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# Joint Facilities in Legal Private Management

Klas ERNALD BORGES, Sweden

**Key words:** Joint facilities, joint property unit, association, Sweden, efficiency, equity

## SUMMARY

The Swedish Joint Facilities create a common resource system for externalities of the individual property, such as common roads, bridges, residential services (waste disposal, car park, community places), irrigation and drainage schemes, and hunting ground. In a historical perspective, such facilities belonged to the village community, and remained as externalities when the society forced an internalisation into individual plots. The individualisation of property rights could not include such common resource systems. Today, the society demands a well-defined number of appropriators of common facilities.

The Swedish Joint Facilities Act operates efficiently with the landowners as legal appropriators. The Governmental Cadastral Officer creates an association as legal owner of the joint facilities, and hands it over to their own management. Only landowners with positive total outcome of cost and benefits are included, defined by the cadastral officer. The individual expectation value might occasionally reach negative values, but the cadastral officer estimates the general market value of the benefits of facility for each property. The estimation is done only once – when the joint facility is created.

A study of 9 aged associations in Southern Sweden has shown that the concept of benefit and self-management develops within the association, with practical arrangements of fees and liability. Confidence is essential within the association. Nevertheless, the resource systems are also supported with the legal liability and effectiveness of the legal compulsory system.

A detailed analysis of the associations shows exceptions from the legal set-up of individual shares for fees and liability. The self-management of the association overtakes the legal basis, dated decades ago. A current landowner's sense of injustice has one legal and one practical way to be attended, within the association and application to the cadastral services, both with high threshold costs. Self-management in a landowners' association is viable, if structures for changes are provided efficient and smoothly. Both justice and efficiency need high priority.

# **Joint Facilities in Legal Private Management**

**Klas ERNALD BORGES, Sweden**

## **1. INTRODUCTION**

### **1.1 The Need of Joint Facilities**

Joint facilities are a common resource aim for a group of properties. The rationale is that the resource cannot easily be achieved as an individual asset of one property. There is a logic need to search a way to join with other properties in order to make the facility achievable.

The facilities could include a variety of resource systems, e g, roads, bridges, residential services (waste disposal, car park, community places), irrigation and drainage schemes, grazing areas, and hunting grounds. Some of them could be facilities without land ownership, i.e., with servitude on another property, while others could be as joint property units. An individual property owner would benefit from joining with other owners, instead of trying to keep the facility as an individual asset.

The Swedish system of joint facilities will be analysed from different perspectives. This paper will analyse the efficiency and equity of the system. The crucial questions are when we need to join properties to increase the benefits of the cadastral system. The gatekeeper of the legal system – the legislator – has to provide a system that integrates the economic benefits with the demand of equity for the landowners.

A description of a system of joint facilities requires an understanding of the historic development, the legal system including the Enforcement Administration, the concept of property, fixtures, the cadastral unit, externalities, transaction costs, associations and human behaviour. Some examples of Swedish joint facilities will illustrate the efficiency and equity of the system.

### **1.2 Actual Situation in Sweden**

The Swedish cadastral system has developed during centuries, from a fiscal system and in parallel a legal system for conveyance. The title registration system was introduced early and partly as a demand of the agrarian tenure reforms during the 19<sup>th</sup> century. The two cadastral systems merged gradually into one unified system. The establishment of the Swedish Land Data Bank System was initiated in the 1970's and completed in 1995. Since then, the improvement of the system has continued, and it works as an efficient multipurpose cadastral system. The previous manual land registers had many records of cadastral procedures,

including registered joint facilities. Table 1 describes the actual cadastral situation in Sweden in 2006 (Lantmäteriet 2006 and Larsen 2006).

|  | Property units (PU) | Joint property units (JPU) | Joint facilities (JF) |
|--|---------------------|----------------------------|-----------------------|
| Total number                                 | 3,146,298           | 96,082                     | 70,748                |
| No of properties in JPU/JF                   |                     | 388,986                    | 963,848               |
| Property units with shares in JPU/JF (%)     |                     | 12.4                       | 30.6                  |
| No of shares in JPU/JF                       |                     | 4,956,722                  | 1,293,365             |
| No of joint property management associations |                     | 36,119                     |                       |

Table 1: The cadastral situation in Sweden in 2006, including joint property units and joint facilities

The cadastral system has not included all details of property units and joint facilities, partly due to the historic remains of joint property units. The statistics on shares are incomplete. The real number of joint property units and joint facilities is higher, eventually much higher, in particular in Northern Sweden. An analysis of the quality of the cadastral situation is done in a project (*ALBIN*) at the National Land Survey of Sweden (Larsen 2006).

The joint property units (JPU - *samfälligheter*) are property units, owned in common by several properties. The joint facilities (JF- *gemensamhetsanläggningar*) refer only to the created facilities, owned by several property units. The facilities do not necessarily need to include ownership to the land, as servitude on another property could guarantee the right of access to the land, i.e. as a joint dominant property unit. At some joint property units there are specific facilities, e.g., traditional village roads, being remains from the individualisation in the village. Today, all land in Sweden has an owner, being mostly individual property units, but also the group of joint property units. The demand for new joint property units is reduced, and essentially remains of the historic development.

The figures indicate that most people are landowners, and that there are a lot of joint facilities and joint property units. This means that many citizens in Sweden are owners of a property that have some kind of joint facility. It is not remarkable at all. We should merely expect that such a situation is a normal case. Expressed in another way: most people own a private property and need the neighbours to increase the benefits of the property. The joint facilities are a fundamental requirement for an adequate cadastral system, which encourages the land market and creates a healthy society.

The fundamental question is not if joint facilities exist, but how they work in the cadastral system. Are they useful, and do the landowners fully understand and manage the joint facilities in an efficient way?

We could also compare the number of joint property management associations (36,119) with the 25,644 sport associations (of 69 registered sports in Sweden). The number of Swedish football associations is 3,346, i.e., less than 10 % of the joint property management associations. About 27 % of the Swedish population are members of a sport association (Riksidrottsförbundet 2006). Much more public attention is given to sports than property

associations. But individual persons might experience that their interest in a certain facility of joint property creates considerable surplus value, or headache – if not working.

### **1.3 Private Roads as Joint Facilities**

Private roads are one of the main purposes of joint facilities. They amount to 284,000 km, representing two thirds of all roads. Municipal roads amount to 37,000 km and governmental public roads 98,000 km. About half of the private roads are for forest use. 25 % of the private roads qualify for public subsidies, being the public policy for keeping rural roads open to public use, though with private management. The subsidies amount to € 75,000,000 and should cover 70-85 % of the construction cost and 40-80 % of maintenance (Österberg 2004), but the subsidies do not always amount to these values (REV 2006). A governmental report proposes that 16,000 km of the public roads could be changed to private roads, and 5,000 km of the private roads change to public roads (SOU 2001:67). The joint property management associations are recognised to administer rural private roads in a satisfying way. The intended increase of private roads shows that the Government finds it more feasible to hand over the administration of rural roads to private joint property associations. There is a national association of private roads (*Riksförbundet Enskilda Vägar* - REV). The members are the joint property management associations for the private roads.

## **2. HISTORICAL AND THEORETICAL BACKGROUND**

### **2.1 Concepts**

Joint property management could be analysed in a historical perspective. Ancient production systems required collaboration of people in order to survive. Joint production schemes developed prior to the cadastral system with individual properties. Binswanger, Deininger & Feder (1995) trace back the current land tenure systems to its territorial rights to hunting and gathering, before the emergence of agriculture. The evolution of production relations has defined the property rights, as mankind developed its production systems through forest fallow, bush fallow and finally permanent cropping. Owner-operated family farm successively phased out joint production schemes. In practice, one can find joint facilities for specific production schemes, but the main idea emphasizes the farm as operated by the owner, i.e., without external interference.

Historical examples of joint production schemes are easily available. Svensson (2005) describes one of the three agrarian tenure reforms in Sweden, defending the theory that the peasants were the main actors in the privatisation process, by splitting the village community into individual properties in the 19<sup>th</sup> century. It was still a basic condition to collaborate in certain production schemes, but the main interest was to reach an individual family independence.

Binswanger et al (1995) also describe the parallel production schemes in the agricultural development, ending up in landlord estates, hacienda and wage plantation. Normally, we

don't consider these production schemes as strategic in a dynamic society. Our priority is to provide conditions for individualisation of property rights. We define rules for ownership, e.g., Snare's (1972) concept of property. We try to find the very true nature of ownership, including the constraints in property rights, held by the society, or other people. But such constraints are not linked to the production schemes in some kind of joint facilities. Another analysis of the emergence of the individualisation of property rights is the classical Demsetz (1967) theory. His basic assumption is based on Leacock's anthropological study of American Indians on hunting and fur trade, as basis for the Indian's production schemes. We understand that the need of protection of a certain asset (the fur and tail in his example) required a step towards individualisation, being the first evidence of property rights. The key concept is internalization of externalities: you need to define your interest in specific assets – external benefits and external costs – and bring them to yourself by internalisation. The physical delimitation of the property right is defined for a specific benefit, added with a specific cost, in order to claim an exclusivity of these costs and benefits. Demsetz emphasises that the internalization is only covering a specific externality, while other externalities remain open and accessible for everybody. The evolution scheme of Binswanger et al (1995) supports the idea of a successive internalisation of assets.

Demsetz (1967) also defines the conditions for an internalisation of externalities, “when the gains of internalization become larger than the cost of internalization”. This means that we could expect members of a society, or members of a village, to proceed with internalization of externalities when they understand the individual benefit of an asset, reduced with the cost of establishing such an individual right. Svensson and Binswanger et al provide useful examples.

Our concept of joint facilities is based on the concept of individual properties that join for a specific facility. We do not base the right on membership in a community, but on a group of properties. We do have remaining externalities, not born within the current property right, e.g., the right of view, air and noise (though with some limitations). In Sweden we have also kept a formal right of common access (*allemansrätt*) to rural areas, as it is considered not causing appreciable damage to the landowner. But the idea of joint facilities is based on individual property units, as legal holders of rights to the joint facility.

## 2.2 The Coase Theorem

The Coase theorem (Coase 1960) emphasizes the rationale of individuals in search of benefits, in a market-oriented perspective. He focuses on the negotiation process in a theoretical perspective, claiming that any kind of change in property rights between landowners is conditioned by the marginal cost and benefit. The equilibrium is obtained when the marginal cost and marginal benefit is the same for all the stakeholders. Coase adds the transaction cost to the pure economic equilibrium model, as the market cannot work without these costs.

A joint facility is an evident example of an achieved benefit of a common resource system that requires quite some transaction costs, both for the establishment and for the maintenance. But we could also consider the joint facility from the Coase idea of equilibrium after a

negotiation process, i.e., the optimal benefit is theoretically reached for all stakeholders. We expect all the landowners to make an analysis of the costs and benefits of joining the facility, and in a negotiation process reach the optimal benefit, including compensation between the landowners. In similar fashion to the basic example of Coase of number in herds and annual crop loss, we will use a simple example of two situations of a joint facility and four landowners. Three properties, A, B, and C would need an access road (or a bridge) that requires servitude on a residual property unit, E. A is most eager to construct the road, while C expresses his lack of interest, as he has got a supportable alternative solution. B is interested, but not as eager as A. The shortest access road would pass by property C, but there is also an alternative access, though longer and more costly. E wants some compensation, as servient property. The figures in table 2 below illustrate the situation.

|  | Case 1 – long access road |          |           | Case 2 – short access road |          |           |
|--|---------------------------|----------|-----------|----------------------------|----------|-----------|
|  | Benefits                  | Costs    | Total c/b | Benefits                   | Costs    | Total c/b |
| Construction cost                                |                           | 6        |           |                            | 3        |           |
| E (servient property;<br>granted access to land) |                           | 2        |           |                            | 1        |           |
| <b>Total costs</b>                               |                           | <b>8</b> |           |                            | <b>4</b> |           |
| A  | 5                         | 4        | 1         | 5                          | 2        | 3         |
| B  | 3                         | 4        | -1        | 3                          | 2        | 1         |
| C  | -2                        | No part. | No part.  | -1                         | 0        | -1        |
| E (compensation)                                 | 2<br>(comp.)              | -2       | 0         | 1<br>(comp.)               | -1       | 0         |
| <b>Total output</b>                              |                           |          | <b>0</b>  |                            |          | <b>3</b>  |

Table 2: Cost and benefits of access roads to properties

The participation of costs could be done in various ways. The figures above illustrate only one alternative in each case that could be argued for in a real situation. In case 1, C states that he/she will not participate, as (s)he does not find any meaning to join the access road. A and B share the costs equally, which is satisfying for A, but B finds it too costly (negative individual output). An optimisation would be to divide the total costs according to the estimated individual benefits (5 and 3 units respectively), but would require that personal preferences to be applied. The total output is only = 0, which means a total status quo. In case 2, A and B offer C to participate, without any cost, but C is still not in favour of the solution (negative output = -1), though with less reluctance. This means that C still would object to participate. The market solution would be that A, or A+B, offer C a compensation of 1 unit to participate. This is not the same as begging C to participate. A would be the most eager to offer such a solution. The total output = +3, which means that there is a margin for negotiation.

The Coase theorem makes it clear that any kind of solution could occur, if the market is working smoothly. The first action, necessary for a solution, is to offer C at least 1 unit to participate. A and B have a positive output of 3+1 units, but we don't need to define if both of them or only A would pay compensation to C. The remaining 3 units could be claimed, and negotiated by any of the four participants. An equalitarian perspective would contain an individual output at +0.75 units each, which means that all participants will assess that they

have gained something. But this is based on the personal estimations of the individual benefit, i. e., the expectation value. It would probably be very hard for A and B to accept more expenses/compensations to C and E, i.e., above 0 for them (even though all values are held individually and in privacy). B could also argue for a diversified participation between A and B, i.e., that A with a stated interest would participate more, e.g., pay the compensation of 1 unit to C, instead of sharing it equally.

The equilibrium is not easy to describe in a real situation, as the changes are difficult to express in monetary (or some other) units. There are also transaction costs that change the state of equilibrium, as described by Coase. Binswanger & Deininger (1993) develop further the concept of transaction costs in land relations, by departing from a concept of perfect markets and perfect information (called level A) that is not found in reality. Four successive levels are proposed: B - credit market imperfections; level C - agency theory; level D – spatial covariance of agricultural income risk; and level E – rent seeking and distortion. They search for feasible explanations how the land markets work in contrast to the perfect market model. Why do we have different land tenure systems that do not reach the optimal efficiency in land use and production? They describe the process in less developed countries (LDC), but the description is of general interest. Kalbro (1997) also refers to market failures in his analysis of the need of permit procedures for changes in land use in Sweden. Mattsson (1997) focuses on the necessary requirements in transfer of property rights, property formation and alteration of land use, in his review on the legal property system, in order to guarantee the dynamism in the land market.

Binswanger & Deininger (1993) state that the additional levels of analysis are necessary, as the land market contains a number of failing conditions to a perfect market, such as asymmetric information, rent seeking, and policy distortions. The need of a legal system and a governmental interference in the land market are assumptions that we easily accept, including the inherent transaction costs.

In the two cases above (table 2) we could expect a legal system that defines requirements for implementation of joint facilities. The transaction cost would increase the total costs, and decrease the total output. We could also expect that personal estimations of benefits are by and large disregarded by the cadastral officer in charge of the legal implementation of the joint facility, in favour of an objective assessment of the property values of the facility. This implies that the negative attitude of C (total output) is disregarded, and this property could be legally forced to join the facility, with some participation of the costs. This would add the potential risk of appeal to the court, which is another part of the (eventual) costs.

### **2.3 Property Units as Members of Joint Facilities**

Joint facilities are production systems that provide a better output at a theoretical equilibrium for all landowners. We limit our description in this paper to transaction costs, as an additional change of the perfect market equilibrium. We use the landowners as distinct stakeholders, analogical to the herd and farmer of Coase. It means that we depart from the landowners (described by Binswanger & Deininger 1993 as the family farm – owner operated). The



historic land tenure systems (e.g. family farm in communal tenure) and parallel tenure systems (landlord estates, hacienda and wage plantations) are not analysed in this context. In their report, they consider the other tenure forms as some kind of distortions from a Pareto optimal equilibrium, based on a theoretical concept of perfect markets and perfect information. Their explanations of complementary levels of analysis are due to the economic inefficiency of land markets. We need an analysis of the efficiency of joint facilities. We do find a magnitude of joint facilities in the legal systems, as well in informal tenure systems. Our aim with the legal systems is to provide the best interpretation of efficiency in joint property units. The internalisation of externalities is made, within a group of properties, but excluding other properties. This could be compared with a situation of customary land tenure, but it is based on property units, not on membership in a village.

This means that we do not consider joint facilities as remains of a historic land tenure system, but a current production system based on interests of individual landowners. The land tenure systems in Western Europe offer alternatives to individual land ownership. We use cadastral units in a context of an individualized ownership. The landlord estate and hacienda are considered as cadastral units developed in free market situations, distorting the efficiency of the land market and the production schemes.

The 3.2 million property units in Sweden, about one per every third person, could be assumed to be a (almost) Pareto optimal cadastral situation, providing the citizens with feasible legal units for economic investment and personal use (with minimal distortion). These are the units that we find useful for the market, including for joint facilities. We understand that the cadastral situation contains distortions, which affect the efficiency of the land market. This means that the joint facilities are designed with the individual property unit as stakeholder. We do have joint property units that are remains of historic common properties, not included in the individualising of agricultural property units. These joint property units could remain due to the production systems of the specific utility, e.g., grazing areas, drainage systems, and gravel-pit.

A comparison could be done with some special cadastral units in the Swedish system: the properties owned by tenant owner associations. 16.2 % of the Swedish adult population are living in tenant owner associations, situated mainly in the cities. It has increased from 11.6 % in 1980 (SCB 2006). The associations have a residential purpose, but might include commercial areas at the bottom floor. The residents have individual tenancy, i.e., a right of use and right of transfer a specific apartment. The tenant-ownership contains the membership in the legal person – the tenant ownership association, which is the owner of the property unit. The Tenant Ownership Act provides the legal framework for the administration of the association, which includes economic administration.

As legal owner of the property, the association is liable to mortgage the property. (There is also mortgage available for the individual tenant ownership.) The association is based on democratic rules. There is no individual assessment of costs and benefits of joint facilities. Every tenancy has the same weight, independently of the size or value of the apartment, i.e., a uniform system: one tenancy – one vote. This is considered to be simple and efficient. From

the cadastral perspective, all joint facilities within the association are internal issues that are supposed to be efficient. Still, we have to admit that there are transaction costs of joint facilities of the association. The choice of tenancy-ownership could be understood as one solution of efficiency, including the transaction costs. These costs include the efficiency of the association. Liedholm (1988) identifies problems in efficiency and equity of the associations, but we still consider them as feasible economic units. There is also a political perspective of private ownership within a social system. We desist from analysing its real efficiency. We might claim that the system could be efficient or not efficient, which would imply a total implementation or extinction of this tenure system at the market, i.e., approaching 100 or 0 % respectively, instead of the current 16.2 %.

We use the example of tenant-ownership to illustrate that in an urban European context there are solutions in a legal framework to provide an efficiency of ownership without a total individualisation of the property units. This means in the Demsetz theory that there is a need for internalisation of externalities, but it could be held within an association of tenant-owners, with an internal individualisation of economic units (supported by the Tenant Ownership Act). The cadastral property unit exists only at the association level, which means that the association holds the internalised assets. These assets are not externalities for non-members of the association, but in an initial phase externalities within the associations. The next phase implies an internalisation of the externalities with the association. The Tenancy Ownership Act and the general rules of management, as defined by verdicts, define the basic function of the right of use and right of transfer of the tenancy of the apartment. However, there is still an area of externalities within the association, which is defined through the decisions of association, either by the board or at the annual meeting.

### **3. SWEDISH JOINT FACILITIES**

#### **3.1 The Legal Framework**

The current Swedish Joint Facilities Act dates from 1973, with successive amendments. It substituted previous acts on joint facilities, including an act of private roads. The Act defines the three basic conditions for establishing a joint facility (Julstad 2005): 1) importance, 2) benefit, and 3) opinion. It means that a joint facility only can be established if all of these conditions are verified. They protect the private rights of a landowner. Referring to the example in table 2 above, case 1 does not qualify for two separate reasons: the benefit is only at level 0, and B (one of two) is not in favour. In case 2, we find benefits of A and B, and a total outcome of +3. The reluctance of C could in this case be omitted and C be brought into the joint facility. However, the values in the example are personal assessments, i.e. expectation values, which are different to the objective property value, assessed by the cadastral officer. If C has got a negative value in the objective assessment, there would be a need for an official compensation to C, or to exclude C from the joint facility. The example indicates that the negative value is a personal assessment, while another landowner to C would make a more positive assessment, at least = 0, i.e., indifferent to the solution, accepting the request by A and B.

The benefit of joint facilities has to be assessed in a long-term perspective. The legal requirement is expressed as permanent, which is logic as being established for the property and not the owner. Nevertheless, the condition of opinion is based on the personal assessment of each landowner. In case 2 above, we find a positive benefit of A and B, and a total output of +3. If we add the transaction cost to the example, e.g. at a value of 1, the total value would still be positive (+2). The benefits could be expressed as the capitalized values of future returns. The values of remote future returns might be minimal for the landowners, and if assessed in an economic perspective with interest rates, we understand that the decision counts mainly the near future. The forthcoming owners to the properties have other expectations and assessment of the joint facility. We might understand that the most likely person to acquire the property has a positive assessment of the joint facility.

However, we find quite a number of situations in the real cadastral situation. Some joint property units are remains from historic commons that have not been individualised, due to a negative total output. The output could reach negative values due to the transaction costs, while in other cases we could identify more benefits with continued joint property. In the Demsetz perspective: the cost for internalisation exceeds the benefits. The continued externalities (within the group of landowners of the commons) are still an advantage compared to internalisation.

In the cases when a joint facility has been established, the assessment of the benefits is expressed to be a permanent solution, including long-term benefits. At the time of establishment, the landowners identified the benefits of the joint facility and capitalized these benefits to a present value. The cadastral officer identified the objective benefits of each property, and distributed the cost according to these benefits. The ways to calculate the benefits and costs are based on official recommendations. They might have changed in a long-term perspective, but the basic principles could be similar. The official report for calculation of benefits for roads as joint facilities is based on default values of land use and length of access road of each property. These are expressed as permanent and vacation use of housing, area of agriculture and forest properties (Lantmäteriet, 1995). The values are used as basis for determination of shares in the joint facility. These shares could be different for construction and maintenance of the facility.

The assessment of benefits of a joint facility could be done in details, but there is also a need of efficiency in the cadastral procedure. The joint facility is the resource system, but it needs a practical management. Ostrom (1991) describes the costs for the management in several areas: exclusion of non-appropriators, compensation, establishment of the management system, control system, punishment rules, and the information function. The Swedish Joint Facilities Act is complemented with the Joint Property Units Management Act. The management could be done by unanimous decisions, normally when the members of the joint facility are limited (less than 5-10). In facilities with more properties, there is a need to create a legal and administrative framework, which is done in a joint property management association, as defined by the Act. The association is the legal person for the management of the joint facility. As mentioned above, there are 36,119 registered associations. They could

manage more than one joint facility. The official number of joint facilities (70,748) and joint property units (96,082; in reality many more) indicates that several of them are managed without an association. However, the legal form of the association is a solution that satisfies the need of administration of a joint facility or joint property unit where different opinions could occur.

### 3.2 Management in Theory and Practice

The management of the joint facility is sometimes a practical easy agreement between the members. A joint road has to be maintained properly, which the members easily understand. However, sometimes there are diverging interests on practical arrangements, including the economic responsibility. The two acts on joint facilities and joint management are fundamental for the efficiency of the administration. The joint property unit or the joint facility belongs to the member properties, by shares, and these properties are committed to the decisions taken in the administration of the joint property, being unanimously managed or managed by the association. If one property owner does not comply with the decisions for the joint facility, the association has got the legal authority to proceed with legal means. (If disagreement occurs within a joint/unanimous management, the owners could ask for a special deliberative meeting with a cadastral officer). The economic liability of decisions by the association is protected by the total value of the property. The association could apply to the Enforcement Administration to attach the value. The decisions of the association have to comply with the defined cadastral purpose, i.e., not expanding ahead of the defined purpose. There is also a formal requirement on annual meetings, with a formal estimate of expenditure and income.

The rules in the Joint Property Management Act follow the eight design principles of common property resources, as proposed by Ostrom (1991):

- Clearly defined boundaries
- Congruence between appropriation and provision rules and local conditions
- Collective-choice arrangements
- Monitoring
- Graduated sanctions
- Conflict-resolution mechanisms
- Minimal recognition of rights to organize
- Nested enterprises (part of larger systems)

The Swedish system of joint facilities is operational, and satisfies with most of these requirements. The limited attention to the associations (compared to e.g. sport associations) could be a sign of the efficiency of the system. However, there is a need to analyse if the system is working smoothly. Efficiency and equity are two fundamental requirements. Using the example in table 2 above, we need to state that 1) the total outcome is above zero, and 2) no property has a negative (objective) value (if not required for the facility).

The reality of 70,748 joint facilities, 96,082 joint property units and 36,119 associations cannot be limited to statistics. There is a reality in the administration of the commons. Some

of the joint property units are remains from previous common land. The membership was historically defined by the village tradition, but nowadays property units define the membership. We do find examples of huge joint property units and properties with a huge number of memberships. The maximum number of participation properties in one joint facility is 2,782, while the biggest joint property unit has 3,812 member properties. On the contrary, one property unit has shares in 23 joint facilities, and the maximum number in joint property units is 480 for one property (Larsen 2006). The examples indicate that we have a huge heritage in the cadastral situation, including the joint property units not recorded in the cadastral system. We can hardly believe that membership in 480 joint property units to be efficient. The joint property unit with 3,812 participant properties requires efficient and clearly understood collective choice arrangements. Even though extreme cases might be found, we need to understand the efficiency of the system as designed by the Swedish acts.

Some joint property units could illustrate the inherent problem with common properties that were established some 50-100 years ago, and have become remains of the cadastral system, without a practical use today. A few examples: the joint property unit Höör Karlarp S:1 is owned by 18 agricultural properties. The area is only 1,200 m<sup>2</sup>. The cadastral record states that the purpose is a gravel-pit. In reality, the gravel has already been extracted, and the plot is just part of a forest area. Another joint property unit, Trelleborg Östra Torp S:2, is an rural access road for two properties (Östra Torp 6:66 and 6:228), close to the seaside in Southern Sweden. A third property, 6:80, has been using the access road informally, being the nearest and only access road to the property. It has formal access is through another access path, S:6, being 6:80 added to the joint property unit in 1907, i.e., before the development of motor vehicles. Today, the access by S:6 is only a formal access, but in reality not even a path, situated in a protected area. None of two joint property units has taken any initiative to make a change between the two units of the access for 6:80. It worked during decades as an informal solution, but a change of ownership of 6:228 made the informal solution questionable. The new landowner has the legal right to put an end to the informal solution. However, the transaction costs sometimes stop such the initiatives. The capitalised benefits in 1907 are history for 6:80, but a revised cadastral solution might be difficult to identify and finance. The transaction cost might cause a negative total output.

### 3.3 The Reality of Six Joint Facilities

A detailed analysis on 9 cases of joint facilities in Southern Sweden was done in 2005, as student reports in the MSc course Common Property at Lund University. Three of the reports dealt with hunting grounds, with an association according the special hunting act and the act on game preservation. The other six reports dealt with formal joint facilities, including roads, drainage and parking lots. The six joint facilities are presented in table 3 below.<sup>1</sup>

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<sup>1</sup> Based on student reports of Anders Skoog, Elin Neckén, Lina Björk, Mattias Hägg, Michael Mårtensson and Sofia Iderheim in the course VFR130 Common Property, December 2005.

| <b>Cadastral name</b>                   | <b>Vellinge Hököpinge GA:6</b>   | <b>Osby Gisslaboda GA:1</b>  | <b>Finspång Hemmingstorp GA:1</b>  | <b>Kävlinge Furulund GA:1-3</b>   | <b>Karlskrona Bromålagölen GA:1</b>  | <b>Högsbo Lilla Klobo GA:2</b>   |
|---|--|--|--|---|--|--|
| <b>Kind of administration</b>           | Association  | Joint administration   | Association  | Associations (not active)   | Association  | Association  |
| <b>Kind of area</b>                     | Market town  | Rural houses and agroforestry  | Rural and vacation housing, agroforestry   | Urban residential area in township  | Agriculture, rural housing   | Rural housing, agroforestry  |
| <b>Constitution year of JF</b>          | 1985   | 1979   | 1946   | 1981  | 1958   | 1954   |
| <b>Approximate origin</b>               | 1880's   | 1880's   |  |   | 1911   | Previous private roads   |
| <b>Formal purpose</b>                   | Space  | Road   | Road   | Parking lots, garage and green area   | Drainage and wells   | Road (incl. bridges)   |
| <b>Real purpose</b>                     | Roads, gravel paths parking places, green areas, football fields, playground             | Same as above (450 m)  | Same as above (3,200 m)  | Same as above   | Same as above  | Same as above (5,200 km)<br>7 separate parts of road system and bridges  |
| <b>No of properties</b>                 | 127  | 5  | 22 (19 owners) (originally 9 properties)   | 6 in one JF<br>5 in two JFs   | 14 (13 owners)   | 54 (38 residential properties, 16 residential + agricultural pr.)        |
| <b>Shares</b>                           | Equal  | 0, 5, 10, 15, 20 and 50  | 1 to 42 shares   | Equal   | 50+20 % for main owner. 30 % for the other 12 owners   | 34 % for forestry industry, 1-9 % for agriculture                        |
| <b>Applied shares</b>                   | Same as above  | Equal for three properties (5, 20 and 50)  | Same as above  | Same as above   | Same as above  | Equal  |
| <b>Yearly cost for property/ member</b> | €130 (€1,600 entrance fee for new members)   | Occasional costs €30, 50 and 80 for other road for seasonal, permanent housing and forest property   | €14 /share (€14-600/ property)   | €0  | €0<br>Work required, with calculated value   | €8 each (Municipality in charge of maintenance)                          |
| <b>Yearly turnover</b>                  | €18,000  |  | €8,900*  | €0  |  | €425   |
| <b>Comments</b>                         | Widespread purposes. Local government activity very limited<br>Additional purposes of JF | Major need of improvement caused formal constitution. One property uses another access road<br>Property with share = 5 benefits of company tax reduction | New statutes in 2003. Statutes from 1946 lost. Agreement within association on shares, based on official recommendation<br>* Investment in 2004, with mortgage | Proposed one association for all 3 JF. Rejected by owners. Today 2 associations. No formal annual meetings. | 1958 statutes based on previous agricultural use. Changed situation today. Main owner find shares unfair | Municipality in charge of maintenance of some parts with more public use |

Table 3: 6 examples of joint facilities in Southern Sweden

Some further comments on the associations and joint facilities could be done. The association of Kävlinge Furulund GA:3 is very small, and operates without formal annual meetings. Osby Gisslaboda GA:1 is also small, and decisions are taken informally as an ad hoc solution for a special need of improvement. Högsbo Lilla Klobo GA:2 apply the same fee for all members, despite the differentiated share in the cadastral record. Karlskrona Bromålagölen GA:1 has a different land use today, but still uses the official shares from 1958.

The examples indicate a satisfactory management of the joint facilities. The landowners act within the associations, though with some differences. As decades pass, the needs are changing, while the associations might continue with the same statutes. An amendment of the Joint Facilities Act in 2001 admits that the Cadastral Authority could assign to the association itself to decide on changes of the shares, in case of changed use of properties. The change becomes effective by the formal registration at the Cadastral Authority.

## **4. FINAL ANALYSIS**

### **4.1 Efficiency and Justice**

Some of the joint property units are still remains of the previous common production schemes, and continue as an externality within the joint property unit. However, they are not externalities for everybody, as the costs and benefits are restricted to the defined member properties, according to the cadastral record. The establishment of the joint property unit was done at a time when the process of internalisation gave a positive output for the individual property units, leaving the remaining part to a joint property unit. The production scheme indicated that the area would need a joint property unit, instead of internalising the area to an individual property. The areas had a specific use at the given time. The land use might change as time passes, e.g. the case of the gravel-pit at Höör Karlarp S:1 mentioned above. The need of gravel was understood as a joint concern for the 18 landowners in Karlarp. After excavating the gravel, the remaining value of the 1,200 m<sup>2</sup> is very limited. The capitalization of the future returns did not include the transaction cost for a change of the cadastral situation when the gravel deposit came to an end.

We also have opposite situations, when the joint property unit obtains an additional value, as in the case Trelleborg Östra Torp S:2 (see above). Even though the practical use changed long ago, the change of the formal cadastral situation was not effectuated. The cost for making the change is less than the benefit, as the (personal) expectation value to make the change is low. The critical increase of the expectation value to a total positive benefit occurred several decades after the change of use of the joint property unit. However, the transaction cost for the change restricted the previous landowners to act. It is an evident example of market failures.

The examples of the student reports indicate that there are similar problems in adapting the cadastral situation to the reality. The two cases with changed shares, equalizing the annual fee

to the association is a practical action within the association. The low fee is certainly a reason for the members to disregard the formal shares. The concept of equity is easily understood if the fees are low.

If the public subsidies would decrease or cease totally, we could expect more attention of the members on distribution of costs. The formal shares would become a more active concern. On the other hand, if the public subsidies would cease and the costs for the association increase substantially, we might face more problems in maintaining the joint facilities. We could eventually expect some facilities to reach the point of internalisation into individual assets.

The huge number of joint property units and joint facilities is by and large a good example of an internalised asset within a community of properties. The membership by property units is a fundamental condition. However, the examples above indicate that there are also examples of ancient joint property units and joint facilities, with uses totally out of date. The transaction costs for making a formal change are too high. The National Land Survey of Sweden has identified the problem of these outdated situations (Gränssnittet 2005). Governmental and European funds have become available to revise the cadastral situation. Such funds might be necessary as incentives for the association joint owners to take initiative to make a change. However, it is not logic if public funds are used to intervene in a situation where the land market does not act. The capitalization of future returns when the joint property unit or joint facility was created might have included too much of future returns, which has caused the effect of negative output at a change today.

## **4.2 Attitudes**

The joint facilities have a crucial function for the property units. The legal framework creates the rules, supported by the enforcement procedure. If a member of a joint property management association would neglect to pay the annual fee, the board of the association has access to the Enforcement Administration, without cumbersome procedures. Usually, the associations do not use this legal action, and occasionally accept non-payment of members. A similar situation occurs when fees are decided, diverging from the formal share. However, the legal framework with enforcement procedure prevents quite a number of neglects.

Normal human behaviour might explain absence of neglects towards the association. People do not simply want to create problems in the local environment. Neglect is also a sign of disrespect of the formal system. For this reason, it is important that legal actions are easily accessed. Human relationships are not always working smoothly. Without an operational legal system, there would be less interest to comply with the duties of the association.

The attitudes towards a compulsory system in joint property management are also supported by the general behaviour of the Swedish population. An international survey (World Values Survey) indicates that the Swedish population has a top world position on confidence towards other people: 66 % of the population state that one could rely on other people. The world average (of 81 countries) is 28 %, and Brasil has got the lowest value with 3 %. Another indication on the attitudes is that 87 % of the Swedish population try to be fair to other people,



while the world average on justice is 43 %, and Moldavia at the lowest value – 17 % (Åkerberg 2005).

The values of the survey might have various reasons. The system of joint facilities is benefiting from the general attitudes of the Swedish population. Eventually, we could also reverse the implication, by stating that an operational legal system creates good human behaviour.

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