

A French Experience in Land Consolidation

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SUMMARY

Land consolidation in France is several centuries old. Its success is linked to the institutions which initiate and control it and to the legal and procedural aspects that allow its implementation.

The private sector is in charge of piloting these operations.

Only the chartered surveyors considered as qualified by the government can be in charge of it.

In addition to the technical aspects (topography, cadastre, property titles...), they assume a large part called consultation meaning organising negotiations and doing proposals.

Preliminary studies and land consolidation are the procedures which are defined and exposed considering three examples:

- A rural land consolidation with a double aim: to upgrade the agricultural structures and to master and organise the hydraulic network.
- A specific land consolidation considering the establishment of a highway bypass using the levy based land consolidation to share the expropriated area among all the owners of a bigger area.
- After a comprehensive study, a land consolidation-development plan combined to a land consolidation defining housing, agricultural and environmental development projects

RESUME

L'aménagement foncier en France a plusieurs siècles. Son succès est dû à l'environnement institutionnel qui l'initie, et le contrôle ainsi qu'au contexte juridique et fonctionnel des procédures qui le régissent.

Le secteur privé est chargé de piloter ces opérations. Seuls les géomètres experts agréés par le gouvernement peuvent en conduire. En plus des aspects techniques (topographie, cadastre, titres de propriétés), ils maîtrisent un domaine globalement appelé la concertation qui inclut l'organisation des négociations et l'établissement de propositions.

La préétude d'aménagement foncier et le remembrement sont des procédures définies et exposées dans trois exemples :

- Un remembrement agricole à finalité hydraulique avec pour enjeu d'organiser puis permettre de mieux gérer l'espace agricole tout en améliorant les structures d'exploitations.
- Un remembrement engagé pour réparer un territoire traversé par une voie autoroutière, en compensant les perturbations selon la pratique de l'inclusion d'emprise.

- Après une étude préalable poussée, une opération de remembrement aménagement et de remembrement agricole pour redistribuer simultanément les terrains à bâtir, les terres agricoles, les secteurs à vocation environnementale tout en définissant les règles d'urbanisation future.

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1. GENERAL PRESENTATION

1.1 Brief Historical Account

The right to land property is enshrined in the 1789 Declaration of the Human and the Citizen's Rights (art. XVII).

The boldness of the Declaration's authors hasn't, no doubt, been unnoticed by the authors of our latest French Rural Code. Even if authorizing land consolidation is sometimes considered as a temporary breach to the property right, this procedure includes guarantees to provide equitable compensation to the concerned properties.

Even if rural land consolidation is several centuries old, the texts governing it in France, and which are currently fully applied, were adapted and improved in the fifties. With these texts, and with the subsequent procedures, millions of hectares of rural land have been consolidated in France.

1.2 Institutional Aspects

Encouraged by government, land consolidation has been fully funded, initiated and controlled by the State administration, namely the Department's Direction for Agriculture and Forests, until decentralisation was implemented. We shall see later how a real public-private partnership has been established for implementing this process, the French qualified chartered surveyors being the private part. We can say that this partnership has been successful.

Today, the Ministry of Agriculture and Forestry is in charge of following-up and controlling the legality of this process, which actually concerns three other state institutions:

- The Ministry of Finance (namely the Tax General Direction), which supervises the coherence between the original cadastral information (both graphic and literal) and the land consolidation outcome in terms of new maps. It also provides quality-control of the process.
- The Ministry for Environment, in charge of designating persons who are qualified for protection of Nature. These persons have to make sure that recommendations and obligations included in the impact study are respected while elaborating the project. We shall be coming back to the Environment component later.
- The Ministry for Equipment and Transportation, in charge of the follow-up of prescriptions for roads, infrastructure projects, and security related matters. We shall also come back to this aspect later.

Since several years, decentralization laws have transferred to departments the responsibility of initiating and funding land consolidation projects. The State keeps the responsibility of legality control. The State partly refunds the department for these projects.

1.3 Legal and Procedural Aspects

The decision-making authority for land consolidation, according to the Rural Code, is the commune's land consolidation committee CCAF (if the project is at a commune scale), or the inter-communal land consolidation committee CIAF (when the project involves more than one commune).

The CCAF meets under the presidency of judge.

It also includes:

- the mayor and a municipal counsellor designated by the municipal council
- three farmers, owners or leaseholder working within the commune boundaries, or, failing that, within the boundaries of an adjacent commune, as well as two substitutes, designated by the chamber for Agriculture
- three non built land owners from the commune, as well as two substitute owners designated by the municipal council
- three persons qualified in fauna, flora, nature and landscape protection, designated by the prefect; one of these has to be proposed by the President of the Chamber for Agriculture
- two civil servants belonging to the Department's Direction for Agriculture and Forests, and designated by the prefect
- a delegate representing the tax service director (cadastre)
- a representative of the Department's council, designated by its President

The committee can call upon any qualified person it considers useful to hear, on a consultative basis.

The president and the vice president of an Inter-communal committee, as well as those of a communal committee, are elected according to the same procedure.

Committee composition in a forestry case

In the case of a project concerning an agricultural and forested area, the communal committee also includes four forest land owners (two of them designated by the chamber for agriculture, upon suggestion of the regional centre for forest property, and two designated by the municipal council).

In case plots subject to forestry laws are concerned by land consolidation, a representative of the national forests office becomes a full member of the communal committee.

The appeal body is the departmental committee, and it is established according to the rules applied for boards with equally represented member categories, with a representation of the local and regional authorities.

1.4 Operational aspects

Land consolidation is one of a few sectors in which a public decision is translated into a strong private involvement. Due to the complexity of the related procedures, and to their sensitive character, only chartered surveyors, which are considered as qualified by the government, are authorized to lead such projects.

Kingpin of the operation, the qualified chartered surveyor is in charge, in addition to the technical aspects (topography, cadastre, property titles...), of a large part called **consultation**

which includes negotiations and proposals. He is therefore the moderator of the sub-commission, which is a kind of informal working group open to any owner or farmer concerned.

This exercise in local democracy is a guarantee for success.

1.5 Procedures

1.5.1 Initial land consolidation study

Since the land issue is at the core of this project, an initial study is requested:

- when a commune thinks over its development, and looks for space to satisfy its needs in terms of urbanization, equipments, activities, and leisure,
- when local agriculture is willing to adapt its working tools to the economic requirements,
- when development of roads, water networks, and vegetal frames is needed
- when one wants to upgrade locally the quality of an environment for users, such as residents, fishermen, hunters, foresters,
- When roads, highways, railway or river infrastructure cross a communal territory.

All these reasons, which often compete, lead to the elaboration of initial studies aiming at conducting a comprehensive preliminary reflection, and to suggest development tools and techniques.

Contents of this study:

- **survey of the initial state** of the commune, including physical aspects, and land use, according to crop nature and to installations (drainage, irrigation...)
- **survey of the organization and of the sustainability of farms**, their communication means, their specific constraints resulting from their spatial distribution and their division
- **diagnosis of the land structure**, evaluation of resulting handicaps in terms of valuation of land and forest
- **inventory** of advantages and disadvantages of the physical and natural environment
- **survey of the urbanization documents orientations**, and identification of short and mid term public development needs
- **reflection on procedures**, and their adaptation to the given situations
- **increasing awareness of local actors** of rural areas' development stakes
- **evaluating the impact of setting up** an infrastructure, on properties, production, plot development, road system, environment and natural surroundings
- **development proposals** for the communal territory as a whole, in the framework of local orientations and wills, taking into consideration the general interest, inevitably confronted to the sum of individual interests.

These **initial studies** must allow information and increased awareness of the population, as well as the essential consultation between the various actors: elected representatives, landowners, farmers, and users in general.

1.5.2 Land consolidation

Rural land consolidation has consisted, for a long time, of regrouping properties by setting up a new and more adapted plot map, therefore constituting more important farming units, which would be closer to farms.

If this aim remains valid, others are also being taken into account since several years:

- **global development of the rural territory**
- **preservation, management and upgrading of natural environment.**

The communes may, in the framework of this procedure, widen, create, and identify their land reserves. Setting up a sports area, a housing development project, a camping, a leisure area, or an economic zone, mastering an area to be safeguarded environmentally, are aims now often displayed by communes...

It is, thanks to such opportunities, that road, hydraulic networks or vegetal frames are also developed. The required expropriations are reserved in a simple and global way, through a light levy on properties.

When a large infrastructure program is under way, such as roads, highways, railway, etc..., land consolidation has several aims:

- Limited disruption of agricultural activity (properties and farms),
- Restore utilities, in particular for roads and water networks,
- Facilitate its landscape integration, and protect natural environment.

Contents of this study:

After finalizing the initial land development study, the main steps of the procedure are the following:

- **Definition of the perimeter**, subject to public survey, by the communal committee for land development
- **Land classification** according to value of agricultural productivity, upon a grid of reference plots established through local consultations
- **Second public survey:**
 - Proposal to each landowner identified in the cadastre database, about the classification of his plots
 - Census of real landowners and accurate identification of all rights holders
 - Opinions and desiderata of landowners and farmers in terms of consolidation or preferences for localization
- **Establishment of the preliminary project:**

The chartered surveyor takes into account all the above mentioned elements, and confronts the sum of individual interests with the diversity of public stakes (road system, hydraulics, vegetation, landscape) according to the impact study recommendations. He identifies the land reserves, if any, and integrates, if needed, the land expropriated for the large infrastructure project.

- **Third public survey:**

In spite of a large consultation throughout its preparation, the chartered surveyor systematically submits this preliminary project to all concerned landowners, some of whom might be living far from the commune.

- **Project definition:**

The chartered surveyor carries out the calculations related to the project, according to the newly established plan through land or photogrammetric survey. The plots thus established are materialized through demarcation. The related works are defined and assessed.

- **Fourth public survey:**

It is the major survey of the project. It is approved by the communal committee which studies the appeals, voiced in the survey, and decides about possible changes.

- **Fifth public survey:**

The communal decisions can be challenged in front of another body: the departmental committee.

- **File delivery:**

The chartered surveyor establishes the set of final documents:

- cadastral maps
- new property titles.

Sale of small plots:

One of the tools included in our land consolidation law relates to the sale of small plots. It allows, within certain legal limits, the owner of a small plot to sell it freely. The sale is official through a private agreement, the regularization of which is integrated into the land consolidation process. The advantage for the buyer is that, apart from the plot's price, he doesn't have to pay the important costs usually related to a classical ownership transfer.

The landowner finds also some interest, since he can easily sell his plot.

This procedure is widely used, and allows to decrease the number of small plots, which would not have otherwise the opportunity to be sold.

2. THE EXAMPLES

As an illustration of the procedure described above in general terms, we have selected a three examples of projects we have had the opportunity to lead.

In order to show what a land consolidation process can bring in favour of a territory, in terms of managing areas useful for the public, as well as upgrading properties and farms, we shall present projects which have had different aims.

2.1 The commune of Ambérieux en Dombes in the Ain Department: *Annexes 1 & 2*

This commune is located in the Dombes territory, which is also called the "country with one thousand ponds". Since several centuries, agricultural land and ponds (some have been established in the 16th century) live side by side.

As centuries went by, the property titles of lands comprising a pond have been transferred to city dwellers (often industrialists from Lyon), who were attracted by hunting opportunities on these lands. Hunting remains widely spread in the area.

Their interest for hunting, and the poor income related to renting agricultural land, encouraged them to widen the areas covered by water, usually by heightening the dykes.

In the past, the water levels were calculated in order to be compatible with neighbouring land. But, the city dwellers' changes in water levels have produced conflicts related to the

traditional water management: the traditional calendar for filling up and emptying the ponds has often become difficult to enforce.

In this context, and in order to collectively master the location of the hydraulic networks relayed to the ponds, for filling them up as well as emptying them, a land consolidation project has been decided. Its aim was dual : to upgrade the agricultural structures, but mainly to organize the appropriate land system, which would be compatible with an efficient management of this specific network.

It is interesting to underline that, once more, land consolidation proves to be a major tool, since it has allowed, with a simple tool, the compulsory 1% expropriation, the liberation of the areas required for the network.

Key figures:

Total area concerned:	1538 ha
Number of landowners:	190
Initial number of private plots:	761, i.e. an average of 4 plots per landowner
Final number of private plots:	400, i.e. an average of 2,1 plots per landowner
Number of plots designated for public use, under the responsibility of the Land Association:	149
Total area of the latter plots:	15 ha (a little bit less than 1% of the total area) <i>including 11,5 ha for ditches, 1,9 ha for public hedges 2,6 ha for new roads.</i>

The annexed maps give an idea of the initial and final situations, including the location of public utilities.

2.2 The commune of Grand Lemps : establishment of a road axis: Annexes 3 & 4

The commune of Grand Lemps (Isère) is crossed, in its southern part, by the Bièvre road axis, which is under the responsibility of the Isère department.

After the preliminary study, the Communal Committee decided to initiate a land consolidation program, with minimum expropriation, in order to curb the negative effects due to this road.

A reminder of the regulations seems useful at this point: *“the areas designated for projects or protected zones can be levied from the total plot number included in the land development area, in a proportion that is not incompatible with their profitability”*.

This levy cannot exceed 5% of the farms surface. As a result, the authority in charge takes the development responsibility of an area, the surface of which is equivalent at least to 20 folds the area designated for the project proper.

Here are the **advantages** of this choice:

- Better solidarity since the levy is based upon the total area concerned.
- Related works totally funded by the authority in charge in the affected area.
- Important development area concerned, since it is at least 20 fold the project area proper; this limits the levy and widens the room for negotiations.

- The authority in charge buys the land from the Land Association, which may, in its turn:
 - Either retrocede the funds to the landowners concerned, in proportion to their contribution (or their expropriated land)
 - Or engage in complementary works
 - Or use that money to fund maintenance works without levying any additional tax.
- There is also an opportunity of limiting expropriation by allotting areas already expropriated.

The **disadvantages** may be the following:

- Handicap for the one-plot properties with natural boundaries which might be moved.
- Loss of selling opportunity for landowners located on the project area proper, who considered the highway project with interest.

In fact, it appeared quickly that, due to the total land stock available, it was possible to establish the project without levying additional land, therefore benefiting from advantages and avoiding disadvantages.

The procedure has also allowed to allot the total area required for the road to its realization, to totally reshape the land plots according to the “scar”, and to jointly manage the location of newly planted public hedges; their total length: 9,7 km for a total area of 320 ha.

One important asset linked to this inclusive procedure for linear projects lies in the right of the authority in charge to anticipate the outcome of the land consolidation process, and to start working without delay on the designated land. In this case, he has to pay compensations for possession loss over the concerned areas, until land consolidation is finalized.

This practice has been widely used for highway and railway projects.

2.3 Land Consolidation and Development in Cervens (Hte Savoie): Annexes 5 & 6

Finally, we feel appropriate to present here another land consolidation project. It was linked to an ambitious development plan, which included, after a comprehensive study, housing, agricultural and environmental development projects.

The idea of initiating a land consolidation-development project, rather than a simple land consolidation, was born in the commune of Cervens (740 inhabitants) located in Haute-Savoie, on the southern cost of the Geneva Lake, close to the city of Thonon.

2.3.1 The Situation

A growing pressure on land tenure...

The geographic location of this commune had lead, since a certain number of years, to a growing pressure on land tenure, including on remote plots, without utilities.

The neighbouring cities and the international activities in the region had attracted a high income population, looking for a certain quality of life, without paying a lot of attention to the related costs.

The strong demand and the limited supply have therefore raised the land prices, both for agricultural and non agricultural plots.

Ill located farms...

Several farms had their main office in the commune centre, as well as a “fruitière” (cheese production), coupled with pig breeding... They were the reason for conflicts in the neighbourhood, and a serious limit to its development...

Old urban regulations...

A MARNU (stands for implementation of national urban regulations) existed in this commune. Its implementation turned out to be delicate, and could not be sustained because of its inconsistencies in terms of land use, and of induced additional costs for requested services.

It is in this context that the idea of a joint land consolidation and development project was born.

2.3.2 Contents of the procedure

This procedure merges two procedures: the land use plan and the land consolidation, with the aim of dealing with all of the development problems, including conditions for building development approval.

It consists of:

- Defining and creating of urbanization areas, taking care of their services and of their practicability, whatever the previous situation of the properties...
- Allotting to each landowner a part of his property for building purposes, and another part for agricultural or natural use.

In my capacity of chartered surveyor, I have been entrusted with the mission of establishing a feasibility study for this project. My colleagues and myself, within the framework of a working group, and later in the communal committee, have taken into account the current and the requested land use: agriculture, housing, non agricultural activities, environment, communications...

This reflection was well understood as the starting point of a comprehensive project which would include the following steps:

- Pre operational study
- Land regulations survey (land consolidation – development and agricultural land consolidation)
- Technical studies (accessibility and utilities)

2.3.3 Zone definition

Several simulations were needed in order to reach a **good zone definition**:

▪ **Zones entitled for building rights**

The very first stake has consisted of well defining (through location and dimension) the zone entitled to receive requests for building rights.

The instructions given to the working group were the following: avoid the easy solution of over sizing this area, the identity of the landowner shouldn't be taken into consideration, protect the valuable agricultural areas.

The following criteria have therefore been discussed: proximity of already built areas, interest for building purposes (exposure, view,...), easy connection to utilities networks, poor agricultural value.

▪ Land consolidation – development and agricultural land consolidation zones

The definition of these zones was also debated.

We have insisted on the foremost need to remain reasonable, and thus avoid to integrate all the land in the land consolidation-development zone. In fact, it is in this zone that every single plot will be allotted a building area.

Therefore, widening this zone would have the **following disadvantages**:

First for arithmetic reasons: the percentage of land entitled to be built for each plot is the result of the ratio between the total area of building rights zone and the total area involved in the land consolidation-development process. Let us call “p” this ratio.

In case the total area concerned by the land consolidation-development process is large, then “p” is small, with, consequently, the allocation of a small part of the area for building purposes to each account. This is, obviously, not interesting.

In this case, the risk of favouring large agricultural plots is high, although they are not well located, from the building point of view, unlike smaller plots which are more appropriate.

Finally, to end this arithmetic aspect, we should underline that avoiding to create too many non significant plots should be the rule. (The lots entitled to be built are considered as non significant if their area is not sufficient to meet the minimum requirements of the land use plan; in this case, we group the property rights in a jointly held lot, on a family or other basis).

Secondly, common sense: it is hard to consider that any plot, even far from the village centre (sometimes on a slope or in a wet area), can be entitled for building rights.

2.3.4 The outcome

The choices adopted according to the principles above are presented in the following table:

Initial situation	Land consolidation-development	Agricultural land consolidation	Total
Areas in ha	162	88	250
Landowners	429	205	513
Plots	771	256	1027

The total area in the zone entitled for building rights was approximately 27 ha. 14 were already identified in the Marnu; 13 were newly adopted; a few hectares have been deleted from the old Marnu.

Therefore, the building zone remained high: $27/162 = 16,67\%$

Procedure

The classification of all plots within the two zones has been achieved, according to the classical land consolidation criteria, i.e. agricultural productivity of each plot.

Computing principles

All of this counting had the following result: each account included in the land consolidation – development project would benefit from an area entitled for building, according to the following example:

Account value:	7200 points (1 hectare)
Percentage adopted:	16,67%
Building rights, in area terms:	$7200 \times 0,1667 = 1200 \text{ m}^2$
Expropriation for public use:	15% (roads, public areas...)
Private building rights (area entitled to be built):	$1200 \times 0,85 = 1020 \text{ m}^2$

The next step of the procedure resulted in setting up of the preliminary project, then the project established according to the desiderata, the specific constraints, the initial location, and the following basic principles: equivalence, grouping, placing together.

The outcome is summarized in the following table:

Final stage	Building rights zone Individual lots	Building rights zone Jointly held lots	Public services (roads, ditches...)	Agricultural zone	Total
Lots	107	60	122	430	719
Area (in ha)	27		23	200	250

The jointly held lots are organized to constitute plots entitled to be built by family, or by declared affinity groups.

We have to note that, among the twenty appeals against the project, only three were related to the plots of the zone entitled for building, which testifies about the good perception of the project by concerned landowners.

2.3.5 Reasons for success

Leading such a complex project, even for an experienced surveyor, is an exciting challenge. This professional experience requires us to negotiate in order to convince, and to anticipate in order to develop.

To succeed in such a project, which includes urban planning, ruralism, territorial planning and engineering, is but one of the satisfactions of our job.

We have to underline, nevertheless, that any similar project requires a strong resolution on behalf of the local authorities involved.

In Cervens, the municipal team and the working group have been exemplary, especially with regards to the Mayor's strong involvement.

In such a sensitive field, they were always able to follow the line of the public interest, without prejudice to the individual interests; everybody knows that the sum of the latter doesn't necessarily correspond to the joint interest...

Local history has confirmed that the municipal team was supported by the population, since this team was re-elected, thus proving that local democracy can strengthen political courage.

3. CONCLUSION

All over our world, the quest for better living conditions leads to development, to provision of appropriate equipment and to modernisation. Land consolidation is an essential tool to master the land issues for a successful and sustainable development.

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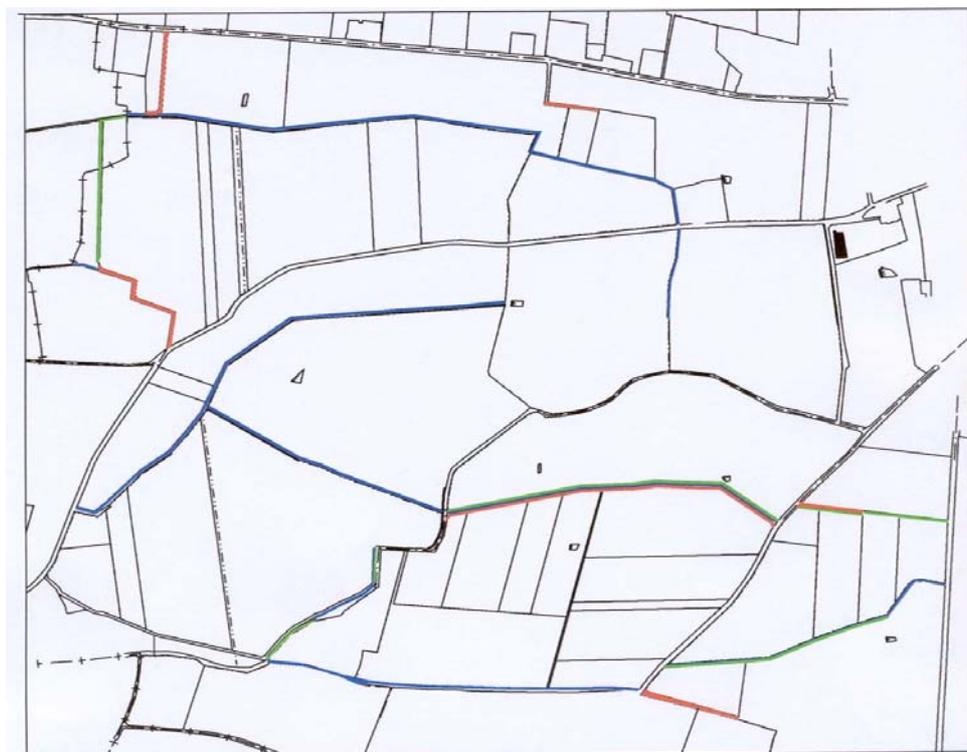
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Annexe 1 : Ambérieux en Dombes : original situation



Annexe 2 : Ambérieux en Dombes : final situation



Annexe 3 :

Le Grand Lemps : original situation



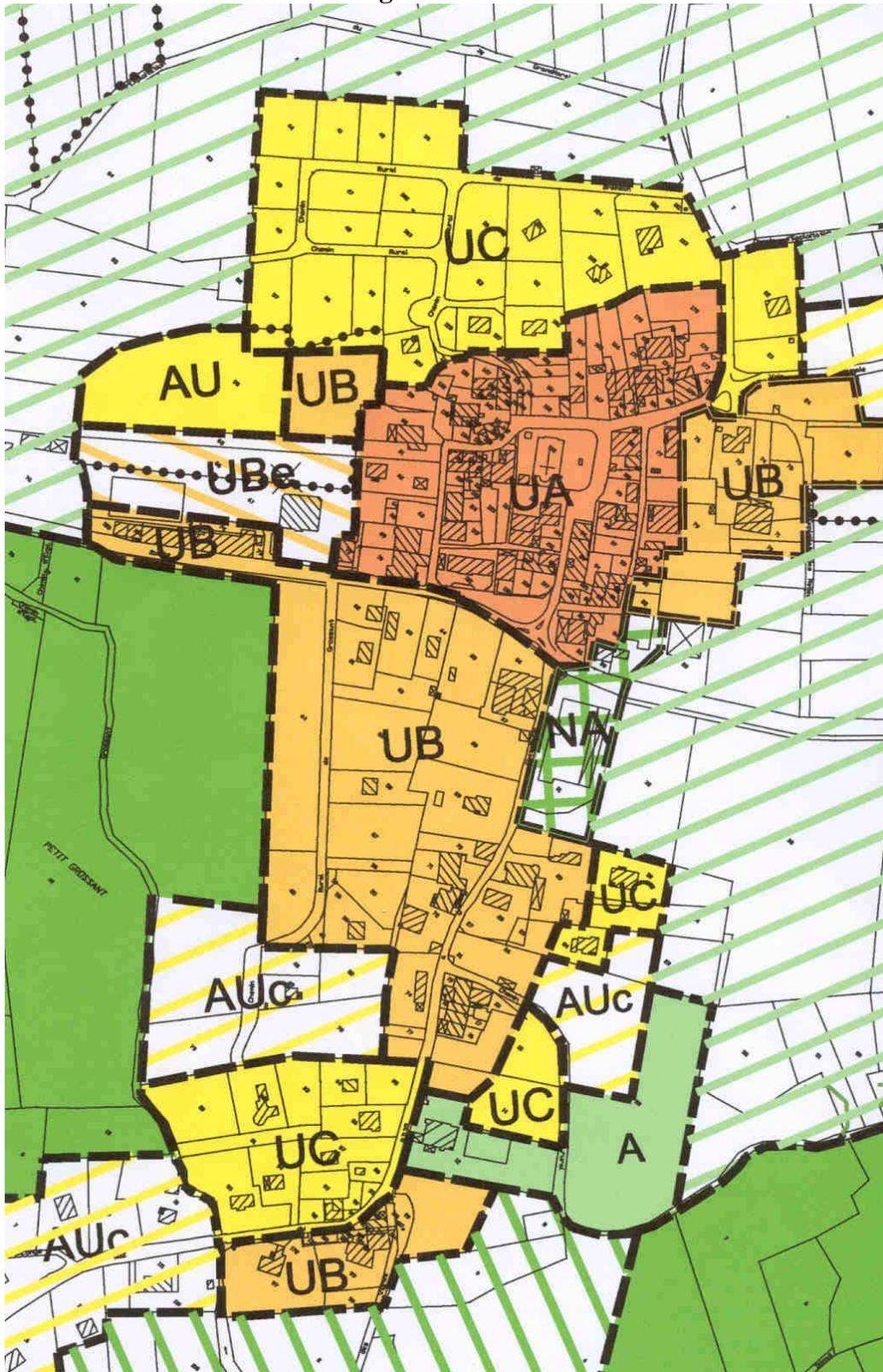
Annexe 4:

Le Grand Lemps : situation finale



Annexe 5:

Cervens Le Bourg : final situation



Annexe 6:

Cervens Pessinges : final situation

TS7 Best Practices in Land Administration – Technical Perspective

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TS7.5 A French Experience in Land Consolidation

