

Fundamentals of Land Consolidation as an Instrument to Abolish Fragmentation of Agricultural Holdings

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Keywords: land consolidation, agriculture, fragmentation, practicable procedures.

ABSTRACT

This paper aims to give an overview of the main technical and policy issues that have to be taken into account when land consolidation is implemented in the most practicable way.

The paper focuses on land consolidation for agricultural purposes, that is land consolidation as an instrument to abolish fragmentation of agricultural holdings. Land consolidation for specific non-agricultural purposes such as nature and landscape is not an issue in this paper.

Land consolidation on a voluntary basis implies too much uncertainty with respect to its final results. Land consolidation can only be carried out in an efficient way when it is based on special legislation. Therefore the description of the land consolidation process in this paper emanates from a process provided by law.

In countries where land consolidation already has a long history, procedures have become rather complicated, because over the years the instrument of land consolidation has been developed in such a way that the fulfilment of a variety of different goals with respect to the development of the rural area can be achieved. The advanced multi-purpose character of the instrument may imply that the instrument is becoming too inert. Therefore there is a need to go back to the fundamentals of land consolidation. The result may also be of interest for countries where land consolidation still has to start.

In Chapter 2 some definitions and main characteristics of land consolidation will be mentioned.

Chapter 3 will give an overview of a practicable organization and practicable distribution of responsibilities.

Chapter 4 describes a practicable land consolidation process.

The paper is a summary of a publication about land consolidation, prepared for the Food and Agricultural Organisation (FAO) of the UN.

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1. INTRODUCTION

This paper aims to give an overview of the main technical and policy issues that have to be taken into account when land consolidation is implemented in the most practicable way.

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2. DEFINITIONS AND MAIN CHARACTERISTICS

2.1 Land consolidation; land consolidation project and project area

Land consolidation for agricultural purposes is an activity or an instrument that is implemented in order to consolidate fragmented agricultural holdings or, in other words, to unite the scattered parcels of the distinct farms. Land consolidation is carried out by means of projects in clearly bordered parts of the rural area. For each project a project management will be appointed. Land consolidation may also include the improvement of the road system and of the water management system, as well as of the landscape and the conditions of nature in such a project area.

In French land consolidation is called “remembrement (rural)”.

In German it is called “Flurbereinigung”.

2.2 Reallocation (proportional redistribution)

Within land consolidation the exchange, readjustment or reallocation of the rights of ownership and the use of the land is the basic instrument. It is the engine by which the operation of land consolidation is driven and which forms also the key characteristic feature of it. In principle all land in the project area is regarded as possibly being subjected to exchange of its owner and user. Sometimes this exchange of the rights of ownership and use of the land is also called reallocation or replotting, but in this paper only the term reallocation will be used as to indicate this key instrument of the land consolidation process. Reallocation can be defined as the process of the assembly in a specific area of all properties belonging to different persons followed by the division once again of the properties in portions or parcels in order to result finally in a new distribution of the land to each owner, according to the ratio of each one's contribution to the total. The assembly of all properties is in fact a more abstract part of the operation whereas the redistribution is the concrete part of the operation. This redistribution of the land according to the ratio of each one's contribution to the total is a very important characteristic of the reallocation process, which we will call the proportional redistribution.

The reallocation (proportional redistribution of property) can be based either on the area or on the value of each one's contribution (also with respect to lease land).

2.3 Systematic reduction and reallocation claim

The proportional redistribution incorporates the possibility to reduce each portion that has to be redistributed by a (small) percentage in order to acquire land that can be used for the creation of provisions that are in the public interest. One could think of provisions like the improvement of the road system and the water management system as well as of provisions for nature and landscape. This reduction for public purposes is called the systematic reduction. It must be applied to each one's property in the project area in order to calculate each one's right on reallocation or reallocation claim. It is important to distinguish whether the provisions, for which the systematic reduction will be used, will be realised in the interest of the owners in the project area itself or in the interest of a wider part of the society in the region. In the latter case the systematic reduction has to be compensated financially.

2.4 Application of governmental land

On the other hand reallocation makes it also possible that governmental land in the project area, if available, is used for provisions that are in the public interest. By reallocation this land can be allocated on places where those provisions need to be established. For this purpose the government could also decide to buy land in the project area. In principle this land can be bought anywhere in the project area. This will limit the amount of land that has to be acquired by systematic reduction.

Obviously the topography of the project area will limit the possibility to allocate each redistributed portion exactly according to the ratio of each one's contribution to the total. Therefore land consolidation must allow a (small) discrepancy between each one's reallocated

portion and his reallocation claim. Governmental land, if available, can also be used to reduce possible negative discrepancies that may result from the reallocation process.

Governmental land can also be used for the enlargement of agricultural holdings and for purposes of nature and landscape.

2.5 Land lease

Above we saw that the reallocation of the rights of ownership, as well as of use of the land was mentioned as the key characteristic feature of land consolidation. In case the owner and the user of a parcel are not the same person, then there will be a lease relationship in between them. In the reallocation process it must be considered whether this relationship, if it is based on a lease contract that gives the user of the land (the tenant) an important legal position, must be maintained or not. In the latter case a new relationship must be created. Obviously lease relationships that include an important legal position of the tenant must be handled carefully. This matter will be dealt with later in this paper.

2.6 Land consolidation on a voluntary basis or based on a special law; legal security

Land consolidation and in particular reallocation has a big impact on the relationship between the land and the owners and users of the land. To get maximum support from the owners, land consolidation therefore started on a voluntary basis in most Western European countries. Land consolidation on a voluntary basis means that each participant has to agree fully with the proposed result of the reallocation process. If one participant does not agree the proposed result has to be changed and/or this participant has to be left out. For this reason only small voluntary land consolidation projects with less than 10 participants or rather less than 5 participants can be carried out successfully. Voluntary land consolidation is only useful to solve small local fragmentation problems.

In order to carry out land consolidation in a more efficient way, land consolidation acts have since long come into force in Western European countries. This legislation provides for decision-making about the execution of a land consolidation project by the government or by voting by the owners (and the users) of the land in the project area. As soon as this decision is taken, one of the most important tasks that have to be carried out is the drafting of a reallocation plan. Legislation must provide regulations that give the owners and users of the land the right to make objections against the reallocation plan and against other measures that are taken in the course of the project. In other words: legislation must provide for legal protection of the participants against incorrect decisions taken by the land consolidation authorities.

2.7 Main causes of fragmentation of agricultural holdings

- Practice of inheritance and increasing need to scale-up farming.
- Construction of roads and railways and other non-agricultural developments.
- Privatisation of the land ownership by restitution in countries in economic transition to a market economy. Land consolidation can also be regarded as a useful instrument for the restitution process. This is because land consolidation includes an inventory of the rights

on the land and a reallocation of the rights on the land if necessary and it results in an establishment and registration of the rights on the land by creating secure land titles.

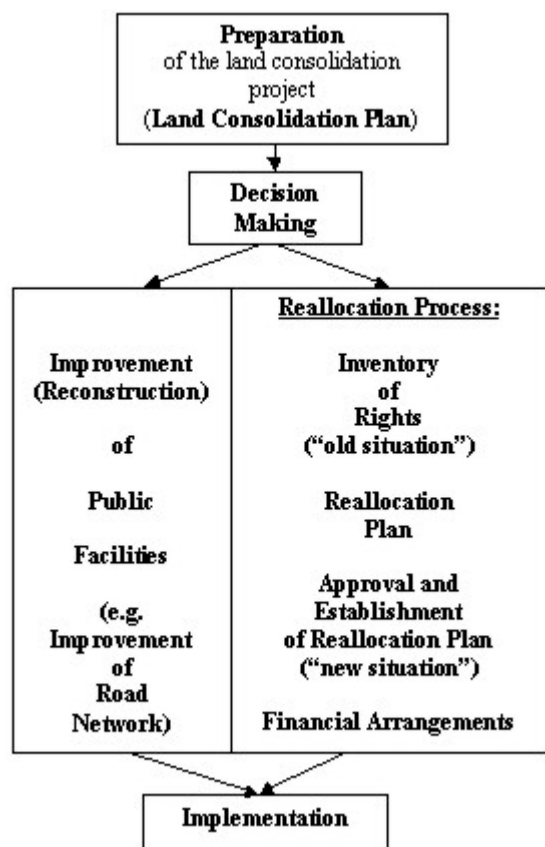
2.8 Main structure of the land consolidation process

The diagram below shows the main structure of the land consolidation process. The process starts with the preparation of the overall-plan for the process (the land consolidation plan). This plan includes a specification of the project area (such as boundaries of the project area and description of the agricultural situation), the goals of the project, finances, organisation, planning of the improvement of public facilities (like road network) and time schedule of the project.

The decision making includes participation of the owners and the users of the land in the preparation of the land consolidation plan.

After the decision is taken to carry out the land consolidation project, the reallocation process will start. Also the planned improvements of the public facilities can be constructed.

The implementation consists of the changeover to the new situation. This will include the implementation of the “new situation” in the land administration, the construction of the allocated new lots in the terrain and its occupation by the intended owners and tenants, the implementation of the management of the public facilities as well as the settlement of the financial arrangements. Some of these activities may also be part of the reallocation process.



2.9 Conclusion

Land consolidation is the overall process that includes reallocation as well as road construction and other physical activities in the land consolidation project area. Reallocation is the key instrument and the key sub-process within the land consolidation process that enables the exchange of the rights of ownership and of use of all land in the land consolidation project area. and each one's right can be reduced by a (small) systematic reduction. Governmental land Reallocation incorporates proportional redistribution of each one's right on land in the project area in a project area can be an important resource in the land consolidation process. In a land consolidation project careful attention has to be paid to the rights on land including lease rights.

3. PRACTICABLE ORGANIZATION AND DISTRIBUTION OF RESPONSIBILITIES

a. Central government

Responsibilities:

- National land consolidation policy
- National land consolidation program
- Annual land consolidation budgets and budgetary outlook in the medium term per region

Organization:

Ministry of Agriculture

- National Land Administration Agency (cadastre or land registry)
- Land Consolidation Department with regional branches
- Experts: agricultural experts
surveying experts
sworn surveyors

b. Regional (or local) government

Responsibilities:

- Regional land consolidation program
- Initiative to prepare land consolidation projects, advised by Farmers' Association
- Approval of land consolidation plans and Decision to execute land consolidation projects
- Appointment of members of management teams of land consolidation projects, advised by Farmers' Association

Organization:

- Regional government has rural development department that is charged with land consolidation policy
- Representative of regional government is chairperson of land consolidation project management

c. Management of land consolidation projects (Project management)

Responsible for management of land consolidation project, including responsibility for:

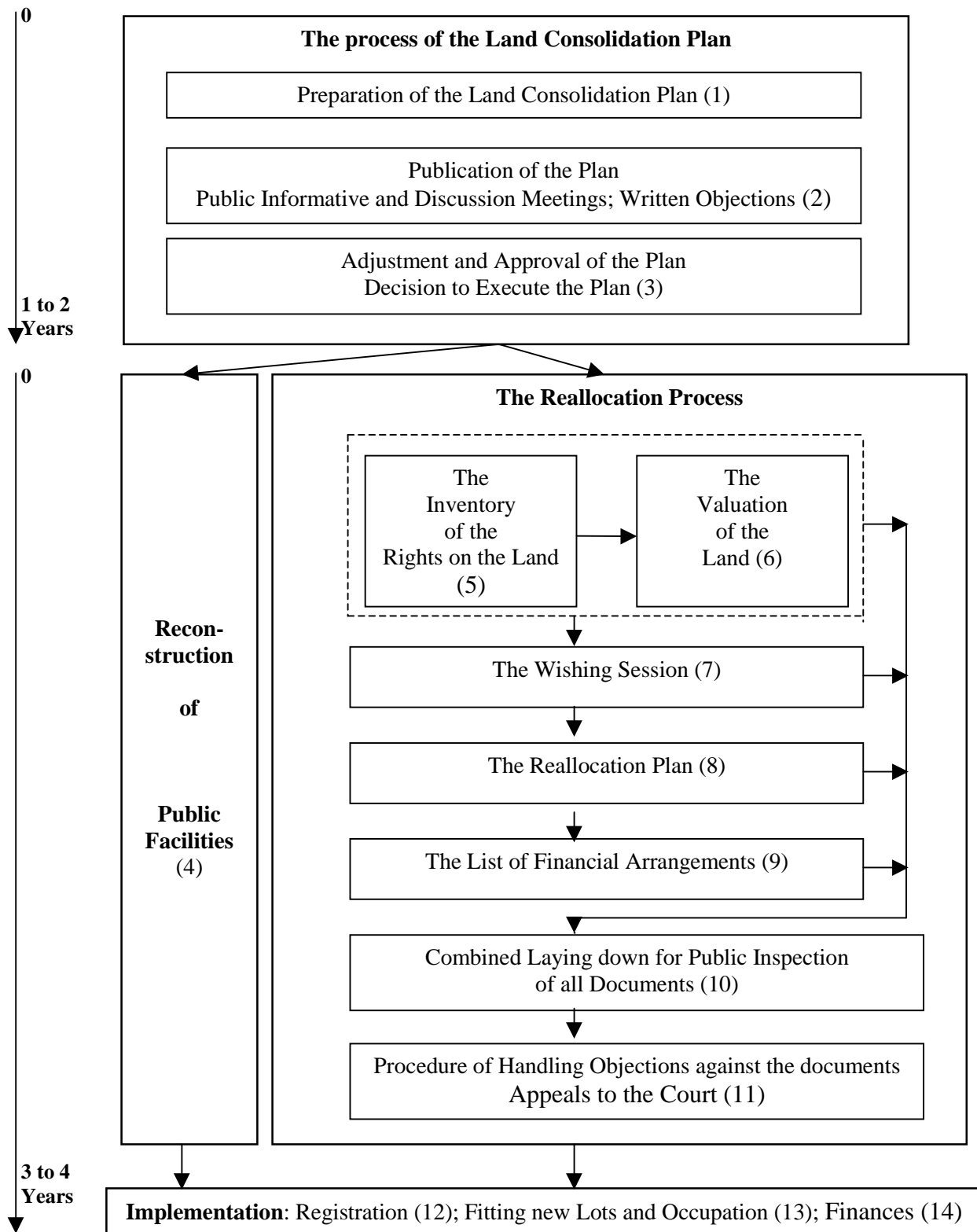
- Drafting of land consolidation plan and adjusting the plan on the basis of discussion with and objections from the public

- Drafting of all official documents of reallocation process
- Organizing of wishing session with respect to the reallocation plan
- Organizing of sessions to handle objections against official reallocation documents in the first instance including the composition of the proceedings of these sessions
- Reconstruction of public facilities
- Implementation of final reallocation plan and financial arrangements including the fitting in the terrain of the new lots
- Verification of expenses (within project budget)

Organization:

- Representative of regional government is chairperson
- 4 Members (farmers living in the project area)
- Advises and preparations by experts from regional branch of national department of land consolidation:
 - . Agricultural expert: land consolidation plan; reconstruction works; finances
 - . Surveying expert: formal reallocation documents; preparation of registration of final reallocation plan
 - . Sworn surveyor: chairperson of sessions in which objections against official documents are handled in first instance
 - . Possibly employee of regional government: verification of policy and budget

4. PRACTICABLE LAND CONSOLIDATION PROCESS



The figures in between brackets refer to the numbers of the following explanation:

1. Preparation of the land consolidation plan
 - Size of the project area: 100 to 200 agricultural holdings
 - Boundary of the project area: clearly visible topographic elements; preferably boundary is chosen in such a way that farmers in project area do not use land outside the boundary
 - Governmental land: availability; budget for acquisition; policy concerning the use of governmental land
 - Contents of land consolidation plan:
 - . Description of the boundaries of the land consolidation area and the indication of it on a topographic map and/or cadastral map.
 - . Description of the agricultural characteristics of the project area.
 - . Goals of the project: possible consolidation (by reallocation) of the agricultural holdings, possible agricultural engineering works (such as levelling off the land, reconstruction of plot boundaries and drainage), possible improvement (or reconstruction) of public facilities (e.g. improvement of road network), including the indication on a map of all public facilities (facilities that will be removed, facilities that will be maintained, facilities that will be improved as well as new facilities) .
 - . The arrangement of the management of the public facilities. The plan has to indicate which authorities will be responsible for the management and maintenance of the maintained, improved and new roads and other public facilities.
 - . The possible percentage of the general reduction.
 - . Possible application of governmental land and compensation of general reduction.
 - . Costs and governmental funds for the project and possible payment by the owners.
 - . Organization, procedure and time schedule of the project.
2. Publication of draft land consolidation plan and discussion
 - Publication of draft land consolidation plan and announcement of public informative and discussion meetings concerning the plan
 - Public meetings to inform the public about the plan and the process and to discuss the plan with the public
 - Written objections against the plan by the public
3. Adjustment of the plan and decision-making
 - The project management adjusts the plan at its own discretion on the basis of the discussions and the written objections and sends the final draft plan and the written objections to the regional government
 - The regional government approves the plan after possibly having made adjustments in consultation with the project management and publishes the final plan
 - The regional government takes the decision to execute the land consolidation plan (to order the project management to start the execution of the project)
4. Reconstruction of the public facilities
 - Specifications and execution by external contractors according to land consolidation plan

- Verification by agricultural/civil engineering expert
 - Arrangement of temporary land use if necessary, including compensation of possible damage (arrangements made by surveying expert)
5. Inventory of the rights on the land
- Mapping: cadastral map and/or new topographic map produced by means of photogrammetry or ortho-photo mapping
 - If adequate land administration system is available: copying of land administration data. Missing data collection by special procedure: announcement of collection procedure; rightholders submit their claims; project management (surveying expert) verifies claims and establishes land information data.
 - If adequate land information system is not available: announcement of special inventory procedure; rightholders submit their claims; project management (surveying expert) verifies claims; possible consulting rightholders; establishment of the inventory of the rights on the land. In this case the process will take much more time.
 - The project management must approve Conveyances. The land administration system must alert the public with respect to this rule by putting a signal next to the relevant parcels
6. Valuation of the land (simultaneous to the inventory of the rights on the land)
- Valuation is related to agricultural quality of the land
 - If official valuation is available: copying of valuation data
 - If official valuation is not available: special valuation must be carried out. But if the quality of the land in the project area is rather homogeneous: valuation is not needed; only minor corrections may be necessary in case quality of the land differs too much
7. Wishing session
- Guidelines for the drafting of the reallocation plan must be drawn up and published
 - Project management invites owners and tenants to bring forward their wishes with respect to the reallocation of their land (preferably 2 or 3 alternative wishes)
8. Reallocation plan
- Drafting of the reallocation plan is the most important activity in the process of land consolidation. An automated system must be implemented to facilitate this activity
9. List of financial arrangements includes:
- Distribution of the portion of the costs that has to be paid by the owners; distribution proportional to the consolidation profits experienced by each owner based on simple method to estimate each one's profit
 - Settlement of other costs related to reallocation process (e.g. difference between reallocated value and value of reallocation claim)
 - Compensation of damages suffered from the land consolidation process
10. Combined laying down for public inspection of all official documents
- All official documents (inventory of the rights, valuation, reallocation plan and list of financial arrangements) are laid down for public inspection simultaneously.
- Note: In case there is no adequate land information system the inventory of the rights is more complicated. It will take more time and effort to collect the relevant data and its correctness is far from guaranteed. In this case the inventory of the rights will be laid down for public inspection separately as soon as the inventory is prepared. The

valuation can be prepared simultaneously and will be laid down for public inspection together with the inventory of the rights.

- Boundaries of new lots are set out in the terrain.
 - Owners and tenants will be given the opportunity to submit objections against the official documents.
 - Term of public inspection: 1 month. Term of submitting of objections: until 2 weeks thereafter.
11. Handling of objections against the official documents; appeals to the court
- Handling in first instance:
 - . Project management chaired by sworn surveyor organizes sessions to handle all objections submitted by owners and tenants. Parties concerned are also invited.
 - . Sworn surveyor takes decisions. Project management makes all necessary adjustments.
 - . Project management sends proceedings of meetings to parties and to court.
 - . Parties will have the right to appeal to the court.
- Note: With respect to inventory of rights and valuation: No appeal to the court in case of adequate land information system (secure titles) and official valuation. In that case, in this first instance, only objections to adjust data in accordance with land information system and official valuation.
- Appeals to the court:
 - . Special chamber of the court; special procedure including priority over other cases.
 - . Project management and surveying and agricultural experts also invited to sessions of the court.
 - . Project management adjusts documents according to court judgements.
 - Appeals to a higher court:
 - . Only appeal to a higher court with respect to the list of financial arrangements. All mistakes that still are supposed to appear in other documents can be compensated financially (owners have the right to claim financial compensation of damages due to supposed mistakes in the other official documents). Appeals to a higher court with respect to the reallocation process would also delay the process too much.
 - . The project management adjusts the list of financial arrangements in accordance with judgements of higher court
12. Registration of reallocation plan
- Implementation in land administration system by registration of official reallocation document, prepared by surveying expert.
 - Preparation of update of land administration by surveying expert in co-operation with land administration agency. Update of land administration system (registers and maps) at same time as registration of official reallocation document.
 - Security of new land titles.
 - Official reallocation document contains also the ownership of the public facilities. Registration also implies assignment of arrangement of management and maintenance of public facilities.
13. Fitting of new lots and occupation of new lots
- Agricultural engineering works to fit new lots (new boundaries and possibly drainage and other engineering works).

- Occupation of new lots by the owners (and the users) successively on the basis of individual arrangements as soon as possible after the reallocation plan is laid down for public inspection (not in cases of unsolved disputes). After final judgement of the court law can enforce occupation if necessary.

14. Finances

- Project management adjusts list of financial arrangements after judgements by court.
- Payment of burdens due to distribution of costs by mortgaged loan.
- Payment of other financial settlements in cash.
- Judgements by higher court will be settled in cash afterwards.

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BIOGRAPHICAL NOTES

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