

# **Sustainable Co-Operation Between Real Properties to Provide Foundation for an Improved Environment (4071)**

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**Key words: Jointly, Joint facility, Rural development, Ostrom, Benchmarking, Sweden**

## **SUMMARY**

The Swedish Cadastral system makes it possible to form a co-operation between real properties, the formation of a so-called *Joint facility*. A joint facility is distinguished by collective self-management of a facility belonging to several real properties. A cadastral procedure enables the formation of a joint facility. The cadastral surveyor has a unique role as a leader of the process and makes decisions. The management of joint facility is held by the owners of the real properties belonging to the joint facility and will operate according to well defined rules. All in all, the Swedish system consists of straightforward rules for the procedure and is unique from an international perspective.

This paper discusses examples of joint facilities mainly adjusted to rural conditions and used for small-scale facilities. The examples additionally highlight how this kind of co-operation can contribute to positive rural development having benefits for society as well as for the private user.

Swedish legislation regarding joint facilities and their management have in addition several interesting connections to the 2009 Nobel Prize Winner in economics Elinor Ostrom and her research and theories on sustainable use of common resources. Many of the elements that Ostrom points out as compulsory for sustainable co-operation are comparable to the Swedish system for Joint facility. Some of these are

- a well-defined group of participants,
- a well-defined facility,
- the rules for co-operation are adjusted to the conditions of the facility and its participants,
- the users are able to influence the rules for co-operation
- and there is an arena for communication and problem solving.

Future societies will be more focused on renewable energy and climate change and how to solve these issues. Various types of co-operation are expected to be more important and to be even more vital in that perspective. In the countryside these can be local facilities for energy, local food production, cooperation for environmental improvement, collective water ponds in forest, nitrogen traps, and facilities to protect against flooding. Joint facilities can especially on a local level be a way of providing sustainable co-operation to support rural development and create a healthy environment for the present and for the future.

## SUMMARY IN SWEDISH

I Sverige ges möjligheter till samverkanslösningar mellan fastigheter genom att för en gemensam resurs/anläggning bilda det som kallas gemensamhetsanläggning. Det är en form av kollektiv självförvaltning av en resurs/anläggning tillhörande flera fastigheter. En gemensamhetsanläggning bildas vid en lantmåteriförrättning där förrättningslantmätare har rollen som processledare, förhandlingsledare och beslutsfattare. Efterföljande förvaltning sköts av ägarna till de deltagande fastigheterna efter tydliga regler. Det svenska systemet innebär enkla förfaringsregler utan onödiga formkrav och är unikt internationellt sett

I artikeln beskrivs exempel på tillämpning av småskaliga gemensamhetsanläggningar huvudsakligen anpassade till landsbygdsförhållanden. Exempelen belyser också hur denna form av samverkan kan medverka till positiv landsbygdsutveckling och positiva effekter/nyttor för såväl samhället, det allmänna som för den enskilde användaren.

Det svenska systemet med gemensamhetsanläggning och dess förvaltning har också flera intressanta kopplingar till 2009 års nobelpristagare i ekonomi Elinor Ostroms forskning och teorier om uthålligt handlande av gemensamma resurser. Flera av de faktorer Ostrom belyser som nödvändiga för uthållig samverkan kännetecknar det svenska systemet med gemensamhetsanläggningar. Detta gäller framförallt

- att kretsen av deltagare är tydligt definierad,
- att resursen/anläggningen är tydligt avgränsad,
- att reglerna för samverkan är anpassade till anläggningens och deltagarnas förutsättningar,
- att användarna är med och kan påverka reglerna för samverkan
- och att det finns ett forum för kommunikation och eventuell konfliktlösning.

För framtiden med ökat fokus på förnybar energi och klimatförändringar förväntas samverkan och kollektivt handlande bli allt viktigare och få allt större betydelser. Det kan gälla lokala energilösningar, lokal matproduktion, samverkan för att förbättra miljö, kollektiva vattendammar i skog, sk. kvävefällor och anläggningar som skydd för förväntade vattenöversvämningar. Kollektivt handlande genom gemensamhetsanläggning kan speciellt på den lokala nivån vara ett sätt att nå långsiktigt hållbara samverkanslösningar och som kan bidra till landsbygdsutveckling och forma en livsmiljö också för kommande generationer.

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## **1. INTRODUCTION**

The Nobel Prize Winner in economy year 2009, Elinor Ostrom, has theories about how a group of users handle common resources successful. Her theories are paying attention to several factors for successful co-operation. In her book *Governing the Commons* she presented studies from different areas in the world where cooperation with common resources work out sustainable and successful.

In the European Union and also in Sweden we spend great deal of resources, economically, to make arrangement to develop rural areas and to emphasize value in the countryside for living, for business and for visitors.

In this paper the Swedish cadastral legislation regarding *Joint facility* for co-operation of collective resources between neighbors and owners of real properties will be introduced as well as some examples of adaptation. Regarding Ostrom's scientific theories the Swedish system is especially of interest to introduce and identify. The examples will be focused on joint facilities, located in rural areas and mainly used in small-scale facilities, and paying attention to the way they contribute to positive development for ambient environment and good atmosphere.

## **2. LEGISLATION.**

A joint facility is a title for a real property – it's owner- to co-operate and use a common facility together with other real properties. The Swedish legislation regarding joint facility was introduced 1973 and is called: the act of "*Establishment of joint facilities*". A joint facility is formed in a cadastral procedure and a cadastral surveyor is the leader for the process.

The role as a cadastral surveyor is unique; the cadastral surveyor is authorized to make legal economic as well as technical decisions. The decisions made by the surveyor are to be regarded as a first judicial instance. Therefore the cadastral surveyor is employed by the state or the municipality.

A qualification to form a joint facility is that the facility applies a permanent purpose for actual real properties. Joint facilities are frequently used to solve management and administration of private roads in the countryside, bathing places, garages and playgrounds in dwelling areas. Other examples can be co-owned facilities for sewage, drinking water, telecommunication, different kind of heating facilities. Furthermore, a joint facility can be formed for new as well as for old facilities.

The real properties which belong to the joint facility are called a joint property unit. This unit shall manage and administrate constructing and operating the facility. The area which is necessary for the joint facility is collective title of right belonging to all participating real properties.

The costs for construction and operation correspond to the participatory share of each real property. The share for construction depends on the benefits of each real property. The share for operation is in proportion to the actual usage of each real property. Temporary circumstances depending on the owners behavior is disregarded.

Legislation states the requirements to form a joint facility. For example it is compulsory to follow common restriction and plans for land use and for private interests. Some of the requirements can be set out if the owners of the real properties have an agreement. Another rule is that a real property owner never can be forced to participate as long as the facility is not necessary for the purpose of the real property. Nor can a real property owner require that his participation be accepted in a joint facility if the joint facility is not necessary for the use and purpose of his property. Finally there is a rule that states that the benefits must be larger than the costs of forming a joint facility.

The characteristics of a joint facility are

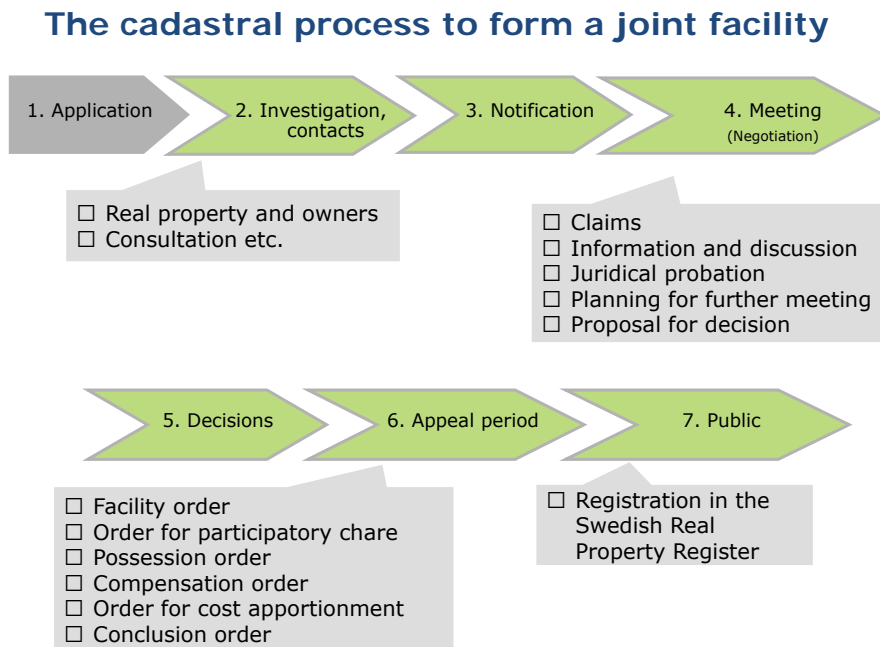
- The facility is owned jointly by more than one real property (participant)
- The participants is united to the real properties
- The facility can consist of utilities to the real property which is necessary for its purpose and sustainable on a long-term basis. The facility can e.g. be private roads, sewage, heating facilities, energy facilities and bathing places.
- The owners of the real properties co-operate and have rules how to construct and operate the facility
- The costs for construction and for operating the facility are paid by the participants and are shared in relation to every participatory share.

Some more characteristics

- Economic benefits, totally less costs compared to individually separate facilities
- Distinct rules for management and administration
- Distinct participators-real properties
  - Legal decisions are also valid for future owners
  - The organization for participants are assure and sustainable
  - The group of participants is stable - economic safety,
- This form of co-operation assures the participants in long term - if new circumstances occur a cadastral procedure can change the rules for co-operation
- Space for facilities can be served outside the area of participants real properties
- As a real property owner, one has the power to influence how to manage the joint facilities.

### 3. THE PROCESS

The process of forming a joint facility is almost the same as the cadastral survey process. The process can start when an application is sent to the cadastral survey office. The process consists of following components.

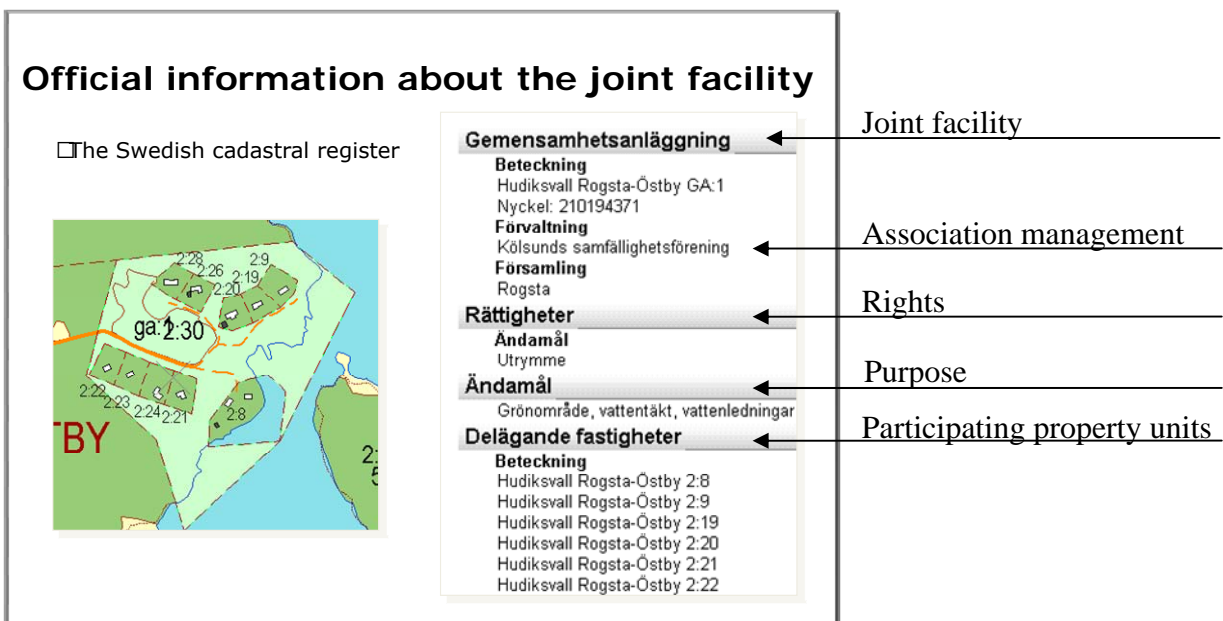


The cadastral surveyor is the leader of the process and responsible for the whole process. Meetings are held for interested parties and minutes are written. After negotiations the cadastral surveyor makes decisions. The decision to form a Joint facility is called facility order.

The decision consists of

- The purpose of the joint facility, spatial position, size, and the conditions
- Participants - real properties
- Spatial area for the facility
- Real properties for compulsory purchase
- Dead line for when the facility is to be constructed
- Special regulations for managing the facility

The cadastral surveyor shall also make a decision about participatory share, compensation order, possession order and finally a conclusion order. The orders can be contested from e.g. interested parties, owner of participant real properties. If no one contests the cadastral orders the decisions can be registries in the Swedish Real Property Register. This register is public. The following illustration shows some examples.



If a joint facility is not constructed in stipulated time the facility order is lapsed. Changes e.g new participatory share can be ordered in a new cadastral process. There are also some simplified rules for new circumstances. Agreement among the participants can also change participatory share. Also the joint property management association can make agreement with a separate owner of a real property. Changes in participatory share and participants can also be done together with other cadastral processes. Another possibility is when a joint property management association has the title to change participatory share if a real property changes in purpose and how it is used.

#### 4. MANAGEMENT

The Swedish regulation for management of a joint facility was introduced 1973 in act *Formation of joint property management associations*. Two kinds of management are possible

- part-owner management
- or association management

If there is no decision about the management from the cadastral process, the management will automatically be as part-owner management. If a joint property association is formed the management will be held as association management.

Part-owner management means that all participants must agree on all arrangements concerning the facility. If the participants' don't agree it is possible to let the land surveyor arrange a meeting for negotiations and decisions. This manner, part-owner management, is inconvenient if there are less than 5-6 participants.

An association management is a juridical person. This type of management is often formed at the same time as the joint facility is ordered. Interested parties and also the land surveyor can claim for this management, especially when there are several participants.

The governing body is responsible for managing the joint facility. Normally, for the participants there is a yearly association meeting for communication and decisions. Decisions are taken according to majority voting. Depending on the type of issue there can be different levels of majority qualifications.

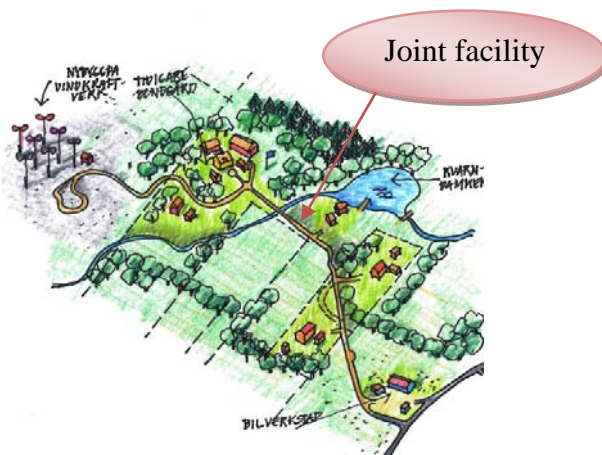
As the management is a juridical person there is also a possibility for the association to secure bank loans. All participants' real properties can be used as pledge and the bank has a priority right in each of these real properties.

An association management is registered in a special official register; *Register of joint property management associations*. The contents of the register are e.g. information about members of governing body, what kind of rules form the management and the articles.

## 5. EXAMPLES OF ADAPTATION AND BENEFITS

The following will describe, overall, some situations for co-operation through Joint facility. The examples are mainly from small-scaled facilities adjusted to rural areas. The examples will also give ideas of how this kind of cooperation give opportunities for positive rural development.

### Private road

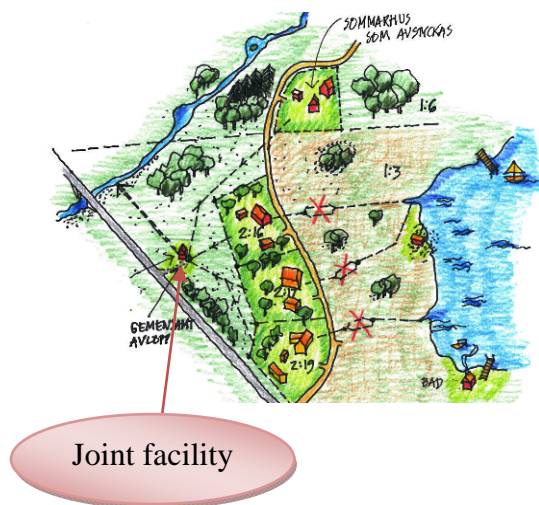


E.g.

BEFORE; there is no co-operation for managing this private road. The standard is very bad and collective arrangement as rebuilding and put on gravels is necessary as there is planning for new enterprises and new user of the road.

AFTER; A Joint facility is formed together with the cadastral surveyor. The cost for new construction and for yearly management is shared in a fair way by participatory share. An association management solves the management with distinct rules and all user of the road have possibilities to influence the handling in long term. The users also have a distinct arena for communication and decisions.

## A facility for private sewage



E.g.

BEFORE; three permanent living houses have separate old facilities for sewage which are not good for the environment also this solution is not accepted by the municipal. One summerhouse in neighborhood also wants to install a toilet. It is necessary for everyone to do something.

AFTER; they did, jointly it together. A joint facility for jointly sewage is formed by the cadastral surveyor for these four. This facility is correct for the environment and the cost for construction and management is shared in a fair way by participatory share. The area for the new collective facility is located on areas belonging to a neighbor, a farmer. And there is an agreement and a decision for a title of right.

## A small-scale energy facility; Geothermal heating system



E.g.

BEFORE; each of three residential buildings has heating system running with oil boiler. The boilers are old and the owners want to change system and use renewable energy for the heating. The houses are located on different real properties and has different owners.

AFTER; all three owners make an agreement. The cadastral surveyor forms a Joint facility for construction and handling a system by geothermal heating. They co-operate and invest in a collective drill hole, pipes, culvert to each house. The facility belongs to each real property and a transfer of ownership doesn't change the asset. Instead of making a single system with separate drill hole and so on for each house they co-operate. They do it in a sustainable way by a Joint facility.



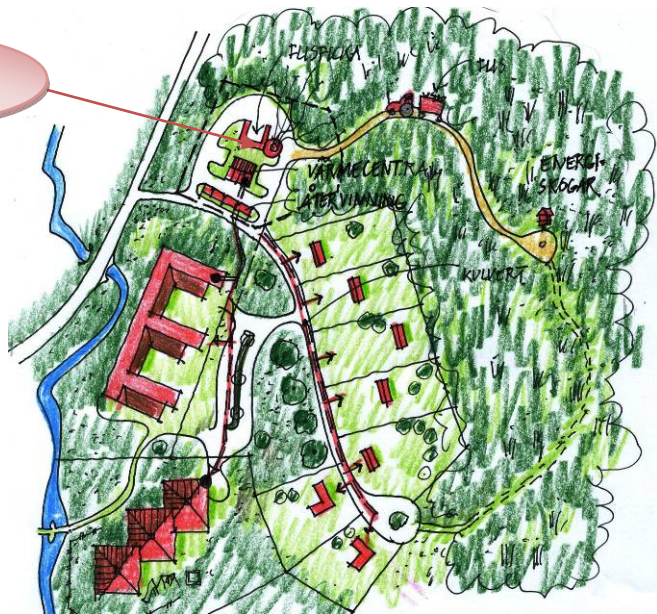
## Bio energy with material from the forest

Joint facility

E.g.

BEFORE; four farmers are each supported from their farming. They want to develop their farming and need to improve their incomes. They plan jointly to refine energy from forest.

AFTER; they co-operate and invest in a thermal heating system using material from their own forests. They sell and supply houses in neighborhood with heating. The co-operation for this heating system is formed as a Joint facility and is ordered by the cadastral surveyor.



## Wind power

Joint facility

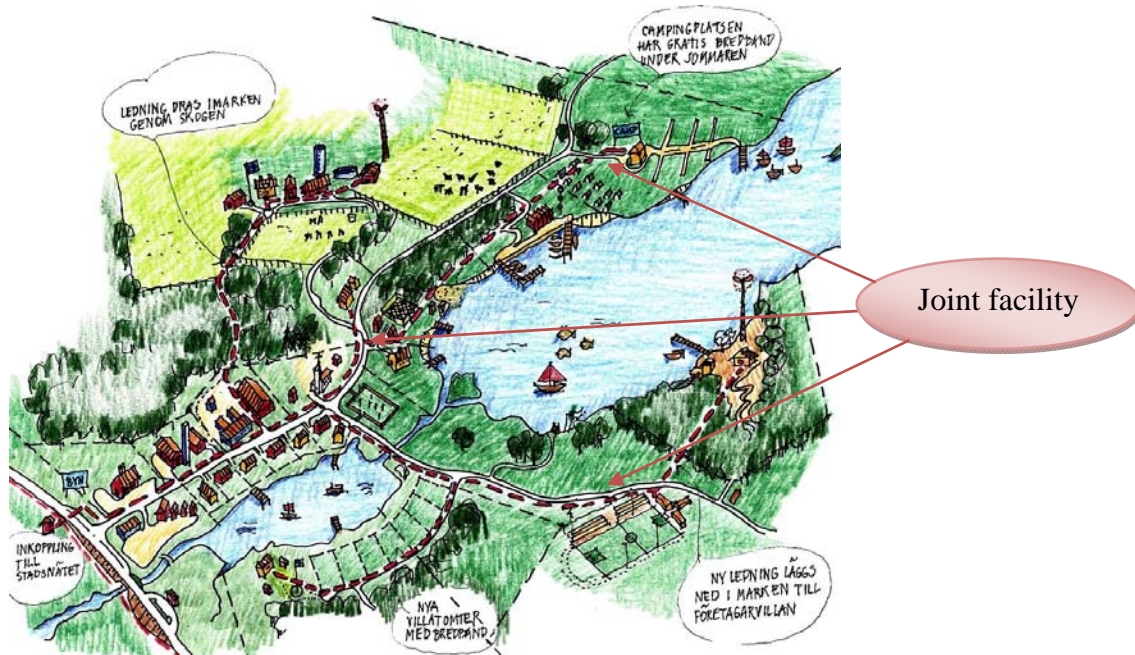


E.g.

BEFORE; an island with several real properties and houses for permanent dwellings, as well as vacation houses. The owners, they all want to get electrical energy

AFTER; they make an agreement for building a wind power station situated on the highest and most windy place on the island. Together with the cadastral surveyor they form a Joint facility for construction and managing the wind power station. The costs are shared in a fair way by participatory share.

## Pipelines, undergrounds for telecommunication (fiber optics)



E.g.

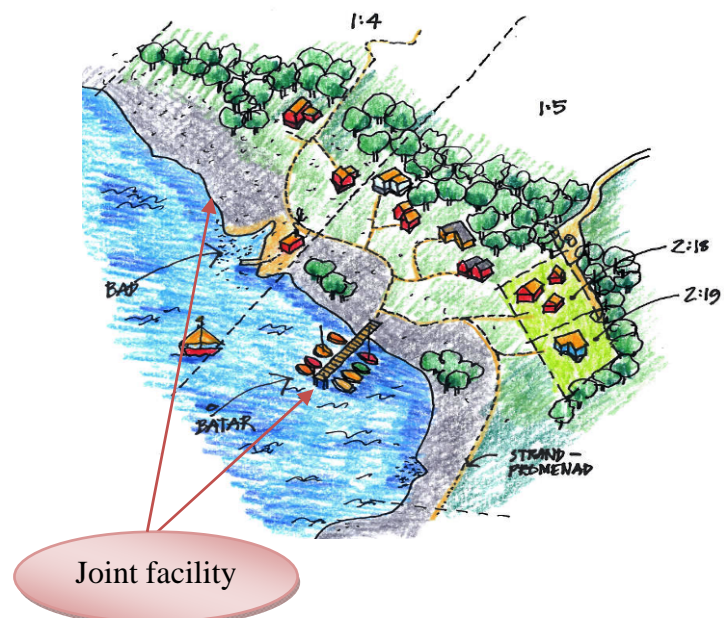
**BEFORE;** a dwelling in a rural area with poor IT communication for IT, the internet connection is too slow. The inhabitants have plans for getting better IT communication.

**AFTER;** a joint facility is formed to manage jointly owned pipelines for telecommunication by fiber optics. The management is handled by an association management. This co-operation will make it more suitable for people to go on living in this kind of village in rural areas.

E.g.

**BEFORE;** the owner of eight summerhouses, built in the 1950:s, using a bathing place located on a real property in neighborhood. One previous owner has built a little hut and also a dock. All these facilities need to be restored. The owners of the houses are anxious to keep the dock, the bathing hut and the area in a good shape. They also want the costs to be shared in a fair way.

**AFTER;** they solve this situation with the help of the cadastral surveyor and a joint facility is formed. By this co-operation they jointly decide at what level they will renovate the facility. They can also agree upon the level of the costs and how to share them. It will also be clear for everyone what is owned and used together



## WHICH BENEFITS CAN BE CREATED BY A JOINT FACILITY?

There can be economical, technical, social, environmental and sustainable benefits that emerge from the joint facility. The benefits influence society as well as the private person. Listed benefits below are just a selection.

- A joint facility saves land areas instead of having each person investing in his own facility
- Some facilities as e.g. sewage and geothermal heating also reduce the negative effect on environment -joint facilities have less negative effect than many separate facilities.
- There is a distinct arena for communication between neighbors.
- Distinct rules regarding managing, both regarding what to manage and how to do it. This is favorable for neighborliness and also an important factor for a sustainable living atmosphere.
- Less costs for handling as there are several people to share costs.
- The users, participants, can influence how the facility will be managed which means they can influence the local ambient environment.
- A joint facility is a sustainable way of handling of jointly owned facilities and makes the co-operation stable in the long term.
- The joint facility belongs to the real properties which mean economic stability for the participants.
- Management by association management makes it easy to obtain bankloans.
- The rules for a joint facility are the same irrespective to new owners of the participate real properties.
- For rural areas, to be alive, living and different forms of enterprises are important. Joint facilities are one way of co-operation to enable positive development, positive ambient environment and atmosphere.

## 6. SCIENTIFIC THEORIES

Features for jointly and management in Swedish system of "Joint facility" has many interesting connections to Nobel Prize Winner Elinor Ostrom's science and her theories about successful use and handling of common resources. In her book (Ostrom, 1990) *Governing the Commons* she explains why common resources need not be over-utilized as several scientists have sad before. By self-handling and with decisions on a local level most of the users will take responsibility and utilize common resources in a sustainable way. She describes some compulsory factors for a sustainable and successful behavior of common resources. These are;

1. It must be clear who is the user of the common resource as well as having a well-defined common resource.
2. There have to be rules for the users, related to the circumstances for having a balance between usage, benefits and the local circumstances.
3. The users of the common resource should be able to influence the rules.

4. It is important that the users can be observed how they follow the rules. The observers can be the users themselves or persons who are responsible to the users.
5. Sanctions towards the users, who don't follow the rules, have to be applied in proportion to size of wrongdoing and are to be rejected by the users directly or indirectly.
6. There have to be a way of solving conflicts between the users and also between the users and authorities.
7. The users should have the possibility to establish their own organization and make rules without official legislation.
8. Organization for cooperation, such as complex ones and ones with many users, need to be organized on different levels.

Ostrom also says that these elements make it possible to establish sustainable systems for managing common resources. At the same time one should not see them as a check list where all of them have to be implemented for achieving success.

Ostrom's theories are interesting to compare with the Swedish system for co-operation by Joint facility managed by an association. There are elements or characteristics that reminds of these elements Ostrom have introduced about successful and sustainable co-operation for common resources. Several of the elements are also elements applicable to the Swedish system. Some of them are;

- the users are well-defined
- the joint facility is well-defined
- the rules for co-operation apply to local circumstances for the facility and for the users
- the users can influence the managing of the facility and the rules for co-operation
- there is an arena for communication and for solving problems.

## **7. THE FUTURE**

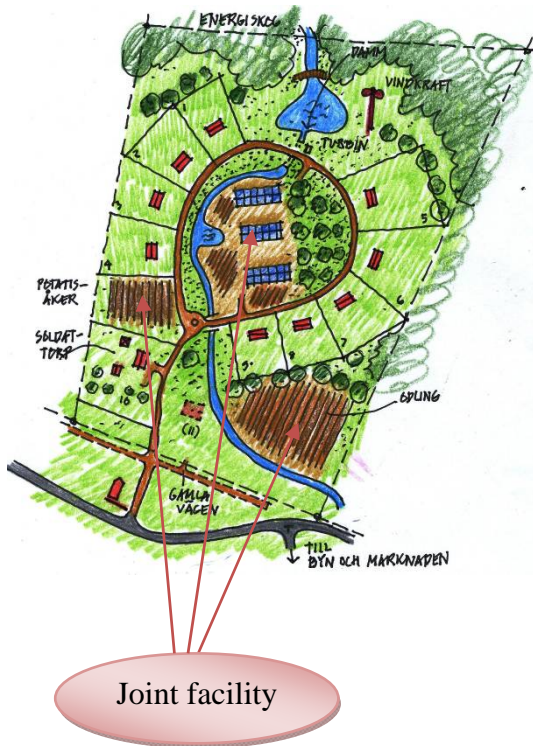
In the future there will be further focus on renewable energy and changes in climate in our society. Under these circumstances co-operation and collective arrangements are expected to be more important. On a small scale and in the countryside some examples can be given;

local co-operation for energy, local food production, co-operation for improved environment making collective water ponds in forest, nitrogen traps, co-operation for nature worth to preserve in a special way, and collective arrangement in exposed areas to protect against flooding as an effect of climate changes.

The Co-operation by Joint facility is a sustainable arrangement on the local level as well as in the long term. The benefits from this are possibilities to a good living environment and a favorable atmosphere also for future generations.

In summing up this paper here are some ideas for use of joint facilities, in local level, to meet future challenges.

## Local food production



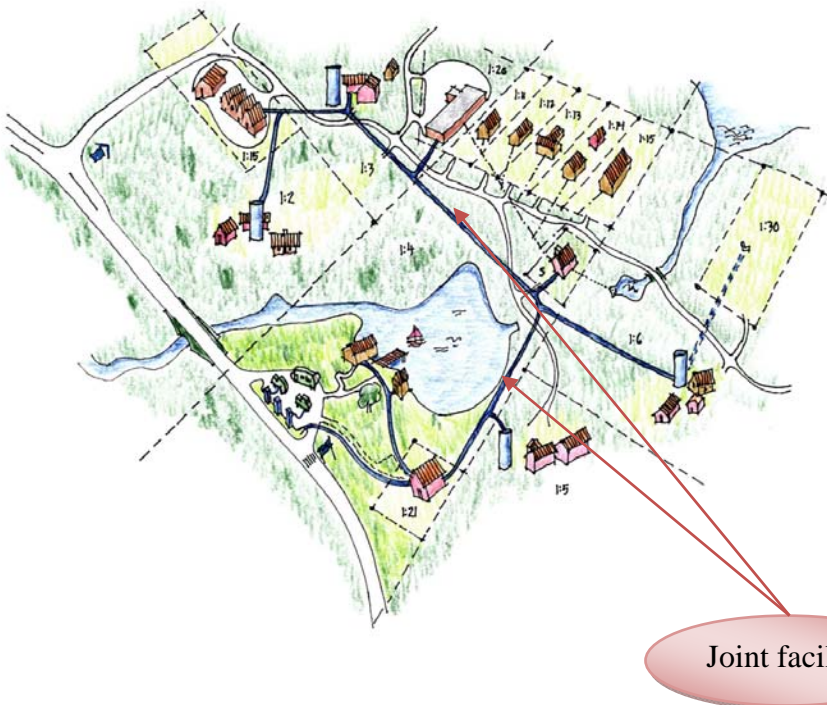
Eg.  
BEFORE

For an area on the countryside, a landowner arranges a local plan. The plan will offer a small scale area for living and for peoples who want to live environmentally well and e.g. have interest in growing their own vegetables. The municipal is consulted for preparing the local plan.

AFTER;

The local plan involves areas for subdivision in 9 real properties for living, each sharing a joint area for food production. For joint areas a cadastral surveyor has formed a Joint facility consisting of areas for growing potatoes, vegetables, a greenhouse and facility for heating. Everyone living in this area is responsible and can influence his ambient environment.

## Local production, biogas from animal farming



Eg.  
BEFORE

In an area where many animal farms are located the farmers are interested in gaining energy from the manure produced in the farms. Today the manure is only used for fertilization.

AFTER;

Five farmers have built a facility with underground pipeline to collect the manure at one place where bio-gas is made. The bio-gas is then sold on the market for heating, electricity or as engine fuel. A cadastral surveyor helps them to form a joint facility. In this way the farmers have a new income as well as using the manure as before.

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## BIOGRAPHICAL NOTES

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