

How can multifunctional agriculture be secured in Norway?

Report to the Ministry of Agriculture with reference to the
Norwegian positions in the WTO Millennium Round

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Foreword

What kinds of policy instruments are necessary and sufficient to secure a multifunctional agriculture in Norway? A simple question, but so many answers. This report is the last of a series of three reports prepared by The Centre for Rural Research on three projects initiated by the Ministry of Agriculture as part of their preparation for the next WTO round, the so-called Millennium Round. These three projects are

1. Environmental values in Norwegian agricultural landscapes (reported by Gunilla Almered Olsson and Katrina Rønningen)
2. Agriculture's importance for the viability of Rural Norway (reported by Arild Blekesaune)
3. Optimum policy measures to maintain multifunctional agriculture in Norway (reported by Reidar Almås)

This report from the third and last project builds upon the analysis and conclusions from the first two projects, in order to propose policy measures aimed at consolidating and maintaining multifunctional Norwegian agriculture.

The main aim of the project was, as defined by the Ministry, to propose a system of policy measures and instruments that reproduce and enhance the ability of Norwegian agriculture to:

- maintain national food security
- contribute to viable peripheral communities
- preserve agro-biological diversity and cultural landscapes

The policy measures proposed should, as far as possible, be independent of the amount of production and neutral to increased production.

From this main aim, two problems of investigation were set as a narrower focus for the project:

1. What kinds of policy measures are necessary and sufficient to secure the role and function of Norwegian agriculture to maintain a rural settlement pattern, rural employment, and sustainable development in rural areas?
2. What kinds of policy measures are necessary and sufficient to secure the role and function of Norwegian agriculture in maintaining and reproducing such environmental qualities as biodiversity and cultural landscape values?

This report is based on discussions with colleagues from The Centre for Rural Research and other research institutes, as well as representatives from the Ministry of Agriculture and Norwegian Agricultural Organisations. Research assistant Reidun Heggem has interviewed representatives from agricultural authorities in selected counties and municipalities. I should like to thank Reidun Heggem for her contributions, and also thanks to Nancy Eik-Nes who has edited the English. However, the author alone is responsible for the conclusions in this report.

Hólonda, October 1999

Reidar Almås

Summary

The focus of this report is on the following questions:

What kinds of policy measures are necessary and sufficient to secure the role and function of Norwegian agriculture in maintaining viable rural communities?

What kind of policy measures are necessary and sufficient to secure the role and function of Norwegian agriculture in maintaining and reproducing such environmental qualities as biodiversity and cultural landscape values?

This work is based on agricultural measures being:

1. clear
2. targeted
3. tailor-made for the specific target
4. flexible
5. equity acceptable

These have also been the conditions of the Ministry of Agriculture. In addition to these five specifications, I have added a sixth demand: the measures must be legitimate.

Legitimacy in this context means that the authorities' decisions must be acceptable to most people and they must be regarded as valid because they build upon accepted laws and regulations. They must also be in accordance with the political and ethical values of society. Legitimate control means that the need for physical force and control is relatively limited, because most people recognise a moral duty to abide by the laws and regulations.

Legitimacy in agriculture measures should be valid on five levels:

1. among the farmers themselves
2. in the rural community
3. among the farm authorities and agricultural administration
4. in public opinion
5. in accordance with international agreements

Legitimacy on the farm level means that the farmers feel that they get support because the work they do is regarded as important work for society. This is also important in recruiting the next generation of farmers.

But agricultural policies must also be regarded as right and reasonable on a local level, because the local population will be able to observe the consequences of the political measures. If people in the rural communities are provoked by the outcomes of the policies, their objections will enter the national political agenda and undermine the national belief in politics. It is also necessary to have measures that are transparent from a local point of view. This will lessen the need for control and will also ensure that measures that do not function satisfactorily will not go unheeded.

Thirdly, the authorities must be able to see the purpose in the policies they are to put into action. Measures must be in accordance with their knowledge of agronomy and their insight into social economics. If those who are responsible for the system for carrying out various policies find their work meaningless, it will be impossible to maintain those agricultural policies.

A fourth demand is that the measures in agricultural policies are accepted by public opinion, both in principle and in regard to their consequences. In recent years, the media's criticism of Norwegian agricultural policy and support for Norwegian agriculture has been given much attention. This has drawn attention away from other conditions that could give agriculture positive attention; it has also put a great burden on agriculture within the political environment. Agriculture's symbolic position in public opinion is more than agricultural, political measures, but public opinion is probably more supportive toward agriculture itself, than it is toward agricultural policies.

Finally, political measures must be in accordance with international agreements, both in agriculture and in other areas. This means that it is increasingly important to achieve good resolutions in international organisations. At the same time, it is also increasingly important that we follow up on these resolutions so that we can safely argue for our own positions at the next crossroads. Creating freedom of action through negotiations makes it possible to later seek international legitimacy for those changes that we find necessary for our own nation.

One of the main problems with some of the measures of today's agricultural politics is that they lack, at least in part, legitimacy on one or more of the levels mentioned.

This is true on the political level, in certain areas of the press, and also within the agriculture sector where I have registered an increasing uncertainty regarding whether the measures are working as intended.

Thus, they rot from the inside, because those who are responsible for the administration of the measures are neither able to see the sense in the policies, nor to defend them.

The same is true for those who are to receive the money if they are not able to justify the measures that they are working under.

Then the authorities must revert to extensive control and use of force to maintain the system.

When legitimacy is at a high level, the measures will be more effective and the cost of transaction¹ will be low.

The legitimacy of measures as seen from the point of view of the agricultural county extension service can be summarised by the following points:

¹ Transaction costs in this case are the costs of managing the funds that are tied to a measure, including control of results.

- the balance between the full-time farmer and the part-time farmer is delicate, because both of them are necessary, both for patterns of settlement and for legitimacy
- it is also difficult to balance between simplicity and hitting the target; the more one simplifies, the less one is able to hit specific targets
- there is a clash of interests between "production agronomy" and "care agronomy" where many of those employed in the extension service are familiar with the first, and lack knowledge about the second
- doubt is spreading within the system "will we get more welfare and better food out of each extra crown we invest?"

A great majority of the population appears to be willing to pay for multifunctional agriculture (see MMI's report "Knowledge about and attitudes toward Norwegian Agriculture"). But note that this is when the money reaches its intended destination. The problem is that not everyone agrees on who should have the money.

There is a great paradox: Anton Steen's paradox regarding people's willingness to pay for Norwegian agriculture. There is a significantly greater number of people who would rather pay through taxes than pay through price. The budget support is more acceptable than price and protection subsidies regarding equity.

Another paradox: According to the above-mentioned report from MMI, the people in Oslo who earn high wages are those who are least willing to pay for the cost of food in Norway today.

Demands regarding ethics and risk in connection with food will be significant in this WTO round. The EU's ministers of environment have met in order to find a common strategy for genetically modified foods. Politicians are under pressure from sceptical consumers, and the EU must tighten its regulations. Internally in the EU, it is France that is the force behind the demands for stricter regulations. Several scandals on the continent have created a growing feeling of scepticism toward genetically modified foods. In addition, the "greens" are in the position of minister of environment in both France and Germany. Finally, the debate about the so-called "Frankenstein food" has taken off in Great Britain, after the mad-cow disease crisis. Twenty-one of the European retail food chains, of these the six largest in Great Britain, have said "no" to genetically modified foods.

No European politician who wants to survive can allow himself to be soft on GM foods. The resolutions at a recent EU meeting of ministers of agriculture were bad news for the USA, Australia and the major exporters of food.

Ethics and risk will undoubtedly be a major issue in Seattle, and I am afraid that Norway is poorly prepared for this. We can expect an unprecedented battle, since both the USA and Australia have gone far in defending their biochemical industries.

Norway should be on the offensive when negotiating their interests regarding ethics, risk and food. In the area of genetic technology, Norway should take the position behind a requirement for a 5 to 10-year moratorium and this measure should be so general that it allows for problems such as meat products from animals treated with hormones. Norwegian negotiators will have full

backing from Norwegian opinion, where only 10-20% say they are willing to buy meat from animals treated with hormones or genetically modified food.

In order to achieve the goals that have been set in connection with multifunctional agriculture, direct support should be set up for each farm in operation.

Direct support to farms in operation, together with subsidies related to area and cultural landscape and social support, would fill the need for establishing measures that can secure the function of agriculture in maintaining viable rural communities, and reproducing environmental values such as biological diversity and living cultural landscapes.

The name of the support should be support for multifunctional agriculture; it could be called "Basic Support".

It should have a floor, or minimum requirement that could be regarded as satisfied if the farmer lives on the farm and has a minimum of production.

The support should be graded with the following steps:

1. The farm is populated
2. Agricultural production meets a minimum requirement

.....floor

3. The production meets certain standards of animal health, animal welfare and ethics
4. The production meets certain standards of quality criteria
5. The farm provides a cultural landscape above certain standards
6. The farm contributes a minimum to bio-diversity
7. The farm is situated in a depopulation area

.....ceiling

Each function can be weighted equally, or be given different weight, depending on priorities. A simple system would be to give the same weight to all seven functions, with a sum of NOK 10,000 for each function, a total of NOK 70,000. The floor would then be at NOK 20,000 and the ceiling would be NOK 70,000 for those farms that filled all the functions.

The control of production should be tied to documented delivery to processing plants, or direct delivery as reported to tax authorities. The criterion for living on the farm can be controlled through the population register.

It should be possible to control the environmental qualities through a group of laymen and professionals who assess a group of farms each year. This group could include professionals regarding animal health, ethics, food quality and nature, together with local, politically appointed people who could make evaluations.

There should be a ceiling on the support, for example at NOK 70,000 per farm. This would strengthen the legitimacy.

As an exemption the support system could be opened up for other people who live in a rural community, and who produce environmental goods comparable to those that give points for support for multifunctional agriculture. This would enable them to apply for and receive cultural landscape or care support, even though they do not fill the criterion for farm operation. These will be regarded as caretakers in special rural environments where there are few or no farms in operation. Many places where the farm environment has been thinned out, for example where I come from, there are starting to be vast areas where the hay is not cut. In order to prevent large areas from becoming overgrown, people who reside there should be able to receive care subsidies within the support system for multifunctional agriculture, even though they do not produce anything directly.

In order to make it possible for the producers to adapt, I would suggest that the direct support system for multifunctional agriculture be introduced over a period of 5 to 10 years, with 10 to 20% adjustments each year.

It is important that any WTO solution gives Norway the freedom to use the necessary amount of time for these adjustments, to create legitimacy in the industry, and to give people the time and opportunity to adapt.

The goal must be that Norway, at some time between 2010 and 2015, will no longer have production-dependent subsidies, and these subsidies will have been replaced by direct support for multifunctional and environmentally friendly agriculture per populated farm.

Toll-based border protection will be upheld in Norway in the foreseeable future if we are to maintain the same level of agriculture in the whole country that we have today. Those who dream about maintaining Norwegian agriculture, or EU-agriculture for that matter, at today's world market prices are dreamers – on the same level as pacifists who believe that disarmament in a single country will lead to world peace.

Are there good arguments for maintaining border protection? Here we must be able to argue that all countries have the right to produce a minimum of basic foods (meat, milk, grain). Thus, it should be a moral right, on the same level as the right to work, the right to democracy, and the right to own property. It should be possible to argue that with our low level of self-sufficiency (a little more than 50%) there is a risk that most of the food production would disappear out of the country if we were to take away all border protection.

If several rounds in the WTO result in a total ban on export subsidies and in the discontinuation of production-dependent subsidies, and if the world economy develops in a balanced and positive direction, I see great possibilities for the survival and the operation of agriculture in the best areas in Norway – without border protection – some time after 2015. In addition, these farms would also be receiving subsidies for multifunctional agriculture, cultural and area subsidies and social

subsidies. There will also be a need for price subsidies regulated according to district in order to equalise the variations in Norway internally.

In this type of situation, with significantly higher prices on the world market, it should be possible to reduce the relative budget expenditures to approximately half of today's level. That should be our goal. Without such a goal - and with the wish to continue as before - our agriculture will not be robust, but will be vulnerable to political moods, both here at home and abroad.

Why is the time after 2015 so important?

Because the wave of elderly people will be peaking, and because the revenues from oil will be receding. Therefore we must put our agricultural house in order before that time.

The following points of focus are significant:

1. To create the greatest amount of freedom of action possible in Seattle.
2. To keep aiming for the difficult goals of reducing production-dependent subsidies around the year 2010.
3. To start a long-term process of adaptation where both farmers organisations take part and take responsibility.
4. To set the goal of halving budget support if the world market develops satisfactorily, in other words if the prices cover the costs in the best agricultural areas.
5. It will then be possible to reduce protection of our borders toward zero for the best agricultural areas; in other words they will be protected only by freight costs and by national quality.
6. There will be a need for production-dependent border protection for district agriculture, scaled in the same manner as today's district subsidies.

Introduction

The history of the use of the term "multifunctional agriculture" is rather short, although the principle has been evident in Norwegian agricultural policy and debate, at least since the 1960s (Almås 1989). In the report before the Parliament, St. meld. Nr. 64 (1963-64) *Om jordbrukspolitikken* [White paper on agricultural policies], we find four aims for agricultural policy, that in many ways correspond with the more recent term "function". These four aims or functions were:

rural employment (i)

food production (ii)

farm income (iii)

and agricultural productivity (iv)

The concept "multifunctionality" as such, however, has been used in international discussions only relatively recently. The term was first brought to the negotiation table by Japan in 1996, at the Rome meeting on food security (FAO 1996). The concept is also mentioned in Agenda 21 (Chapter 14). *It is important to stress that the term still has an unclear international position, since the countries wanting liberalisation regard it as conceived to support their opponents' positions.*

There is no full consensus on what multifunctional agriculture might be, but the OECD Committee of Agricultural Ministers declared in March 1998 that

"Beyond its primary functions of supplying food and fibre, agricultural activity can also shape the landscape, provide natural resources and preservation of bio-diversity, and contribute to the viability of many rural areas."

The participants were in agreement that "*multifunctionality of agriculture contributes to sustainable development*". Basically all the new functions that were not in the 1964 report before the Norwegian Parliament are environmental functions (landscape, bio-diversity, sustainable development). This is not surprising, after "the greening of politics" from the 1970s and onwards (1992). One term, bio-diversity, was invented even after that time by the Brundtland Commission. On the other hand, farm income is not mentioned as a social function in the 1998 declaration, but is now seen as an intrinsic part of the economic, production functions, together with agricultural productivity. So far we can say that *this multidimensional approach to agriculture includes economic, ecological and socio-economic aspects.*

These functions must be specified for each country and each region. Norway, for instance, regards food security through own production as a fourth and separate function, while the other

OECD countries include food security under the function of economy called “production of food and fibre”. As one of the very few countries with only slightly more than 50% self-sufficiency of food, Norway's definition is understandable, legitimate, and defensible. *Therefore it must be up to the individual country to decide, according to their ecological and geo-political position as well as to their socio-cultural heritage, what functions are involved, and how these functions should be weighted against each other.* And whereas sustainable development describes a long process, multifunctionality reflects its dimensions at a given time. Multifunctional agriculture, if rightly put into practice, can be seen as a step towards sustainable development.

Multifunctionality as a key concept in European agricultural discourse

The question of why the term “multifunctional agriculture” has had growing significance among European agriculture politicians may be answered in several ways.

First of all it has to do with the foreseen, consequential outcomes of a full liberalisation of world agriculture. The farming sector in countries with an open economy and less favourable agricultural conditions, such as Norway, Switzerland, some EU countries, South Korea, and Japan, would be severely harmed by a full liberalisation of agricultural trade. So these countries had to come up with arguments defending their positions against a fully liberalised agricultural trade. For the most part, those same arguments were already being used in the national political debate in order to legitimise budget transfers and internal prices above world market prices.

Secondly, the concept has been introduced to come to terms with what may be called “**the European model of agriculture**”. This model, which differs from country to country and is by no means easy to define, is an agricultural model which, in contrast to most agricultural models overseas, is situated in a long history of small plot private ownership. In Europe, agriculture is an important part of a rural heritage that has been of great importance in the construction of national identity. Among the population there are also quite different ecological and ethical concerns from those that are found in the “new worlds” of North and South America and Australia. There was little “free space” to exploit in Europe (although some indigenous people will dispute the idea of “free space” in the “new” countries too). The ownership structure in Europe was not set up in modern times, and the history of ethics and ecology was “thicker” and more delicate (Almås & Haney 1991).

Thirdly, the greening of farm politics has contributed greatly to the rising significance of the multifunctional concept of agriculture (Almås 1992). As we saw by comparing the new concept of multifunctionality with the concomitant Norwegian concept from the 1960s, the most striking difference was the green functions: avoiding pollution, protecting natural resources, preserving bio-diversity, and shaping landscapes. It is no coincidence that these functions came to the fore during the last part of the 20th century, when criticism of productivistic agriculture was widespread in all industrialised countries.

From the economist point of view it has been claimed that agricultural policy measures should be “decoupled”, so they could more easily be evaluated. This means, for example, that instruments of agricultural production support and payment for ecological services would be strictly

separated. Consequently, the functions of agriculture would be separated, and each of them proved legitimate in their own right. However, analytically it is only possible to separate the individual functions, and in particular their instruments for fulfilment. *In practice, the definition of multifunctionality must include the production of multifunctional goods on the same spot, as a package of functions.* For instance, in order to keep up the grassland bio-diversity all over the country, it is necessary to keep grazing animals all over the country (Olsson & Rønningen 1999). This also means that there must be agricultural production in the bottom of the multifunctional basket. For instance it is not possible to “employ” specialised meat producers near the big cities, landscape stewards in the valleys, and custodians of bio-diversity in the mountainous areas.

Agriculture is a knowledge based production system, with local farm cultures adapted to the ecological environment. This is also a key point in structure-functional thinking (Hernes 1971). *Every part in the system is central to the function of the system, and if you take away that element, the system will not function if not replaced by a functional alternative.* (I will introduce the functional model in detail below). This holistic definition of multifunctionality consequently militates against the interpretation of the CAIRNS countries, which for the most part geographically separate agricultural production from the production of public goods.

Functional analysis as a theoretical approach

Functional analysis is a branch of the so-called structure-functional thinking in sociological thought. It has often mistakenly been seen as a theory, whereas it is actually a class of theories from different disciplines. Functional analyses have a particular logical structure, which means that there will be many kinds of substantive theories having this particular logical form. This logical form, functionalism, may have different kinds of empirical references, from disciplines as far from each other as mechanics and sociology. “Systems which are quite unrelated physically or socially may nevertheless have the same logical structure.... In systems theory it is customary to call physically distinct systems all having the same logical form *analogues*, or to say that they are *isomorphic* (Hernes 1971).

Since the fifties and sixties, the logical form of functional analysis has been discussed by several key authors in the social sciences. One of them, Robert Merton (1957), in his essay “Manifest and latent functions”, found the concept of “functional needs” or “functional requirements” to be cloudy and debatable. However, with his distinction between manifest and latent functions, he was able to cast light on the difference between the way that people living in systems think and see themselves and what social scientists might find in a functional analysis. But the most elegant and lucid exposition of the logic of functional models is found in Arthur Stinchcombe’s (1968) book “Constructing Social Theories”.

The logical form of a simple functional model has the same structure as that of a thermostat. The thermostat consists of three interrelated variables. The first one is a *homeostatic variable*, like the temperature within a refrigerator. This variable is not allowed to vary as much as it could. Theoretically it can vary as much as the temperature in the room, but in practice it is kept within narrow limits, let us say 10 degrees. The upper and lower limits of a homeostatic variable are called its limits of tolerance.

If we take a key example from agricultural policy, the size of the population in a community is such a homeostatic variable. According to Norwegian policy, the size of the population is not allowed to vary as much as it could. Theoretically it can vary from zero to hundreds of thousands, but in practice it is kept within limits by policy measures. The upper and lower limits of a community population are not set in numbers, but there are limits of tolerance which become apparent in political debates.

In addition to the homeostatic variable, there is a *tension variable* that operates in a functional model; the tension variable tends to push its actual values beyond the limits of tolerance. In a room where the refrigerator stands, the temperature may vary a lot, and this tends to change the values beyond the limits of tolerance. However, once the limits of tolerance are reached, a third variable, a *structural measure variable* is mobilised. This variable functions as a controlling mechanism, which counteracts the disturbances from the tension variable, and keeps the homeostatic variable within its limits of tolerance. For example, when the temperature in the room raises the temperature in the refrigerator above the upper limit of tolerance, a compressor is switched on, which stays on until the lower temperature limit is reached. In this manner, fluctuations in the homeostatic variable are kept within limits in spite of disturbances; the inner environment of the system is less variable than the outer environment.

In the social system of a rural community, a tension variable might be the labour market of a nearby town, which tends to attract people from the community and push the size of its population under the limit of tolerance. In the society at large, labour market conditions may vary a lot, and this tends to change the population of both urban and rural communities outside the tolerance limits. However, once these tolerance limits are reached, a third variable is mobilised, a *policy measure variable*. This variable functions as a controlling mechanism, which counteracts the disturbances from the labour market tension variable, and keeps the population variable within the limits of tolerance. For example, when the size of the population in some urban communities rises above the upper tolerance limit, “cooling” policies are set in, which are maintained until the economy is cooled off and a lower pressure on the urban population is reached. And when the rural population decreases to below the lower limit of tolerance, stimulating policies are set in until the population decline is stopped or slowed down to an acceptable pace. In this way, fluctuations both in the urban and rural population variable are kept within limits in spite of labour market disturbances.

Figure 1. The logical structure of a functional model

The functional model above is drawn up with one homeostatic variable, one tension variable and one structure or policy variable.

This simple functional model becomes more sophisticated with several homeostatic variables and many tension and policy variables working at the same time. The historian Kåre Lunden (1974) used the model to analyse the increase and decline of the population in Norway during the middle

ages. Lunden took *energy production per capita* as the homeostatic variable and climate, technology and taxation as tension variables. His structural variable was the amount of work performed by the peasants. However, he could not directly observe and quantify the amount of work. But because the amount of work bears a positive correlation to the acreage of agricultural land in use, he could use “acreage of agricultural land” as a structural variable. Further Lunden assumed that an energy intake and hence an energy-production per capita of 2,300 kcal, which had to be kept within limits of plus/minus 5% (homeostatic variable). Then he was able to analyse how tensions like climate, technology change, and taxation influenced the size of population and land use in the middle ages.

In a more complicated functional model that illustrates how multifunctional agriculture may be analysed, the homeostatic variable may be the *rural settlement pattern* that should be kept within certain limits. In Norway this aim has been written into agricultural policy documents since the 1960s. The lower limits have not been defined in numbers, but the settlement structure is to be preserved as it is today. There are several external tension variables that disturb the balance in the population settlement pattern, as shown in the figure below.

Figure 2. Functional model showing rural settlement pattern (homeostatic variable), labour market conditions and producer prices (tension variables), and policy measures at two points of time (structure variables introduced to control the settlement pattern).

One such tension variable that we used in the example above is labour market conditions. When urban labour markets are attractive, the rural settlement pattern is put under pressure. Farmers stop farming in order to find better employment opportunities in areas of the country where labour market conditions are good, mostly in urban areas. But when the rural settlement pattern is threatened, a series of policy measures are developed that are intended to preserve the rural population variable above a certain limit. Over time, such policy measures may become more and more sophisticated, as politicians try to achieve more than one end or function at a time.

Another tension variable may be producer prices, which tend to fall in our type of modern society. This tension variable pushes some farmers out of business; this in turn puts pressure on the settlement structure. Other policy measures are invented to control and soften this process, to prevent the population variable from falling under its threshold value, whatever it may be.

The system of policy measures altogether makes up a *policy regime or a system of structure variables*, which may change significantly from time to time. The threshold value, for instance, that is defined as the lowest level of accepted depopulation, may also be redefined politically from time to time. However, the logic of the functional model does not change, and may be a useful tool to understand how a multifunctional system works.

To analyse a complex system, it is also necessary to look at different sub-systems, one at a time. In one sub-system a policy variable may function to keep a homeostatic variable within the set limits, while the same variable may function as a tension variable in another, close sub-system. If we take the increased subsidies on agricultural products in the late 1970s as an example, we see that these subsidies functioned to keep farm income over a certain limit. However, in the sub-system of forestry, this agricultural policy contributed to decreased activity and lower output of lumber, which was dysfunctional for the forestry sector. It is of great importance to find policy instruments that are functional on the variable we want to keep under control, without disturbing other homeostatic variables in other sub-systems, which also should be kept within limits. *Obviously enough, to avoid an imbalance between the functions and dys-functions, the number of homeostatic variables should not be too large.*

I should add here that functionalist models in the social sciences have been criticised for being too static and conserving a status quo situation. From where does change come if the system is constantly kept in balance? Tension variables may be regarded as change agents and renewals of the systems as much as they are regarded as threats to system preservation. And what happens if the homeostatic variable varies beyond its threshold values for a long time? Will the whole system break down, or will it find a new “state of equilibrium”? The critics also point to the fact that real social systems are very complex, which makes such holistic approaches very difficult. While having to pick out some critical variables for analyses, one may overlook other variables that have important roles in the function of the whole system. Regardless of this criticism, I think functional analysis may give valuable insight into the understanding of multifunctional systems at any given time, but it is not so relevant in analyses of longitudinal processes.

The six main functions of multifunctional agriculture

After this exposition of the logic of functional analysis, it should be time to go back to the main functions of Norwegian agriculture, as outlined in this study. In addition to the four functions specified by the Ministry of Agriculture, I should like to add the function of a function of ethically sound production (more on the reason for that below).

The function of economic production

The function of production concerns the highest possible competitiveness of the agricultural sector. This can be achieved by the most efficient possible allocation of resources, both human and natural. This means that the production factors such as soil, buildings, machinery, and animals must be channelled into those farms and areas that use them most efficiently. If this were the only function of agriculture, a free and unregulated market would fulfil this allocation best. This means that farmers would try to get the highest possible prices for their products on the market (free or regulated), by producing in accordance with the customers' demands.

The function of food security through own production

Some countries see the function of food security as an intrinsic part of the function of economic production. But viewing the function of production as a product of market forces alone, we see it would not be possible to secure a stable food supply to all regions of Norway. Serving some parts of the country would carry so little profitability that producers and distributors would simply keep out. The food supply of the whole of Norway could even be threatened at times of war and after extreme ecological disasters. Therefore there is clear reason to keep food security as a separate function, in addition to the function of production.

The function of human health and safety

Since the late 1800s, food markets have been regulated according to health and safety standards, both nationally and internationally. In the beginning, most of the attention regarding food regulation was given to the prevention of fraud (for instance cheating on weight or diluting beer with water). Since then, more attention has been given to food safety. Food standards may seem to be neutral and value-free at first glance. Upon closer inspection, however, it becomes clear that those standards have come about through negotiations that are socially and politically grounded. In the present situation, with trade wars going on between the US and EU on hormone treated beef and GM-foods, it is more evident that health and safety standards are negotiable and socially constructed from a mixture of scientific facts and policy-affected beliefs. No serious observer believes any more that Codex Alimentarius is a value-free and neutral institution, free of political concerns. It is also evident that the function of health and safety plays a key role in the regulation of modern food markets, in building consumer trust.

The function of ethically sound production and animal welfare

In most highly industrialised European countries, the relationship between society and agriculture has been changing radically during the last decade. Because of animal welfare and food scandals, agriculture and the food industry are engaged in a quest to redefine their relationship with society. In every European country the agricultural and food industries are being challenged to overcome significant problems which have a distinctly ethical character; problems which are closely related to public and consumer concerns. In the future, therefore, the agenda of the WTO, will doubtless contain themes concerning the ethical acceptability of the major impact of new biotechnologies on food, animals, and the environment. Questions regarding consumer trust and industrial trustworthiness in the areas of food safety and food ethics as well as the importance of respecting animal welfare and animal health in intensive husbandry systems will also be high on the agenda. Not least the animal welfare and consumer NGO's will influence these debates in the future. In the next WTO round, the European perspective will be brought to the forefront, widening and strengthening the debate on multifunctional agriculture.

The function of socio-economic viability of rural areas

As pointed out by many authors (Almås 1989, Blekesaune 1996), the relatively large share of small and marginal farms in the Norwegian agrarian structure has been maintained by an agricultural policy with an extended focus on agriculture's contribution to the whole society. Agricultural policy has not only been prepared to control food production, but has also been an important tool in ensuring rural development. Many rural districts are highly dependent on farming; the viability of rural areas has been an important part of Norwegian agricultural policy during the last decades. Agricultural policies have to a large extent been legitimated through agriculture's contribution to more general regional policies. Therefore, during the last four decades one important aim within agricultural policy has been regional development, and that is the main reason that Norway has emphasised viability of rural areas within the concept of multifunctionality. As Blekesaune (1999) points out, "*the very fact that all political regimes in Norway during the last three decades have continued this political practice, and the lack of real opposition against this policy, implies that sympathy for the rural is a deep-rooted part of the Norwegian identity*".

In Norway, the policy switch from a one-sided agricultural approach to an integrated rural development approach was made during the late 1980s. The governmental rural development report (NOU 1984:21) was a landmark in this switch. As a result of the rural development support under the Agricultural Agreement, more than 4000 new extra-agricultural jobs were created during the years 1988-96. These efforts have not been enough to stop the exodus from farming, but they have created a sounder economic basis in many rural areas.

The function of the environment

Agriculture has both positive and negative functions on the environment. According to Olsson and Rønningen (1999) the ecological function of agriculture is a... "subtle intertwining between environmental conditions, agricultural practices applied, the long term perspective of Norwegian agriculture – 6000 years – and the resulting environmental features in today's landscape in terms of biological diversity and other cultural landscape values". The main environmental qualities are, as these authors see it:

- ***Biological diversity linked to semi-natural habitats***: grasslands, heathlands and single elements such as old deciduous trees, grave mounds, etc. The main part of such habitats exists in the outfields (or commons - '*utmarker*'), both in coastal and mountain areas.
- ***Ecological values linked to whole landscapes*** with their contents of ecological habitats, biological communities, species, species populations, and cultural elements.
- ***Cultural heritage and historical values*** – archaeological, constructed environment, identity etc.
- ***Recreational and aesthetic values***
- ***Scientific and educational values*** linked to the issues listed above

As for the functions above, there are inseparable links and interdependence between these categories of environmental values. These values are in turn linked to the production function in complex ways. On the one side, agricultural production is a prerequisite for some of these values. On the other side, industrial agriculture out of control means a threat to some of those very same

values. Insights into these intricate interdependencies have come about after “the greening” of Norwegian agricultural policies in the 1980s, but there is still a lack of knowledge about the interdependence of environmental values and the level and form of agricultural production and support.

The European agricultural model

As outlined above, what we call the European agricultural model, is defined by:

- a long history of private ownership, in some areas totally dominated by a structure of small plot ownership structure
- little “free space” to exploit because the land has been occupied for centuries
- a rural heritage of high importance in the construction of national identity
- a growing ecological consciousness
- ethical and risk concerns in high regard among consumers
- high and rising consciousness regarding food ethics and animal welfare

It may be argued that these elements are also important in other parts of the world and that the voters and consumers outside Europe share ecological and ethical concerns. But especially after the food scandals of BSE and dioxin, **there is no way European politicians can allow themselves to come up with an international trade regime that disregards ethics and a precautionary principle. It may be possible in the US, it may be possible in Australia, and it may be possible in Argentina, but it is not possible in Europe. Either the WTO principles have to be changed to include some new principles, or the European governments have to block further WTO progress to comply with their consumers.**

Whether we like it or not, Norway will have to play in concert with the European Union at the negotiation table. Norway may also ally itself to a certain degree with Switzerland, Japan and South Korea. However, in the long run, without the support in the main lines from the EU, Norway will be lost. Therefore it may be useful to sum up what has been going on in the Union over the last few years. There is a process going on in the European Union, from the Cork declaration to Agenda 2000, that the Common Agricultural Policy (CAP) is being redefined and replaced by a Common Rural Policy (CRP). Rural development is becoming the “second pillar” of the former CAP, as enlargement of EU approaches. Experiences from the Leader programmes and the interregional development programmes are used to minimise the negative consequences of the Agenda 2000 and coming WTO reforms. It may be contested whether it was a wise move on the part of EU to come up with their negotiation positions as they did with Agenda 2000. However, it made it clear, both to European farmers and to European governments, that there will be substantial changes in CAP.

As the European Union moves away from CAP, it will take time to get seated in CRP. This policy will address what the *desertification* of the countryside, i.e. the tendency for villages and towns in rural areas to be deserted, especially by young people. The new direction in EU policies is to support the multifunctionality of agriculture - a thrust that was begun already with the

Agenda 2000. The Union is now going one step further, by subordinating its agricultural policy to *multi-sectoral rural policy*. It recognises the fact that agriculture accounts for a diminishing share of rural employment. European policy will now be re-oriented and will increasingly become multisectoral. Using a French play on words, it will be a policy not only '*pour les agriculteurs*', but also '*pour les coiffeurs*'. Here the hairdresser comes to symbolise both the rural service sector and the infrastructure. This again has to do with a fundamental aim of European integration, namely what in EU parlance is termed *economic and social cohesion*. Since its inception, and since the Rome Treaty, a fundamental aim has been to lessen the disparities between favoured and less favoured areas in Europe. For a long time, attention was focused on the disparities between southern Europe and the north and northwest. Increasingly, the attention is now turning towards the disparities between rural and urban areas and between centres and peripheries of Europe. Another factor is the pending expansion of the Union to include Eastern and Central European countries. To expand a policy of subsidised agriculture to these countries would mean running EU budgets into the red. Thus agrarian policies must be overhauled to make room for new members.

The European Union is redesigning its farm policies in order to fulfil its future obligations towards the WTO. The EU will no longer be allowed to subsidise its farm production, or to dump its surplus of food on the world market. EU politicians are hoping that the WTO signatories will be allowed to support the service and infrastructure in rural areas, to prevent their depopulation. The new policy will be to use the Guarantee Funds, not only to support the multifunctionality of agriculture, but the multisectorality of the rural areas. The big question is if the differences between the various parts of Europe are too great to make possible a *common rural policy*. Perhaps many rural policies are needed to allow for the social, economical and cultural differences of this continent.

Problems of investigation

The main aim of this project was defined to propose optimum instruments and measures to maintain a multifunctional agriculture in Norway. The idea was to build upon the analysis and conclusions from other projects initiated by the Ministry of Agriculture, in order to propose policy instruments and measures that would consolidate the multifunctional role of Norwegian agriculture. Further the aim was defined to propose a system of policy measures which reproduce and enhance the ability of Norwegian agriculture to maintain national food security, contribute to viable peripheral communities, and preserve agro-biological diversity and cultural landscapes. The policy measures proposed should as far as possible be independent of the amount of production and neutral to increased production.

From this main aim, two problems of investigation were focused upon:

1. What kinds of policy measures and instruments are necessary and sufficient to secure the role and function of Norwegian agriculture in maintaining a rural settlement pattern, rural employment, and sustainable development in rural areas?

2. What kinds of policy measures and instruments are necessary and sufficient to secure the role and function of Norwegian agriculture in maintaining and reproducing environmental such qualities as bio-diversity and cultural landscape values?

According to the specifications from the Ministry, the proposed policy measures should be:

- *clear and transparent*
- *targeted*
- *tailor-made for the specific target*
- *flexible*
- *equity acceptable*

I am not going to discuss these specifications, since they are taken for granted, although I have some objections to number 3, “tailor-made measure for the specific target”. As we later will see, a policy measure may be efficient even though it contributes to the fulfilment of several targets.

In addition to these five specifications, I have included a sixth and necessary demand: *legitimacy*. A proposed policy measure should be legitimate at the following levels:

1. among the farmers themselves
2. within the rural community
3. among the farm authorities and agricultural administration
4. in public opinion
5. in accordance with international agreements

Legitimacy at the farm level is important to give the farmers the feeling that they are supported because they do important work for the society. Also to recruit next generation of farmers, the policy measures must be considered legitimate and just by all generations of farmers. Should measures are not be regarded as legitimate by those who are affected most and those who have most insight, farm policy will have a time bomb under it.

But policies should also be legitimate at the local level, because rural people other than farmers will object to policies they feel are not just. If the rural population at large is provoked by outcomes and consequences of agricultural policies, their objection may feed into the national political agenda, and be the beginning of the end of farm policies. From a point of view of control, it is also important that the policy measures and instruments are transparent and legitimate at the local level. The local community’s “control” through “inspection” of what the neighbours are getting and doing, is as important as what some public officers may find through inspections.

Thirdly, both the local and the central agricultural administration must see a consistency in the policies. If they do not, they will feel that their job will be rather awkward as it goes against both their agronomic and their social-economic skills. They may also be the first group to undermine a policy, because they would lack the motivation to follow up regulations and decisions.

A fourth demand is that public opinion accepts both the principle and the consequences of the policies. Recently, with a lot of media attention on farm subsidies and trade imbalance, this has become an increasingly important issue. The attention of public opinion may also be attracted by lesser issues which are, however, symbolically important.

Finally, policies must be in accordance with present and future international agreements. This demand is becoming more and more important, as WTO and EU regulations become active on a broader spectrum of policies. In this way, the level and scope of national action space has narrowed over recent years

Methods and material

In the analysis of this report, I have used material from various sources. First of all, I have used the findings from different projects that were initiated by the Ministry of Agriculture in their preparation for the next WTO round. Gunilla Almered Olsson and Katrina Rønningen (1999) prepared the report "Environmental values in Norwegian agricultural landscapes". Arild Blekesaune (1999) compiled the report on "Agriculture's importance for the viability of Rural Norway". And Steinar Johansen (1999) and colleagues prepared the report "Norwegian agriculture and multifunctionality". These reports, as well as discussions with colleagues from The Centre for Rural Research and other research institutes constitute the empirical basis of my investigation.

Special data have been collected for this report by research assistant Reidun Heggem. On behalf of this project, she has carried out in-depth interviews with representatives from agricultural authorities in 3 municipalities in three different counties. The aim was to find out how agricultural policy measures are working, and how the agricultural officers at the local level would like to see these instruments changed in order to fill the functions of the many policies. Questions were asked to find out both manifest and latent functions of the present day policies. This is by no means a full evaluation of the policy measures, but has given us a perspective "from below" which we lacked before this relatively quick and simple study.

In addition I have also listened to and discussed with representatives from the Ministry of Agriculture at different levels and departments in order to understand their "terms of trade". Both as part of this project and as part of the project "Norwegian agricultural history" I have met with representatives from the Norwegian Agricultural Organisations, and discussed agricultural policy instruments and measures with them. The aggregate learning experience from all these reports and encounters, together with the lessons of 25 years of rural sociology research, is summed up in the proposals below.

An appraisal of the agricultural policy measures by agricultural officers in 3 municipalities

Agricultural officers in 3 municipalities in 3 different counties were interviewed to make an appraisal of how policy measures are functioning today. This must not be seen as an evaluation of the policy measures, but as a rather informal review of how the officers at the lowest level of

the agricultural management are assessing the present policy measures. All three officers stress that something must be done with the present system. They clearly see the problems of the present system, which is not sustainable when measured towards either national goals or international obligations. In particular, they think that the present system is increasing the problems of overproduction.

When it comes to what should be done, however, they have contradictory proposals. On the one hand they want to strengthen the full-time farmer, as a backbone of the local farming culture. On the other hand they also want to give a helping hand to the part-time farmers, who are so important for maintaining the population in many rural settlements. Here, the agricultural officers have support from research. Blekesaune (1999) is arguing that *“declining numbers of farm household could weaken the integration between farm and non-farm economy at the household level, which mean that part-time farms are of vital importance to the maintenance of rural agriculture and rural settlement. Decreased expenditures of remaining farm families would also threaten the viability of many local businesses and service institutions. In sum, these processes will increase the demographic imbalance in rural areas. The increase in part-time farming implies that farm household labour is also very important for non-farm economic activities in rural areas”*. I would add that support to part-time farming adds legitimacy to farm policy, both locally and in national public opinion.

The agricultural officers end up with double strategies, without being able to give priority to either of the two groups. On the one side they think it is very important to have policy measures that promote rational and modern food production. On the other side they clearly see the problems that increase when the measures themselves cause increased production. They end up not being able to choose between the full-time and the part-time farmer, even though they point to the political priorities given recently to support the full-time farmer. But as one of them says, *“we should at least afford policy measures to support the small farms, not as a full-time way of living, but as a combination with other industries.... let there so be a natural closing of farms, a development that will happen anyway”*.

However, all of the agricultural officers oppose a view that farmers should be state-paid landscape managers. In the long run they think this will not be a sufficient means for recruiting people to farming and for keeping farmers in the profession. A typical answer is “policy measures must be coupled to production of food”. If all policy measures are de-coupled from production, the agricultural officers will have problems defending them before the public, but primarily they will have difficulty understanding their legitimacy because of their own knowledge about agronomy. All of the officers think that policy measures should be based on sound agronomic thinking and competence, and they feel that if too many of the policy measures are de-coupled from production, they will have problems in defending such a policy system in the long run.

According to the agricultural officers there is a contradiction between what may be called a *“production agronomy”*, and on the other side a *“care agronomy”* (in Norwegian: *“skjøtselsagronomi”*). In their view, they have knowledge and competence to manage production agronomy, which is the backbone of their training and experience. To manage this care agronomy, however, they feel they need new competence, more training and a new line of

thinking regarding what is good for nature and what is good for society. To sum up: if Norway really wants to follow up with a management corresponding with the concept of multifunctional agriculture, the agricultural officers need to be taught and trained what this new system really means. If not, it will be business as usual, which means preserving the internal contradictions in the present system. According to the interviews with the officers, the contradictions manifest themselves in:

- a. policy measures that support the full-time versus measures that support the part-time farmer**
- b. a simplification of the policy measures versus a more targeted policy**
- c. policy measures that support a production agronomy versus measures that support a care agronomy**

All in all, the agricultural officers don't seem to think that the present policy system is sustainable in a 10-15 years perspective.

The results of the interview round do not point to any clear advice on these issues, and they clearly demonstrate political contradictions in priorities that need political solutions. However, if multifunctional agriculture is to be the overall goal for Norwegian agriculture, the degree of freedom in choosing policy measures will be less than it would be without this overall goal.

The function of economic production and Norwegian agriculture's ability to compete

To promote the Norway's highest possible ability to compete in the agricultural sector, it is important to continue the present work to strengthen basic and applied research, training and adult education. The knowledge and competence part of the value added is increasing, and in the 21st century this will be a key issue to determine who is going to survive and who is going to win in the market place. Increasing the level of competence throughout the production chain will also be of importance in strengthening the quality work (KSL), in order to increase the trust of the consumer and consumer loyalty to Norwegian products. Through consumer information and

Measures to provide protection for regional and national labels (*AOC, appellation d'origine contrôlée*) must be developed to cover the whole spectrum of products from Norwegian agriculture. "*Godt norsk*" [Good Norwegian] and "*Norsk gårdsmat*" [Norwegian Farm Foods] are positive examples, but it is a fact that well developed Norwegian labels are lacking when it comes to special foods of regional or local origin. Support must be converted from support for general production to support for instruments and measures aimed at developing products and establishing labels. The government must go hand in hand with industry and research in these efforts, in order to consolidate the position of Norwegian food in the home market and also to carve out niches in the export markets. "TINE" dairy products and "Gilde" meat products are examples of successful label building in the co-operative industry, but these labels alone cannot become strong enough in either defensive or offensive strategies to compensate for reduced tariffs.

In general, to meet the function of production, agricultural production factors should be channelled into those farms and areas that use them most efficiently. The Norwegian regional policy and the agricultural structural policy, however, have been implemented to secure the other functions mentioned below. This “canalisation policy” has been successful according to its ends, but has resulted in a more expensive agricultural sector than necessary. If the next WTO round ends with further cuts in protection tariffs and less strict control on budgetary support, a new discussion on the canalisation policy must take place in Norway. A re-canalisation of meat production to the eastern provinces, for instance, would decrease the cost of this production and most likely contribute to a reduction in border trade.

Market regulation must still be a public responsibility, and the cost for keeping stock and exchange must still be covered by the Agricultural Agreement. The kind of organisations and instruments that should be used to implement the market policy, however, may be changed in order to guarantee neutrality and unbiased management.

A proposal of a per farm basic support system

As mentioned before, the function of food security is seen by some countries as an intrinsic part of the function of economic production. In Norway, however market forces alone would by no means secure a food production in all regions of Norway. Historically, at times of war and after extreme disasters such as the black plague, the Norwegian population has experienced hunger and starvation. The last famine in Norway was under the Napoleonic Wars. Had it not been for the barter trade with Germany (grain in exchange for fish), the situation under World War II would have been close to that of a famine. And with just above 50% self-sufficiency in foods from its agriculture, Norway has a legitimate right to protect its food security as a separate function in addition to the production function.

From the point of view of food security, it would be best to have many producers spread all over the country. Especially in case of an ecological disaster, maintaining decentralised food production and food supply is of extreme importance. We have only one case, the case of Chernobyl, as an example to learn from. But from that one example, we have learned that the damage of soil and waterways may be very unevenly divided. Some areas were heavily hit, while other areas quite near by were spared. So to keep a high state of preparedness for the country as a whole, having many producers in all regions would be the first prerequisite.

A precise and effective political instrument to meet that obligation, that at the same time would be legitimate both nationally and internationally, would be a per farm support to all populated farms. Here I would point to the support system discussed by the working group under the Agricultural Agreement (Report from the so-called “PIL working group” on production independent support measures, Ministry of Agriculture, April 22 1999, page 47). According to their proposal, a flat rate of support per populated farm with active agricultural production would be targeted with the aim of keeping the rural areas populated. However, the working group is concerned that this support instrument would have unintended re-distribution effects between farms and regions. They also think it would be difficult to legitimise that farmers would receive this support, while other groups living in the same area would not be entitled to it (page 55).

The last objection is an important concern. I also think that a policy should be understood and defensible locally. Therefore this policy measure has to be coupled to demands other than simply living on the farm and producing some agricultural products. By linking environmental demands and ethical demands to this support per farm system, it is possible to argue that the farm has to deliver a package of functions in order to be entitled to the support. A package system could be constructed in the following way:

Table 1. A per farm support system, rewarding points to farmers: living on the farm, producing food security, meeting environmental aims, and meeting ethical production claims.

- (i) The farm is populated
- (ii) Agricultural production meets a minimum quantity
- (iii) The production meets certain standards of animal health, animal welfare and ethics
- (iv) The production meets certain standards of quality criteria (KSL)
- (v) The farm provides a cultural landscape above certain standards
- (vi) The farm contributes a minimum to bio-diversity
- (vii) The farm is situated in a depopulation area (“less favoured area”)

Each function may be given one point, or weighted according to the political significance of each aim. A simple application of the system would be to give each function one point and attach, for instance, NOK 10,000 to each of the seven points. I agree with the arguments of the PIL-group regarding the necessity of having a certain amount of production on the farm. To legitimise an agricultural support system without certain production requirements would be extremely difficult both among farmers and among agricultural officers. Also in the public opinion, a family based, ethically sound and healthy food production would be needed to meet what people think is a legitimate support receiver. And from the point of food security, the production at the farm level should not be completely abandoned for a long time before it would diminish the agricultural production potential substantially.

This production demand would be met by having a basic requirement of the two first points (i and ii). In that way, this support instrument would not be activated unless there are people living on the farm, who also have a minimum of production. With a base of NOK 20,000 (point i and ii), this support measure would run up to NOK 70,000 if it met all criteria. The geographical differentiation could be even more sophisticated if desirable.

My proposal would be direct basic support to all populated farms with a minimum amount of production, linked to differentiation and connected to points earned for environmental criteria, ethical and quality production, and depopulation areas.

If we take the 68,000 farms that receive production support today as a starting point, this support scheme would run up to a maximum of 4.76 billion NOK if all criteria were met. However, producers in all parts of the country would not be entitled to the regional differentiated less favoured area support (vii). Also, some farmers would run the risk of losing the support if they

didn't meet all the other criteria. An actual cost would therefore be between 3 and 4 billion NOK, depending on the strictness of the criteria and the control of the fulfilment of those criteria.

It is evident that such a support scheme, replacing the present production support for milk and meat production, would produce serious disturbances and problems for certain groups of farmers. Especially would larger producers in meat and dairy loose, because they profit from the present price and production based system. Therefore, the introduction of this scheme would have to take place over, for instance, seven to ten years. During this period, Norwegian farmers would have to adapt to more market oriented prices, according to a pace determined by all WTO countries' ability to decrease their export subsidies. A transfer of money from production-tied schemes to this per farm support scheme should be co-ordinated with our international obligations and the actual increase of world market prices.

Of course, this support instrument could not be the only form of farm policy instrument. As Johansen et al (1999) points out, "*A direct payment completely de-coupled from produced volume, would probably not induce any production if prices did not cover costs. A regionally and structurally differentiated price support seems appropriate and even necessary to stimulate production on small farms in less favoured areas*". I support this argumentation, and make it clear that a differentiated regional support linked to production should be maintained in addition to the per farm basic support proposed here. Even after a successful number of WTO rounds when we may foresee world market prices covering the cost of production in the best agricultural areas of the world, there will be a need for regional support coupled to production in the less favoured areas of most countries. However, the legitimation of this support would be different: because we want agricultural production all over the country, we **need to support the production as such in certain areas**. The policy measures to support meat and milk production we have today could be used, not for the whole country, but in regions where production support is absolutely necessary.

How could the above proposed policy instrument support the socio-economic viability of rural areas? It is clear by now that more support coupled to production does not give more employment per NOK in the rural areas. Quite the contrary, coupled support is driving agricultural producers out of business, because the present overproduction is pressing prices downwards. As Johansen et al (1999) points out, "*Since agriculture, per se, is over-represented in the periphery, and since alternative sources of employment are difficult, reduced activity in the agricultural sector can lead to increased centralisation of the population. In Norway, this can be a problem, since the relatively low population densities already imply a danger of depopulation in the periphery...From a theoretical point of view, subsidies should, in order to be as efficient as possible, be directed directly towards the problems they are meant to cure. If the aim for granting agricultural support is peripheral development, and not agricultural production, then it is better to grant subsidies that do not depend upon production*". Norwegian negotiators will also be met by this argument in this WTO round, and to be best able to defend Norwegian positions, they should develop a consistent argumentation to get away from the present situation supporting quantities of production in 10-15 years' time.

However, the main challenge for Norwegian politicians and agricultural management in the present situation is to develop better-targeted support to *rural* agriculture. Blekesaune's (1999)

analysis indicates that *“direct payments are particularly important for maintaining farming in rural areas, and by that the maintenance of viability in rural areas. Farmers in rural areas are more dependent on agricultural production of a certain level if they are to remain in farming, than farmers in urban areas. If the subsidies are going to be more orientated to payments for rural settlement and landscape care, and less orientated towards farm production, it is more likely that farmers in urban areas will derive benefit from this arrangement because they are more likely to maintain farming with insignificant production”*. I agree with Blekesaune on this point. It is obvious that budgetary support is a necessary condition to maintain rural farming. Some of these subsidies have to be connected to quantity produced. Even if we introduce a non-trade basic support, it is difficult to imagine how the production of non-trade concerns could be completely uncoupled from agricultural production. *“If farmers are to be responsible for the future production of non-trade concerns, it is obvious that they have to farm”* (Blekesaune 1999).

Results of recent opinion polls about Norwegian agriculture also indicate people's preferences for public goods coupled with an active farm production. In this respect, an opinion poll on attitudes to Norwegian agriculture, undertaken by the respected Market and Media Research Institute in February 1999, reveals the following results (nationally representative sample of 982 interviewed):

- 83% of those interviewed were in favour of "maintaining agriculture at the current level, at least", 8% were against
- 59% of those interviewed were in favour of "the budgetary public support to agriculture", 16% were against
- 83% of those interviewed agreed that "Agriculture is a necessary part of our food security", 4% disagreed
- 86% of those interviewed agreed that "Agriculture is necessary to maintain the employment and settlement of rural Norway", 6% disagreed

This poll has been repeated regularly since 1979. The results, which may be called the temperature curve of agriculture, have been rather stable, with maximum support in 1981 and minimal support in 1993. The poll constantly reveals that a vast majority of the Norwegians interviewed favour the maintenance of domestic agriculture through public support. As I see it, maintenance of employment and settlement of rural Norway are the main reasons why the Norwegian people so unanimously favour budgetary and price support.

The function of environment and cultural heritage

The major part of the biological diversity in Norway is tied to the cultural landscape of agriculture and what we associate with "traditional" forms of operation: *“slått og beite”*, the traditional combination of haying and grazing for domestic animals). Especially in outlying fields and in areas with mountain dairy farming, the number of species of plants is the highest in Norway (Rønningen and Olsson 1999). Many species are disappearing in Europe, while the styles of farming in Norway still maintain the variation of vegetation and the bio-diversity of plant population. Rønningen and Olsson conclude that it is in the outlying fields that are

characterised by haying and grazing and mountain dairy farming that we find the greatest variety of vegetation in Norway. There are a range of species that have either disappeared or are disappearing in Europe, while the styles of farming (van der Ploeg et al 1994) in Norway have, to a certain degree, secured these societies of vegetation and biological diversity.

The farming of the outlying fields must be seen jointly with the farming of arable land closer to the farm, which means that farming of the home fields is highly dependent on the farming of the outlying fields in many rural areas. These farms with outlying fields often constitute a whole of which the parts are mutually dependent. In other words, maintaining the use of arable land near the farm depends on the grazing and harvesting resources in the outlying fields. The potential that the outlying fields represent for the future is probably very important in many respects. One important argument here is that Norwegian agriculture has a strength and distinctive quality from an international point of view and it is important that these resources are not wasted. The backpack tourist movement in Norway (*Den norske turistforening*) strongly support the conservation of this part of Norwegian agriculture (“*Fjell og Vidde*”, membership journal, several issues in 1998 and 1999).

It is unrealistic and probably not even desirable to maintain a use of the outlying fields with the sole purpose of maintaining biological diversity and research beyond the point that can be regarded as "natural" in the form of selected protected areas with economic resources available for passive maintenance. In a long-term perspective it is important to preserve this particular mix of home field and outlying field farming. It is also important to balance the interests of farmers, conservationists and research. For different interest groups, values connected to the cultural landscape may be in conflict. We can take the protection of the carnivorous beasts of prey as an example. The biology research community has interests that differ from the interests of the sheep farmers. However, sheep farming in certain mountain areas may be a necessary prerequisite for the preservation of the grazing landscape with high degree of bio-diversity.

A premium to support grazing by domestic animals all over the country would be a support instrument that would secure the societies of vegetation and biological diversity.

There are also other values tied to *the cultural landscape, such as historical, cultural, recreational values*. When developing and implementing agricultural policy measures, the various values tied to the cultural landscape must be balanced. There are many instances where the consideration for biological diversity and the interests of academic/research may come in conflict with the common wish to travel, have recreation in and to experience nature. However, it cannot be assumed that the consideration for biological diversity and science rank higher than other interests. Values related to environment and landscape are neither objective, predetermined, nor neutral. The values lie with the people, not in the landscape, and are not unambiguous or absolute. While the biologist clearly finds the outlying fields (utmarka) to be most important in regard to the significance of cultural landscapes for biological diversity, I think it would be unfortunate for the other values and interests that are tied to the cultural landscape if a major part of the resources are directed toward these fields only.

But to be fair, we must recognise that major cultural/historical, identity and recreational values in Norway are tied to nature. Agriculture and nature can not be seen as different systems, but as

parts of the same social-ecological system. As already mentioned, a major part of Norwegian agriculture is based on a sustainable use of our own nature and our own natural resources.

According to Olsson and Rønningen (1999) *“The summer farms may serve as a good example illustrating many of the problems connected to landscape management per se, disconnected to a farming system: Management of mountain summer farming may easily come under various future landscape management schemes if they are to be introduced as a replacement for agricultural support. Mountain summer farms in active use are high priority areas for conservation, both in terms of biological diversity and cultural heritage, and their symbolic and identity value are unquestionable, as are their attractiveness for recreational purposes. However, the summer farm is part of a system of outfields, pastures and hay meadows, as well as buildings and fences etc. Further, the summer farm is an integrated part of a system with the permanent farm often located in the lowland valley. A landscape management scheme would realistically be aimed at the summer farm including the buildings, fenced-in-area and probably the nearest hay meadows and pastures. However, when the summer farm is taken out of its context, it becomes a ‘landscape element’, and we are dealing with conservation of cultural monuments – not conservation of the full landscape values – see above – which was the original intention. If areas around the summer farm itself are not maintained, also other values like esthetical and recreational qualities will deteriorate”*.

This citation shows that we need environmental policy measures that are both deep and narrow, at the same time as they are broad and shallow. They need to be deep and narrow to secure specific landscape elements, but they must also be broad and shallow to preserve the farming eco-systems as a whole. Agriculture may not be the cheapest and best solution for the production of the environmental benefits one by one, but agriculture can provide the cheapest and best system solution. Vatn and Romstad (1999) have used the same argument for all collective goods, claiming that agriculture may deliver the cheapest package solution.

Administration costs may be the lowest if general support measures like acreage support for cultural landscape are used. More specific support measures will have to face relatively high administration costs. Examples from Great Britain show the costs were initially approximately 33% of total costs of the environmental support, but are now down to 27% (Rønningen, personal communication).

However, to meet very specific goals, management agreements between farmers and authorities must also be developed, if certain landscape qualities are to be preserved. As Olsson and Rønningen (1999) point out: *“Management of certain cultural elements and monuments may to some extent be carried out through landscape management schemes, while landscape management in the true sense of the expression cannot be satisfactorily done. In other words, conserving bio-diversity and protecting the other landscape values on a site-specific basis have some very important limitations. We have to recognise the need for integrated management of cohesive units [Selman 1994], in other words: a functional system approach”*. This functionalistic approach is most easily met through general support measures such as acreage support. And when certain weeds, like stinging nettle are allowed to spread uncontrolled both on own and neighbouring farms, farmers should lose parts of their support for cultural landscape. To my knowledge, this is not the fact today, and landscapes are degraded by weed growth while the farmer receives a full pot in cultural landscape support.

With Olsson and Rønningen (1999) I want to conclude that in Norway, *“the main threat to the cultural landscapes is the abandonment of farming and extensification, leading to forest colonisation of agricultural land: arable fields as well as outfields and semi-natural pastures. Continued farming, maintenance and re-introduction of mixed farming systems, including use of the outfields for livestock grazing purposes and maintenance and careful development of buildings, are main preconditions for maintenance of biological and cultural values in large parts of the country”*. The simplest and most cost-effective way to enhance such a mixed farming system’s sustainability would be a basic support per farm, as proposed above.

Instruments and policy measures to strengthen the function of human health and safety

Since the late 1800s, food markets have been regulated according to health and safety standards both nationally and internationally. In the beginning, the attention of most food regulation was on the prevention of fraud (for instance cheating on weight or diluting beer with water). Since then, more attention has been given to food safety. Food standards may seem to be neutral and value-free at first glance. Upon stricter inspection, however, it becomes clear that those standards have come about through negotiations that are socially and politically grounded. In the present situation with trade wars going on between the US and the EU on hormone treated beef and GM-foods, it has become more evident that health and safety standards are negotiable and socially constructed from a mixture of scientific facts and policy affected beliefs. It is also evident that the function of health and safety plays a key role in the regulation of modern food markets in the building consumer trust.

The best measure to support this health and safety function would be to keep as strict control as the present control on the Norwegian production and practice a conservative policy together with the EU and other European countries on imported foods. The precautionary principle should be used, and when knowledge is lacking, time-limited moratoria could be introduced. Building trust with the consumer is much more important than having a maximum deregulated food trade regime.

It is also an open question how the issue of biotechnology and the US Congress vote on fast track procedures may influence Washington’s pressure for liberal trade. The US Congress has rejected President Clinton's proposal to have a fast track procedure for the next WTO round. This Congress majority is made up of strange bedfellows: a democratic left which is looking with scepticism upon all trade liberalisation and a republican right which is looking for ways to curb presidential power. Regardless of that, the preparations for the WTO negotiations continue, without approval from the Congress. These “back-door tactics” are being orchestrated by the Department of Agriculture and backed by the multinational biotechnology companies and the food trade lobby. But contrary to that there are also signs of a weakened liberal trade group within the Clinton Government itself. Several key persons with a track record of pursuing liberalisation policies have quit or are about to quit their engagement with the present administration.

However, the American negotiators are already struggling with EU negotiators on GMO food entry on the European markets. US negotiators have had to admit evidence that consumers in European countries are far more negative towards the novel foods than their American counterpart. And while American farmers increase their use of GMO seeds (40% of the corn and 30% of soy acreage this season), 20% of the seeds first bought were returned by farmers just because they fear European trade restrictions (Alan Guebert, *Bondebladet* 3/6 1999). According to the same source, processors now warn that they will not buy non EU-approved crops, and insurance companies are told to be cautious insuring GMO crops.

It is obvious that the biotechnology card is no longer a good card in trade negotiations. The US secretary of Agriculture, Dan Glickman recently asked the Monsanto boss Robert Shapiro to stop talking in public about genetically modified foods (*Le Monde Diplomatique*, May 1999). The argument was that American farmers lose billions of dollars in export subsidies every time Shapiro opens his mouth and speaks out on how marvellous these products are.

A tough Norwegian stand on food safety and biotechnology issues would draw broad support from a spectrum of European countries, Japan and Korea. Principles like the precautionary principle and the consumer's right to know would make it easy to defend a 5-10 years moratorium on GM- foods.

The time has also come to start a discussion in Norway about domestic food aid as legitimate support. Export subsidies are likely to be forbidden in the course of the implementation of the next WTO round. However, temporary surpluses will certainly arise, notwithstanding national efforts to control production. The milk and meat sectors are already approaching present export support ceilings. Then there are two outcomes: "dumping" on internal markets or "dumping" on world markets. Both options will have serious consequences for the producers' prices, and the latter option will certainly be met by WTO sanctions.

A third option, which has not been used substantially by Norwegian producers, is to give away surpluses as domestic food aid. The US to a large extent has used this option, which takes by far the largest amount of money from the green box, for instance after World War II. Domestic food aid is both more legitimate and less costly than the two first options. Given the level of income in Norway, hardly any group other than school children would be eligible for this type of food support. However, recent changes in school children's diet, away from daily lunch with milk and bringing home-made sandwiches to school, opens up a window of opportunity for serving a "free lunch", both to decrease surpluses and to have a positive influence on diet habits.

An appropriate measure may be 1/3 l of milk, one piece of fruit and two sandwiches per child a day to all children from first to tenth grades.

Food aid as a kind of social support in the form of “food stamps” has not been used in Norway after World War II, and would be met by serious objections from the public. At this point this means of support does not fill the criterion of legitimacy, and for that reason can not be recommended.

Norwegian tactical approaches in the WTO Tariff Negotiations

Although it may be a digression to the theme of this project, which was what kind of Norwegian policies should be strengthened to serve multifunctional agriculture, I would like to provide some tentative remarks on tactics in negotiation policies. One need not be too farsighted to foresee that the next WTO round will end up with reduced maximum tariffs on important commodities. What kinds of reductions would be in accordance with Norwegian interests

One question may be how tough the language of the Norwegian negotiators should be, both in public and in more informal settings. How colourful should the arguments be? Generally, Norwegians are regarded as being quite direct and sometimes rather rude in private by foreigners. We don't use polite words such as “please” and “I beg your pardon” as often as many other nationalities. Norwegians are also known for saying things rather bluntly, without any euphemisms or padding; this is different from, for instance, the French way of behaviour. However, when it comes to making demands on their own behalf, Norwegians behave modestly. This unassuming way of behaviour, may be a handicap in situations where it is important to claim one's own interest and cast doubts on the positions of the contender. A couple of examples may clarify what I mean.

After a meeting on the European ban on hormone treated beef in May this year with EU Commissioner Franz Fischler, the US farm Secretary Dan Glickman used rather colourful language. He told delegates of the World Meat Congress that “If European consumers are so sophisticated, then they're sophisticated enough to make a choice” (Agra Europe May 21 1999). Using irony in this way, the American Minister doubts that the European consumer is any more sophisticated than the American consumer, which according to US standards is by far the most sophisticated consumer of the world.

An argument against American positions that would be almost impertinent, especially considering the present war situation at Kosovo, would be to mention that American prairie farming was based on ethnic cleansing of the Indians. But it is a matter of fact that the “rational” division of the prairie land into squared homesteads was possible because the indigenous population was chased away. It is no excuse that Norwegian immigrants took part in this land plunder. And it is no coincidence that most of the countries in the Cairns group are countries whose “*settler agriculture*” is based on a recent ownership structure, with a history of violation of the rights of an indigenous population. In Europe, with a long history of property ownership and agriculture, farming has not been started upon such a “tabula rasa”, as the American, Argentinian or Australian prairie. From a bio-diversity point of view, the American prairie might fare best by giving it back to the buffalo and the Indians!

I have no internal information on how Norwegian ministers and senior negotiators behave on such occasions. Ethnic stereotypes may be wrong, but as they used to say in the Norwegian-American belt of the Mid-West: modesty and hard work are Norwegian virtues. I am not convinced that the modesty side of the Norwegian national character is worth preserving at the negotiation table. And some plain and demagogic arguments may unmask the negotiation positions of the adversary that otherwise would prevail and win in the end.

It is also difficult to give advice on how GMO and bio-safety issues will come up and be treated. Generally I should recommend strengthening the delegation with competence and people who are trained in these issues (SPS-treaty “Agreement on the application of sanitary and phytosanitary measures”), GMO, bio-safety). I would also recommend the delegation to work closely with the EU delegation, which certainly will be stressing those concerns. Underlying these concerns are consumer interests, and it is needed to underline that consumers are culturally different from country to country. Through the programme “Trygg mat” (Safe food), data are collected for the Ministry of Agriculture by the Market and Media Research Institute, which will lend arguments to the Norwegian delegation on consumers’ concerns on food safety. However, I think the main focus from the Norwegian side should be on multifunctionality, while the side focus on bio-safety and GMO will broaden the negotiation front and ease the pressure on the “friends of multifunctionality”. A focus on the bio-safety issues will also make it easier to sell the final WTO-solution in the Norwegian public afterwards. By this “bi-focal approach”, it is possible to show that Norwegian producers and consumers have common interest in the WTO Millennium Round.

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