Land consolidation at the service of sustainable land management

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The world’s natural soils: 14 billion hectares of which 9.1 billion hectares are plant bearing

Arable land: 1.5 billion hectares
Grassland: 3.4 billion hectares
Forest: 4.2 billion hectares

98% of all food produce on the earth!
World population: 7.38 billion (… 7 380 000 009 …)

2000: 1 hectare surface area fed 4 people

Growth: 1.5 millions inhabitants per week!

2050: 1 hectare surface area will need to feed 6 people

Pasture and arable surface area: + 9 million hectares / year

Salinisation: + 1.5 million hectares

Bitumen and constructions: + 1.5 million hectares
in Europe?

a climatic zone favourable to the production of plants, forests and natural spaces

- Reduction in agricultural and forestry surface area (in 2012):
  - France: - 70,000 hectares/year
  - Germany: - 41,000 hectares/year
  - Belgium: - 4,000 hectares/year
  - Luxembourg: - 300 hectares/year

a sustainable land management is required!
in Luxembourg?

258.650 ha (2.586 km²)

- In 2012:
  - Agricultural surface areas: 134.000 hectares 52%
  - Forest surface areas: 90.000 hectares 34%
  - Built surface areas: 22.650 hectares 9%
  - Road infrastructures, railways, waterways and water tracts: 12.000 hectares 5%
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Office national du remembrement  ONR
Établissement public
National office for land consolidation
Public Establishment

• Legal basis: Law of May 25th 1964 concerning the consolidation of rural areas

• Vinicultural consolidation,
  19 projects since 1965  990 hectares

• Agricultural consolidation,
  24 projects since 1966  15,800 hectares

• Forest consolidation,
  6 projects since 2003  5,200 hectares

Total investment: 111 Mio €
(Studies, infrastructure and land correctional measures)
Office national du Remembrement

ADMINISTRATION DU CADASTRE ET DE LA TOPOGRAPHIE
Grand-Duché de Luxembourg

Since the start-up of the Rural Land Consolidation Office in 1964:

- Close relationship with the Cadastral Administration –

Via a control of the measuring accuracy and the conformity with the cadastral measuring guidelines, the Cadastral Administration guarantees to the rural land owners precise cadastral information for the consolidated parcels.

After the closing of the consolidation project, planning boards and political decision takers get best conditions for long time planning securities.
Wine-growing consolidation - Moselle luxembourgeoise
1964 - 2015

990 hectares (80%) consolidated
€ 80 million invested in related works

Significant improvement in productivity!

1964: 1,200 hours/ha/year
2014: 300 hours/ha/year

→ direct traction

Length of a parcel: 50 – 80m
Maximum slope: 40%
Maximum banking: 8%
Direct access to wine-growing roads
Mini-terraces on the most sloping hillsides
Wine-growing consolidation

- Consolidation project: Stadtbredimus

Total surface area: 85 hectares
Owners: 256
Property input: 1,192 parcels
Average surface area: 7 ares
Attribution: 470 parcels
Average surface area: 18 ares
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Wine-growing consolidation

Redevelopment of vineyards
direct traction, mini-terraces

Creation of new wine-growing roads

Maintenance of striking landscape elements,
stable drystone walls

Reinstatement of new water run-off channels in
natural stone and drystone drains in the
embankments, new habitats for flora and fauna

Creation of ecological strips contributing to the
integration and diversity of the landscape

→ management more favourable to the environment
Agricultural consolidations

15,800 hectares consolidated in agriculture

24 different projects

Majority of projects < 1990

> 1990: agricultural consolidations in the context of motorway construction

Timidity of success in agriculture!

- reduction of owned worked property and increase in leased land (65%)
- higher speculative land values
- fears of an increase in prices of farm leases with the increased sizes of parcels
- a limited view of the added value in the reduction of fixed operating costs
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Agricultural consolidations

- **Consolidation project: Mompach**

  Total surface area: 1.400 hectares
  Owners: 305
  Property input: 3.900 parcels
  Average surface area: 36 ares
  Attribution: 700 parcels
  Average surface area: 200 ares

**Improvement in productivity**

Compensatory measures

30 hectares removed from traditional agriculture in favour of extensive exploitation
Consolidations in the context of public interest works

- From 1994 (modification of the law, 19bis and following)
- Acquisition works prior to the procedure
- Road infrastructures
  - Motorways
    - from Brussels (Consolidation of Kleinbettingen)
    - from Trier (Flaxweiler)
    - from the Saarland (Mondorf, Burmerange and Remerschen)
  - New road junctions (Clervaux)
  - Bypasses
- Environmental improvements
  - LIFE Nature European project
  - Ecological revaluation of the Syre River (Mensdorf)
  - and the higher valley of the Alzette River (Schifflange)
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Road infrastructures

- Consolidation project: Schengen/Remerschen

  Total surface area: 52 hectares - Owners: 92

Property input: 635 parcels

Attribution: 243 parcels

Average surface area: 8 ares

Average surface area: 18 ares
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Road infrastructures following the example of the Consolidation of Schengen/Remerschen

- The contribution of the ONR:
  - Availability of land for the motorway and state highway
  - Amelioration of land fragmentation and roadway for wine-growing: larger parcels, better independent access, improvement in productivity
  - Optimisation of operating conditions, and public/private sewerage
  - New roadway adapted to operating requirements, land improvements

- Hydraulic and drainage measures, creation of new tarmacked roads, stone and dirt tracks as well as an underground link (tunnel)
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Road infrastructures following the example of the **Consolidation of Schengen/Remerschen**

- Enhancement of environmental structures (ecology and landscape) including compensatory measures in respect of wine-growing consolidation
- Integration of linear construction works and the interchange into the landscape
- Creation of mini-terraces, lined trenches, open ditches and dry-stone retaining walls
- Making available an area for renaturation
- Plantation of an alley of trees and herbaceous buffers

→ **sustainable land development**!
Environmental improvements

- Example: Schifflange consolidation
- Total surface area: 157 hectares
- Owners: 47
- Property input: 631 parcels
- Average surface area: 25 ares
- Attribution: 114 parcels
- Average surface area: 138 ares
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Environmental improvements based on the example of the **consolidation of Schifflange**

- The contribution of the ONR
- Provision of land for the new river bed, and wetlands temporarily or permanently flooded by the water of the Alzette
- Distribution of land categorised as drier in favour of traditional agriculture outside the wetland areas
- Improvement of land fragmentation and of the roadway system for agriculture, larger parcels, better independent access

> improvement in productivity

> better operating conditions
Main objective: enhancement of the alluvial plain of the Alzette, where typical fauna and flora have been reinstated, enriching the biodiversity of the ecological heritage.

Landscape: meanders in the water courses have been installed at the bottom of the valley and pedestrian and equestrian circuits have been created.

Extensive exploitation of wetlands and adjacent, relatively dry land → 48 hectares have been put to pasture on extensive farming principles with a herd of Galloways.

Co-existence of traditional and extensive agricultures.

→ sustainable land management!
Ecological consolidation

- Example: Consolidation of **Langsur** (lower valley of the Sûre)
- Total surface area: 53 hectares
- Vineyards, forests, fallow land
- Owners: 39
- Property input: 582 parcels
- Average surface area: 9 ares
Environmental improvements based on the example of the **consolidation of Langsûr**

**National Habitat zone!**

- Procedure initiated by the township of Mertert
- Main objective: ecological improvement of the site → biodiversity (tourist value)
- Revitalisation of ancient vineyards → organic viticulture
- Extensive grazing of fallow land using a rugged breed of goats
- Improvement of land fragmentation and roadway network for viticulture

→ **Sustainable land management!**
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Forest consolidations > 2005

Consolidations in progress:
Tarchamps (700 ha), Winseler (1.100 ha), Eschweiler (1.300 ha),
Beckerich (1.100 ha), Saeul (800 ha) and Clervaux (200 ha)

→ total: 5.200 hectares
Forestry heritage of the Grand Duchy of Luxembourg: 90,000 hectares (35% of the land area of the Grand Duchy)

- 13,000 private properties of 49,000 hectares of forest = 55% forest area
- 9,000 ‘smallholders’ (< 1 ha) 2/3 owning on average one parcel of 11 ares!
Forest consolidations

Law of May 25th 1964:

Articles 1, 2 and 3:

To provide, for the public good, a more economic operation of rural property...

... Consolidation tends to enhance land property by creating, through a new subdivision of land which is fragmented and dispersed, land plots with a larger surface area, with configurations which are better suited to growing methods and independent access...

→ Creation and improvement of forest roads, locations for wood storage, etc.
The Luxembourg procedure:

The traditional legal consolidation will not have the desired effects!

New approach:

• Voluntary exchange of parcels

• Buying and selling of parcels in the framework of consolidation procedure

Costs associated with drawing up the deed, registration and mortgage formalities are payable by ONR

• Land improvement through the creation of a cohesive of farm to market roads and public locations for the storage of harvested produce
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Forest consolidations

Example: consolidation project: Tarchamps
Forest consolidations

The purpose of forest consolidation

• Rational exploitation of forestry assets
  avoiding, wherever possible, any adverse impact
  on the natural environment (art. 1)

• Enhancement of the forestry heritage

Operating surface area of >10 ha + forest road infrastructure
= profitable for woodland thinning works!
The contribution of consolidation:

- Meeting national objectives for sustainable development of the natural space and natural resources
- Efficient use of renewable raw materials

→ Continual CO₂ reduction

(Rio, Kyoto, Johannesburg and ... agreements)
Thank you for your attention

Georges Fohl