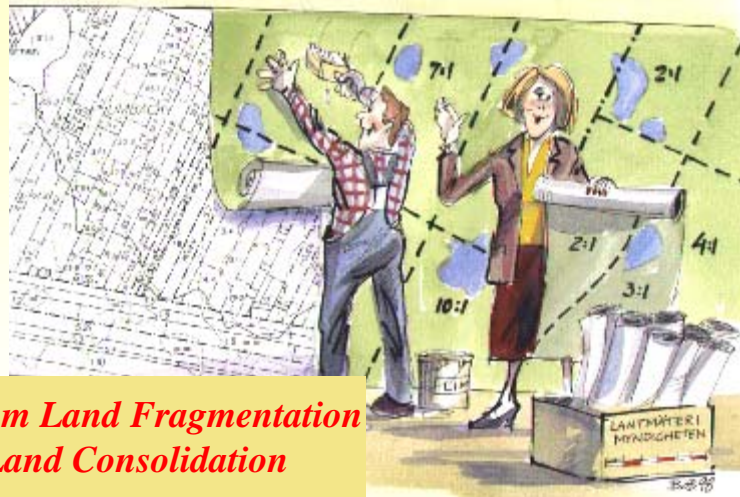


Cost-benefit analysis of Land Consolidation in Sweden from the viewpoint of society and a landowner



***From Land Fragmentation
to Land Consolidation***

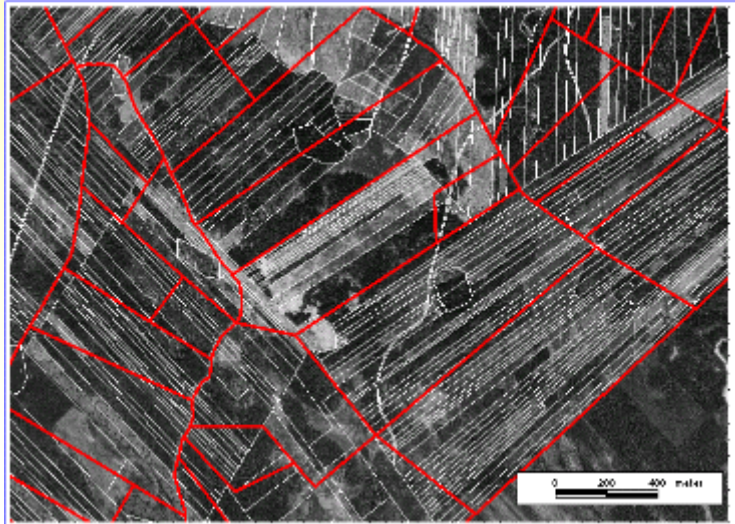
Mats BACKMAN, Sweden

Fragmentation in the county of Dalarna – consequences for society



- Fragmented area approx. 500 000 hectares
- Extra costs per year for land register, cadastre and taxation 1,7 Million USD
- Extra costs per year for municipalities, National Road Adm., National Railway Adm., telecommunication companies and electric power suppliers 1,7 Million USD
- Perpetual capitalized extra costs for society 112 Million USD

Fragmentation versus Land Consolidation



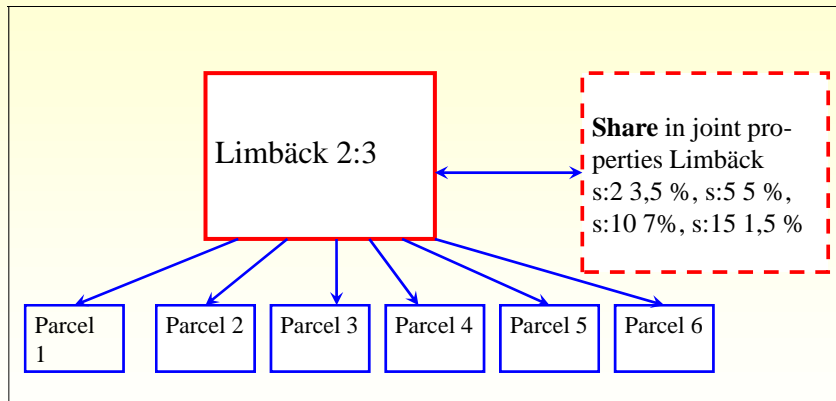
Land Consolidation – benefits from the viewpoint of society



- Highly decreased costs for authorities
- Highly decreased costs for land capture e.g. municipalities, National Road administration, National Rail administration, telecom enterprises and electric power suppliers
- Highly decreased costs for society planning, land use etc
- Higher quality in cadastre and cadastral index maps
- Increased activities and employment in forestry
- Increased tax revenues

Subsidies are a very profitable investment for society!

Composition of a fragmented property *before* Land Consolidation



Land Fragmentation – consequences for landowners



- Small parcels and fragmented structure cause high costs for management, silviculture and logging
- Small narrow parcels cause high costs for the cleaning of boundaries and risk for conflicts
- Insufficient access to roads
- Complex ownership situation



Mrs Arkeberg's situation *before Land Consolidation*

- Area 35 hectares
- Distributed in 9 villages
- Ownership in 71 real properties (separate designations)
- Shares in 189 joint properties
- Properties and joint properties distributed in 532 parcels
- 100 % ownership in only one property unit (her building site)



Distribution of Mr Anders Johnson's **fragmented and consolidated holding**



Benefits of Land Consolidation from the viewpoint of a landowner



- Low costs for management, silviculture and logging are accomplished by large and well-consolidated parcels
- *80 – 95 % reduction of the number of property units, parcels and length of boundaries*
- *Direct benefits are approximately four times larger than the costs of the procedure*
 - *The benefit condition in a large Land Consolidation project was recently approved by the Supreme Court*
- Increased timber production
- Good access to roads
- Clear and well-cleaned boundaries
- Improved ownership situation



Mrs Arkeberg's situation after Land Consolidation



- Area 61 hectares (36 hectares her own property and 25 hectares in 2 joint properties)
- Her property allocated in 1 village
- 100 % ownership in 1 real property
- Shares in 2 joint properties for hunting and common use
- Parcels (2 her own and 24 in joint properties)

Main costs for a Land Consolidation project



- Investigation of the composition and size of every owner's holding
- Individual talks at meetings where the landowners can express their wishes and interests, so called "*days of wishes*"
- Investigation of infrastructural measures - optional
- Valuation of all properties
- Elaboration of the re-allotment design
- Mediation and negotiation
- Surveying of the new boundaries
- Decision making



Forest valuation



Surveying of new boundaries



Costs for Land Consolidation - influencing factors



- Degree of fragmentation
- Number of real properties/parcels
- Number of landowners and their attitude
- Size of the consolidation area
- The length of all boundaries which have to be surveyed

Non-Measurable advantages of Land Consolidation



- Improved rural conditions
- Increased market values for consolidated properties
- Improved ownership conditions
- Improved infrastructure e.g. road network
- Accurate property registers and cadastral index maps
- Increased employment, activities and tax revenues
- Improved supervision of the management of farms



A positive public opinion is decisive for a successful Land Reform



- Is a compulsory Land Reform superior to a voluntary Land Reform in highly fragmented areas?
- Benefits can only be realized by a successful Land Reform
- Frequency of appeals to court in Sweden among 10 500 participating landowners in Sweden during 1975 -2009
 - 33 landowners but only 7 appeals were approved by court or less than 0,1 %

**Is Land Consolidation a
profitable investment or not?**



Land Consolidation is a very profitable
investment for both society and land-
owners

Thanks for your attention!