travel industry?

4.2. Industrial Policy and Administration

The Norwegian industrial policy for fisheries, aquaculture, agriculture and reindeer breeding is becoming increasingly influenced by the development in international trade policy. The WTO will affect the national subsidy level, tariff rates and export possibilities. Changes in agricultural policy and coastal policy may have significant consequences for the utilisation of cultural environments and natural resources. The extent and nature of subsidies to the agricultural sector will be affected by the new negotiations in the WTO. National subsidy schemes for the agricultural sector may be facing large-scale changes. This increases the need for economic return on the resource basis through efficiency enhancement or alternative methods of use that can generate wealth creation.

At the same time, the industries that are based on natural resources must be developed further within the political framework conditions laid down by national authorities in the various sectors. The policy instruments from the environmental, fisheries, aquacultural and agricultural policies each lay down guidelines that have consequences for *industrial development, area utilisation and settlement*. There are frictions between deregulations, which are to contribute to increasing the *financial efficiency in the industries*, and regulations, which are to contribute to ensuring that the industries meet the requirements laid down on the basis of *other socio-political objectives*.

4.2.1. Industrial Policy in Agriculture, Reindeer Breeding, Fisheries and Aquaculture

The programme will contribute to examining the national use of policy instruments within an international framework and the consequences of various regulations for the industry players

and society in general. There is a continuous need for new insight into the effects of public regulations and the effects of trade policy, industrial policy, regional policy and the use of accompanying public instruments at both aggregated level and at corporate level.

Reduced cross-border protection because of changes in international trade agreements and other changes results in increasing competition from imports, while it is an assumption that the trend of increased globalisation of the food trade will continue. These changes also open up for more exports than the current level, including for niche products with special Norwegian characteristics. This entails great knowledge challenges for the Norwegian food processing industry.

There is also a need for more research into the connections between various types of operations, cultural landscape, food safety, risk, environmental conditions and consumption patterns. In parallel with the enhanced efficiency of volume productions in the nature-based industries, it will be important to take into use the diversity of human resources and material resources in order to develop new industrial and commercial activities. There is a need to increase the knowledge base as a support for political decisions on the further development of area and nature-based industries, regarding, for example, tax and investment policy instruments, but also in relation to housing and construction policy. There is also a need for knowledge attached to the importance of these industries to the production of public goods and how public goods may be used as a basis for the production of private goods.

It will also be desirable to examine the effects of different industrial policy instruments on the relation between different social interests (for example outdoor life) and alternative commercial use of the landscape. How do different players see and value the individual elements, for example the cultural landscape? How can conflicting interests regarding the cultural landscape and other social assets be handled in policy drafting, management and public administration?

4.2.2. International Framework Conditions

The conditions for access to the international markets are an essential factor for the marine sector. These conditions are undergoing continuous change and require updating of the existing knowledge. In the course of a decade, the number of regional and bilateral trade agreements has increased dramatically. Such agreements often contain the most dynamic fields in trade, for example investments. A research issue of central importance in this connection will be to look at the contents of different regional and bilateral agreements and to examine how these contribute to creating competitive advantages for the fisheries industries of the countries in question. What are the dynamic elements of the agreements? How are they implemented? What are their position in relation to the WTO code? What framework conditions do Norwegian industry players have in relation to players in competitor countries?

Even though the freedom of action for the national policy is reduced as a result of international trade agreements, it is of decisive importance to use the possibilities that exist for meeting national industrial policy objectives and regional policy objectives. There is a continuous need for increasing the knowledge base to support political decisions regarding the further development of the area and nature-based industries and to examine the industrial policy and the consequences of regulations as well as the use of policy instruments for the industry players and for society in general.

The Government works to maintain active agriculture throughout Norway. The objective is to develop more robust, future-oriented farms with a better earnings potential. At farms where land farming and forestry are of reduced importance, it will be important to create the right conditions for the production of new services and products that the market demands. Here, there will be a need for new knowledge to support the development of new agricultural policy strategies.

In the attempt to handle *Norwegian* interests, it is extremely important to develop an understanding of the interests and strategies of *other countries*. This applies in relation to the WTO negotiations, regional and bilateral trade agreements and the EU/EEA. It is important to examine the consequences of different alternatives and the various agreements that are entered into. It is also necessary to develop better *process* understanding. The development in this area is a *continuous negotiating process* where a stable equilibrium cannot be expected. For example, the EU is undergoing a dynamic development, which will also affect Norwegian interests. The same also applies to other regional and bilateral trade negotiations and trade agreements regardless of whether Norway participates in these.

Perhaps the most significant global change in this field in the past decade is that fisheries and forestry have become an important environmental policy issue. This makes itself felt in a number of international forums such as the UN's General Assembly, the WTO and the co-operation under the Convention on Biological Diversity, and it has a private sector counterpart in environmental labelling. A central element in this connection is that an attempt is made to legitimise trade measures as an environmental policy instrument. Research in this area is important to avoid randomness and use of environmental measures for trade protectionism. The Norwegian fisheries industry is especially vulnerable to this development. Seeing that such measures have now been used for some years, a research-based analysis of how various trade measures are used in practice will also be of interest.

4.2.3. Area and Environmental Management

The cultural landscape of the agricultural sector together with cultural monuments and attractions and cultural environments represent important physical elements and constitute large assets. These resources are extremely important for new nature-based commercial and industrial activities. As a result of social changes, marginal agricultural areas are being left idle, and hamlets and small communities are being abandoned. This results in overgrowth of areas, deterioration in the attraction values of the cultural landscape and decay of the building stock. In other parts of the country, area pressure and demolition of the cultural landscape of the agricultural sector constitute the greatest challenge. The consideration for agricultural area resources has a sound rooting politically, but it often loses out in a more short-term perspective. There is a need for knowledge connected with the further development of adequate planning tools aimed at ensuring that the social planning takes long-term area resource protection into sufficient consideration.

The need to meet the challenge connected with use and protection is important, especially in and around nature protection areas. The public authorities are involved in finding the right balance between use and protection. Norway has signed several international agreements that lay down clear guidelines for national protection of areas and species. At the same time, it is obvious that much of the wealth creation and employment in the districts is directly dependent on commercial exploitation of outfield resources. This results in a requirement for environmental management that balances industrial development and protection of areas and

natural resources, so that they can provide a basis for industrial development far into the future. The so-called “Mountain Text” (Revised National Budget 2003, Ministry of the Environment) lays down the central framework conditions for the desired and possible development in this area. Models must be developed for environmental management and industrial development in connection with the protected areas that can make such a development possible.

Reindeer breeding is a very area-intensive industry, because of marginal grazing land areas and because of the reindeer’s need for different seasonal pastures and for passages between them. Interventions and disturbances have accelerated in recent decades. This has resulted in a permanent reduction in areas that are available for reindeer breeding and in increased disturbances. On this basis, there is a need for better protection of reindeer breeding areas and especially those areas that are essential to sustainable reindeer breeding. At the same time, it is important to contribute to ensuring that the industry’s own use of these areas takes place in a manner that does not reduce environmental assets or the basis for long-term industrial development. Furthermore, industrial activities in the reindeer grazing areas may raise issues concerning international law. Industrial activities in connection with protected areas in line with the “Mountain Text” may also offer special challenges based on the problems that arise with increased traffic and noise in reindeer grazing areas. There is also a need for knowledge connected with the potential for increased wealth creation based on the unique and traditional culture and type of operations that reindeer breeding represents.

Use of areas for housing and commercial buildings may result in conflicts with the long-term disposal of area resources. Only 3% of the area of Norway is agricultural area, and a large share of the best agricultural areas is located near towns and cities, where there is pressure on these areas. It is therefore important to look at area use and the conflicting interests connected with industrial development in areas near towns and cities. The room for action is of different nature in the central areas than in more peripheral regions, and this consequently entails other problems and issues. The same challenge that is connected with area use applies to areas with expanding building activities concerning weekend and holiday homes in mountain and coastal areas. Here, however, the research challenges are, to a great extent, connected with the development of expedient models that can contribute to sustainable management aimed at protecting natural resources.

Riding centres, green care and agrotourism are examples of industrial development in the agricultural sector that may entail challenges connected with various area use interests. Another important area use interest is agricultural land for recreational purposes. There is a constantly increasing demand for paths and slopes in the summer and winter in connection with farmowners’ agricultural and forest areas. This creates opportunities for industrial development while also creating administrative challenges.

The heavy expansion in the aquacultural industry – together with other expanding sectors like the tourist and travel industry and the leisure sector – creates increasing pressure on area use in the coastal zones. There is a need for research in the coastal zones in order to examine processes of change and effects as a basis for more holistic coastal zone planning and administration. The development of administrative models that can co-ordinate local, regional and national administrative levels is an important task. In this area, there are many research challenges connected with the development of integrating administrative models and planning processes that contribute to co-ordination between sectors and administrative levels and that contribute to participation and dispute settlement.

4.2.4. Changes in the Public Sector

It will generally be an important task to contribute to the public administration having the greatest possible access to research-based knowledge. This is especially a key factor in relation to the decentralisation of an increasing number of public instruments in the agricultural sector, for example reallocation of land, establishment support, information about the administrative apparatus for policy instruments, the policy instruments available, etc.

The public administration is undergoing a modernisation phase, one objective of which is to create efficient administrative agencies. New tasks and responsibilities have been transferred to the municipalities, and industrial development is becoming increasingly regionalised. One dimension is connected with how the public administration chooses to organise and locate its administrative agencies and R&D institutions – in order to provide good public administration and ensure efficient industrial development, but also to develop robust regions. Another dimension is connected with parts of the resource basis for the area-based industries coming under different Ministries. As a consequence of the increased pricing of public services that must be paid by users, the public administration will be faced with increasing requirements for the provision of efficient services. There is a need for knowledge about the effects of these different measures.

5. PARTICIPATION OF TRADE AND INDUSTRY AND THE PUBLIC ADMINISTRATION.

Compared with the previous initiatives, the new programme will have increased focus on innovation. Increased focus on user-led research is to ensure innovation based on market development and trends in the sector. Innovation in the industries is the central programme objective. This means that the industries and the public administration must be key players in the ranking of priorities and funding of the research activities under the programme.

5.1 Trade and Industry

The various **industries** that are the target group of the programme are represented in the planning of the programme to ensure that their priorities will have a prominent place in the work programme. The industries must also be ensured of a majority of the representatives on the Programme Committee that will subsequently manage the programme. This means that the industries will play a decisive part in the ranking of priorities for target areas under the programme and in the allocation of project funds. User-led research will be the most important instrument for the industrial research. In addition, the industries will have an important role to play in the ranking of priorities for themes for which there is a need for improvement of knowledge and expertise in the R&D communities. For industrial knowledge-building activities, knowledge-building projects with user involvement (KUIs) will be an important instrument. The industries will also be able to ensure active participation through close co-operation and co-ordination with the Fisheries and Aquacultural Industry's Research Foundation and the Fund for Research Duty on Agricultural Products/Research funds via the Agreement on Agriculture.

5.2 The Public Administration

The public administration's research needs will be handled by the public administration being represented in the planning of the programme and through a dialogue and guidelines provided in the annual allocations of funds. In connection with the implementation of that part of the programme that is aimed at developing knowledge for fisheries, aquaculture,

agriculture and reindeer breeding regarding *trade policy, industrial policy, area policy and use of public instruments*, it is proposed that a widely composed reference group be set up to support the work of the Programme Committee and that public administrative agencies and authorities with interests in the programme should be represented in this reference group. In addition, forums should be established for trade and industry representatives, the public administration and the research communities to support the development of the public administration-oriented research in the programme.

6. INTERNATIONAL CO-OPERATION

Under the programme, importance should be attached to strategic international co-operation as part of the objectives of increased internationalisation, knowledge gathering and quality assurance of the research. In relation to, for example, outfield tourism, considerable gains are expected to be obtained by gathering experience-based knowledge and establishing co-operation relations with R&D institutions in several European countries in support of own research initiatives.

The EU's 7th Framework Programme (7FP)

These activities are in the planning stage and will be commenced in 2007. The planning is based on the budgetary parameters for this programme being significantly larger than for the 6th Framework Programme. Norway plays an active role with proposals for the new framework programme.

Nordic Joint Committee for Agricultural Research (NKJ): NKJ is a contact and advisory body for the five Nordic countries' research councils in the agricultural area. NKJ has its own calls for proposals for research, but the projects are primarily funded by national funds.

7. POLICY INSTRUMENTS

The use of policy instruments in the Research Council, including instruments and funding mechanisms for innovation and industrial research, is under revision. Instruments under the programme will be:

- User-led innovation projects (UIPs)
- Knowledge-building instruments. These may be researcher projects, knowledge-building projects with user involvement (KUIs) and strategic institute programmes. KUIs will be the most important knowledge-building instrument under the programme. The role of the programme in strategic institute programmes will be defined at a later stage.
- Researcher projects may be used in connection with special calls for proposals for research under the programme. For example, the main part of the public administration's need for development of knowledge about *trade policy, industrial policy and public use of instruments* will still be handled in this way.

In addition, SkatteFUNN – the tax deduction scheme for R&D expenses – will be an important instrument, which is to be co-ordinated with the user-led innovation projects.

It is important that knowledge building takes place in both user-led research projects and knowledge-building projects. The knowledge-building projects are to contribute to the R&D communities having the knowledge and expertise demanded by trade and industry and the public administration in a 5-10 year perspective. Doctorate degree programmes and post-doctoral activities will be central tasks for the new programme. The universities will have an

important task to perform here. International mobility in the projects will also be important. This applies to both research stays for Norwegian research fellows and researchers at foreign R&D institutions and stays in Norway for foreign researchers. An important part of the knowledge-building activities is to nurture researcher talents who want to and have the ability to use research results as a basis for commercial exploitation. The programme is to contribute to extensive co-operation with administrative agencies aimed at commercialisation of research results.

In order to ensure high-quality research, there must be competition for all project funds. This applies to both user-led research projects and knowledge-building projects. For user-led research projects, the rule must be that several enterprises or perhaps an industry co-operate on each individual project. Project applications from individual enterprises will only be supported in exceptional cases. For knowledge-building projects, co-operation between different R&D communities will be an important criterion for promoting cutting-edge knowledge and expertise and avoiding unnecessary parallel development of knowledge and expertise. Co-operation with enterprises and R&D communities abroad will be of increased importance and will be an important criterion for selection of applications, especially in areas in which Norway has poor competence. Good co-ordination must be ensured with the use of strategic institute programmes as an instrument. Decisive importance will be attached to triggering the great potential for research and industrial synergy between the marine and agricultural industries.

8. CO-OPERATION, DEMARCATION AND SYNERGIES

Internally in the Research Council

There will be a need for definition of responsibilities, co-operation and co-ordination in a number of areas, concurrently with possibilities for synergies across the various programmes being stimulated. This applies in relation to both the need for harmonisation of the activities in theme areas that concern several programmes and the handling of programme responsibility for the development of knowledge for fisheries, aquaculture, agriculture and reindeer breeding regarding *trade policy, industrial policy, area policy and the use of public instruments*. In connection with the implementation of this research, it is proposed that a separate specialist committee (reference group) be set up to support the work of the Programme Committee – also to contribute to ensuring good relevance and balance for trade and industry and the public administration in the initiatives under the programme.

Several current and future programmes will contain research of importance to industrial development, management and administration in the private and public sectors. In individual contexts, the themes may overlap considerably. An example of such overlapping is that protection of cultural monuments and attractions, which is of value in itself, may also be a prerequisite for industrial development. The same can be said about protection and use of the cultural landscape and coastal zones. Such complex issues must be dealt with in practice through joint problem descriptions and joint texts for calls for proposals for research and joint dates for such calls, alternatively agreed delimited calls for proposals for research. A guideline for the division of responsibilities between the Division for Innovation and the Division for Programme Initiatives will be the industrial (commercial) aspect and the administrative aspect respectively.

External co-operation ***Innovation Norway***

A new co-operation agreement between the Research Council and Innovation Norway and the employment of the Research Council's regional representatives at some of Innovation Norway's regional offices should provide completely new opportunities for programme and project co-operation. The Research Council will primarily focus on industrial research, whereas Innovation Norway will primarily focus on industrial development work. Many industry-oriented projects that enterprises or industries wish to implement include both research and development. For such projects, the two institutions must ensure flexible models for joint funding.

The Fund for Research Duty on Agricultural Products/Research funds via the Agreement on Agriculture.

Through the call for proposals for research under the JordMat Programme in the autumn of 2004, a good constructive basis has been established for joint initiatives that can be developed further as part of the new programme.

The Fisheries and Aquacultural Industry's Research Foundation (FHF)

Good co-operation relations have been developed between a number of the present programmes in the Research Council and FHF. In order to develop the co-operation further, FHF and the Research Council should implement joint and concurrent planning processes. The co-operation model that has been developed between the Research Council and the Fund for Research Duty on Agricultural Products for research initiatives under the JordMat Programme should be able to form an important basis for the development of a similar research co-operation model in the marine area as well.

The Forestry Development Fund

The funds of the Forestry Development Fund are to be used for the development of research and development, information and training in forestry as well as for other measures of interest to the forestry industry.

The Forest Research and Development Fund

The forestry industry players may apply to the Fund for cover of own shares in user-led innovation projects or knowledge-building projects with user involvement.

9. ECONOMIC FRAMEWORK

The economic framework for the new programme will be prepared as part of the Research Council's draft budget for 2006. A zero-growth budget will be prepared as well as an alternative budget based on growth.

Based on the current funding framework for different initiatives and an evaluation of the current projects that will thematically come under the programme, a draft budget of NOK 39.5 million (zero growth) has been prepared for 2006 based on the following funding: the Ministry of Agriculture and Food (LMD): NOK 28.0 million; the Ministry of Fisheries and Coastal Affairs (FKD): NOK 9.5 million and the Ministry of Education and Research (UFD): NOK 2.0 million. The alternative draft budget based on growth includes a further NOK 19.0 million, which is distributed as follows: the Ministry of Agriculture and Food (LMD): NOK 10.0 million, the Ministry of Fisheries and Coastal Affairs (FKD): NOK 5.0 million and the Ministry of the Environment (MD): NOK 4.0 million.

The programme may also manage project funds in selected target areas from the Fund for Research Duty on Agricultural Products, the Fisheries and Aquacultural Industry's Research Foundation and funds via the Agreement on Agriculture in accordance with a further agreement with their executive committees.

The programme is to have a catalyst effect on the industries' use of funds for research, and the industries will use considerable funds in user-led research projects and in knowledge-building projects with user involvement.