

Land Consolidation as a Tool for Flood Prevention

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0

Content

1. Introduction / previous history
2. Co-operation with private planning companies
3. Implementation of the project
4. Conclusion

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1

1. Introduction / previous history

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2

The land consolidation project Lenzen/Elbtalaue

- One of the most ambitious land readjustment procedures in the Federal State of Brandenburg
- In a complex moderation and planning procedure the different interests of
 - nature conservation
 - environmental protection
 - sustainable flood prevention by a large scale dyke set back project
 - agriculture and
 - rural tourism

are reconciled with each other.

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3


The land consolidation project Lenzen/Elbtalaue

- It is also an excellent example of successful co-operation between public administration and a private, explicitly economically orientated planning company.


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Geographical position

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Landscape




The river Elbe shapes the face of the landscape with its natural interchange between low water and flood, that occasionally also achieves threatening catastrophic proportions.


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6



Landscape







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7



Landscape







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8



Landscape







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9



Landscape







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10



Landscape







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11



Landscape







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12



Landscape







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13



Landscape







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14



Landscape





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15



Landscape







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16



Iron curtain




The former German domestic border ('Iron Curtain') - in the Lenzen area this was the river Elbe - caused an undisturbed retreat for nature.


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17



Iron curtain







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18



Retreat for nature







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19



Retreat for nature







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20



Retreat for nature







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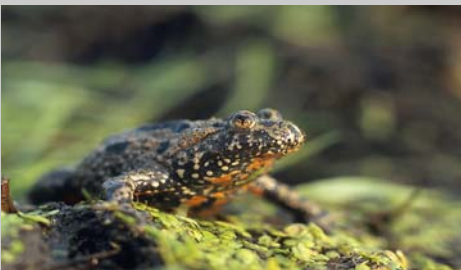
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21



Retreat for nature







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22



Retreat for nature

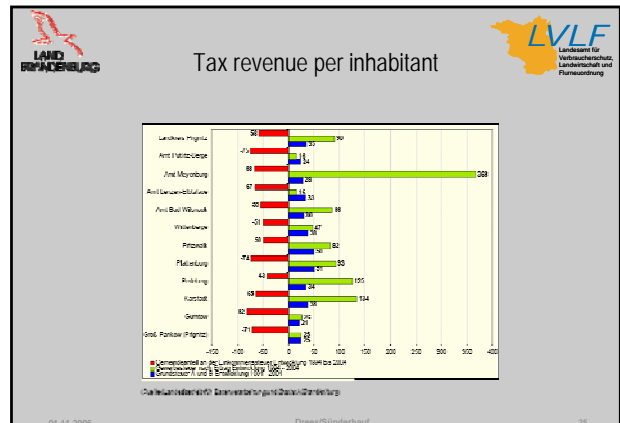
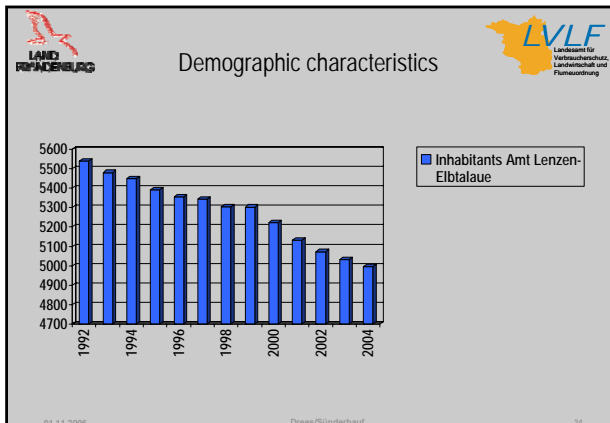




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23



- Goals of the procedure**
- flood prevention:
Elbe dyke was planned to be set back to win about 600 ha land for retention
 - Environmental protection:
new floodplain forest to be planted in the Lenzen Elbtalaue in a model project unique to Germany
 - improving the agricultural structure as a result of 40 years of collective cultivation of the land by socialist collective farms under GDR conditions.
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- Improving the agricultural structure**
- Reorganisation of ownership in agreement with the natural (topographical) borders, e.g. with respect to paths and ditches.
 - Development of new parcels of land with paths in order to facilitate sale and leasing (Restoration of disposal of ownership pursuant to Section 1 LwAnpG).
 - Reorganisation of ownership of paths and ditches on foreign plots.
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- Improving the agricultural structure**
- Bringing together of widespread holdings under consideration of the leasing relationships as far as possible to create contiguous agricultural units.
 - Regulation of the ownership relationships in the villages.
 - Planning, promotion and implementation of measures of path constructions for the development of land parcels and of village renewal measures.
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Solving conflicts

Land consolidation with its possibility to reorganise the areas according to requirements decisively contributed to solving land use conflicts.

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2. Cooperation with private planning companies

- The land consolidation Lenzen/Elbtaue demonstrated that the private-sector framework conditions of free planning companies and engineering offices favour a high level of flexibility and innovation in the procedure which also causes a substantial acceleration.

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30

3. Implementation of the project

Main Objective: Flood Prevention

- setting back an existing dyke to win land for retention
- => reducing water level
- => reducing floating speed

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31

Appropriate land management required

Situation

- ~ 600 ha needed for new dyke and retention area
- ~ 60 owners affected
- many didn't want to sell

Solution

- expropriation or
- land consolidation

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32

Land consolidation measurement

General Objectives

- reinstall private ownership after agricultural production in socialistic cooperatives
- reorganize the land in accordance to a project plan
- solve conflicts between

farmers	nature conservation
municipality interests	tourism
fisheries	hunt
traffic	energy supply

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33

Map of ownership before land consolidation

- area of ~ 3,500 ha
- in total ~ 520 owners
- purchase of ~ 475 ha spread and fragmented

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34

Project plan

- creation of flooding area, regeneration of meadow woods, resting place for migratory birds
- ~ 6 km new dyke
- protection of ~ 25 ha retention areas along small rivers

- ~ 14 km roads
- 2.7 ha hedges
- reafforestation
- village renewal

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35

Project plan

Additional achievements

- extension of farming companies
- improvement of a yacht marina
- land management for municipality interests

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36

Project plan

Finances

- dyke: ~ 20 million €
100 % financed by public authorities
- all other projects: ~ 1.5 million €
90% supported by government of Brandenburg
10% investment of private owners

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37

Project plan

Detail

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38

Project plan

Detail

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39

The new dyke

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40


The new dyke

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41





The new dyke





3 Ministers turning the first sod

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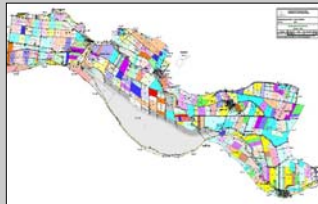
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42





Map of ownership after land consolidation





- ~ 160 owners agreed about voluntary relinquishment for ~ 470 ha
- ~ 475 ha purchased land
- reallocation of all this land in the retention area and other locations according to project plan

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43





4. Conclusions

- model for smooth conflict solution
- avoid expropriation
- reinstallation of private property and farming
- integrated measurement for flood prevention and nature conservation
- integration of ecology and economy
- integration of touristic and municipality interests

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44