

Kurzbericht

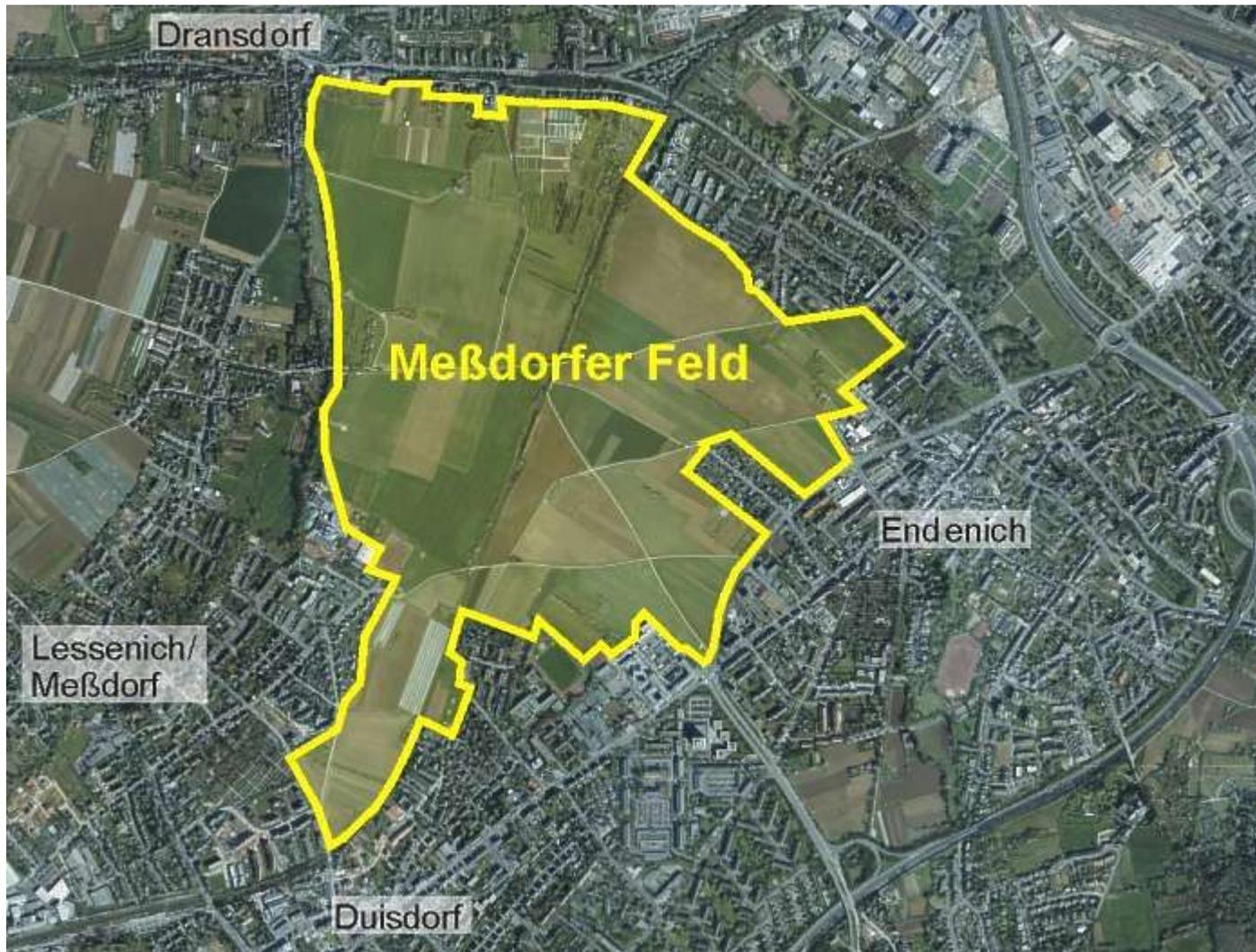
Improvement of the land on the Messdofer Field,
owned by the city of Bonn

Authors:

Franka Berdel
Wolf Berdel
Lena Rzehak
Peter Rabus

Initial / present situation:

This project proposal is the result of the survey conducted by the “*Bürgerinitiative Messdorfer Feld*”, where all the parties within the city-council of Bonn stated that the Messdorfer Feld is an important protected area for recreational purposes and its function for the regulation of air quality and fresh air supply to Bonn. After talking to the council as well as the mayor of Bonn, the ELD Team of Bonn was asked to elaborate a project proposal for the 40% of land owned by the city of Bonn on the total area of the Messdorfer Field.



aerial map of the Messdorfer Feld

The reduction of the area to be developed is based on the outcome of the survey, conducted on the 24th and 25th of April 2014 on the spot. The analysis of the survey proved that it will be impossible to have the entire area developed at once since the opinions of the various owners of the Messdorfer Feld are heterogeneous. Therefore, the city council, supported by the Initiative “Grünes C” decided to follow our recommendation to start developing for the time being only the land that is owned by the city itself.

Proposal for improvement

The discussed land is characterized by meadows that are mown 4 times a year presently, resulting in maintenance cost of 20.000€ (material and worker) per year for the budget of the city of Bonn.

We propose for the improvement of the site the erecting of a fruit plantation (=Streuobstwiese) on 25ha of the area, by planting different fruit trees (apples, cherries, pear, plum etc.) All these trees are readily available in the nurseries of garden shops in Bonn. The cost of the trees vary from 200€ - 500€ per tree. It is calculated to have on one hectare 50 trees, resulting on a total cost of 375.000€.

10 hectares are supposed to remain open field in order to allow existing bird and plant species to keep their refuge. Nonetheless the edges of the land shall be enriched by shrubs and small trees, growing over time to a natural hedge. As plants we propose endemic species like (Kreuzdorn, weissdorn, Hainbuche, Vogelbeere, Liguster, Schneeball, Pfaffenhütchen etc.). The estimated costs for the procurement of the plants are 50.000€.

On the remaining 5 hectares we propose the elaboration of an "International Garden", allowing citizens of the surrounding quarter the urban gardening and get together. For the establishment of the garden, the following cost were calculated:

- Establishment of garden beds (total 15.000€)
- Establishment of a meeting place in the center of the garden (150.000€)

The total cost of the project are:

Procurement of fruit trees	375.000€
Procurement of shrubs and trees	50.000€
International Garden	150.000€
Workforce planting trees and shrubs	25.000€
Workforce establishment international garden	30.000€
TOTAL cost	630.000€

While the cost in the initial year are quite high, the reduction of the maintenance cost will come over time since the mowing of the area will reduce significantly as well as the interval of the activity. We therefore assume that the maintenance cost will reduce from annually 20.000€ to 5.000€. These costs can be further reduced, if citizens are willing to take over "Baumpatenschaften" for the planted trees that include not only the pruning of the trees but also the mowing of the grass.

We assume, based on a cost-benefit calculation and by estimating the social value increase of the area that by the year 2018, the value of the 40 hectares will have doubled to an economic net present value of 2.031.531,50€ (see calculation in the annex).

Annex:

Calculation of the present value for the future benefits of the project

	2014	2015	2016	2017	2018
Benefit	1.000.000€	1.500.000€	1.700.000€	2.000.000€	2.400.000€
Discount rate in %	10	10	10	10	10
Discount factor	1	0,9091	0,8264	0,7513	0,6273
Present value	1.000.000€	1.363.650€	1.404.880€	1.502.600€	1.505.520€

The elaboration of the net present value (NPV):

With project	2014	2015	2016	2017	2018
Benefit	1.000.000€	1.500.000€	1.700.000€	2.000.000€	2.400.000€
Costs	635.000€	5.000€	5.000€	5.000€	5.000€
Net benefit	365.000€	1.495.000€	1.695.000€	1.995.000€	2.395.000€

Without project	2014	2015	2016	2017	2018
Benefit	1.000.000€	1.000.000€	1.000.000€	1.000.000€	1.000.000€
Costs	20.000€	20.000€	20.000€	20.000€	20.000€
Net benefit	980.000€	980.000€	980.000€	980.000€	980.000€

Incremental net benefit	-615.000€	515.000€	715.000€	1.015.000€	1.315.000€
Present value of incremental net benefit (10% discount rate)	-615.000€	468.186,50€	590.876€	762.569,50€	824.899,50€
Economic net present value (10% discount rate)	= -615.000€ + 468.186,50€ + 590.876€ + 762.569,50€ + 824.899,50€ = 2.031.531,50€				