



Learning Area "*Dalsland*" (Sweden)

INNOVATION EXPERIENCES AND NEEDS

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Introduction and contents

This report looks at innovation that supports HNV farming in **Dalsland** and identifies the types of innovation that are missing and needed in order to secure a sustainable future for HNV farming.

We present examples of innovation existing in this Learning Area (LA) and examples more widely in Sweden that could usefully be transferred to address challenges in the LA.

Types of innovation that seem to be absent in Sweden, and that we would like to explore in other countries of the HNV LINK network, are also summarised.

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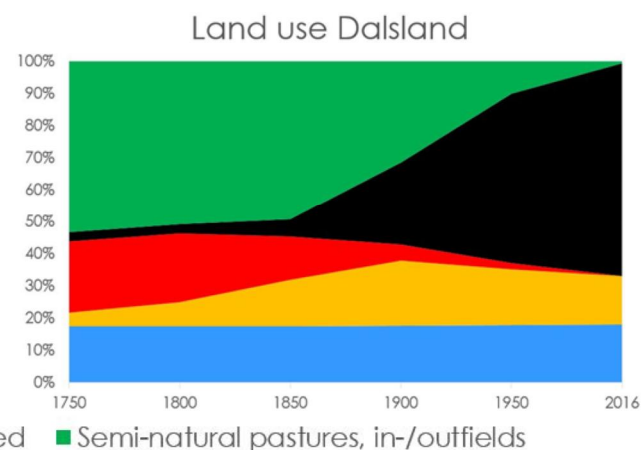
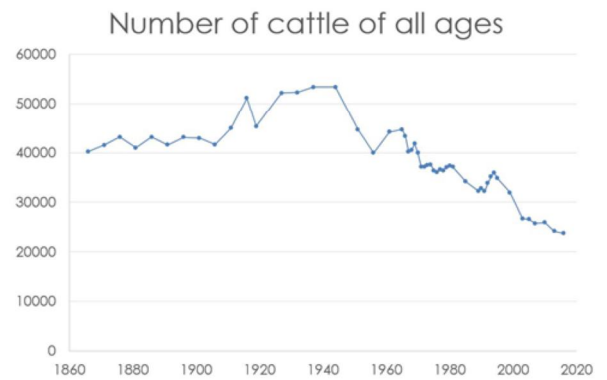
Lars Johansson and Hälsingestintan home page, <https://www.halsingestintan.se>

The challenges facing HNV farming in Dalsland

Much of Dalsland's HNV-qualities have disappeared during the last 150 years. Land consolidation reforms, technological development, political and economic pressure for increased productivity and yields have led to fewer but bigger farms, managed more intensively.

A large share of the meadows and semi-natural grasslands have been transformed into arable fields or productive forests. Therefore, what today is shown in the land use statistics as non-grazed forests are actually overgrown meadows and pastures. It is within the forest areas where the highest HNV-potential exist.

The main challenge in Dalsland is to preserve the HNV-farmlands still existing, but at the same time restore the large areas of overgrown and abandoned HNV-areas before they lose their hidden qualities.



Challenges facing HNV livestock farming in Dalsland

The herds are getting bigger, management more intense, specialised and cost-reducing. On the large dairy farms the ongoing rationalisation has led to that the way animals are kept doesn't create any HNV-qualities anymore. The animals are inside most of the year and during grazing season most animals have only access to grazing on fertilized arable fields close to the farm buildings. An exemption is the young livestock which in some cases are held on semi-natural grasslands.

Farms with sheep, horses or suckler cows often have more focus on HNV farming. But even within these business models there are many factors, especially related to daily management, which make the potential HNV-effects from grazing not realized. One such factor is the widespread use of supplemental feeding of silage on semi-natural grasslands.

Over a long period of time, the trend has been that the number of grazing animals are decreasing in Dalsland. For instance has the amount of cattle decreased with approximately 35% during the last 35 years. At many farms and on many semi-natural grasslands animals are now missing.

The area of meadows and natural pastures are now down on historically, extremely low levels. The erosion of biodiversity in these areas goes quickly. But the awareness that co-ordinated and significant efforts are needed if we are to reverse the trends are growing, both among individual and stakeholder groups on societal level.

Overview of innovation in Dalsland

In the area, some small projects are running aiming to strengthen the HNV-qualities, mainly through advisory services. But there is no multi-stakeholder or co-ordinated effort or strategy on how these actions will enable long-term success.

Nevertheless, there is a common will and also some inspiring examples of innovations on both institutional and regulatory level today. Furthermore, there are some emerging initiatives both in products and markets, as well as new technologies and farm management solutions. Altogether these efforts would have a positive HNV effect, if co-ordinated on landscape level.

With a structured and facilitated development process many of the desirable HNV-qualities would be possible to realise in Dalsland.



Overview of the innovation situation

During the last decade there have been projects running, including social and institutional innovations, but not with enough breadth, sustainability and implemented among core stakeholders. To enable a real breakthrough in sustainable land use, the analysis of challenges and desirable and feasible measures, as well as long-term financial support, have been lacking.

There are separate initiatives which develop new products and markets, testing new technologies and management schemes, and also adaptation of existing regulatory frameworks, but without any co-ordination or common direction. Furthermore, the HNV-focus is sometimes not clear.

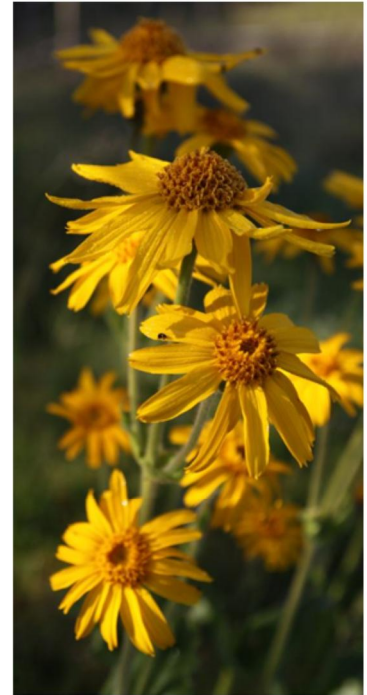
There is a LAG-group (Leader) in the Dalsland area, but in there local development strategy there are no obvious HNV ambitions. The County Administration in Västra Götaland and the Region Västra Götaland, runs two advisory service projects, which both have a clear HNV focus, but suffer from their short term project character and with restricted economic resources. Both projects are activity based.

All the above mentioned initiatives will play an important role in the future HNV-work, but this will demand some form of co-ordinated strategy. The public debate and our stakeholder interactions shows that many actors are thinking about the potential for the landscape and society if HNV-issues were to be put to the fore. But there is no neutral and common arena for collaborative learning and action at this point.

The HNV-LINK project is an opportunity for LA Dalsland approach the challenges and existing potentials more holistic and to build a strong foundation for multi-actor stakeholder participation, innovation and real change.

Innovation examples in Dalsland: What are their strengths and weaknesses for HNV farming?

- Sex selection of sperms in dairy production: A way to combine milk production with beef production on HNV-pastures.
- Hälsingestintan: A mobile abattoir
- Community Supported Sheep: New way to market meat from sheep kept on HNV-land
- Kaprifolkött "Honeysuckle- meat": Organic meat, from farms with HNV-land
- Dalspira: Local goat and cow milk dairy
- Facilitation of collaborative land use management (FOCLUM): Development of a HNV-process design
- Facilitation of collaborative land use management, Land use plan (FOCLUM-LUP)
- Facilitation of collaborative land use management, Techniques and entrepreneurship for HNV pasture restoration projects: (FOCLUM-PRP)



Strengths

- Examples exist on how marketing and sale of HNV-based products are possible.
- Examples exist on how slaughter is possible in a more ethical way and without unnecessary stress.
- Examples exist on new methods to restore and restart traditional management on HNV-farmlands.

Weaknesses

- The existing innovations are on an extremely limited scale, compared with the scale of the challenges
- Three of them (FOCLUM, FOCLUM-LUP and FOCLUM-PRP) have, at the time being, very low intensity due to lack of funding.
- There are no co-ordination between different initiatives today and some of them do not add value by connecting to how they might support specific HNV-qualities (for instance some of the local market concepts).

What are the main innovation needs in Dalsland, and how could they be addressed?

Social and institutional innovation

Social and institutional - innovation needs	Possible approaches
1) Initiate a long-term, well anchored, cross-sectorial, and resourceful HNV-program for Dalsland, where practice and research work close together.	HNV can be the foundation and common ground for such an initiative.
2) Implement working methods which all relevant stakeholders agree upon and which build on successful, best practice and available, scientific knowledge.	A start would be to create an arena for collaborative learning on HNV-issues, building on the stakeholders experiences and local knowledge.
3) Establish an institutional function with the aim to secure continuity and quality of the joint work, f.i., administratively and by managing funding issues.	Identifying long-term successful HNV-projects, in combination with innovative ideas on market solutions for HNV-services and products, would be an important starting point financially.

Social and Institutional Innovation Needs

Local actors and other stakeholders are involved in different HNV-projects, but often during shorter periods of time. There are no organised group working with the issues with longer continuity, commitment and on higher landscape level. Even less with a well defined and publically expressed strategy or working approach. Thus, there is a need that engaged stakeholders start working collaboratively with HNV-issues, that they jointly develop and implement efficient and goal-oriented working methods, and that they have pre-conditions for a long-term work.

Regulatory framework innovation

Regulatory framework - innovation needs	Possible approaches
1) A more cooperative and appreciative working approach from authorities towards farmers. A field-level bureaucracy where stakeholders realise their dependency on each other.	Competence development in combination with Agr Env schemes which demand HNV-services and – qualities, and where farmers can make contracts on producing and “selling” these values.
2) Agr Env schemes and project funding which are adapted to HNV-farmland and which support reached HNV-qualities rather than standardised demands on management.	Develop a basis on which HNV-qualities which are relevant to produce, and examples on how these can be realised and how the process should be administrated.
3) Improved coordination between employees on different authorities to enable a more holistic landscape approach and HNV-effect.	Ongoing training and competence development of employees so that they can work more efficiently cross-sectorial. Implement and support new working methods, not least a freedom to experiment.

Regulatory Framework Innovation Needs

If Dalsland's HNV-vision is to be realised it must be easier, more efficient and motivating for stakeholders and local actors to collaborate – in learning process as well as and concrete actions. One important supporting mechanism lies within the field of policy and regulatory frameworks. We see two main areas for improvements. Both are important and need to be approached simultaneously.

- 1) Changing the pre-conditions. All stakeholders' views on how policies and the regulatory frameworks might be improved to achieve the desired HNV-effect need to be taken into account. Social and institutional innovations, for instance by developing collaboration and joint working methods, is part of the process of innovating and improving the regulatory framework. One example would be the national development project aiming to find new models for agri-environmental schemes, models which are oriented towards the outcomes and values created by measures taken by farmers and land owners. But this project are in its beginning and will not be specifically related to meadows and pastures yet.
- 2) Make the best out of existing pre-conditions. Stakeholders need to be better in understanding the potentials for HNV-farming in existing policies and regulatory framework. This is not least the case for authorities, such as the Swedish Forest Agency, the County Administrations and local municipalities. Different competencies within these authorities must cooperate more closely in order to become more efficient in supporting, catalysing, and coordinate HNV-initiatives. Furthermore, information on the rules and policies which relates to HNV-farming must be better adapted to the target groups (end users), and also coordinated, to really support HNV-initiatives. By these measures HNV-qualities could be supported more efficiently within existing regulatory framework.

Products and markets innovation

Products and markets - innovation needs	Possible approaches
1) A local brand, which clearly states and assure that the meat, milk and cheese that consumers buy comes from animals having a direct and positive effect on HNV-qualities.	Strengthen existing brands by integrating a stronger connection to HNV-effects, f.i., Kaprifolkött, but also analyse the potential for new, local brands with such a profile.
2) A system which makes it possible for consumers to trace from which farm the products originates and which farmlands you support.	Existing technologies and data management need to be integrated. Possible to do within a pilot project.
3) A local brand where a share of the price paid by consumers builds up a fund which financially support restoration activities in the local area.	An investigation must take a closer look at how this can be done administrative and on a free market. Probably possible in a pilot project.
4) Business models enabling commercialisation of the landscape amenities developed through HNV-measures taken in Dalsland.	Following exiting process designs for development of new business models. Possible to do within a pilot project.

Products and Markets Innovation Need

The challenges as well as the potentials regarding innovations in products and markets within Dalsland could be summarised in the following points:

- Making consumers/customers understand, appreciate and to be prepared to pay for the HNV-qualities farming are producing.
- Being able to deliver products which have a clear and assured HNV-effect. This also implies getting rid of products of "free-riding" character (or improve those so that they really deliver what is promised).
- Increase traceability so that consumers/customers can trust that the product they buy really have a positive effect on landscapes, biodiversity and/or environmental health.
- Find new ways to reinvest parts of the price paid for HNV-products/-services by consumers/customers to land managers competent and interested in initiating new HNV-measures, for instance restoration of pastures (creating a system of ongoing, partly market funded HNV-activities).

Altogether this would lead to a more market driven development which is important for long-term success of HNV-oriented land management in Dalsland.

Farm techniques and management innovation

Farm techniques and management - innovation needs	Possible approaches
1) Develop the knowledge base of best practices, that is which measures should be taken on specific places with high HNV-potential.	Within the development of FOCLUM (a process design) a map-based tool called Land Use Plan (LUP) is being improved. Will be ready to use in 2017-2018.
2) Find ways to make the management of grazing animals (logistics) more efficient and by so decrease costs.	Integrate existing practical and theoretical knowledge and present successful models.
3) Private entrepreneurs carry out pasture improvements, in full consultation with graziers, landowners and public authorities.	Social and institutional innovations are needed so that the entrepreneurs get involved in a collaborative process resulting in co-production of HNV-qualities.
4) Find models for increased carbon storage in pastures, while simultaneously achieve HNV-qualities and high animal welfare.	Field experiments and on-farm research where researchers, advisors and farmers study the effect of different grazing strategies.

Farm Techniques and Management Innovation Needs

There is a big need to find more viable strategies for grazing on HNV-farmlands, and to achieve the maximum HNV-effects.

Having said this, and based on experiences from similar projects, we are convinced that cost-reducing technologies and management will emerge if the right pre-conditions regarding the social/institutional setting, the regulatory framework, and the presence of products and markets are in place.

If so, it will be economically interesting for land owners and managers to restore, manage and re-invest in HNV-farmlands. What is not as obvious, and which needs to be supported, is if the innovations give rise to the anticipated HNV-qualities.

But if management of HNV-farmlands was clearly connected to HNV-payments in new agricultural environmental schemes (f.i., "payment for results", that is, for the values and qualities created rather than for specific landscape objects), we believe that technological and managerial innovations will happen also due to pure economic incentives.

Innovations from outside the LA that could help address LA needs

A mobile and digital scale for improved animal health and productivity
National



Hälsingestintan:
A mobile abattoir
National



Economic association
Naturbeteskött
(Natural grazing meat)
National



Innovation examples for which Dalsland is looking to other Member States

- A long-term, cross-sectorial, broadly implemented and resource strong HNV-program, where best practice and science work closely together.
- Use of RDP payment schemes to support HNV grazing systems on a large scale, and apply a payment for results approach to promote these objectives.
- Local brands where a share of the price is re-invested in a fund for restoration of local areas with high HNV-potential.
- Models for increased carbon storage in pastures and other semi-natural grasslands, while simultaneously achieve positive HNV-effects and high animal welfare standards.

The probably biggest challenge is to regain traditional management on former farmlands which still have a high HNV-potential, before these areas are transformed into other land use regime and loses their potential for ever. But to make this happen on a larger scale, and for a longer period of time, it must be viable with HNV-land use management (or as viable as alternative land use options), for instance productive forests.

The innovations we are looking for need to:

- 1) support the costly restorations phase of areas with high HNV-potential, and
- 2) support ongoing management on these areas. Furthermore, the innovations need to give a clear and quite straightforward effect on HNV-qualities and they must be able to work for a longer period of time.

INNOVATION FICHES FROM SWEDEN

- 1) **F**acilitation **o**f **c**ollaborative **l**and **u**se **m**anagement (FOCLUM)
- 2) **L**and **u**se **p**lans (FOCLUM-LUP)
- 3) Techniques and entrepreneurship for HNV **p**asture **r**estoration **p**rojects (FOCLUM-PRP)
- 4) Hälsingestintan - a mobile abattoir

Sweden – innovation example 1)

Facilitation of collaborative land use management (FOCLUM)

Location: Dalsland and Bohuslän, Sweden

HNV system: Livestock, mosaic and multi-functional farming

Scale of operation: FOCLUM used in 13 municipalities, in dialogues with 400 participants, on 4 000 ha.

Timespan: FOCLUM operated for app. 7 years. The practical work has been put on a back burner since 2014 due to lack of funding.

Keys to success: The method facilitate dialogue and collaboration between actors, resulting in shared goals, joint measures and a coordinated approach for a more sustainable land use.

For more information:

<http://www.lansstyrelsen.se/vastragotaland/Sv/om-lansstyrelsen/vart-uppdrag/projekt/projekt-samverkan/Pages/project-diverse-collaboration.aspx>



Problems addressed by this example

Cessation of or discontinuing the traditional use and management of (former) HNV-farmlands

Story in a nutshell

Many land-owners at small farm-holdings are now at a crossroad: Will they turn their grassland and farmland into forest, should they try to lease the land, or even sell it? Land-owners and animal keepers are physically separated in the landscape and it is difficult for them to develop viable collaborations. Furthermore, the HNV farmland in the area consists of smaller, isolated hotspots.

The question is: What could make farmers cultivate HNV-farmland again? And how could the authorities support another development?

The key to success is dependent on a shift in perspectives: If the animal keepers searched for larger, connected areas and if organized correctly the smaller patches of farmland could create these areas, but this would only be possible if a constructive dialogue between all involved actors could be initiated and successfully facilitated over a longer period of time.

The innovation in this case is the development of a process design and a facilitated approach which enable learning and joint action based on a constructive dialogue among local actors and other relevant stakeholders, aiming for collaborative land use management.

What does FOCLUM achieve for HNV farming?

- Facilitate the process from first contact to implementation of concrete measures:
 - Identify the land area which is HNV or has a HNV-potential
 - Identify and bring together the actors whom are central to the preservation and restoration of HNV-farmland
 - Facilitate the dialogue and development of a cross-sectorial basis for decision
 - Design and facilitate a collaborative process
 - Present an overview of potential economic support
 - Support when practical measures are taken on HNV-farmlands

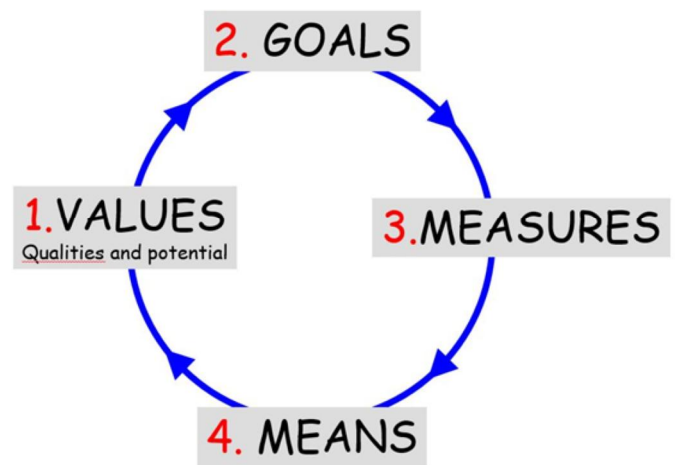


Figure 1. The process design builds on some specific phases and steps, and where additional facilitative tools are implemented or developed if needed.

Achievements

FOCLUM was a response to the need to facilitate network-building, dialogue and to develop joint basis for decisions regarding land use issues, not least in relation to HNV-issues. The approach and process design has, until today, resulted in restoration of app. 500 ha, that land management on many farms have become more oriented towards HNV (a couple of thousands ha), and that many landowners have chosen to put aside parts of their estates in different forms of nature protection (a couple of hundreds ha).

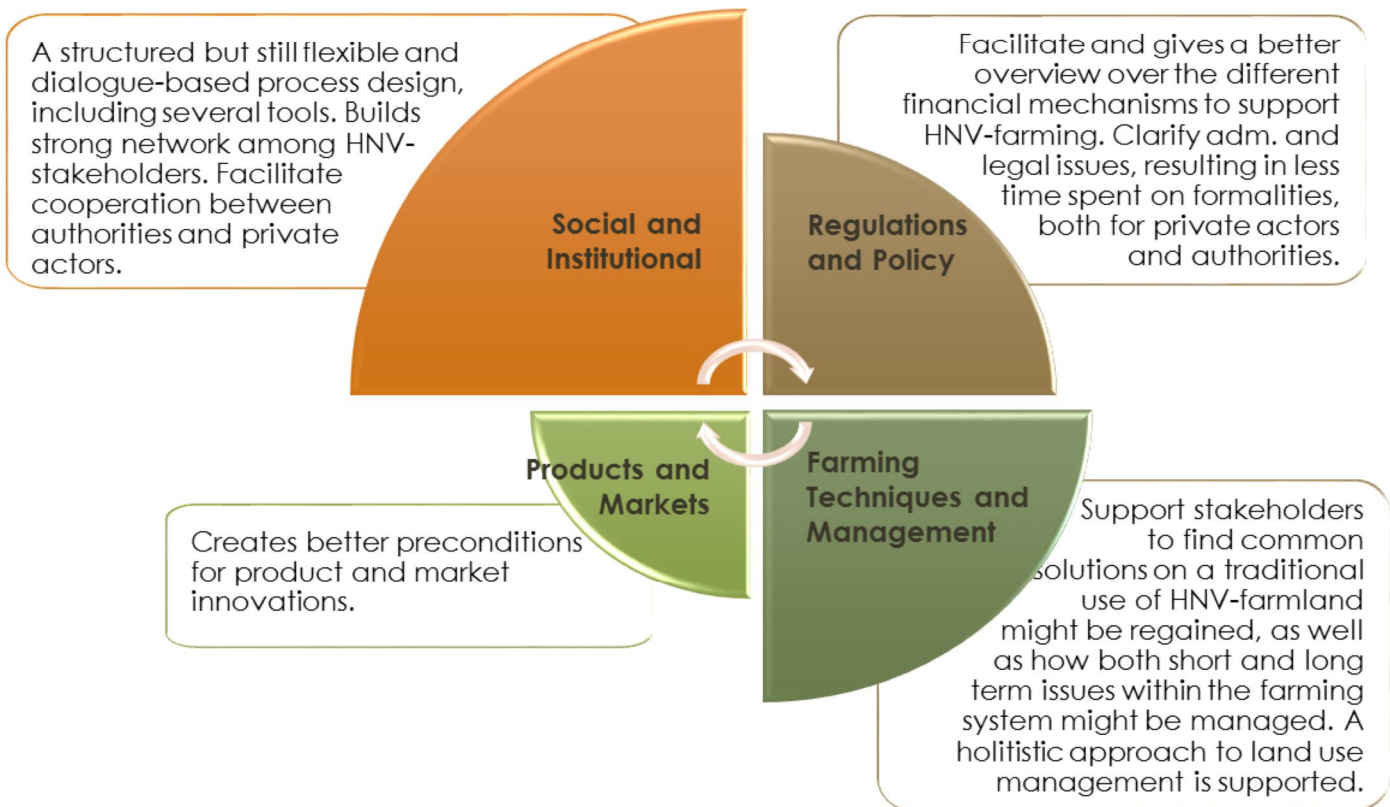
Economics of HNV farming

The applied method has resulted in a number of new or extended animal husbandries and that the turnover of these farms have increased.

Maintaining or improving HNV values

The method has a clearly expressed HNV-focus and evaluations of regained, traditional management has shown clear and positive HNV-effects. The processes the method facilitate is usually long-term. To reach the highest possible HNV-qualities it is necessary that the supporting actors, f.i., public authorities and research institutes, have a long-term commitment. There is also a need to have competent facilitators (with relevant experience) to coordinate and strengthen the work, as well as basic funding to take initiatives and to take care of the outcomes of the process.

How does FOCLUM respond to the HNV LINK innovation themes?



The core of the method (innovation) is mainly social and institutional. Less so an issue of farming techniques and management, and even less related to regulations and policy. There is no strong connection to the development of products and markets *per se*.

We believe this is reasonable and that all four categories does not necessarily need to be treated equally. Rather, our experience is that a strong focus on social and institutional innovations creates the best preconditions for innovations in other areas.

The process that made it happen and critical factors for success

- A will and commitment from land owners, animal keepers and other local actors to support HNV-farming
- A willingness, competence, continuity and sustained effort from core individuals at relevant authorities
- Time (money) to develop the method, to build network and trust, and to create a common ground
- Funding to realise concrete HNV-measures



Some 15 years ago the authorities interacting with land-owners in the area managed their affairs without much contact with each other, although some issues were about managing the same estates or land areas (the County Administration and the Swedish Forest Agency). But there were persons in each organization that experienced that they, in their professional roles, were not able to support land-owners in an efficient way by not communicating with each other, and by not working with a systemic approach. In fact, they struggled with their professional role as well as the ways in which their organizations should work in relation to the farmland managers. Although having a deep understanding and a good ambition, they realized that the way they worked would not be sustainable in the long run.

To overcome the challenges surrounding the HNV-farmlands in the learning area the County Administration in 2007 applied for and also got funding to develop a new working approach to make land-owners and animal keepers collaborate and by such measures help conserving HNV-farmland. The project broadened its scope in 2009, was pre-longed in 2013 and was, as a project, ended in 2014. For each year the collaboration between the authorities was strengthened, but most of all a strong network of farmers in the area had been established and several examples of successful collaboration developed.

Since 2015 this working approach lacks funding. Furthermore, the funding for restoration projects on HNV-farmlands, as in the earlier initiatives, has ceased. In practice this means that new initiatives are not taken, and existing engagement and interest not taken care of. No doubt there is a will to start working with the same or similar approaches again among many local actors. During our workshops in the LA Dalsland in spring and summer of 2017 this was also clearly stated among participating stakeholders.

Lessons learnt from this innovation example, and its potential replication

- The importance of willingness and a commitment to HNV-measures among local actors
- The method works well to strengthen HNV-qualities, but demands training and continuity
- Long-term funding for working time and specific measures is very important
- The method has a big potential for replication
- If the crucial issue of funding is solved, the method will have a big effect on the HNV-qualities in the landscape



Before initiating the first project in 2007 there were some doubts that the local actors, especially land owners and animal keepers, would not be enough interested in HNV-issues. Especially that they would not be committed to do specific measures. These doubts proved to be unfounded. The interest was very big.

Another fear was that it would not be possible to find enough grazing animals for the areas which were identified as desirable and feasible to restore. Also this has shown to be unfounded. When actors collaborate and make a thorough preparatory work, that is tries to find holistic solutions so that the preconditions for animal keeping in an area is as good as possible, there has always been HNV-oriented animal keepers that has come forward and shown an interest and high competence.

In Dalsland and Bohuslän there is a variety of natural environments, from coastal zone to forest areas, and in all these environments the methods have shown to work well. Therefore it should have a potential to be replicated to other countries, regions and natural environments.

Long-term funding of competent individuals is a prerequisite for continuity. Such a continuity among core persons is important to be able to build on already made experiences, existing networks, established trust and social capital. It takes time to build such capital in an organisation, why a strategy must exist on how to secure long term funding, training and commitment among key employees in these organisations. Furthermore, some kind of financial support to farmers who aim to do important HNV-measures are necessary. This are measures which society at large benefit from, why public support is relevant. In the long run, a combination of public support and market solutions are probably the most common solution.

Sweden – innovation example 2)

Facilitation of collaborative land use management; Land use plan (FOCLUM-LUP)

Location: Dalsland and Bohuslän, Sweden

HNV system: Livestock, mosaic and multi-functional farming

Scale of operation: At present the method has been used on app 2.000 ha.

Timespan: FOCLUM-LUP operated for approximately 3 years. The practical work ended 2014 due to lack of funding. Got new funding 2017 to develop the method.

Keys to success: The method conclude and visualise the discussions held between actors, which enable them to reach common ground, set up joint goals, prioritise among measures and coordinate concrete measures to achieve a more sustainable land use.



Problems addressed by this example

The need to structure the dialogues and collaboration between actors working with complex land use issues.

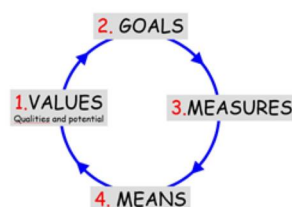
Story in a nutshell

When the work with Facilitation of collaborative land use management (FOCLUM) had been going on for some years the process involved app. 30 different groups and on different places in Dalsland and in the nearby sub-region Bohuslän. To make the work in these different groups more efficient a number of dialogical and learning tools have been developed. Some were necessary to use in all groups/on all locations in processes related to HNV-farmlands. These tools were later on combined in a kind of GIS-based tool-kit which we label Land Use Plan (LUP).

This integrated tool becomes the hub in the FOCLUM-process by helping the participants to realise where they are in the process (as well as what they have done and where they are heading). The tool can visualise all perspectives and qualities which the group needs to agree upon, it can manage both specific objects as well as the landscape level, and it covers the time line from historical land use to today's and future, potential land use. The tool is used to visualise specific goals for different areas of a property, potential measures and economic issues. As such the tool facilitates the shift from the planning phase to the action phase.

What does FOCLUM-LUP achieve for HNV farming?

- Structure, visualise and document the data which the FOCLUM-process generates
- Visualise a BAU-scenario and one or more HNV-scenarios
- Give a basis for decision on how to realise a HNV-scenario and support the implementation



Perspective y
→

Perspective x
→

Perspective w
→

Perspective v
→

1. VALUES Qualities and potential



BAU-
scenario

HNV-
scenario

Maintaining or improving HNV values

FOCLUM-LUP, the land use plan, facilitates dialogue on HNV-issues and has proven to be effective for this purpose. The integrative tool has also supported planning and implementation of concrete HNV-measures.

The LUP is used in all steps of the FOCLUM-process, where there are perspectives and data which would benefit from being better structured, documented, visualised and deliberated. The tool is used in all four steps of the FOCLUM-process: 1. Values, 2. Goals, 3. Measures, and 4. Means.

The example given illustrates how the documentation might look like and the visualisation of step 1, the values inherent in different perspectives.

- First the participants in the group decide which perspectives that should be taken into account. Often this deliberation results in 10 to 15 different qualities regarding the environment, economy and the social situation. The picture shows four out of twelve perspectives which were considered around a lake in Dalsland. The left column shows a potential BAU-scenario.
- When applying this method one estimates how each specific quality, on each part of a specific landscape, will develop during a ten years period, based on how land use and management is developed. Dark colours represent low qualities, the colourful high qualities in the landscape. The right column shows one possible HNV-scenario in ten years time, based on assumptions on how land management is changed and based on specific goals (further discussed under step 2 on Goals).

- The fact that the local actors in the group together deliberate on levels, and potentials, of different qualities and in different parts of the landscape, as well as identifying the trends affecting them today, lay a strong foundation for an increased understanding of the dynamic complexity in their land use and land use decisions. But this is a necessary dimension of the collaborative learning process if it are to result in shared HNV-goals to all involved feel committed.

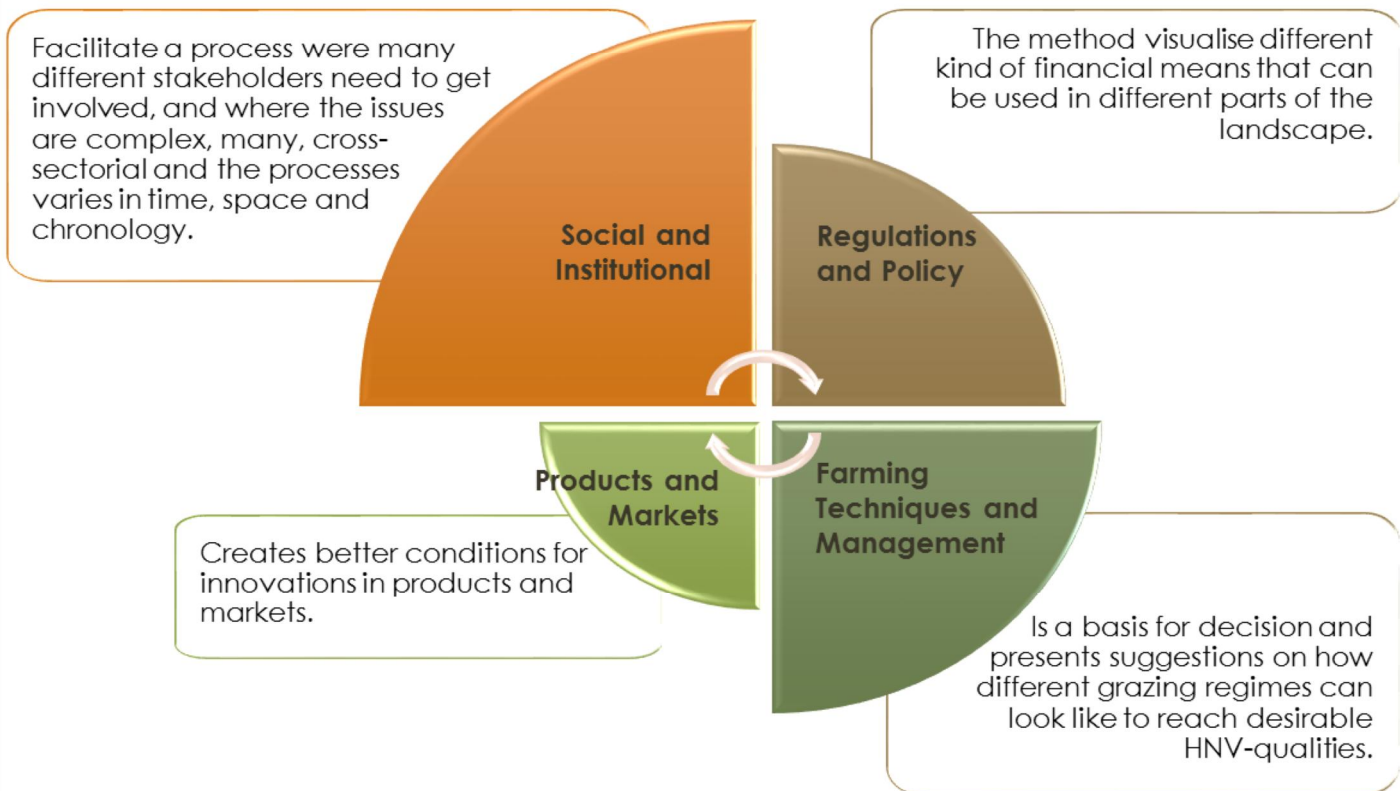
Achievements

In each group where the tool has been used we can see that land management has, by part, shifted to become more HNV-oriented. On most locations the dialogue has led to that land owners and managers agree upon some form of agri-environmental scheme or protection.

Economics of HNV farming

So far no study has been done which study this aspect.

How does FOCLUM-LUP respond to the HNV LINK innovation themes?



The overall aim with LUP (Land use plan) is to create as good preconditions as possible for constructive dialogue in the FOCLUM-process. Focus is on social and institutional innovations. If the conversations are successful other tools or competences could be added to the process, for instance to develop business models for new products and markets.

The process that made it happen and critical factors for success

Funding of the earlier FOCLUM-projects meant:

- A possibility to establish a network among HNV-actors
- Identify bottlenecks and possible solutions for HNV-farmlands
- Develop material to be used to facilitate dialogue and deliberation
- Test and train
- Identify areas for improvement
- New projects on method development



Without earlier FOCLUM-projects between 2007 and 2014 the need for a tool like LUP – the Land Use Plan – would not have been identified. Based on experiences made when participating in and facilitating groups working with HNV-issues we were able to capture ideas on how the dialogues and the collaboration in these groups could be made more interesting, well grounded and efficient.

Over the last two years the further development and implementation of the concept has been on standby due to lack of funding, but recently the Swedish Board of Agriculture has granted funding for us to develop a handbook on methods, to further develop the technical part of the tool and develop examples of Land Use Plans for 1.000 ha.

Lessons learnt from this innovation example, and its potential replication

The tool has proven to be efficient in facilitating dialogue and learning on:

- Qualities; from objects to landscapes.
- Time frames; historical land use, as well as today's and future management
- Different scenarios; BAU and HNV-vision can easily be compared
- Decisions; For instance on future goals of land use, desirable measures and possible financial support.
- Synergies; The dialogues on the process design often leads to that potential goal and value conflicts is managed constructively and joint measures taken.



We believe that the tool has been successful and efficient when structuring and facilitating dialogue between the participants in the multi-stakeholder groups involved. It has given us a common language, facilitating dialogue and learning, and has increased our ability to identify shared goals as well as solutions on complex and multi-faceted challenges.

Our opinion is that the tool ought to be possible to be used also in other countries, environments and for all kind of HNV-issues. A handbook on the methods in English should be written and the persons supposed to be working with the approach and tools trained together with experienced users.

Sweden – innovation example 3)

Facilitation of collaborative land use management; Techniques and entrepreneurship for HNV pasture restoration projects (FOCLUM-PRP)

Location: Dalsland and Bohuslän, Sweden

HNV system: Livestock, mosaic and multi-functional farming

Scale of operation: A couple of hundreds hectare

Timespan: Has operated for app. 7 years

Keys to success: Entrepreneurs with an interest in HNV-farming, and with broad and deep competence as well as an ability to collaborate with both authorities, animal keepers, land owners and other HNV-stakeholders.



Problems addressed by this example

Land owners usually do not have the time nor access to resources, for instance machineries, or experience enough to restore semi-natural grasslands in a way which give us successful results.

Story in a nutshell

An entrepreneur based in the neighboring county to the Learning Area has developed a service package directed toward HNV-pasture restoration projects. The company offers a number of services, and can help a land owner through the process from making the first plans to the first grazing seasons. The services are directed towards restoring former HNV-land that has been deforested, either due to plantation or spontaneous overgrowing, a situation that is the starting point for the most of the HNV restoration projects in the learning area.

In developing the techniques for the restorations, the entrepreneur has invented several machine adaptations, for example a rebuild harrow adapted for assembling branches that are left after felling the trees.

What does FOCLUM-PRP achieve for HNV farming?

- It offers services for restoration of HNV-farmlands, either for specific parts of such projects or as a prime contractor.
- Cost efficient with good impact on HNV-qualities.
- The implementation phase of the FOCLUM-process is facilitated.
- Could be used for HNV-measures also outside of the FOCLUM-process, where the context might be less complex.



Achievements

The entrepreneurial firm participating in most HNV-restoration projects has been working with app. 200 ha semi-natural grasslands. Sometimes the land owner want a prime contractor, sometimes services for specific measures. All different parts needed for a successful restoration is delivered, but based on needs and the level of ambition. The firm can also support with grazing animals during the restoration project and take responsibility for the sometimes quite complex administrative work. Altogether, this firm has worked with app. 30 land-owners during the project period. FOCLUM-PRP has proven to be an efficient tool to implement the goals which the FOCLUM-process and the FOCLUM-LUP-tool has generated.

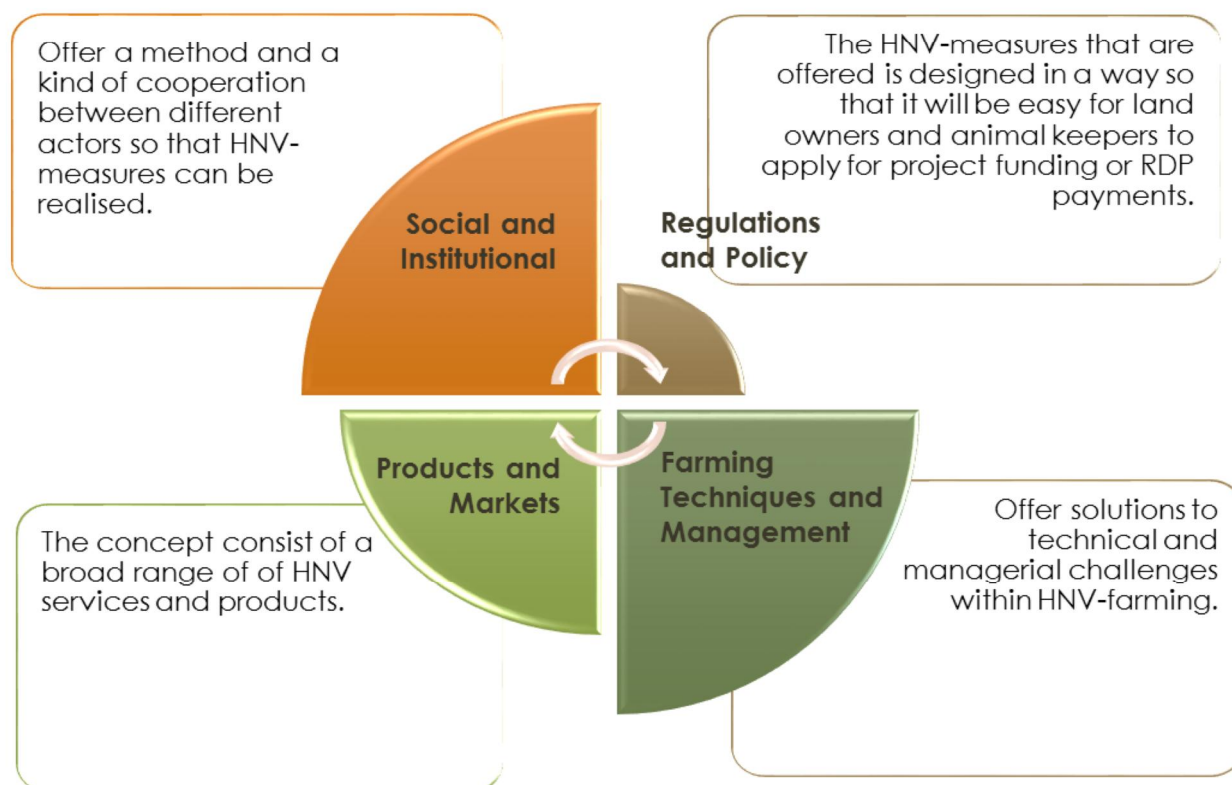
Economics of HNV farming

The restoration projects are less expensive and with a better end-result if the entrepreneur take the whole responsibility for the implementation phase (to be compared with a situation where you work with many different entrepreneurs without any professional coordination). The potential to make restorations in a cost-effective way, and where the animal keepers does not have to spend unnecessary time, has made the preconditions for future restorations more favourable. In some areas and processes this might have been the final factor that made land owner and animal keepers to dare to go for a bigger restoration project.

Maintaining or improving HNV values

All individual operations have been developed so that they generate as high HNV-effect as possible and could both lead to maintenance and improvement of HNV values.

How does FUCLUM-PRP respond to the HNV LINK innovation themes?



This innovation helps us manage challenges in all four categories of innovations.

FOCLUM-PRP is used in a phase where land-owners, animal keepers and other HNV-actors move from dialogue and deliberation on specific HNV-goals to the implementation of measures needed to reach the goals. Therefore, it is not strange that the main part of this innovation lies in the field of Farming techniques and management. Making implementation work is nevertheless strongly related to the other innovation areas.

From another perspective one would perhaps argue that FOCLUM-PRP is an innovation in Products and markets because the entrepreneur deliver a mix of services and products which facilitate customers possibility to reach their goals. It is also services which are traded on an open market.

Or, from another angle, the innovation could be seen as a social and institutional innovation because it gives us a working approach so that we can do concrete HNV-measures.

The process that made it happen and critical factors for success

- A common need for cost-effective restorations with the best possible HNV-effect.
- Project funding were available, both to enable time spent on development among advisors and to finance concrete HNV-measures.



Before this concept was established land owners and animal keepers had, with support from the County Administration and the Swedish Forest Agency, made restorations on their own or by hiring specialized entrepreneurs for different measures. All actors felt a need for a more coordinated, cost-effective and HNV-oriented approach.

After having tested the new approach, the County Administration found that the way the entrepreneur organized and did the restoration was much more efficient and with higher quality compared with before. Also for the land owners the process became much smoother. As an individual land owner you does not do many restorations during a life-span, but as an entrepreneur you could develop your skills and the technologies for each project you became involved in. Today the entrepreneur has trained employees and a specialized machinery to fits its purpose.

It has mainly been two factors that has been important for this innovation to exist. One is that there has been financial resources for this kind of restoration projects with enabled employees at the authorities to coordinate activities and to develop the method/process design (FOCLUM). This enabled them also to spend much time interacting with farmers and entrepreneurs. The second factor has been the availability of public project funding (within RDP) for restoration-projects on overgrown semi-natural grasslands. This has been necessary for land owners whom otherwise would have had hard time paying the entrepreneur for their services.

Lessons learnt from this innovation example, and its potential replication

This is an efficient HNV-tool if:

- It is part of an overall HNV-process such as FOCLUM
- A good basis for decisions has been developed for HNV, for instance by FOCLUM-LUP
- All actors have planned and prepared themselves so that they have the economy to pay the entrepreneur during a restoration phase.
Consequently, this could mean that possibilities for such project funding must be available under the RDP.



Our experience is that FOCLUM-PRP is a very effective tool to make HNV-restorations of high standard, but also as part of other measures on landscape and object level. In complex projects the implementation must be based on a process which has developed strong drafts for decisions and trust among involved actors (f.i., FOCLUM-LUP). The restoration projects benefitting from FOCLUM-PRP is often part of long-term initiatives which per se create a strong foundation (f.i., through the FOCLUM-process) for actors to finally deliver the desired HNV-qualities.

Where you have capital strong land owners they can start restoration projects without public support. But our experience is that a close dialogue with authorities still is necessary. It has often meant unnecessary work for the entrepreneur if not some procedures are taken into account, as well as some missed opportunities to create high HNV-qualities. When working with this innovation and tool, it is important to keep in mind that the preparatory work, the dialogue and network arrangements, the challenge of future land management, issues related to economy, etc., all are parts of a bigger process, where the chain is not stronger than the weakest link.

Sweden – innovation example 4) **Hälsingestintan - a mobile abattoir**

Location: Järvsö, Hälsingland, Sweden

HNV system: Livestock

Scale of operation: National in Sweden

Timespan: Hälsingestintan was founded in 1999 as a reaction to the poor range of meat in Swedish food stores

Keys to success: They have been successful in integrating their overall vision of animal ethics and quality meat, with managing technological and juridical challenges for mobile abattoir, as well as issues related to traceability of products and marketing solutions for customers.

For more information : <https://www.halsingestintan.se/eng/>



Problems addressed by this example

The new focus on "ethical" meat and the unique concept of traceability for consumers down to farm and single animal level offers many opportunities to also include the biodiversity provided by HNV-lands in the concept.

Story in a nutshell

As Europe's first mobile abattoir for fully grown cattle, Hälsingestintan offers an on-farm slaughtering. The process of starting up the initiative was motivated by a wish to provide consumers with "ethical" meat, where the animals have suffered minimal stress during slaughter. The company has a strong focus on meat quality, something that is improved by the low-stress slaughter. This interest in meat quality also means that the company are interested in slaughtering and buying meat from farms with grass fed animals. The company has a few contracted farms in the learning area, and the initiative is helping to strengthen the pasture based cattle production, even though it is not specifically directed towards animals bred on HNV-pastures.

What does Hälsingestintan - a mobile abattoir, achieve for HNV farming?

- This concept was not originally developed to specifically support HNV-farming, the focus was on ethics and quality meat, but it can easily be used and adapted with a stronger HNV-focus.
- Could easily serve as an example of traceability and marketing.



Achievements

The mobile abattoir were presented in 2014 by Hälsingestintan in cooperation with animal scientists and veterinary surgeons, and the business started the following year. The company has grown, and the abattoir is now going on full capacity. Hälsingestintans investment in mobile slaughter of adult cattle is the first in Europe. The design is completely autonomous, with its own electricity, its own water and own heating. The company has a handful contracted farms in the learning area, and the interest seems to continue to rise among farmers and consumers. It has been on the forefront both when it comes to mobile slaughter of adult animals, as well as applying new technologies for increased traceability.

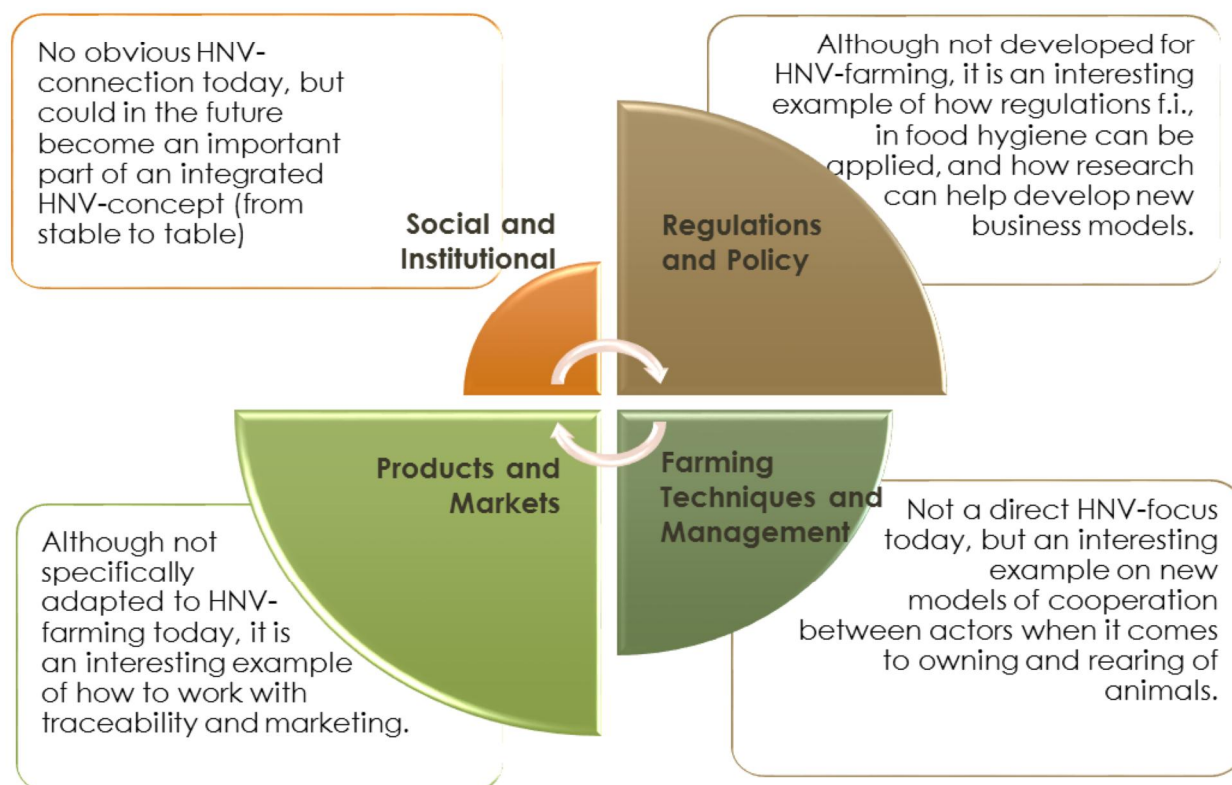
Economics of HNV farming

Data is not available on the economic impact for HNV farms.

Maintaining or improving HNV values

So far the results on HNV-land are uncertain, since the main focus of the innovation is on animal welfare and meat quality. However, the potential to include a HNV perspective is promising.

How does Hälsingestintan - a mobile abattoir, respond to the HNV LINK innovation themes?



One issue that many Swedish producers struggle with is traceability. Consumers might want to be sure that the meat comes from animals that actually has grazed in areas with high HNV-qualities. Hälsingestintan has solved the challenge by using modern technologies enabling the consumers to know the origin, quality, breed, and age of the meat they buy. In short this is how the labelling it works:

1. The animals are equipped with electronic transponders (RFID technology) in the ears when they are born. The tags have an unique ID-code that can be linked to the animal's birthday, breed, farm, etc. via a database. This provides a secured identity as well as a number of logistical benefits during the animal's growth and handling - it is possible to register weight development and possible medical treatments.
2. At the slaughter, each animal ID is reported in the database. The information is then added with slaughter inspection results, such as classification and weight. Whether the animals are labeled electronically or not, they are labeled at the slaughter, when the animal's ID information is transferred to a bar code label that accompanies the hanging ring.
3. When the animal bodies are to be cut, the barcode is read off. When the details are packed for delivery to store, the information accompanies the label that is pasted on the detail in the form of a QR code.
4. On each meat packet, there is direct information about the sex, age, breed, and from which farm it comes. In addition, each tray has its unique QR code that can be read by using a smartphone. When scanning, you get detailed information about the farm and the animal, recipes for cooking and information about Hälsingestintan. This kind of solutions regarding traceability might be interesting to look at for existing and future HNV-products.

The process that made it happen and critical factors for success

- The company had a vision of being able to deliver “ethically meat” slaughtered in a new way. From that vision emerged the idea of a mobile abattoir.
- Moving from idea to realisation the company has cooperated closely with researchers in animal welfare, and food hygiene, and been in constant dialogue with relevant authorities.
- Another important factor has been the big interest in the Swedish society for animal welfare issues.



We have not had the opportunity to investigate in detail the emergence and development process behind this innovation, nor the critical success factors.

Lessons learnt from this innovation example, and its potential replication

- This innovation shows that complex challenges in both technical and legal issues can be managed if relevant stakeholders get involved in a constructive process.
- There are good possibilities for other countries to use similar solutions, and the concept has already been introduced in France.



The company introducing this innovation in the learning area has a strong focus on animal welfare and food quality, and so far the ecological perspective has been secondary. There is however many possibilities in using similar types of solutions, such as the traceability and the mobile abattoir solution in initiatives that are more focused on HNV-conservation and biodiversity.

Adapted towards a focus on the HNV-qualities of farming, this could be an important tool in building awareness about biodiversity and landscape ecology among consumers and distributors.