



**Pilot evaluation:
Land Consolidation in Konya Region,
Cumra District,
villages Inli and Dinlendik
(2010-2012)**

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Presentation agenda



1. Background: Relevance of land consolidation in Turkey
2. Objectives of pilot evaluation
3. Methodology
4. Results
5. Conclusions and recommendations
6. Comments and Questions

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Background for pilot evaluation project



- Relative small scale and fragmented farming in Turkey
 - 2.2 million farms (2014)
 - 6.7 ha in average per farm
 - 10 parcels in average per farm
- MOFAL/GDAR Land Consolidation effort
 - 2003-2013 more than 200 projects
 - 4.5 million ha
 - 2014-2023: More than 14 million ha planned
- No systematic collection of data and documentation of the benefit of the LC Programme

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Objectives of Pilot evaluation



1. **Pilot evaluation** of one selected Land Consolidation Project in order to provide knowledge and documentation about the results and impacts of the intervention, including a **methodological guideline** for the implementation of other land consolidation projects by GDAR
1. To assess the **land consolidation procedures** and provide recommendation for improvements, if relevant
2. Contribute to a **regional workshop** on land consolidation

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Methodology (1)



1. Objectives of the evaluation and the methodology to be applied: a) Focus on economic results and impacts
b) Procedures and administration
2. Selection of LC project: Konya Cumra and control area Arikoren (19 km from Cumra)
3. Personal interviews of farmers: 64 interviews in project area; 11 interviews in control area
4. Statistical solidity of survey: +/-10%

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Interviews in progress



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Methodology (2)



5. Description of the selected project, incl. the baseline:
What was the situation before the LCP was implemented?
6. Analysis of current situation in agriculture as background
and reference frame
7. Reporting, presentation and dissemination of results
8. Use evaluation results as input to adjusted and improved
policy interventions

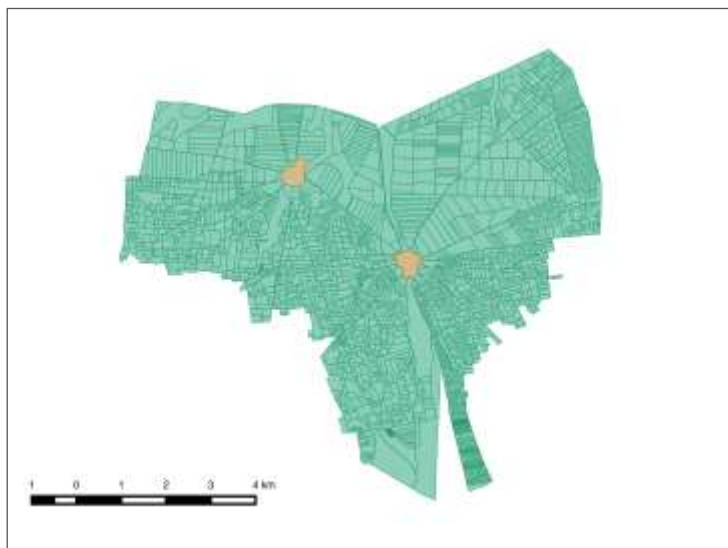
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Konya Region, Turkey



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Parcel structure before the project (Inli and Dinlendik villages): 6,031 ha of agri land on 2,531 parcels



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Konya Cumra Land Consolidation Project area data before land consolidation



<i>Item</i>	<i>Inli</i>	<i>Dinlendik</i>	<i>Total</i>
Total area, ha	4,752	1,836	6,588
Agricultural area, ha	4,670	1,361	6,031
Registered unique land owners, numbers	776	850	1,626
Registered active farmers, numbers	133	72	205
Holding size, owned land, average ha	6.0	2.5	3.7
Number of parcels	1,987	544	2,531
Average size of parcel, ha	2.35	2.5	2.38
Road network, meters	90,968	24,116	115,084
Parcels with access to road, numbers	1,271	313	1,584
Parcels with access to road, %	64	57	63
Water channels, meters	73,338	37,685	111,023
Parcels with access to water channels, numbers	367	170	537
Parcels with access to water channels, %	18	31	21
Planned implementation period	Contract: 26.05.2010 Deadline: 03.08.2012		
Budget, TL	1,897,157		

Conclusions



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Reduced fragmentation



- The number of parcels in the land consolidation area is **reduced with 38%** from 2,531 to 1,559
- **Increased average size per parcel** from 2.38 ha to 3.87 ha equal to an increase of 1.5 ha or 63 %
- The surveyed farmers have reduced their number of parcels from 7.1 parcels to 2.7 parcels in average. This is a reduction of 61 %

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Rural roads



- 100 % of the parcels have now access to roads, against 63% before the LCP
- The project has invested in new rural roads leading to an increase in the road network from 115 Km of roads to 194 Km of roads, equal to an increase of 68%

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Irrigation and access to water



- 100 % of the parcels have access to water for irrigation purposes. Before the LCP it was only 21%
- The irrigation system is enhanced and increased from 111 Km to 153 Km, an increase of 38%

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Inli Water Kooperative



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Financial effectiveness



- The project is accomplished within the planned implementation period
- The budget was 1.9 million TL and the account shows expenditures of 1.7 million TL. Only 91 % of the resources were utilized to fulfil the technical objectives 100%
- Exchange rate: 100 TL = 50.4 EUR september 2010. The budget of 1.9 million TL = 958,000 €

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Parcel pattern and reduced costs



- The pattern of the parcels has been improved
- Increased number of squared and rectangular parcels from 789 of the parcels to 1,121 (**42% increase**)
- The number of parcels with irregular shape reduced from 862 parcels to 173 equal to a **reduction of 80%**
- **Reduced costs** for ploughing, transport and labour employed with these tasks from 3 million TL to 2.6 million TL. **This is a reduction of 11%**

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Water technologies, water use and irrigation efficiency



- **Shift in irrigation principles/technologies** from surface flooding to sprinklers, drip irrigation and automobile irrigation robots
- **Water consumption** has increased with 28% due to more hectares under irrigation
- **Water consumption per hectare** of land with access to irrigation has been reduced to 28% of the level before LC

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Sprinkler technology



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Increased land use



- **Increase in hectares under crops.** In total, the increase is 135 ha equal to 10%. In particular the area with maize and sugar beet has increased, while a few crops have been reduced (sunflower and potato)
- The development and the change among the crops is to a large extent **market and price driven**, but the overall increase in the production of crops (number of hectares) must be considered a positive result of the LCP itself

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Productivity pr. hectare



- Crops have an **increase in yield per hectare** in the range from 11% to 25%.
- The yields of wheat (5.1 tons/ha) and sunflower (3 tons/ha) in the project area are both better than the Turkish 5 year average of 2.6 tons/ha and 2.3 tons ha. Maize yield is on line with the Turkish average, and 11% higher than in EU.
- The yield per hectare per man-year has increased from 2.26 tons (average crop) in 2009 to 2.8 tons in 2013. **This is an increase in labour productivity of 24%.**

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Farmers value of production



- The farmers have **increased their value of production** from farming with 30.2%.
- Average increase in value of production of **7.5% per year**
- **After inflation**, the real growth has been positive with 0.3% per year
- The real growth in the value of production of Turkish agriculture and agriculture in EU was -0.8% and -0,4% respectively from 2010 to 2014.

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Investment behaviour



- 67 farmers in the survey have invested 5.1 million TR the first year after the finalization of the LCP
- = 76,500 TR in average per farmer
- If all active farmers have followed the same investment pattern, the total investment level is estimated to be 14 million TL (6.9 million €)

Exchange rate September 2013: 100 TL = 49.2 €. 5.1 million TL = 2.5 million €

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Investment behaviour: Dead weight & leverage effects



- Dead weight is a negative outcome of the project, and is related to this evaluation question: *To what extent would the farmers have made the same investments also without the LC project?*
- Leverage is positive and refers to the additional economic activities generated (lifted) by the LCP. The evaluation question is *to what extent the LCP has contributed to higher investments of farmers than otherwise would have been accomplished?*

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Investment behaviour: Dead weight is outmatched by leverage effects



- Only 32 % (4.5 million TL) of the total investment (14 million TL) would have been accomplished without the LCP
- 68 % are depending on the LCP
- Without the project, total investments of 8.6 to 10.5 million TL would **not** have been accomplished
- The LCP contributes with 1.7 million TL to stimulate development of agriculture and to economic growth

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Efficiency: What have we got for 1 million TL?



- Increased parcel size of 31%
- Reduced fragmentation (number of parcels) of 23%
- Increased number of optimal shaped parcels with 25%
- 45.700 meters of rural roads constructed
- Reduced farm work and transportation costs with 7.8%
- 24,300 meters of irrigation systems
- 8.2 million TL (4 million €) in private farmer investments in total
- 5 million TL (2.46 million €) in private farmer investments due to the LCP

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Farmers satisfaction is high



- 84% of the interviewed farmers are to a large extent satisfied with the LC Project
- Only 9% are either not at all satisfied or not too much satisfied
- The conclusion is clear: The LC Project in Konya Cumra has been accomplished to big satisfaction of the farmers involved in the project

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Farmers satisfaction with procedures is also high



- The satisfaction among the farmers is high regarding the land consolidation procedures
- A smaller group of farmers between 10% and 15% are either not at all satisfied or not too much satisfied
- For the soil grading (land valuation), where 45% of the farmers are critical to some extent, improvements are needed

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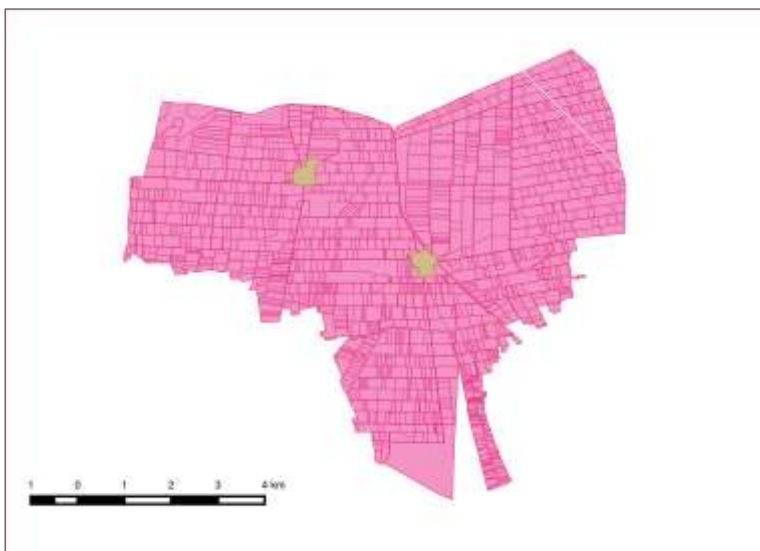
Would the farmers have participated in re-parcelling activities on their own?



- 51% would most likely have joined land swapping
- 57% most likely would have been involved in purchasing or selling of land
- However, 46% would not do any land swapping and
- 40% would not buy or sell

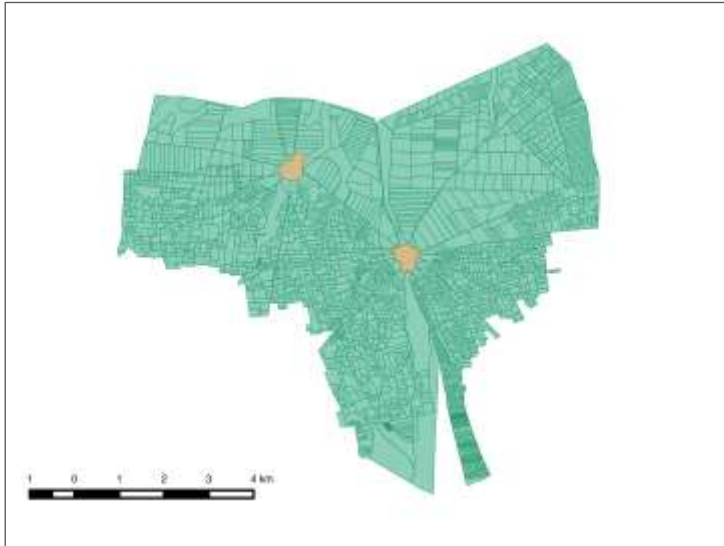
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Parcel structure in Inli and Dinlendik after the project: 1,551 parcels



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Parcel structure before the project (Inli and Dinlendik villages): 6,031 ha of agri land on 2,531 parcels



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Recommendations (1)



- Based on the pilot evaluation conclusions
- Analysis of the land consolidation procedures as described in GDAR manual

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Recommendations (2)



1. Elect a committee of local stakeholders to represent the general interests of the local stakeholders in the land consolidation process
2. Review and improve the land valuation process
3. Encourage and facilitate sales – purchase agreements as an integrated part of the land consolidation process
4. Introduce a State Land Bank to support land consolidation projects

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Recommendations (3)



5. Invest more in capacity development of staff implementing LC projects
6. Introduce systematic ex ante environmental impact assessment (or SEA for bigger projects) of land consolidation projects (EIA) as an integral part of the preparatory work
7. Establish a comprehensive baseline description before implementing the LCP, related to the objectives of the LCP

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Recommendations (4)



8. Conduct more **pilot evaluations** of land consolidation projects selected in **mountain areas** and **with animal/livestock production** and prepare for future programme evaluation
9. Let **environmental impact assessments (EIA)** be an integral part of the ex post evaluation of land consolidation projects and of the programme as a whole

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Comments and Questions



Thank you for your attention!

Time to Comments and Questions