



The role of the Royal Swedish Academy of Agriculture and Forestry is, with the support of science and practical experience, to promote agriculture and forestry and related activities, for the benefit of society. The Academy was founded in 1811 at the initiative of Karl XIV Johan and started its work on 28 January 1813.

The Academy's 204th Commemorative Meeting

January 28, 2016

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Academy President Kerstin Niblaeus

The Commemorative Meeting of the Royal Swedish Academy of Agriculture and Forestry, January 28, 2016

The Swedish Forests – riches to be used

Your Majesty

Your Excellency

Honourable Minister

Esteemed Fellows

Ladies and gentlemen

And so I stand here for the fourth and final time as President of the commemorative meeting of the Royal Swedish Academy of Agriculture and Forestry. It has been a privilege, not least working with so many knowledgeable and committed fellows and our fantastic secretariat. It is also with some pride that the vice-President and I can declare the Academy in good health and with sound finances.

Our commemorative meetings have always been an annual highlight with a special theme. In 2013 we celebrated the Academy's 200th anniversary by looking back at our illustrious advent and history. The following year the theme was *The Sea*, followed by *The Future of Swedish Farming*. Today it is *Swedish Forests – Renewable Gold*.

The forest and its uses are important issues for society. And an area about which our Academy has a combined knowledge that is probably greater than any other organisation in Sweden. Our fellows include researchers, foresters, forestry industry experts, representatives of authorities and organisations. Moreover we have, more than ever, fellows with extensive knowledge of the environment and nature.

Swedish forests – where do they come from?

At first there was only ice. It lay 2,000–3,000 metres thick over what is now Sweden. Around 14,000 years ago the ice began melting. It took several thousand years and the ice flowed across the landscape crushing everything in its path. Glacial meltwater and glacial seas helped turn the landscape into sand and gravel and clay soil. Then came the forests. Seeds and plants gained a foothold, it is still uncertain quite how. Perhaps it happened as described in the Finnish national epic, *Kalevala*:

The old, wise Wainamoinen engages the boy Sampsa.

“When a slender boy...

Sows with diligence the island,

Seeds upon the lands he scatters,
Seeds in every swamp and lowland,
Forest seeds upon the loose earth,
On the firm soil sows the acorns,
Fir-trees sows he on the mountains,
Pine-trees also on the hill-tops,
Many shrubs in every valley,

Birches sows he in the marshes,
In the loose soil sows the alders,
In the lowlands sows the lindens,
In the moist earth sows the willow,
Mountain-ash in virgin places,
On the banks of streams the hawthorn,
Junipers in hilly regions;

Soon the fertile seeds were sprouting,
Soon the forest trees were growing,
Soon appeared the tops of fir-trees,
And the pines were far outspreading;
Birches rose from all the marshes,
In the loose soil grew the alders,
In the mellow soil the lindens;
Junipers were also growing,
Junipers with clustered berries,
Berries on the hawthorn branches.”

The forest grew for thousands of years and became enriched with plants and animals. People arrived and began working the forest but for a long time to a negligible extent. It was first in the 1700-1800's that understanding of the forest's potential grew. Carl Linnaeus, during an expedition to Lapland in 1732, declared,

“Great forests of pine, standing desolate and futile for nobody needs the timber, fall and rot away. The question is whether anyone could benefit from making tar and pitch from them?”

Forest production takes off some way into the 19th century. The forest industries grow and exports of wood products generate important income for this poor country's development. The dark, threatening forest with its dangerous wild animals, and threat of bandits, is conquered and becomes an economic asset. Selma Lagerlöf describes this transition in *Nils Holgersson's wonderful adventures through Sweden*, here about Kolmården:

“The great mountain region has, for all time, been clad in tall and formidable trees. Oak and linden have stood on the fringes and in the valleys; birch and alder along the lakeshores; pine perched along the steep ledges and fir anywhere there is a grain of soil in which to grow. All these trees together formed the great forest, Kolmården, which was so feared in the world that every man who had to cross it prayed to God and prepared for his end. The forest continued to be mighty and dangerous until a wanderer discovered ore in the bedrock. The forest's might was broken. Charcoal-burners and woodchoppers moved in to the ancient and terrible primeval forest and almost eradicated it. When people finally

overpowered the forest they treated it appallingly. Mining decreased, to the forest's delight, which grew luxuriant once more. And then people began to retrieve logs and planks from the forest, which they sold for a profit. They quickly realised that if they were prudent, they could earn their living from the forest just as well as they could from the fields and the mines. They learned to nurture it and to love it, they considered the forest their best friend."

This was written around the same time as the Swedish Parliament passed the first forestry act. The forest's stocks were being depleted faster than anyone could have thought possible. The forests were being deforested and neglected. But in 1903 it was made law that forest clearings had to be replanted.

Since then the amount of forest has more than doubled. And this is despite the fact that the forest industry, not just timber, but increasingly pulp and paper manufacturing, played a pivotal role in Sweden's national income and employment during the whole of the 20th century. Profitability has gone up and down. Export opportunities have been affected by the outside world – there have been wars, economic depression. But on the whole the forest has remained a pillar in the amazing development of Sweden's prosperity during the 20th century.

Developments in technology have helped. Heavy and dangerous manual work has been mechanised. The chain saw arrived in earnest in the middle of the 20th century. Forest roads replaced log driving on rivers. New machines were developed, harvesters and forwarders, more and more advanced with higher and higher productivity. Those who worked in the forest received higher salaries and a better working environment.

Active forest policy was pursued. A new act was passed in the middle of the century to ensure forestry was sustainable. Back then this meant availability of timber and pulpwood and the growth of the forest.

Around 1970 environmental issues entered the forestry debate. Technological development not only affected mechanisation – it also led to the aerial spraying of brushwood. And pulp factories released harmful substances along the Baltic coast, which poisoned the seabed and fish. Biological diversity was affected by the intensive forestry and the list of endangered birds and insects grew.

Research led to new knowledge about nature and the environment and new laws were passed. Aerial spraying was banned and the forest was given environmental targets that were given equal weighting to financial targets. That was at the beginning of the 1990s. New policies and research had begun giving results. Foresters are more aware of nature conservation, there are more species growing than falling in number, deciduous trees now make up as large a part of the forest as they did 100 years ago. However there are many who are dissatisfied and complain that the forest industry is too intensive, clear-cutting is too bare and site preparation and fertilisation is an abomination.

And so we arrive at today's reality and debate. How are we to use the Swedish forests – and who gets to decide this?

Firstly, we can note that the forest still plays an important role in Sweden's economy and thus in the prosperity that we take for granted today.

The forest industry represents around 10 percent of Swedish industry's employment and exports. The value of exports is over SKr 120 billion per year. Sweden is the world's third largest exporter of paper, pulp and sawn timber. As much as a quarter of the pulp used in the EU is manufactured in Sweden. We also export to North Africa, China and Japan, for example. Employment opportunities created by the forest industry amount to, if you include subcontractors, around 200,000.

We can also ascribe the forest's climate efforts as one of its benefits. Growing trees absorb carbon dioxide, which through photosynthesis is converted to carbon compounds, with the help of water and solar energy. Carbon dioxide is stored in wood products throughout their lifetimes. The total carbon dioxide absorbed by the Swedish forest is estimated to amount to 60 million tonnes per year. These are not exact figures, but this is around the size of Sweden's annual emissions of carbon dioxide. The forest benefits the climate again by replacing fossil fuels. Forest-based fuel can provide heating to 2 million houses. By building with wood we can reduce the use of cement, which is not beneficial for the climate. Textiles and new materials can also be produced from renewable raw materials instead of finite fossils. Fuel can help us achieve a fleet of vehicles not dependent on fossil fuel.

The arguments for the forest's productive uses are many and rational. They speak to our common sense and to our minds.

But the forest moves us in other ways too; our feelings and our hearts. There are many Swedish poets who have expressed their own, and other people's feelings for the forest.

As Albert Viksten wrote,

“You forest, you gave the country that which no other has given, you have given us beauty and tranquillity, you have given us gifts which nobody has seen and which live in our souls and in our faith... and the gold which lives behind the rough bark will give us bread and a home.”

As Gustaf Fröding,

“My beloved is like unto a slender fir-tree”, “You, defiant pine, reaching your slender top towards the sky, I feel your proud endeavour, your inkling of strong hope.”

As Verner von Heidenstam,

“The forests like temple groves, tall and still without a murmur, twilit like a wonder.”

As Karin Boye,

“Alive as we are and far, far away... Deeply inaccessible to thought and sense, though against our cheeks your bark feels harshly kind.”

As Harry Martinson,

“The forest now starts to teach the wind to speak the language of the fir-trees in the wilderness.”

And as Tomas Tranströmer,

“The man lying on his back under the high trees is up there too. He rills out in thousandfold twigs.”

There are deep, primitive feelings alive in the Swedish soul; feelings we all recognise whether we are forest owners, foresters, hunters or just wanderers, enjoying the stillness, or picking berries and mushrooms. These are feelings that are in close harmony with our Swedish right of public access and the unique opportunities that a stay in the forests provides.

Is it possible that these different expectations of the forest can be met simultaneously? Can the forest continue to deliver economic value on the basis of science and proven experience, in addition to maintaining a place in our hearts?

I am convinced it is possible. With the help of technology and research, we can find solutions. The debate will continue with the Royal Swedish Academy of Agriculture and Forestry as the self-evident arena.

Kerstin Niblaeus

Translation: Ian M Beck et al. and as follows

Kalevala – <http://www.sacred-texts.com/neu/kveng/>

Gustaf Fröding – <https://archive.org/details/selectedpoems00frodiala>

Karin Boye – <http://www.karinboye.se/verk/dikter/dikter-mcduff/the-trees.shtml>

Tomas Tranströmer – <http://wordsworth2.net/literary/transtromerjuly.htm>



Academy Secretary Carl-Anders Helander

The Commemorative Meeting of the Royal Swedish Academy of Agriculture and Forestry, January 28, 2016

The Academy's 203rd year of activity

Your Majesty

Your Excellency

Honourable Minister

Honorary Fellows

Fellows of the Academy

New Fellows

Laureates

Distinguished Guests

2015 was the 203rd year of the Royal Swedish Academy of Agriculture and Forestry (KSLA) since its foundation in 1813. KSLA is a meeting place for the land-based industries, or, as we often say, the green industries. We work through unaffiliated dialogue and independent analysis with issues that affect everyone, and interest many, for example, food, climate and *forests*, which is, of course, our theme this year.

In 2015 we organised a total of no fewer than 50 outreaching and very well attended activities. I will begin with some examples from each of our sections;

The General Section hosted the Academy meeting in February entitled *Pioneering rural areas*. Its focus was on the relationships between city and countryside, and the need for a clearer rural policy.

The General Section was also responsible, in collaboration with the Swedish International Agricultural Network Initiative (SIANI), for a seminar in Malmö with the title, *S.O.S: Save our Soils*. The UN declared 2015 the International Year of Soils and the seminar tackled serious global threats to agricultural soils.

The Agricultural Section held a seminar in February with the title, *Protein, protein and more protein – a nutrient for better or worse*. Protein is a nutrient that has received a great deal of attention in the last few years. Many people experience a lack of protein. Others consume too much.

At the Academy meeting in April the Agricultural Section was responsible for the debate topic: *Swedish food on a global plate: Swedish food strategies and competitiveness on a global market*. This was directly linked to the ongoing development of a national food strategy.

The Forestry Section organised the Academy meeting in March. The theme was *KSLA takes the pulse of the national forest programme*. There are high expectations about the content of the national forest programme and many diverging views on its value.

Late autumn saw the section, together with the Federation of Swedish Family Forest Owners (LRF Forestry), hold a seminar entitled *Upwards of downwards for the forest's diversity?* The purpose was to hold a discussion about the state of the forest's diversity, and there are many different views on this subject too.

This year's spring trip was to the site of a wildfire in Västmanland. The forestry department organised a much-appreciated and shocking journey to the area that was subject to a fierce forest fire in the summer of 2014.

The Unit for Forest and Agricultural History completed a number of book projects during the year. The book *Bergius Tal om läckerheter (Bergius's speech on delicacies)* received the most attention – a speech that Bengt Bergius held as President of the Royal Swedish Academy of Sciences in 1780. This is a truly magnificent work, which was awarded two different prizes by the Academy of Swedish Cuisine: one in the category *Historical cuisine literature*, and it also won *Best in all categories!*

We have introduced some changes during the year

For example we premiered KSLA's Wallenberg seminar. As many already know, the Academy received a donation, on our 200th anniversary, from the Knut and Alice Wallenberg Foundation to fund a series of guest professorship of the highest international calibre. Ian Fleming, who is a world-class scientist on the issue of wild fish populations, was appointed our very first Wallenberg Professor. He was also the principle speaker at the first Wallenberg seminar, entitled, *Salmon and their management – new perspectives under changed conditions*. This year we look forward to a forest-themed Wallenberg seminar, under the steerage of professor Dan Binkley.

Another premier was the Håstadius seminar at the Swedish University of Agricultural Sciences (SLU) in Alnarp. Former fellow Birger Håstadius and his wife Ulla left a donation in their will that will enable us to award the biannual Håstadius Prize for outstanding efforts in the development of Swedish crop production. The first laureate was Dave Servin who was responsible for a seminar in October on the theme *Optimised cereal cultivation*.

In addition, KSLA's Environmental seminar was launched this year. The Academy's ambition is to arrange an annual environmental seminar to bring current environmental issues within the Academy's sections into focus. The first, about the importance of ecosystem services, was held in November and had the title, *Using without consuming – the art of feeding a world without destroying it*.

Through collaboration within the Union of European Academies for Science Applied to Agriculture, Food and Nature (UEAA) we have been given approval by the European

Commission to run a Horizon 2020 project together with universities, research institutes, academies and companies in ten European countries. The project analyses and develops the use of sensors in dairy cattle stalls to improve animal welfare and to support decisions taken by dairy companies. Our partners in the project are the Swedish University of Agricultural Sciences (SLU), the Rural Economy and Agricultural Societies and Växa Sverige.

The history of agriculture and forestry is a large and important part of KSLA's work. We have reorganised the sections and now have a unit for *Library, archive and historical projects*, in short, BAHP. We would like to integrate this historical section further into the Academy's other activities and adapt it to external demand.

The Academy has two donation estates, Enaförsholm and Barksätter, where we implemented some changes in 2015.

At Enaförsholm we now have a streamlined company board which concentrates on the commercial activities at Fjällgården. The Academy Agronomist Magnus Stark – this evening's master of ceremonies! – is part-time MD. The purely real estate management is the responsibility of a different board.

During the year Barksätter gained a new and very engaged agricultural tenant, and Barksätter's board has been working intensively on an exploration of the potential for constructing a new stable for grazing livestock on the estate. If the plans are realised then a new building could be in place when the livestock are moved indoors in the autumn.

We see many opportunities and advantages to active contact with our sister academies.

During 2015 KSLA initiated, together with The Royal Swedish Academy of Letters, History and Antiquities, a four-year garden history project, with the aim of publishing a book in two volumes about gardens and garden cultivation in Sweden from a cultural historical perspective.

Over the year, fellows of KSLA and the Royal Academy of Fine Arts have been collaborating on the theme "Art, people and the landscape in change". The idea is that our two academies' different areas of knowledge can give us a new and more nuanced view of the landscape, dealing with natural and man-made processes, such as land elevation, the forest's recovery after a fire, the movement of people and animals across the landscape, concentration of cities and larger farms, etc.

Together with the Royal Dramatic Theatre, the Royal Swedish Academy of Sciences, the Royal Society of Naval Sciences and the Royal Swedish Academy of War Sciences, we are planning a performance at the Royal Dramatic Theatre in April, which is to be our joint celebration to mark His Majesty the King when he turns 70 – however it remains a surprise!

The Academy's activities are financed in large part by income from our capital and from some of the foundations we manage. We have relatively high yield requirements, which we must balance against excessive risk-taking, and this requires active asset management. With interest rates currently extremely low, active asset management in reality has enormous significance for whether we can run a successful organisation. Our extremely competent financial control committee fulfils an important role here.

We often say that “our fellows are the Academy’s most important resource”. Our organisation is also built to run fellow-driven projects. The activities are controlled at an over-arching level by the four-year activities and strategic plans which the chairs have developed. The Academy Collegium, the governing body, adopts an annual activities plan at the council’s meeting every December. The plan is largely based on the plans which the fellows in our three sections have outlined for the coming year. The practical tasks are then carried out within the various committees in each section.

In addition to the sections and the committees, the Academy sometimes appoints working groups to analyse and process specific issues. One such working group has, in 2015, worked intensively with several very difficult but important issues – those regarding protection of animals and how Swedish agriculture can increase its competitiveness. The working group submitted a report to the minister responsible and the state secretary just before Christmas.

Out of sight, out of mind, as the saying goes. In December the Collegium adopted a communication policy that places the main task of communication out with our committees and working groups. The idea is for fellows and committee members, in this way, to take responsibility for reaching out to our target groups by integrating communication into their activities plans.

At this point I would like to take the opportunity to thank all of the fellows who give so much of their own, unpaid time to serving on the committees, advisory committees, sections, the collegium and in many other ways. I would also like to thank everyone else, non-fellows, who contribute with their time and capabilities for the good of the Academy.

Finally I would like to extend an extremely warm thank you, from all of us at the secretariat and all the fellows, to our departing president and vice-president, Kerstin Niblaeus and Bo Andersson. You have carried out a fantastic job! At the same time I would like to warmly welcome our new president and vice-president, Lisa Sennerby Forsse and Björn Sundell. It is exciting to have the opportunity to work with you!

Thank you!

Carl-Anders Helander

Translation: Ian M Beck et al.



The Principal Speech, Professor Annika Nordin

The Commemorative Meeting of the Royal Swedish Academy of Agriculture and Forestry, January 28, 2016

In search of the future of forestry

Your Majesty

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How will we manage our forests in the future? As director of Sweden's largest ever research programme on forests and forestry, the research programme Future Forests at the Swedish University of Agricultural Sciences in partnership with the Forestry Research Institute of Sweden and Umeå University, I have had the privilege of wrestling with this issue for several years.

As the President has already noted, there are many and great expectations of forests and forestry. There are expectations that the forest must contribute economic, ecological and social values. The challenge is to accommodate all of these expectations in one and the same forest, at a time and in an environment characterised by conflict and migration, as well as threats linked to climate change.

As for the future of forests and forestry in Sweden, it is embedded in our earlier experiences and our expectations for the future.

Within the forest sector there is a long tradition of basing predictions about the future on our knowledge of how it used to be. So-called forest outlook studies have been carried out regularly since the 1950s. They project the demand for raw materials and products, the availability of the same and price trends. They are mainly carried out by FAO in collaboration with UNECE for the global forest sector, but some countries, such as Finland and

the United States, have also carried out similar studies at national level. In Sweden we have our forest impact analyses, the most recent of which was carried out last year. These are helpful, but are limited to predictions of the country's supply of wood as a raw material.

In recent years the quantitative outlook studies for forestry have also been criticised for their inability to be able to predict, in a decisive way, structural changes that may affect the forest sector. This has to do with the fact that the world of forestry today is increasingly complex and multidisciplinary. The forest sector is increasingly affected by climate change as well as by the policies surrounding climate and energy, technological development in areas such as biochemistry and nanofibers, and by changing values and attitudes to forestry among the general public. None of this can easily be captured in the images of the future that are being projected in the traditional, quantitative outlook studies.

In order to better anticipate the structural changes the forest sector may face, what are known as qualitative foresight studies have received increasing attention over the past five years approximately. The strength of these studies is that they can capture our expectations of the future and assume thereby that such expectations bring with them a force that can lead to structural change. To date, however, relatively few studies have been made.

In the Future Forests programme we address both quantitative outlook studies and qualitative foresight studies. The quantitative outlook studies project the future by writing up future trends. The qualitative foresight studies seek to capture the expectations of the future that have sufficient force to lead to change.

The results from the quantitative outlook studies show that climate change has already led to, and will continue to lead to, an increase in forest growth in Sweden. Foresters will have to deal with a far greater risk of storm damage and pest outbreaks than is the case today, but the models suggest that forests will grow better in a warmer climate. There is also much to suggest that demand for wood as a raw material will follow supply, demand will increase in the same way as supply increases, provided we continue to use our forests in the way we do today. If we instead choose to double the area of forest that is not managed, supply of the raw material will not suffice for the demand that there will be. Ongoing analyses will show the indirect effects such a strategy may have, i.e. where the raw material in demand will be sourced, if Swedish forestry is unable to deliver it.

The results from one of Future Forests' qualitative foresight studies, i.e. studies dealing with people's values and attitudes to forestry, which has just been published in the Royal Swedish Academy of Sciences' journal *Ambio*, highlights the major differences between forest sector stakeholders over the desired future of forests and forestry. Among other things, stakeholders from environmental, Sami and outdoor recreation organisations desire major structural change in both the management and execution of Swedish forestry.

However, the fact that there are major differences in opinion among these stakeholder groups and the groups that perform today's forest management is not big news. As we know, we are closest to ourselves. What I find more interesting is that we can affirm that there are also important similarities in what is desired for the future of forestry.

For example, the desire that the development of the Swedish countryside should be given higher priority by politicians than is the case today. And that there is great potential in the fact that new, high-tech products are being developed from the raw material of wood.

Additionally, it would be desirable to have a more diversified forestry; simply, that an alternative to the traditional clear cutting forestry in the future is operationalised on a larger scale than it is today.

Rural development, product development and development of forest management are areas that are prioritised by the Swedish stakeholders, as well as by environmental activists, one could say.

But let us dig deeper into the differences.

An important factor that has a major influence on our expectations of the future, and thus also has huge potential to cause structural change in forestry, is *the general public's values and attitudes towards forestry*.

In this context, it may be a good idea to be clear about the difference between values and attitudes. Quite simply, you could say that a value is a fundamental perception, while an attitude is something that is learnt or experienced. People's attitudes are therefore more changeable than their values.

A fundamental divide in terms of *values* towards forestry is that which exists between the forest's instrumental and intrinsic values. You could say that these two value systems govern people's attitudes as to whether forests should mainly be managed, or be preserved.

Sometimes it is said that urbanisation is a force that promotes a shift in fundamental values towards the forest's inherent values. The scientific support for this claim is weak, however. Quite simply, urbanisation is too complex a process to be able to lead to such general shifts in fundamental values.

The social context is, however, an important influencing factor and means, for example, that people in countries or regions where active forestry is important to the economy are more positive towards forestry than people in countries or regions where forestry is not a major contributor to the economy.

This is of course based on the population being aware of the way in which and the extent to which forestry contributes to the national economy and welfare development.

It is possibly the case that urbanisation is a challenge to the dissemination of this knowledge, but that this is sometimes, and by some commentators, misinterpreted as a shift in fundamental values from the instrumental to the inherent values.

As has already been said, *attitudes* towards forestry are more changeable than values and are affected both by knowledge and by practical experience. A new study on Swedish public attitudes to various methods of forest management is interesting, not least given the lively media and twitter debate on clear cutting, which has been going on for some time.

The study shows that thinning is the measure the Swedish public is generally most positive to. As regards clear cutting, opinion is divided; 38% of respondents are positive to clear cutting while 33% are negative. The other 29% are neither positive nor negative, which also means that they are easily influenced by instruction or lobbying. A similar dichotomy existed

among the respondents' attitude to leaving dead wood in the forests as a conservation measure; 36% of respondents were positive while 41% were negative, the remainder were indifferent.

The new research devoted to the future of forestry here in Sweden, as I have reported here, can be summarised by noting that with a biophysical basis, the situation for forestry is healthy, supply and demand for Swedish wood as a raw material will increase and the two will go hand in hand. However, shifts in fundamental values and changes in attitudes among the general public may erode the legitimacy of forestry. The fact that forestry issues engage the public is demonstrated not least in the clearly divided opinions about forest management that I have just mentioned.

But what is currently happening in international arenas also has the potential to affect Swedish forestry. From the past year there are two important international forestry episodes, in particular, that come to my mind:

The climate agreement that was signed in Paris just over a month ago, which went on to be called the world's all time greatest diplomatic success, and will result in ongoing climate change being limited to 1.5 degrees. The agreement bestows an important role on the forest as a sink for the atmosphere's carbon dioxide, and it is hoped that protection of, predominantly the tropical forests, can be operationalised and financed on a large scale, via REDD+.

For those who are not aware of REDD+, the acronym stands for Reducing Emissions from Deforestation and Forest Degradation.

In contrast to the clear role the forest has been given in the climate agreement, the forest's role in the UN's new goals for sustainable development is fuzzier. There are now 17 sustainable development goals, but only one of these, the one concerning "life on land", explicitly mentions the forest. The goal is to protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, halt and reverse land degradation and halt biodiversity loss. So this ambitious goal includes a great deal more than forests. You could also say that although the forest is only mentioned specifically in this goal, vibrant forests are a key condition for several of the other goals, for example, the goal to eradicate poverty, the goal about access to clean water for everyone, and the goal about climate action, to name but a few important examples.

Internationally, during the past year, the forest's role as a carbon sink and *the forest's role in fighting poverty and in the development of welfare*, has been highlighted and agreed upon. Global agreements come into effect only once they are implemented regionally and locally, and it remains to be seen how these global undertakings are going to be implemented in forestry in the EU and in Sweden.

My opening question about how we are going to manage our forests in the future has, of course, no simple answer. I have examined three important influencing factors that will be part of shaping the future of forestry in Sweden. These are improved forest growth, thanks to climate change, changing values and attitudes to forestry among the public, and international forestry policy.

The work that began on a national forest programme in the past year will take heed of these three factors.

I, like many others, have great expectations for the national forest programme. Not least that it will bring order to inflated goals that forestry policy is sometimes accused of creating. Politicians have great plans for the forest, and the goals as they are formulated are many and sometimes difficult to reconcile. The result has been that policy stops at formulating the goals, sometimes leaving the policies for implementation by the wayside.

However does this mean that we have to prioritise and make trade offs between the different values of the forest? I am more optimistic than this, and instead, I believe that *with the right knowledge we can, in fact, ensure the forest suffices*. The knowledge I mean is not just the “usual” scientific knowledge, but also that which can be found in the interface between different scientific disciplines – the interdisciplinary knowledge. And the knowledge that can be found in the interface between science and practice, the so-called trans-disciplinary knowledge.

Inter- and trans-disciplinary knowledge has not always had a natural place within our traditionally organised seats of learning, but more and more voices are being heard in the scientific debate about the value of these approaches to solve complex problems in society. In Sweden, the Swedish Foundation for Strategic Environmental Research, MISTRA, is pioneering in the field of financing inter- and trans-disciplinary research.

For the future of forestry, new knowledge emerging from inter- and trans-disciplinary interfaces can contribute to making future forestry models more efficient and at the same time take advantage of the forest’s many different values and ecosystem services.

In order to achieve this we must continue to make genuine and great efforts to develop excellent collaboration that makes it possible for research to take place within and between academia, business and society. Only then will we succeed in taking advantage of the great potential for development and the energy that can be found in inter- and trans-disciplinary development of knowledge for future forests.

And so I would like to conclude by declaring that the Royal Swedish Academy of Agriculture and Forestry, with its more than 200-year history, and its activities within land-based industries, continues to have a unique role to play, as an independent network organisation and as a creative meeting place for the development and sharing of knowledge between academia, business and society.

Annika Nordin