

SOME IMPORTANT PARCELLATION DATA OF THE NETHERLANDS

as collected and processed for the
Outline of Netherlands Land Management Structure

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INTRODUCTION

In part I of the third Memorandum on Physical Planning, the so-called Orientation Memorandum, several outlines and views were given. In this context, the schematic outline of the structure of land management is of great importance for agricultural land use planning. In this structural outline the long term policy will have to be elaborated. A great amount of data is to be collected to prepare a first sketch of the structure of rural areas, which will be part of the Memorandum on Rural Areas (part III of the third Memorandum on Physical Planning). All this will lead to a long term policy for the sector agriculture, for which the following questions are crucial:

- What is the size and character of the demand for several forms of land management from the agricultural point of view?
- Where do these demands occur?

To answer these questions a survey of the agricultural structure of the Netherlands is necessary. It should contain detailed information about the technical infrastructure, i.e. parcellation, water management, road system and soil characteristics as well as socio-economic data. To make such an extensive inventory possible a group of specialists has been formed, in which the following services are represented:

- Government Service for Land and Water Use (LD)
- Institute for Land and Water Management Research (ICW)
- Institute for Soil Survey (Stiboka)
- Agricultural Economics Research Institute (LEI)
- Directorate on Farm Structural Affairs, Ministry of Agriculture and Fisheries

This paper deals with the parcellation data as collected and processed by ICW, as well as with the procedure of presentation and a first analysis of the data presented.

1. GENERAL

The description of parcellation is essential when giving an account of rural areas. Parcellation is to be seen as the structural network of the agrarian holdings within the open space. From the great number of features of parcellation, in this paper only a number of the most important ones are taken into consideration. The choice of these features, their definition, the method of collection and processing, and the presentation of data are discussed. The procedure used is as closely conform as possible with the system of the Land Division Survey of the Netherlands with regard to definitions, techniques, etc. In this way comparisons and extrapolations with the aid of data from that Survey are possible. The data collected were stored in a data base, so they can be consulted at any time at any level: municipalities, specific census (CBS) areas, specific Government Service of Physical Planning (RPI) areas, specific agricultural areas according the LEI, provinces and the entire Netherlands.

Regarding the collected data attention must be paid to the fact that these are of several different years, namely 1966 through 1976. This means that particularly for older data certain reservations have to be made. Recent studies concerning the obsolescence of the data proved, however, that the averages as collected in this inventory do not change much in course of time, although the specific single data do change with time.

2. PROCEDURE

2.1. INVENTORIZED PARCELLATION DATA

A selection was made of the parcellation data as inventorized with the operational system of the Land Division Survey in the Netherlands. This selection was based on the idea to take each facet of parcellation as well as possible into account. Included therefore were data about: scattering of lots and parcels belonging to one holding, topographical parcels, distance from farmbuilding to the centre of a lot, distance from the centre of a lot to the nearest metalled road, accessibility of farm buildings and the site of farm-buildings inside or outside the centre of a village.

The following summarizes for each facet the relevant characteristics (for definitions of some terms used, see next page):

Splitting up	- number of lots per holding
Scatter	- number of compound lots per holding - area of house compound lots as a percentage of the total area
Topographical parcels	- number of regularly shaped topographical parcels as a percentage of the total number - area in ha
Distance from farmbuilding to centre of lot	- total distance from farmbuilding to centre of lot in m - distance from farmbuilding to centre of lot for house compound lots in m - distance from farmbuilding to centre of lot for field compound lots in m
Distance from centre of lot to nearest metalled road; accessibility distance	- distance from centre of lot to nearest metalled road in m over land
Accessibility of farmbuildings	- distance from farmbuilding to nearest metalled road in m

Site of farm buildings - number and area (absolute and relative) of holdings with farmbuildings in centre of village

As said in Chapter 1 the here presented inventory was kept nearly conform to the system of the land division survey in the Netherlands. This includes the definitions of the concepts mentioned above, which equal those of the Land Division Survey of the Netherlands.

The following relevant definitions are part of the so-called Regulations and Bulletins of the Land Division Survey Netherlands (RBLDSN).

- Lot - piece of land of one holding operator (landuser) surrounded by land of others. In this piece of land no non-owned roads, canals, etc. are present. Distinguished are:
- a. house lot: lot on which the main farm-buildings are situated
 - b. field lot: lot without main farmbuildings; a barn without the dwelling of the operator may be present, however
- Compound lot - a combination of one or more adjacent lots separated by easily passable non-owned roads, canals, etc. Analogous to the concept lot house respectively field compound lots can be distinguished
- Topographical parcel - piece of land surrounded by lot boundaries and/or clear topographical boundaries as ditches, hedges, vertical drops, etc.
- Shape of topographical parcel - distinguished are:
- a. regular topographical parcels: rectangle, parallelogram, quadrangular parcel of which the two longest sides are parallel

(trapezium) and a parcel consisting of two rectangles



b. irregular topographical parcels: all other shapes

Distance from farm-buildings to centre of lot

- distance (m) from farmbuildings to main accessibility point of the lot, increased with the half lot depth ($\frac{1}{2}D$), without regard of road quality

Accessibility distance - distance (in m over land) from centre lot to nearest metalled road

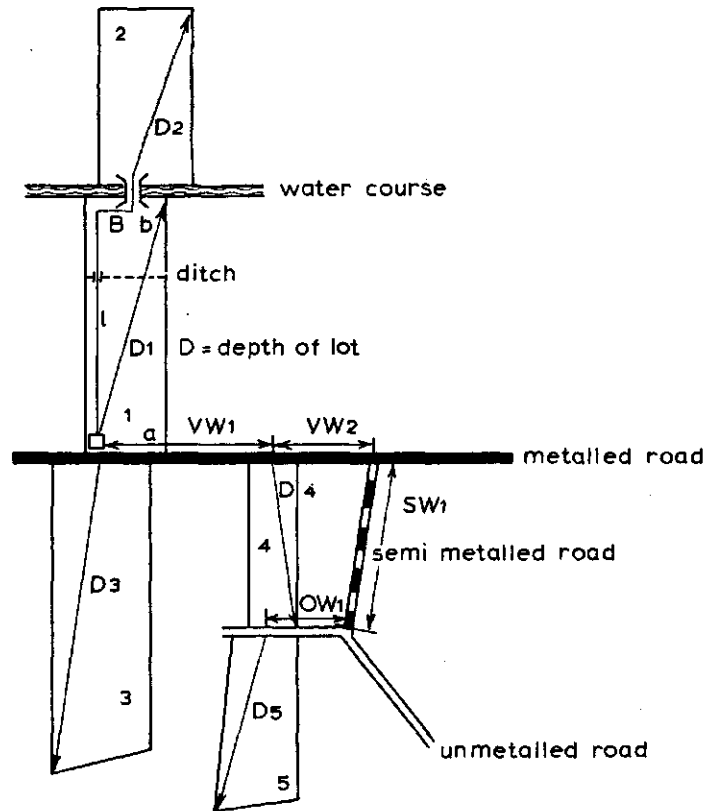
Fig. 1 gives an impression of these definitions.

To estimate the parcellation data the land users map is used, on which per landuser the relevant lots are specified. The lot is taken as the basic land unit. With aid of lot data, holding data are estimated and then processed to a higher level of generalization, for example the municipality.

In the here presented inventory the municipality has been chosen to be the smallest unit described. At this level other statistic data were also collected. Furthermore census statistics are given for groups of municipalities combined to specific agricultural areas, RPD areas, LEI areas, provinces and the entire Netherlands. This makes it easy to study possible relationships to compare data, etc.

In this context mean figures per municipality are presented, although frequency distributions give better information. Working in this case on the bases of test samples also had its influence, since by using mean figures a smaller test sample is sufficient as compared with the size of samples when using frequency distributions (See par. 2.3).

Furthermore it showed during the inventory that a number of especially small, municipalities should be combined. This concerns municipalities having a rather homogeneous topography, agricultural structure and other factors of comparable content. This combination



1 = house lot

2 - 5 = field lots

the lots 1, 2 and 3 form the house compound lot; the lots 4 and 5 one field compound lot

1a, 1b and 2 through 5 = topographical parcels

distance from farmbuildings to centre of lot:

$$\text{lot 1} = \frac{1}{2}D_1$$

$$\text{lot 2} = L + B + \frac{1}{2}D_2$$

$$\text{lot 3} = \frac{1}{2}D_3$$

$$\text{lot 4} = VW_1 + \frac{1}{2}D_4$$

$$\text{lot 5} = VW_1 + VW_2 + SW_1 + OW_1 + \frac{1}{2}D_5$$

accessibility distance: lot 1 = $\frac{1}{2}D_1$

$$\text{lot 2} = L + B + \frac{1}{2}D_2$$

$$\text{lot 3} = \frac{1}{2}D_3$$

$$\text{lot 4} = \frac{1}{2}D_4$$

$$\text{lot 5} = SW_1/2 + OW_1 + \frac{1}{2}D_5$$

Fig. 1. Presentation of the used definitions

is the reason that a number of municipalities has been inventorized as being one area and that these results have been designated to each municipality separately.

Appendix 1 gives a survey of the characteristics gathered per lot (INPUT), per holding (TABLE HOLDING DATA) and per municipality. The tables are shown in the form in which they are produced by the computer, although reduced to the size DIN A4. The data per municipality (TABLE CHARACTERISTICS PER MUNICIPALITY) have been filed in the data base of the Calculation Centre of the LD. The other data (INPUT and TABLE HOLDING DATA) are available on so-called chain forms.

2.2. DATA AVAILABLE

As mentioned above, the land users map is the basis for the inventory of parcellation data. In part the possibility exists to gather these data directly from the current system of Land Division Survey Netherlands, making allowance for the period during which the land users map was made. This period varies from 1966 to 1976. Data before 1966 have not been processed because they were regarded to be obsolescent.

Besides this, there are land user maps available from several provincial offices of the LD, mostly of land consolidation projects in preparation, with the lists containing names and addresses of the holding operators concerned. Furthermore, the records of the Central Commission for Land Consolidation Measures contain material concerning the holding operator situation of finished reallocations. Of an area of about 533 500 ha of reallocations in execution (Spring 1976) no inventory was made, as in this area the holding operator situation is rapidly changing.

When the areas belonging to the mentioned groups are totalized, an area remains of which data are unknown. In such regions information about the land users was gathered by means of maps and lists on the basis of test samples. The land users maps have been made by the Stichting tot Uitvoering van Landbouwmaatregelen (StUULM) in the period November 1975 to February 1976.

Information about the still remaining 'white' areas has been obtained by extrapolation of data from adjoining areas where parcel-lation data are known, completed with data from the topographical map, census statistics and locally some general data about the par-cellation given in the so-called Rules for Agricultural Holdings with Upland Culture. In the following paragraphs each of the mentioned sources will be discussed in short.

Land Division Survey Netherlands

Since 1965 some 1,000,000 ha were inventorized with the system of the Land Division Survey of the Netherlands. For the here presented inventory data of 654,000 ha have been used, because at the moment the other 346,000 ha belonged to reallocations in execution. The data required for our purpose were directly available from the out-put. Furthermore, it proved to be possible to obtain them per municipality. As a rule, within a specific area the so-called land user districts are distinguished of which the boundaries, or a com-bination of them, often agree with the boundaries of municipalities.

As a complement to the system of the Land Division Survey, for our purpose a so-called Conspectus Land Division Survey system has been developed, particularly to inventorize parcellation data in areas of which exact data are still unknown. Conform the 'comprehensive system', then only a number of the most important characteristics of the parcellation is inventorized and processed, this is the system of the Land Division Survey compressed to its minimum. The reason to operate with this conspectus system was the large area to be inventorized and the short period which was avail-able to do this.

Land users maps of reallocations in preparation

In the autumn of 1974 the provincial directorates of the LD were asked by means of an enquiry to give a survey of available land user maps with the lists of names and addresses. With this material an area of about 390,100 ha was inventorized by means of test samples. In this manner 3894 land users operating a total area of 69,535 ha were included in the inventory.

Land user maps of finished reallocations

With regard to the finished reallocations (the act describing the new situation being passed) a search was made for information on land users in the archives of the Central Commission for Land Consolidation Measures. It proved that the official land registry data are usable. With this material it was possible to make a land users list corresponding with cadastral maps, which then could be used as land user maps.

In the cadastral register R12 all land users are mentioned. Of these, only those using more than 3 ha were taken in consideration. Some restrictions inherent to this information are:

- lease-held land that is not registered, cannot be found in the cadaster registers R12 and R19, so this area and the land users in question is missing.
- Addresses of proprietors-land users can be situated outside the block with the result that the farm buildings cannot be found on the maps and the relevant parcellation data cannot be determined. In such cases it is furthermore very likely that only part of the holding area is inventorized. Such holdings therefore were neglected. To ensure that the necessary sample minimum was available, the sample number of holdings inventorized in this way was increased.
- Often the centre of the village is an enclave in the reallocation block. Then the exact site of the farm buildings cannot be estimated. To calculate then the distance from farmbuilding to centre of the lot, the centre of the village is taken as farmbuilding site and they are supposed to be situated on a metalled road.
- The cadastral lot map shows registration boundaries which makes the finding of lots on a topographical map very time consuming. On the other hand, the area of the lots easily can be calculated by totalling the known areas of the cadastral parcels.

According to the Annual Report 1974 of the LD over an area of 588,910 ha reallocations were finished. From this area the reallocations, finished before 1966 were not used, as also the areas of

very small blocks and of which the archives were not easily accessible. With the remaining material it was possible to inventorize 55 finished reallocations with a total area of 263,870 ha. The test sample consists of 3228 land users operating a total area of 50,283 ha. The difference between the first mentioned 558,910 ha and the area of 263,870 ha has been inventorized in other ways (table 1, d and e).

Land user maps on the basis of test samples

After registering the above mentioned categories of areas on the map of the Netherlands, a rather large area remained about which parcellation data were unknown. This was particularly the case in the provinces of North and South-Holland, as also in the provinces of Overijssel, Gelderland, North-Brabant and Limburg. On the base of a chromotopographical map, agricultural Census statistics and some data gathered for the Rules for Agricultural Holdings with Upland Culture, a number of areas has been chosen in which the land users were mapped on a test sample basis. The chosen areas are situated all over the total so-called 'white area' of 259,800 ha, consisting of 54 areas, each homogeneous with regard to structure and topography. As much as possible the municipal boundaries were followed. The test sample was 60 holdings per area, taken from the lists with names and addresses of registrated land users as given by the StULM. The chosen holdings had to agree to the following conditions:

- the holding must still exist;
- the holding must have 10 SBE* or more;
- the holding operator must be agriculturist as main occupation (main occupations of horticulturist or specialist are excluded).

In this manner 3,006 holdings comprising 44,640 ha have been inventorized in the 54 areas.

*One SBE (standard holding unit) is equivalent with Hfl 200 in factor costs in the production process at the price level of 1968. Ten SBE therefore is equivalent with Hfl 2,000 factor costs at the 1968 price level.

Extrapolation

After the inventory with aid of the above mentioned sources the gathered data were filed per municipality. Municipalities with almost no rural land or with mostly horticultural holdings have not been inventorized. Other municipalities remaining 'white' were areas in which land consolidation projects took place. Data concerning the last mentioned areas were obtained by extrapolating data of surrounding areas. Use was also made of chromo-topographical maps, data from the Agricultural Census 1974, short inventories of parcellation data made in connection with the Economic Community rules for upland cultures, and local knowledge. Table 1 gives a survey of the several sources, the area in question and the method of inventory.

Table 1. Survey of the used sources for inventory of the land users structure

Source	Area in ha	Method of inventory
a. Land Division Survey Netherlands (CIN)	653,988	comprehensive CIN system
b. Land users maps of land consolidations in preparation (LD)	390,140	random samples; conspectus CIN system
c. Land users maps of finished land consolidations (LD)	263,870	random samples; conspectus CIN system
d. Land users maps from random samples	259,825	conspectus CIN system
e. Not available	290,000	extrapolation of data obtained with a to d

This table shows that aside from complete CIN information and the extrapolation, about 913,835 ha have been inventorized with sample tests. This surface is situated in 171 areas, in which 10,128 holdings with a total area of 164,458 ha (i.e. 18% of the total area) have been inventorized. When the net agricultural area is considered, taken to

Table 2. Summary of the sources used (see table 1) of the number of holdings and area, inventorized per province and for the Netherlands

Province	From land user maps of finished land consolidation projects (c)						From land user maps of land consolidation projects in preparation (b)						
	num-ber of blocks	sample test number of holdings	area of bloc in ha	mean number of lots per holding	sam-ple % of area	num-ber of blocks	sample test number of holdings	area of bloc in ha	mean number of lots per holding	sam-ple % of area	area of bloc in ha	mean number of lots per holding	num-ber of lots in holding
Groningen	4	204	7,399	2.2	53	4	202	6,437	30,540	4.6	21		
Friesland	7	439	7,617	2.4	17	11	854	16,320	74,400	2.8	22		
Drenthe	9	503	7,073	3.1	16	8	535	7,553	57,400	4.3	13		
Overijssel	6	248	4,195	2.8	21	6	380	1,409	42,300	3.7	12		
Gelderland	5	342	4,683	2.7	12	3	176	1,823	14,450	4.0	13		
Utrecht	2	136	2,181	2.0	53	7	448	946	25,950	2.1	26		
North Holland	3	191	2,119	2.2	27	2	105	2,023	2,600	3.1	78		
South Holland	2	120	2,151	2.6	27	7	415	7,101	21,400	3.6	33		
Zeeland	-	-	-	-	-	10	547	1,728	98,400	3.2	13		
North Brabant	13	793	10,071	2.8	19	3	179	816	21,300	4.6	15		
Limburg	4	252	2,794	3.5	11	1	53	773	1,400	11.2	55		
The Netherlands	55	3,228	8,709	2.7	19	62	3,894	13,590	69,535	390,140	3.5	18	

Province	From land user maps (d)						Total from sample tests						Grand total area in ha	
	num-ber of blocks	sample test number of holdings	area of bloc in ha	mean number of lots per holding	sam-ple % of area	num-ber of blocks	sample test number of lots	area of bloc in ha	mean number of lots per holding	sam-ple % of area	area of bloc in ha	mean number of lots per holding		num-ber of lots in holding
Groningen	-	-	-	-	-	8	466	13,816	46,460	3.4	31	104,521	47,970	196,951
Friesland	-	-	-	-	-	18	1,293	23,939	120,030	2.7	20	44,300	112,900	277,230
Drenthe	2	128	2,452	5.5	24	19	1,166	17,078	111,400	3.9	15	51,810	35,570	198,780
Overijssel	7	419	5,470	4.7	17	19	1,047	14,777	94,935	3.9	16	49,515	38,990	183,440
Gelderland	12	668	8,927	4.3	13	20	1,186	15,433	120,600	3.8	13	109,360	60,280	290,240
Utrecht	-	-	-	-	-	9	584	8,816	30,080	2.1	29	43,860	11,450	85,390
North Holland	6	349	5,638	3.2	16	11	645	9,780	50,230	2.9	20	26,360	25,290	101,880
South Holland	11	536	8,527	3.0	21	20	1,071	17,779	69,280	3.2	26	39,893	45,520	154,693
Zeeland	-	-	-	-	-	10	547	1,728	98,400	3.2	13	6,200	26,950	131,550
North Brabant	9	507	8,149	4.8	20	25	1,479	21,408	115,600	3.7	19	133,138	101,610	350,368
Limburg	7	339	5,677	9.1	17	12	704	5,088	58,820	7.2	15	45,031	27,010	130,861
The Netherlands	54	3,006	14,301	4.8	17	171	10,128	164,458	913,835	3.6	18	653,988	533,540	2,101,363

be about 80% of the total area, the mentioned percentage is 22.
Table 2 gives a summary of the inventory per province and in total.

2.3. SAMPLE SIZE AND SAMPLE TAKING

The decision to obtain by means of a sample test parcellation data of areas of which a comprehensive land division survey is lacking, has been taken because in a comprehensive inventory 600,000 ha would have to be mapped and 1,300,000 ha would have to be processed. For this there was neither the time nor the means.

To get an indication about the validity of the mean values of a number of parcellation data at different sample sizes, these mean values (\bar{x}) and the variances (S^2) have been calculated with data from the CIN surveys of Baarderadeel, Doetinchem-Wisch and Lopikerwaard. To this end each region data concerning approximately 200 holdings have been taken. It was taken that \bar{x} equalled the population mean μ and S^2 the population variance σ^2 and furthermore that the frequency distribution of each factor was normal. The choice of the three mentioned areas was based on the wish to come as near as possible to situations representative for the Netherlands. With the equation

$$n = 4u^2 \frac{\sigma^2}{i^2} \quad (1)$$

where n = size of sample

u = constant depending on the chosen confidence interval; for a confidence interval of 95% $u = 1,96$

σ^2 = variance

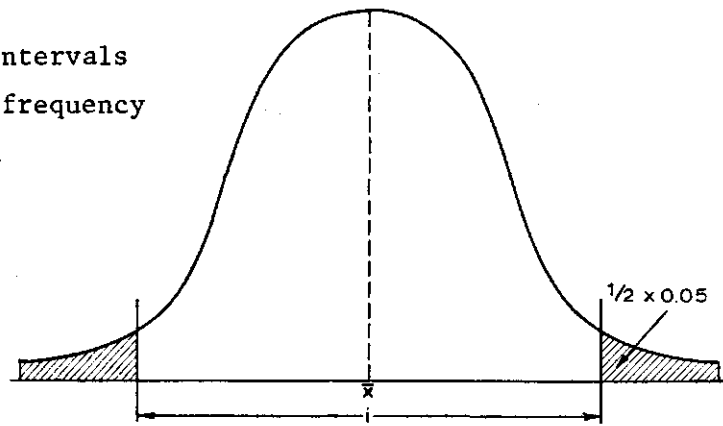
i = width of the confidence interval, in units of the measured factor

the i -values were calculated.

The value of \bar{x} is bounded by $\bar{x} \pm \frac{1}{2}i$. It is allowed to express $\frac{1}{2}i$ in % of \bar{x} because i is written in the same units as \bar{x} and i is taken to be lying symmetrically around \bar{x} (see Fig. 2.).

In table 4 this has been done for the three mentioned areas for

Fig. 2. Confidence intervals
of a normal frequency
distribution



n-values of 20, 40, 60 and 100 respectively. This percentage gives the maximum deviation of the mean value in 95% of the inventorized areas. When decreasing the confidence interval i n must increase which proportionally increases the cost of the inventory. Fig. 3 shows that with increasing n , i decreases less than proportionally.

In connection with the above, a sample size of 60 was chosen. This means that in each area lacking CIN-data, independent of its acreage 60 holdings were inventorized with the condition that such an area is sufficiently homogeneous with regard to topography and agrarian structure.

The confidence interval of the mean values obtained by sampling decreases when the homogeneity of the area decreases. This is shown for the factor holding size in Fig. 4. The inhomogeneity of the Lopikerwaard with regard to this factor is evident. This is reflected in Table 4 where the i -figures for the Lopikerwaard often are small. Furthermore it can be seen that especially for the mean area of compound lots the confidence interval is narrow. This is to be expected as the area of such a compound lot may vary from a few ares up to the entire holding area of the largest holding.

To sample 60 holdings per area two possible methods have been taken in consideration:

- to take a random sample from the map by superimposing a grid of squares and select the points of intersection for the holdings to be inventorized. The disadvantage of this procedure is, that large lots as a rule used by large holdings, have a better chance to be pinpointed. This method also is time consuming because for each

Table 4. Summary of the confidence limit of parcellation data for several sample sizes (n) for three areas (B = Baarderadeel; D = Doetinchem-Wisch; L = Lopikerwaard); see equation 1 and Fig. 1.

Parcellation factor	Population mean			Population variance			$\frac{1}{2} i$ in % of \bar{x}											
	\bar{x}			σ^2			n = 20			n = 40			n = 60			n = 100		
	B	D	L	B	D	L	B	D	L	B	D	L	B	D	L	B	D	L
Mean number of lots per holding	3.6	2.4	3.4	2.8	2.1	2.4	21	27	20	14	19	14	11	15	12	9	12	9
Mean number of compound lots per holding	2.7	1.9	1.9	2.4	1.2	0.85	26	25	21	18	18	15	14	14	12	11	11	10
Mean area of the compound lots in ha	7.9	3.9	7.8	152.2	37.4	28.3	70	69	30	50	49	21	40	40	17	30	31	13
% area of house compound lots	72	78	75	1,707	690	775	25	15	16	18	10	12	14	9	9	11	7	7
% regular topographical parcels	16	26	84	410	685	204	55	44	7	40	31	5	31	25	4	24	20	3
Mean area of topographical parcels in ha	1.9	1.5	1.1	0.32	1.18	0.084	13	32	12	9	22	8	7	18	7	6	14	5
Distance from farm building to center of the lot in m	650	425	929	470,000	154,100	549,600	45	41	35	32	29	25	27	23	20	20	18	16

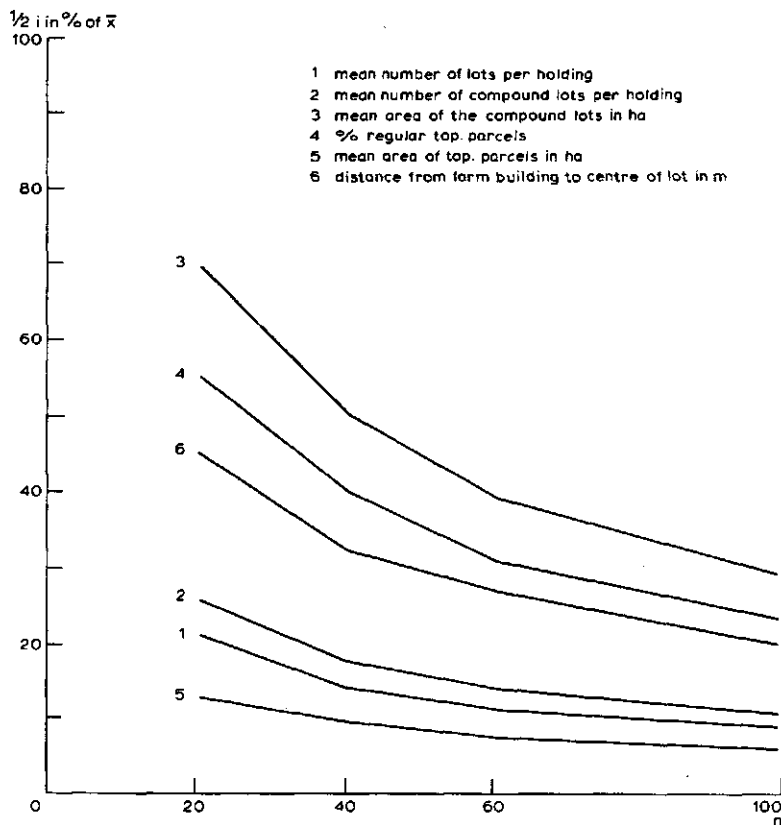


Fig. 3. Relation between sample size (n) and confidence interval (i)

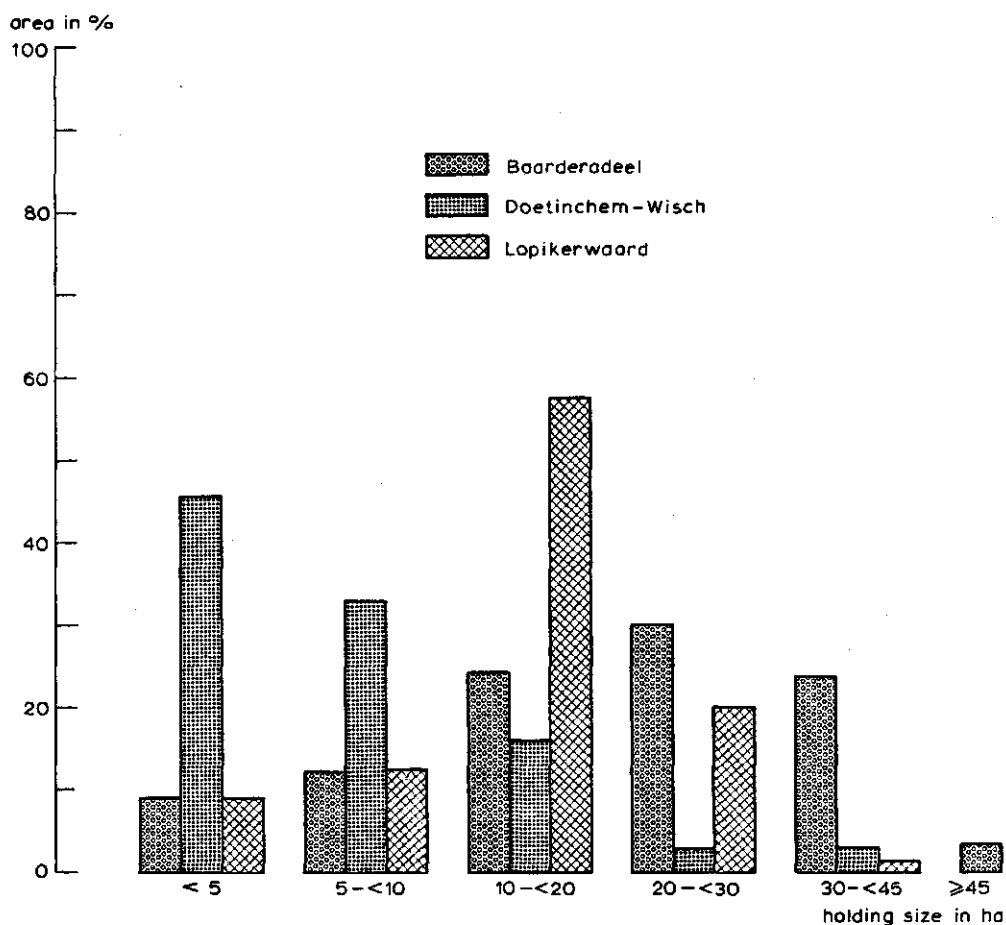


Fig. 4. Holding size frequency distribution of the three areas mentioned in Table 4 according the CIN-survey

intersection one has to consult the list of land users. This method was used in four areas of which only a land users map was available, while a list of names and addresses was absent.

- to take a random sample from the list of land users. This has been done for all the other areas of which CIN-data were lacking. First all holdings with a size < 3 ha have been eliminated (holding size is given in the lists). From the other names 60 were chosen in sequence. This means that of for example an area with 300 holdings of more than 3 ha, each fifth holding has been included in the random sample. A disadvantage of this procedure is that the smaller holdings may be overrepresented, but leaving out the holdings < 3 ha will lessen it.

Table 5. Summary of the holding size frequency distributions in per cent according the holding size of the sampled holdings by random test (RT) as well as those according to the Census 1970 (C)

Municipality		Holding size in ha					
		<2	2-<5	5-<10	10-<20	20-<30	≥30
Utingeradeel	RT	0	<1	0	14	24	62
	C	<1	<1	2	11	28	59
Lemsterland	RT	<1	1	5	25	29	39
	C	<1	1	2	22	45	30
Workum	RT	<1	2	7	30	24	36
	C	<1	<1	5	29	20	46
Hindeloopen	RT	<1	2	9	24	36	28
	C	<1	2	5	39	43	11
Leeuwarden	RT	<1	2	3	19	30	45
	C	<1	1	5	14	29	50
Zweeloo	RT	<1	4	14	50	22	10
	C	<1	1	7	49	32	11
Ruinerwold	RT	<1	6	20	60	9	4
	C	<1	3	14	55	19	9
Havelte	RT	<1	2	16	44	33	5
	C	<1	2	11	52	26	8
Nijeveen	RT	<1	5	22	61	7	5
	C	0	2	14	59	14	11
Staphorst	RT	0	5	28	55	12	0
	C	1	8	30	49	11	1
Maurik	RT	1	4	15	34	17	29
	C	3	8	17	31	26	15
Gendringen	RT	0	7	24	27	26	16
	C	1	9	20	41	20	8
Wassenaar	RT	0	1	11	28	42	18
	C	5	7	8	29	42	10
Baarle Nassau + Alfen en Riel	RT	0	1	6	55	17	20
	C	1	2	11	57	22	8

For a number of municipalities, the holdings of which inventorized by random sampling, the holding size frequency distribution was compared with the data according the Census of 1970 (Table 5). The differences are not only caused by working with a random sample. Other causes are:

- the difference in time of inventorizing;
- the differences in acreages according to Census and the acreage as measured on the map.

The differences in Table 5 between random test and Census data imply that use of random samples with the methods explained above, is allowable.

3. PRESENTATION OF DATA

The inventorized data are registered on data charts and punched on cards. This INPUT (see appendix 1) is screened automatically with a special program. All contradictions in the data are signalled and rectified. The correct input data are processed to a so-called TABLE HOLDING DATA (see appendix 2), out of which the TABLE CHARACTERISTICS PER MUNICIPALITY (see appendix 3) is made. The latter data are put in a data base management system for land management that is present in Utrecht at the Mathematical Centre of the Government Service of Land and Water Use (CD). From this data base one can ask a number of tables corresponding with one or more factors, either separately or in relation with other factors. These factors are given in table form per so-called LEI-area. Other levels of generalization also are possible, but in the first instance the 15 LEI-areas have been chosen as starting point.

Furthermore, there is a visual presentation in maps on which per factor or for a combination of factors the situation is given. The classifications used in tables and maps are the same. The cartographical presentation is given per municipality. The classifications have around a middle-class four other classes: two above and two under this middle-class. These classes can be seen as respectively better or worse relative to the middle-class. Regions not considered and consolidation projects in execution are shown on the maps. The classifications can be seen as a first indication of possible bottle-necks, the maps locate them.

3.1. SCATTER

3.1.1 Compound lots per holding

As criterion for the scatter, the number of compound lots per holding is used, supplemented with the distribution of the compound lots over house respectively field compound lots and the corresponding holding size. The map 'Mean number of compound lots per holding' gives

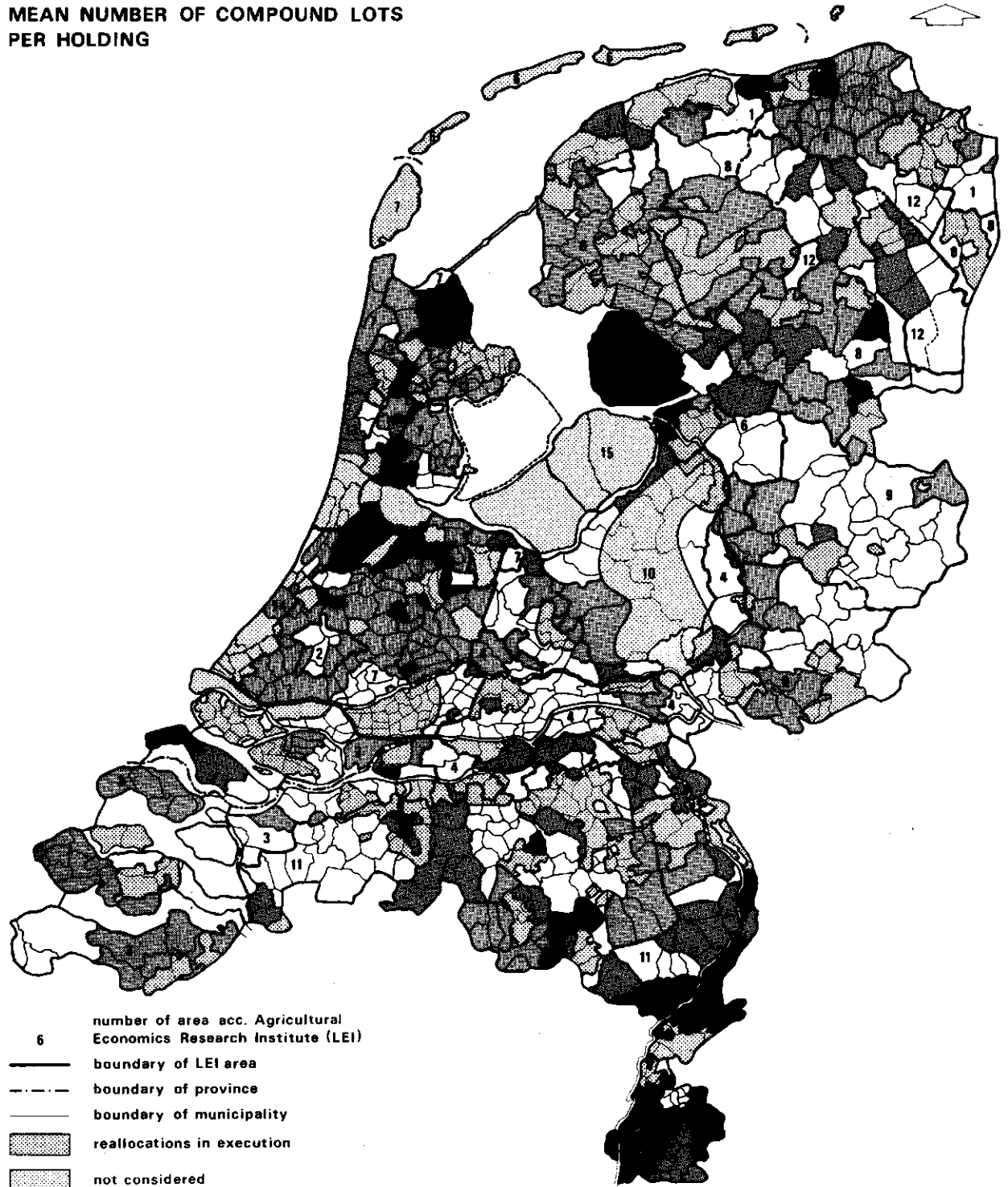
this factor per municipality. The classification gives an indication of the degree in which this factor is a disadvantage for agricultural enterprise.

According to this factor, a number of 2.5 to <4 compound lots per holding forms the middle class. The classes 1.0 to <1.5 and 1.5 to <2.5 can be seen respectively as good and excellent in relation with the middle-class, while the other classes, namely 4.0 to <6.0 and ≥ 6.0 , can be seen respectively as insufficient and bad in relation with the middle class. It appears that in 11% of the number of municipalities with 4% of the total area, the mean number of compound lots per holding is 6 or more. These municipalities are specifically found in Mid and South Limburg, furthermore in North-Holland, directly Northwest of Amsterdam. In the class 4.0 to <6.0 compound lots per holding, 13% of the number of municipalities with 11% of the total area are found. These areas also specifically are found in Mid and South Limburg, but also in North Brabant and Drenthe; 37% of the number of municipalities with 43% of the total area forms the middle-class. This means that with regard to the number of compound lots per holding in 39% of the number of municipalities with 42% of the total area the situation is good to excellent. These categories are found specifically in the IJsselmeerpolders, the land reclamations in N.E. Groningen, large parts of Friesland, southern Drenthe, the region East of the river IJssel, grassland areas in Utrecht and South Holland and large parts of Zeeland. Table 6 shows the summed areas of municipalities per LEI-area according the mean number per municipality of compound lots per holding. This table shows for example that in the loess area the situation is worst with regard to this factor, while for the IJsselmeerpolders and the land reclamations in North and South Holland the best situation occurs. The eastern sand area is better in this regard than the other sand areas.

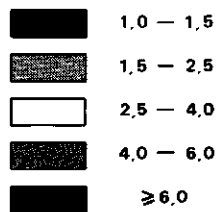
3.1.2. House compound lots

The part of a holding situated in the direct neighbourhood of the farmbuildings is of great importance, especially for dairy farms. For this reason the area percentage consisting of house compound lots

**MEAN NUMBER OF COMPOUND LOTS
PER HOLDING**



number of compound lots per holding



municipalities
 number (%) area (%)

4	6
35	36
37	43
13	11
11	4



0 25 50 km

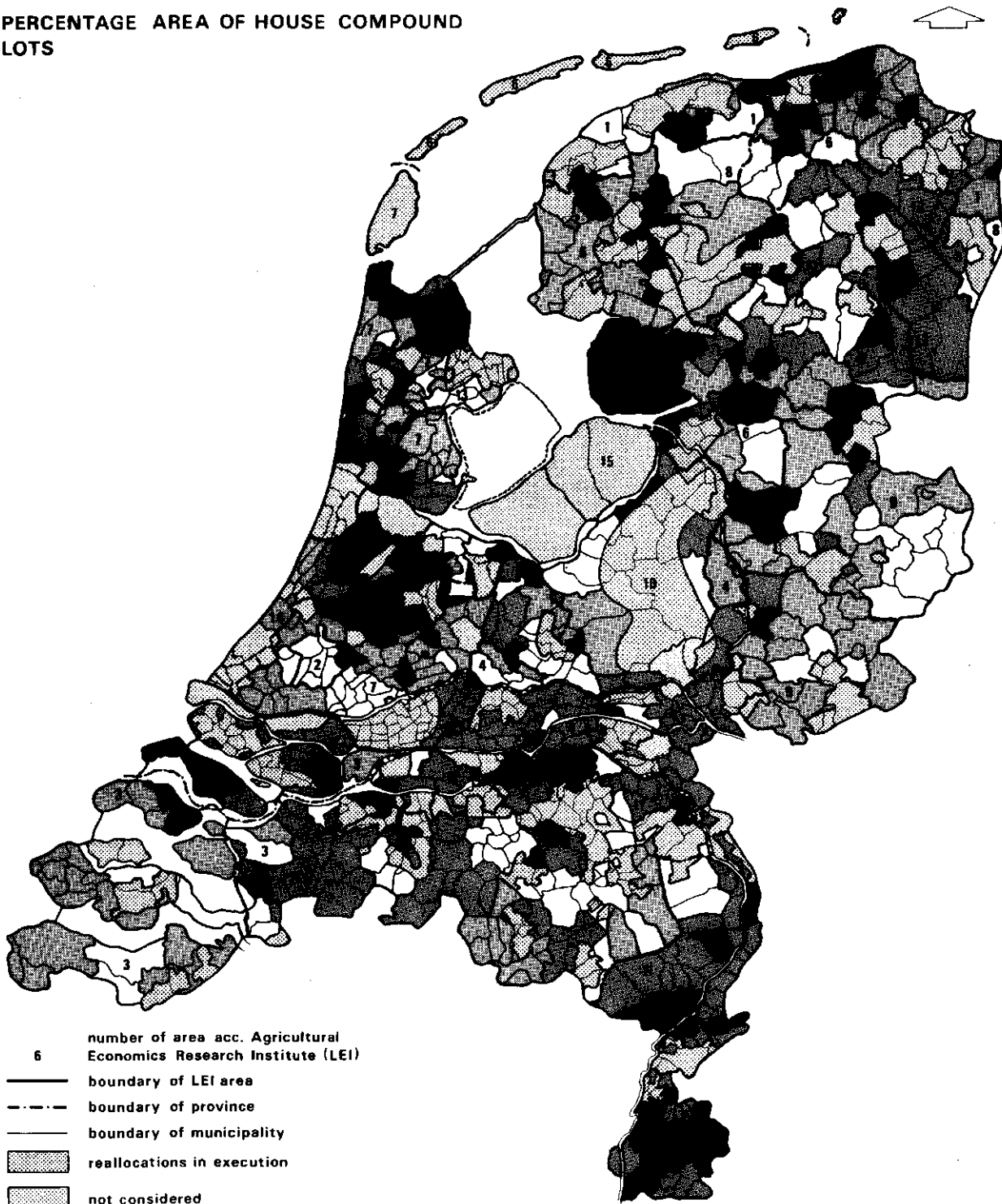
Table 6. Summed area of municipalities in per cent of the LEI-area in question, classified according the mean number per municipality of compound lots per holding (see also the map: Mean number of compound lots per holding)

nr.	LEI-area name	Area in 1000 ha	Mean number per municipality of compound lots per holding				
			1.0-<1.5	1.5-<2.5	2.5-<4.0	4.0-<6.0	<u>≥6.0</u>
1.	Northern sea clay area	95	7	49	40	4	0
2.	Land reclamations in N. + S. Holland	58	65	33	2	0	0
3.	Southwestern sea clay area	212	0	46	46	6	2
4.	River clay area	118	0	23	70	7	0
5.	Loess area	41	0	0	9	29	62
6.	Northern pastural area	143	4	58	29	9	0
7.	Western pastural area	202	7	62	23	5	3
8.	Northern sand area	224	2	46	39	11	2
9.	Eastern sand area	206	0	23	77	0	0
10.	Central sand area	89	0	34	47	19	0
11.	Southern sand area	258	0	15	42	30	13
12.	Dug-off peat districts	80	0	8	75	17	0
13.	Rest of North Holland	24	12	58	13	17	0
14.	Rest of South Holland	8	0	71	29	0	0
15.	IJsselmeer polders	42	100	0	0	0	0
	Netherlands	1800	6	36	43	11	4

was determined. The map Percentage area of house compound lots presents this factor per municipality. As a criterion for a rational management it can be said that at least 2/3 of the holding area must be in the form of a house compound lot. The classification is based on that principle. It appears that 35% of the number of municipalities with 45% of the total area complies with this criterion, while 18% of the number of municipalities with 21% of the total area complies more or less. The other 47% of the number of municipalities with 34% of the total area does not comply in any way. The 'good' areas are the IJsselmeerpolders, a number of land reclamations, the grassland areas in Utrecht and South Holland, large parts of the Achterhoek, South Drenthe, the northern sea clay area in Groningen and large parts of Friesland. The areas with a worse situation from this point of view are mostly concentrated in the sand areas, the river clay areas, Mid and South Limburg; furthermore, western Brabant and the isles of South Holland belong to this group. In North Holland the municipalities situated directly N.W. of Amsterdam also form a problem with regard to this factor. Table 7 gives the area of municipalities in per cent of the LEI-area according to the mean area percentage per municipality of house compound lots. This table clearly shows the extremely high figure of the loess area in the lowest class. The dug-off peat districts are following directly (92% of the area with a house compound lot percentage of <55 as against the loess area with 100%). The IJsselmeerpolders and the land reclamations in North and South Holland are the best.

In this context it should be remarked that a better criterion to get an indication about this factor would be the number and the area of holdings having 2/3 or more of their holding size in the direct neighbourhood of the farmbuildings. However, it was not possible to inventorize this factor in such a way.

PERCENTAGE AREA OF HOUSE COMPOUND LOTS



- 6 number of area acc. Agricultural Economics Research Institute (LEI)
- boundary of LEI area
- - - boundary of province
- boundary of municipality
- ▨ reallocations in execution
- ▩ not considered

area of house compound lots (%)		municipalities	
		number (%)	area (%)
▨	≥ 80	11	14
▩	65 - 80	24	31
□	55 - 65	18	21
▤	35 - 55	31	26
▥	< 35	16	8

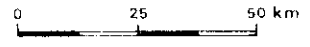


Table 7. Summed area of municipalities in per cent of the LEI-area in question classified according the mean area percentage per municipality of house compound lots per holding (see also the map: Percentage area of house compound lots)

nr.	LEI-area name	Area in 1000 ha	Mean area percentage per municipality of house compound lots per holding				
			<35	35-<55	55-<65	65-<80	≥80
1.	Northern sea clay area	95	0	1	24	45	30
2.	Land reclamations in N. + S. Holland	58	0	0	17	9	74
3.	Southwestern sea clay area	212	12	17	20	46	5
4.	River clay area	118	9	53	13	21	4
5.	Loess area	41	66	34	0	0	0
6.	Northern pastural area	143	7	4	12	55	21
7.	Western pastural area	202	8	15	18	39	20
8.	Northern sand area	224	2	27	32	23	16
9.	Eastern sand area	206	0	7	33	55	5
10.	Central sand area	89	9	25	34	29	3
11.	Southern sand area	258	11	56	24	9	0
12.	Dug-off peat districts	80	10	82	0	8	0
13.	Rest of North Holland	24	17	29	29	13	12
14.	Rest of South Holland	8	0	28	0	72	0
15.	IJsselmeer polders	42	0	0	0	0	100
	Netherlands	1800	8	26	21	31	14

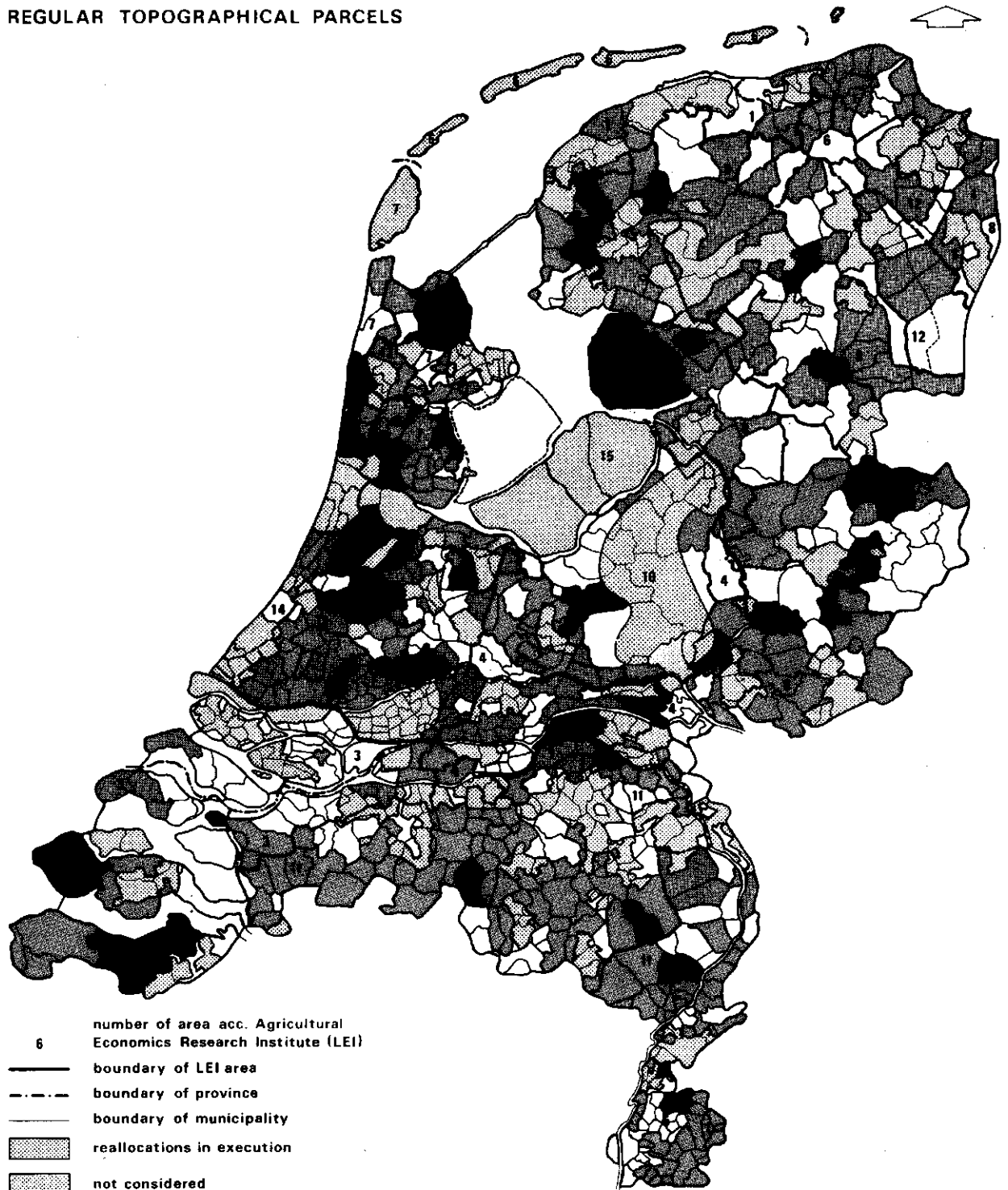
3.2. TOPOGRAPHICAL PARCELS

Two facets of topographical parcels are important, i.e. shape and area. For a rational management topographical parcels of regular shape and a sufficient area are a necessity. This is particularly the case for holdings of arable land, because such holdings need units as large as possible. Dairy farms have in general lesser requirements in this regard.

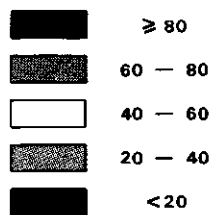
3.2.1. Shape

The map Regular topographical parcels gives a survey of the percentage of regular topographical parcels per municipality. Here also the classification is chosen around a middle class of 40 to <60%. The classes with <40% regular topographical parcels is worse relative to that middle class. It appears that the municipalities to be considered to be at a disadvantage with regard to this facet are 41% of the number with 37% of the total area; 28% of the number of municipalities with 29% of the total area have a better situation ($\geq 60\%$ regular topographical parcels). Such municipalities are found in some concentration in Groningen, Friesland, Drenthe and North Holland; larger concentrations are found in the grassland areas of Utrecht and South Holland and in the land reclamations in North and South Holland. The municipalities having the worst situation for this facet mostly are found in the Southwest and the South of the Netherlands, furthermore concentrations of such municipalities are to be found in the Achterhoek, Salland, parts of Twente, a large part of the northern sea clay area with mosaic parcellation and in the middle of North Holland excluded the polders. Table 8 gives the area of municipalities per LEI-area according the percentage of regular topographical parcels. It shows that 71% of the total area of the Netherlands has <60% regular topographical parcels. Especially the southwestern sea clay area is conspicuous for its high (23) percentage in the lowest class, directly followed by the rest of North Holland and the eastern and central sand areas.

REGULAR TOPOGRAPHICAL PARCELS



number of regular top. parcels (%)



municipalities
number (%) area (%)

5	7
23	22
31	34
32	28
9	9



Table 8. Summed area of municipalities in per cent of the LEI-area in question according the mean percentage per municipality of regular topographical parcels (see also the map: Regular topographical parcels)

nr.	LEI-area name	Area in 1000 ha	Mean percentage per municipality of regular topographical parcels				
			<20	20-<40	40-<60	60-<80	<u>≥80</u>
1.	Northern sea clay area	95	2	41	25	32	0
2.	Land reclamations in N. + S. Holland	58	0	0	6	29	65
3.	Southwestern sea clay area	212	23	26	42	9	0
4.	River clay area	118	7	23	45	25	0
5.	Loess area	41	9	55	36	0	0
6.	Northern pastural area	143	12	33	30	24	1
7.	Western pastural area	202	10	18	20	37	15
8.	Northern sand area	224	0	3	47	48	2
9.	Eastern sand area	206	16	41	40	1	2
10.	Central sand area	89	16	23	48	13	0
11.	Southern sand area	258	6	57	29	8	0
12.	Dug-off peat districts	80	0	0	45	48	7
13.	Rest of North Holland	24	17	32	28	23	0
14.	Rest of South Holland	8	0	24	19	57	0
15.	IJsselmeer polders	42	0	0	0	0	100
	Netherlands	1800	9	28	34	22	7

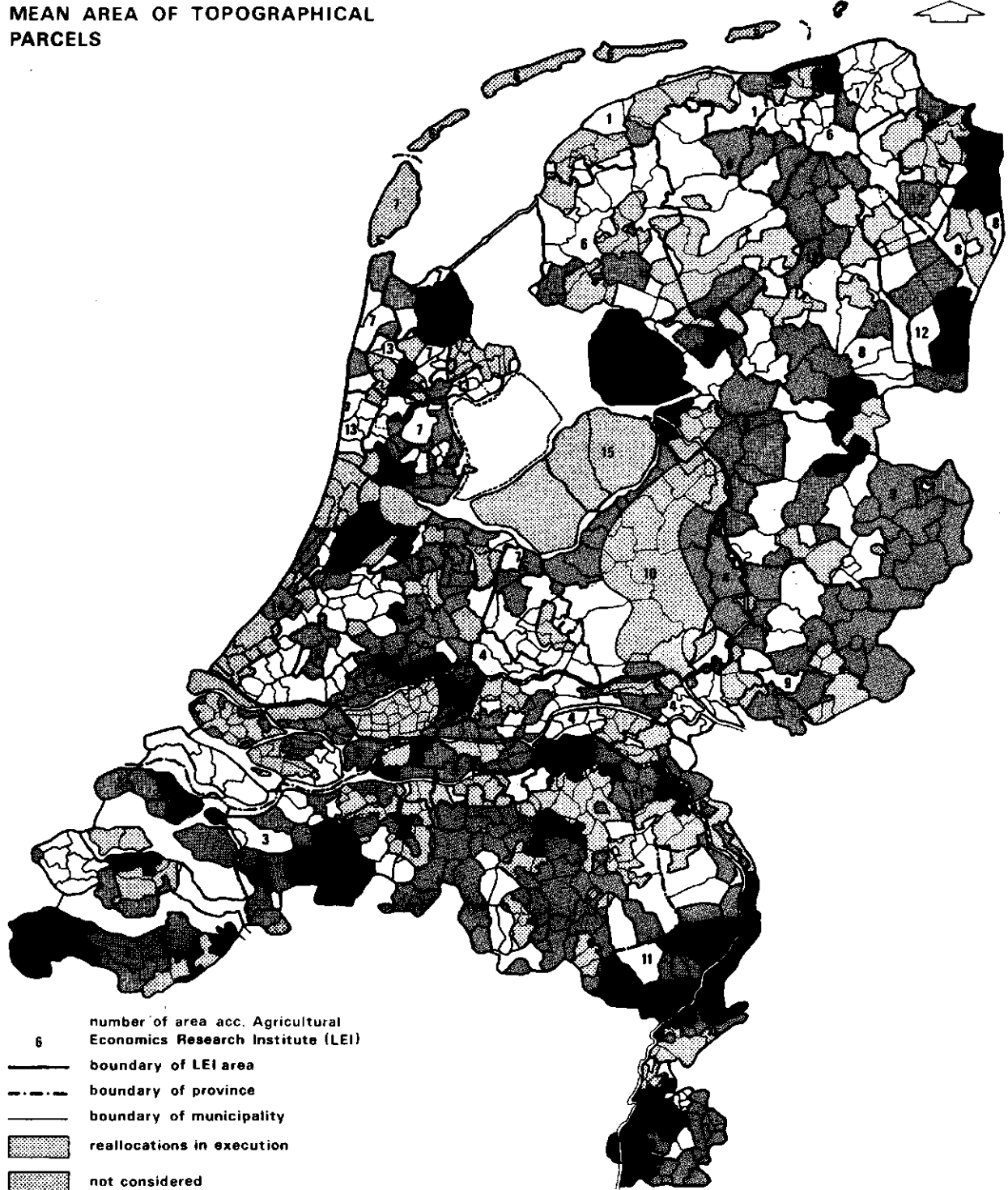
3.2.2. Area

On the map Mean area of topographical parcels, this aspect is shown per municipality. The classification is based around the criterion of 2.5 ha, resulting in the following classes: <1.0 ha; 1.0 to <1.5 ha; 1.5 to <2.5 ha (middle class); 2.5 to <4.0 ha and \geq 4.0 ha. On the basis of these classes 16% of the number of municipalities with 36% of the total area are falling short of the middle class; 38% of the municipalities with 41% of the area belongs to the middle class, while 46% of the number of municipalities with 23% of the area is superior to the middle class. These last mentioned municipalities are situated all over the Netherlands; a concentration is found in Zeeland. Municipality falling short of the middle class particularly are found in the sand areas in North Brabant and Limburg; also in a large part of the grassland area in Utrecht and South Holland; the loess area almost totally falls inside this category. Table 9 gives this aspect per LEI-area and for the Netherlands as a whole.

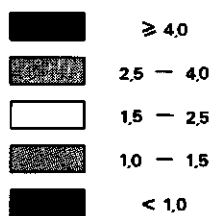
3.3. DISTANCE FROM FARMBUILDING TO CENTRE OF LOT

The distance from farmbuilding to centre of lot is one of the most important factors of parcellation, large distances interfere with a rational management. In general it can be said that a distance of 1500 m should not to be exceeded. The map Mean total distance from farmbuilding to centre of lot shows this factor per municipality. The classification is based on the already mentioned criterion. It appears that 83% of the number of municipalities with 86% of the total area conform to this criterion, so only 17% of the number of municipalities with 14% of the total area does not qualify. This seems to be not very disturbing, but as these are mean values there must be very large absolute distances. These areas are scattered over the country: the dug-off peat districts, Staphorst and environs, Northwest Veluwe, some parts of the river clay area, the isles of South Holland, some contiguous municipalities in the sand areas of North Brabant and Limburg, and the eastern part of the loess area.

MEAN AREA OF TOPOGRAPHICAL PARCELS



area of top. parcels (ha)



municipalities
number (%) area (%)

14	10
32	13
38	41
12	28
4	8

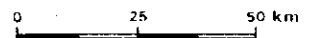


Table 9. Summed area of municipalities in per cent of the LEI-area in question according the mean area (ha) per municipality of topographical parcels (see also the map: Mean area of topographical parcels)

nr.	LEI-area name	Area in 1000 ha	Mean area (ha) per municipality of topographical parcels				
			<1.0	1.0-<1.5	1.5-<2.5	2.5-<4.0	≥4.0
1.	Northern sea clay area	95	0	9	64	5	22
2.	Land reclamations in N. + S. Holland	58	0	0	17	20	63
3.	Southwestern sea clay area	212	0	6	31	39	24
4.	River clay area	118	0	26	49	25	0
5.	Loess area	41	48	34	18	0	0
6.	Northern pastural area	143	1	7	64	24	4
7.	Western pastural area	202	13	40	45	2	0
8.	Northern sand area	224	0	34	57	2	7
9.	Eastern sand area	206	3	54	34	9	0
10.	Central sand area	89	0	51	46	3	0
11.	Southern sand area	258	34	40	23	3	0
12.	Dug-off peat districts	80	0	7	42	29	22
13.	Rest of North Holland	24	0	13	75	0	12
14.	Rest of South Holland	8	0	72	28	0	0
15.	IJsselmeer polders	42	0	0	0	0	100
	Netherlands	1800	8	28	41	13	10

A further insight regarding this factor is given by the combination of distribution of house and field compound lots and the distance from farmbuilding to centre of lot. For this reason for house as well as for field compound lots this distance has been established and is shown in tables and maps. A survey of the municipal areas in per cent of the LEI-area having a certain mean total distance from farmbuilding to centre of lot is given in table 10.

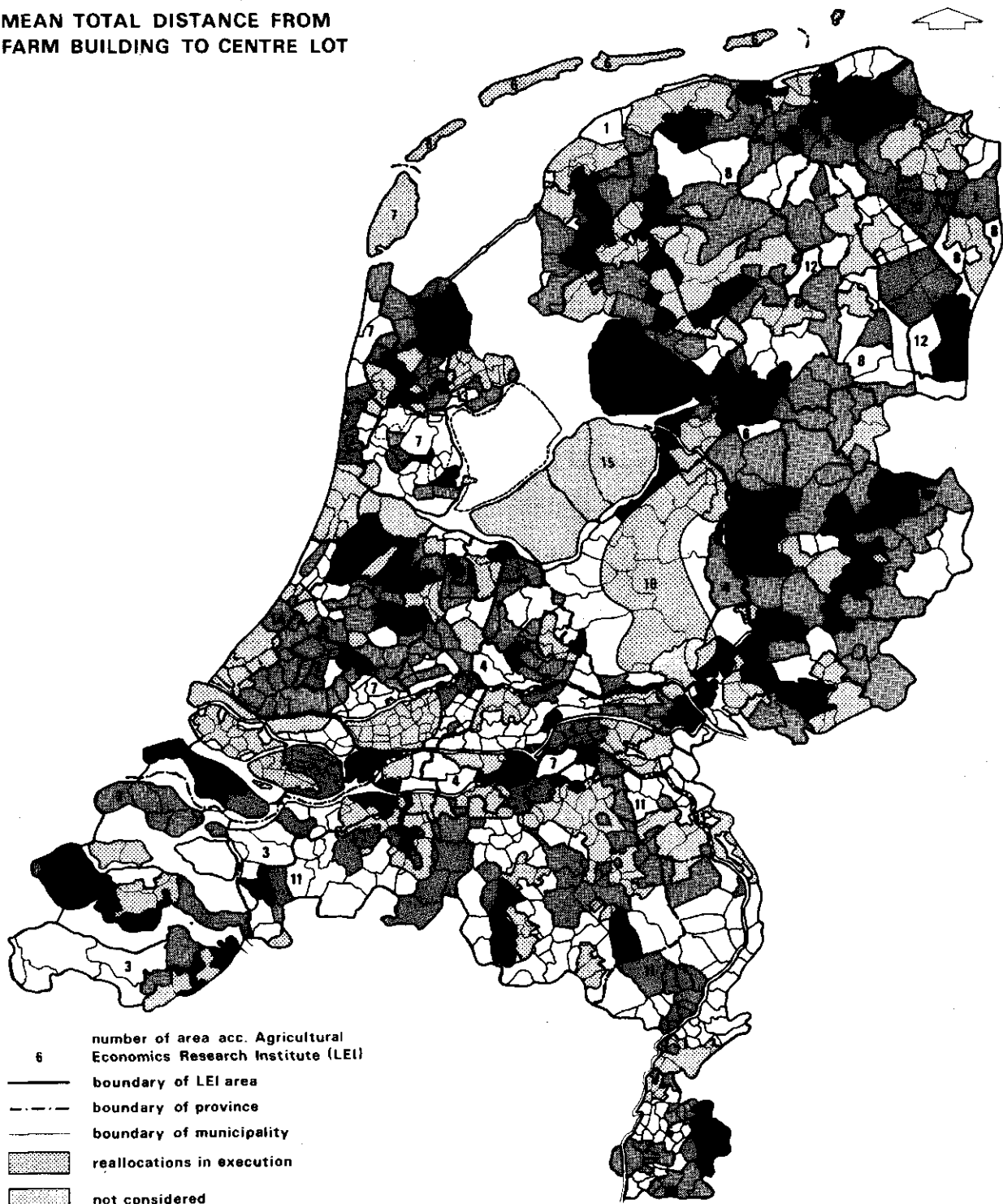
3.3.1. House compound lots

The distance from farmbuilding to the centre of the house compound lot is of great importance especially for dairy farms. It is taken that the criterion for this factor is 600 m, which means that a house compound lot must not be deeper than 1200 m. On this basis the following classification was made: <200 m; 200 to <400 m; 400 to <600 m; 600 to <800 m and \geq 800 m. How these classes are distributed over the municipalities is shown in the map Mean distance from farmbuilding to centre of lot for house compound lots. For the Netherlands, the greater part of the municipalities does comply with the criterion namely 88% of the number of municipalities with 91% of the total area. The other 9% of the area is divided over 7% in the class 600 to <800 m and 2% in the class \geq 800 m. The last mentioned class is found concentrated in the northern sea clay area in Groningen, in the dug-off peat districts and in the grassland areas of Utrecht and South Holland, all having a strip pattern parcellation. Table 11 shows the areas of the municipalities in per cent of the LEI-area according the mean distance from farmbuilding to the centre of the house compound lots.

3.3.2. Field compound lots

The greater the scatter, the higher the weight of the distance from farmbuilding to the centre of field compound lots. The criterion taken for this distance is 2000 m. The map Mean distance from farmbuilding to centre of lot for field compound lots shows this factor per municipality. The used classification is: <1000 m; 1000 to <1500 m; 1500 to <2000 m (middle class); 2000 to <3000 m and \geq 3000 m. It

**MEAN TOTAL DISTANCE FROM
FARM BUILDING TO CENTRE LOT**



distance incl. 1/2 D (m)	municipalities	
	number (%)	area (%)
[solid black] < 700	14	19
[dark grey] 700 — 1000	28	31
[white] 1000—1500	41	36
[medium grey] 1500—2000	11	9
[light grey] ≥ 2000	6	5

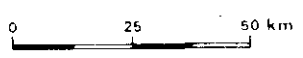


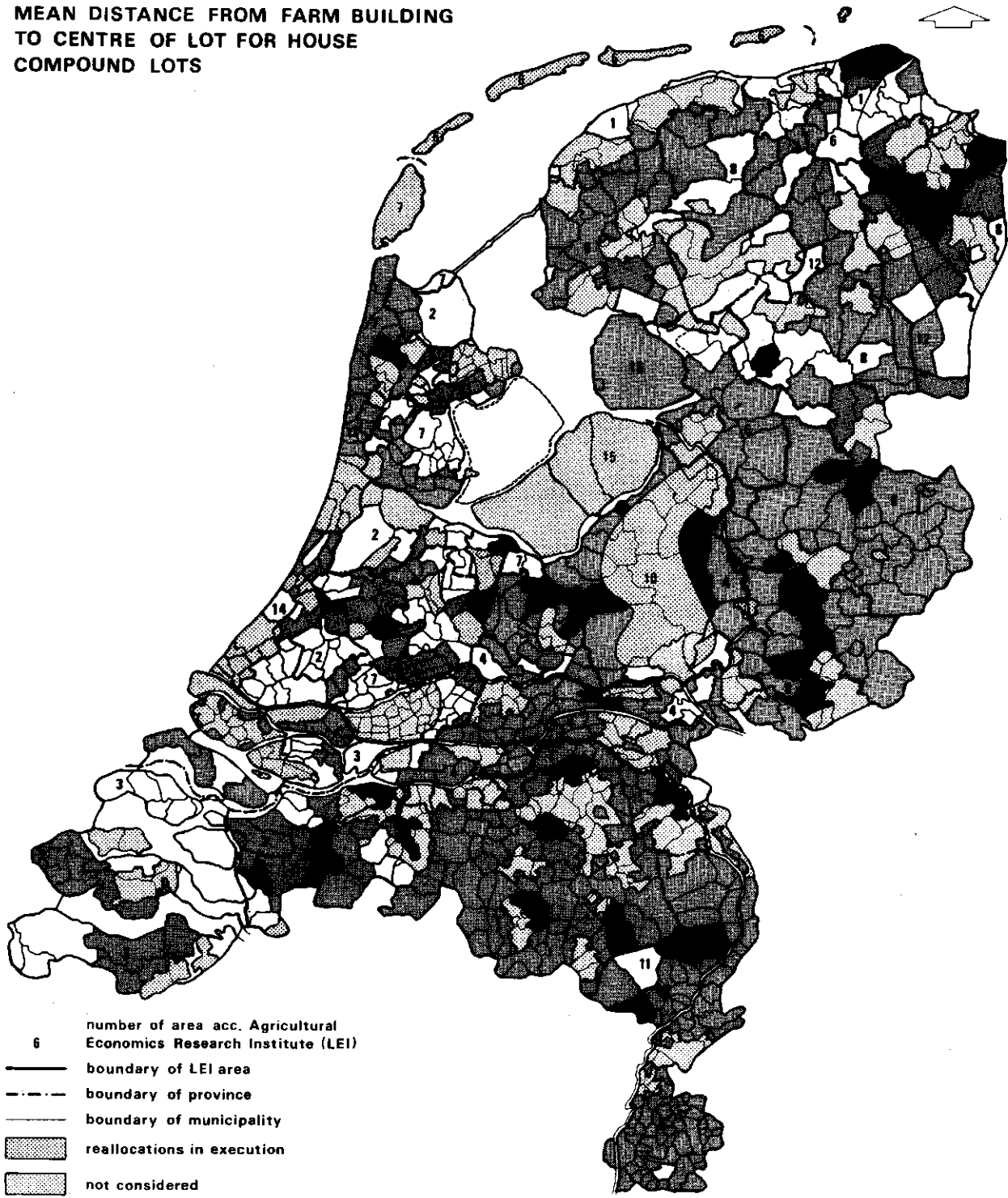
Table 10. Summed area of municipalities in per cent of the LEI-area in question according the mean total distance (m) per municipality from farmbuilding to centre of lot (see also the map: Mean total distance from farm building to centre of lot)

nr.	LEI-area name	Area in 1000 ha	Mean total distance (m) per municipality from farmbuildint to centre of lot				
			<700	700-<1000	1000-<1500	1500-<2000	≥2000
1.	Northern sea clay area	95	37	44	17	2	0
2.	Land reclamations in N. + S. Holland	58	69	14	4	13	0
3.	Southwestern sea clay area	212	16	21	44	11	8
4.	River clay area	118	13	17	47	11	12
5.	Loess area	41	1	44	36	6	13
6.	Northern pastural area	143	38	50	4	0	8
7.	Western pastural area	202	8	42	40	9	1
8.	Northern sand area	224	6	44	47	3	0
9.	Eastern sand area	206	34	53	13	0	0
10.	Central sand area	89	3	7	71	3	16
11.	Southern sand area	258	3	15	62	19	1
12.	Dug-off peat districts	80	0	8	20	50	22
13.	Rest of North Holland	24	32	30	21	17	0
14.	Rest of South Holland	8	0	42	58	0	0
15.	IJsselmeer polders	42	100	0	0	0	0
	Netherlands	1800	19	31	36	9	5

Table 11. Summed area of municipalities in per cent of the LEI-area in question according the mean distance (m) per municipality from farmbuilding to centre of hous compound lot (see also the map: Mean distance from farm building to centre of lot for house compound lots)

nr.	LEI-area name	Area in 1000 ha	Mean distance (m) per municipality from farmbuilding to centre of house compound lot				
			<200	200-<400	400-<600	600-<800	≥800
1.	Northern sea clay area	95	0	31	45	11	13
2.	Land reclamations in N. + S. Holland	58	0	17	83	0	0
3.	Southwestern sea clay area	212	2	48	50	0	0
4.	River clay area	118	3	84	13	0	0
5.	Loess area	41	0	96	4	0	0
6.	Northern pastural area	143	0	81	15	4	0
7.	Western pastural area	202	0	25	49	22	4
8.	Northern sand area	224	0	52	35	11	2
9.	Eastern sand area	206	20	80	0	0	0
10.	Central sand area	89	44	45	8	3	0
11.	Southern sand area	258	19	73	8	0	0
12.	Dug-off peat districts	80	0	14	33	31	22
13.	Rest of North Holland	24	14	49	12	25	0
14.	Rest of South Holland	8	0	61	39	0	0
15.	IJsselmeer polders	42	0	100	0	0	0
	Netherlands	1800	8	57	26	7	2

**MEAN DISTANCE FROM FARM BUILDING
TO CENTRE OF LOT FOR HOUSE
COMPOUND LOTS**



- 6 number of area acc. Agricultural Economics Research Institute (LEI)
- boundary of LEI area
- - - boundary of province
- boundary of municipality
- ▨ reallocations in execution
- ▩ not considered

distance incl. 1/2 D (m)	municipalities	
	number (%)	area (%)
▨ < 200	10	8
▩ 200 - 400	74	57
▨ 400 - 600	4	26
▩ 600 - 800	9	7
▨ ≥ 800	3	2



0 25 50 km

appears that a fair 6% of the number of municipalities with 9% of the total area falls into the class ≥ 3000 m.

Except for the Gelderse Vallei, municipalities with this character are not found in concentrations. Scattered over the Netherlands are municipalities as Emmen (partly), Staphorst, some land reclamations in North Holland, the central region of South Holland and West Zeeuws Vlaanderen. In the class 2000 to < 3000 m, however, 34% of the municipalities with 35% of the total area does occur. They are concentrated in the dug-off peat districts, the southern sand area, the northern part of South Holland, the coastal area and the top of North Holland; furthermore some municipalities in Twente and the Achterhoek and in the river clay area. So in total 40% of the municipalities with 44% of the entire area is in an unfavourable situation in relation to the middle class. Where furthermore 36% of the number of municipalities with 36% of the total area is found in the middle class itself, it appears that in three quarters of the total number of municipalities comprising 80% of the area of the Netherlands, the mean distance from farmbuilding to the centre of field compound lots is ≥ 1500 m. See also table 12.

3.4. ACCESSIBILITY

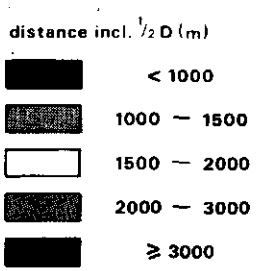
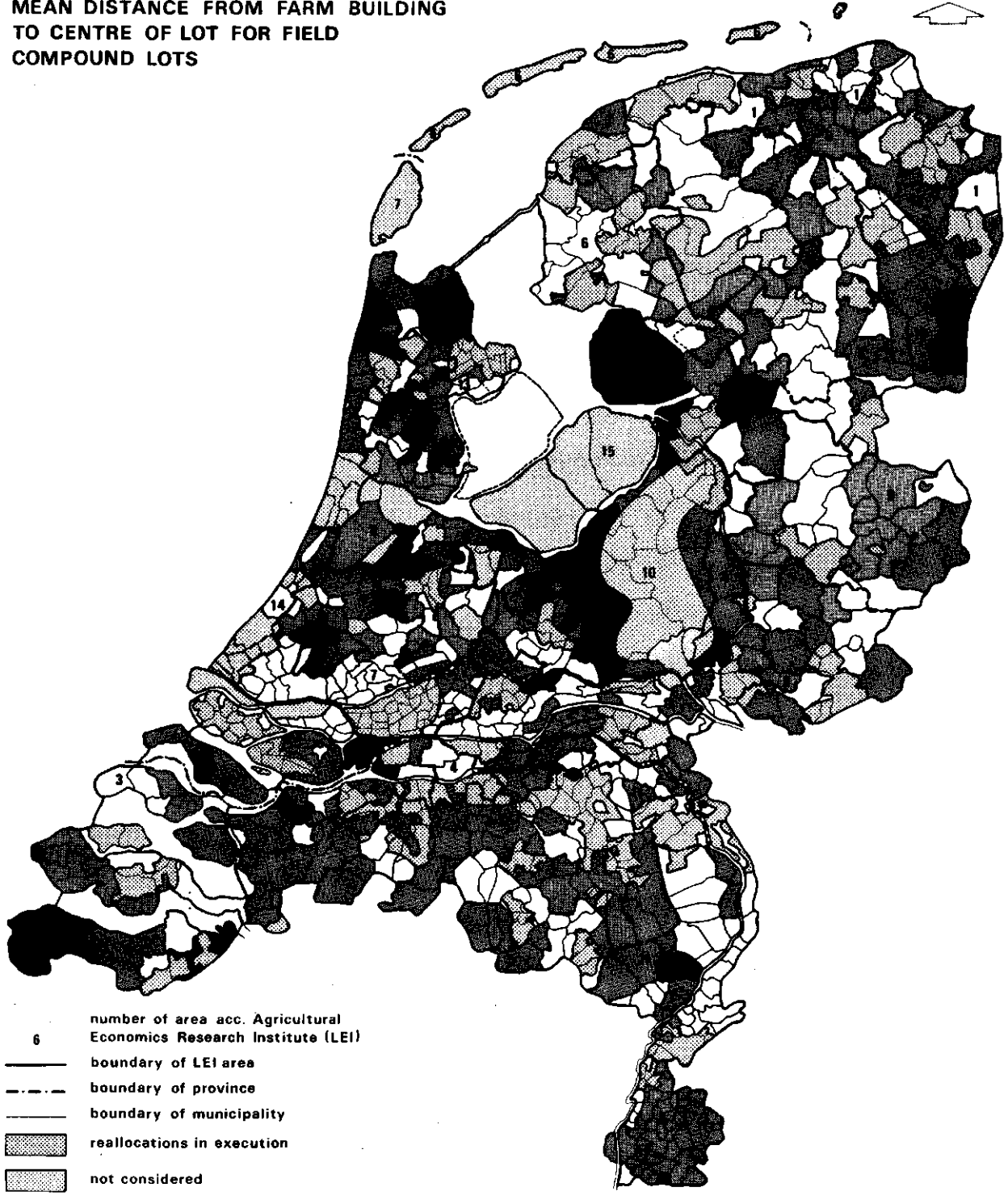
3.4.1. Distance from centre of lot to nearest metalled road

The accessibility of the lots is defined as the distance from the centre of the lot to the nearest metalled road. The site of a lot relative to a metalled road is important, for instance, in relation with the direct transport of products to processing and trade centres. As criterion for this factor the limit of 500 m is taken, i.e. 500 m over land. Distances over semi-metalled roads and water are converted into m over land. In this way one obtains the so-called accessibility distance. The map Accessibility distance, shows this factor per municipality. Of the number of municipalities 17% with 16% of the total area does not comply with the criterion given. These municipalities are found especially in NE and E-Groningen and in the dug-off peat

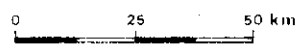
Table 12. Summed area of municipalities in per cent of the LEI-area in question according the mean distance (m) per municipality from farm-building to centre of field compound lots (see also the map: Mean distance from farm building to centre of lot for field compound lots)

nr.	LEI-area name	Area in 1000 ha	Mean distance (m) per municipality from farmbuilding to centre of field compound lots				
			<1000	1000-<1500	1500-<2000	2000-<3000	≥3000
1.	Northern sea clay area	95	0	15	54	31	0
2.	Land reclamations in N. + S. Holland	58	10	43	11	18	18
3.	Southwestern sea clay area	212	6	17	22	39	16
4.	River clay area	118	0	6	45	46	3
5.	Loess area	41	1	72	8	19	0
6.	Northern pastural area	143	5	34	40	14	7
7.	Western pastural area	202	5	20	35	29	11
8.	Northern sand area	224	0	7	62	31	0
9.	Eastern sand area	206	0	36	36	28	0
10.	Central sand area	89	0	5	8	31	56
11.	Southern sand area	258	0	7	38	51	4
12.	Dug-off peat districts	80	0	0	17	61	22
13.	Rest of North Holland	24	20	18	43	19	0
14.	Rest of South Holland	8	0	0	43	57	0
15.	IJsselmeer polders	42	0	0	0	0	0
	Netherlands	1800	2	18	36	35	9

**MEAN DISTANCE FROM FARM BUILDING
TO CENTRE OF LOT FOR FIELD
COMPOUND LOTS**



municipalities	
number (%)	area (%)
4	2
20	18
36	36
34	35
6	9



districts, the NE. of Overijssel, the grassland areas in Utrecht and South Holland, North Holland just above Amsterdam, in North Brabant around Bergen op Zoom and to the South of Tilburg and Eindhoven. The greater part of the lots are situated within 400 m from the nearest metalled road, this applies for 66% of the number of municipalities with 67% of the total area. All sand areas and South Limburg have a rather good situation from this point of view, as also the municipalities around the border of Groningen and Friesland, on the isles of South Holland and Zeeland, and Zeeuws Vlaanderen.

The reason for a large accessibility distance in the clay and peat areas is different from that in the sand areas. The first category mostly has a strip parcellation, marked by long and relative narrow lots and a wide road pattern, the roads being metalled as a rule; in the sand areas there is a relatively dense road pattern with the roads relatively less metalled and the parcellation pattern has a mosaic structure.

Table 13 shows the accessibility per LEI-area and illustrates the situation very clearly. Especially the western grassland area, where 43% of the area has an accessibility distance of more than 500 m, gives an unfavourable picture. The dug-off peat districts are quite in agreement with the land reclamations in North and South Holland. The northern sea clay area has a middle position between both mentioned groups. That is caused by the parcellation in long strips of land along the coast of the Wadden Sea.

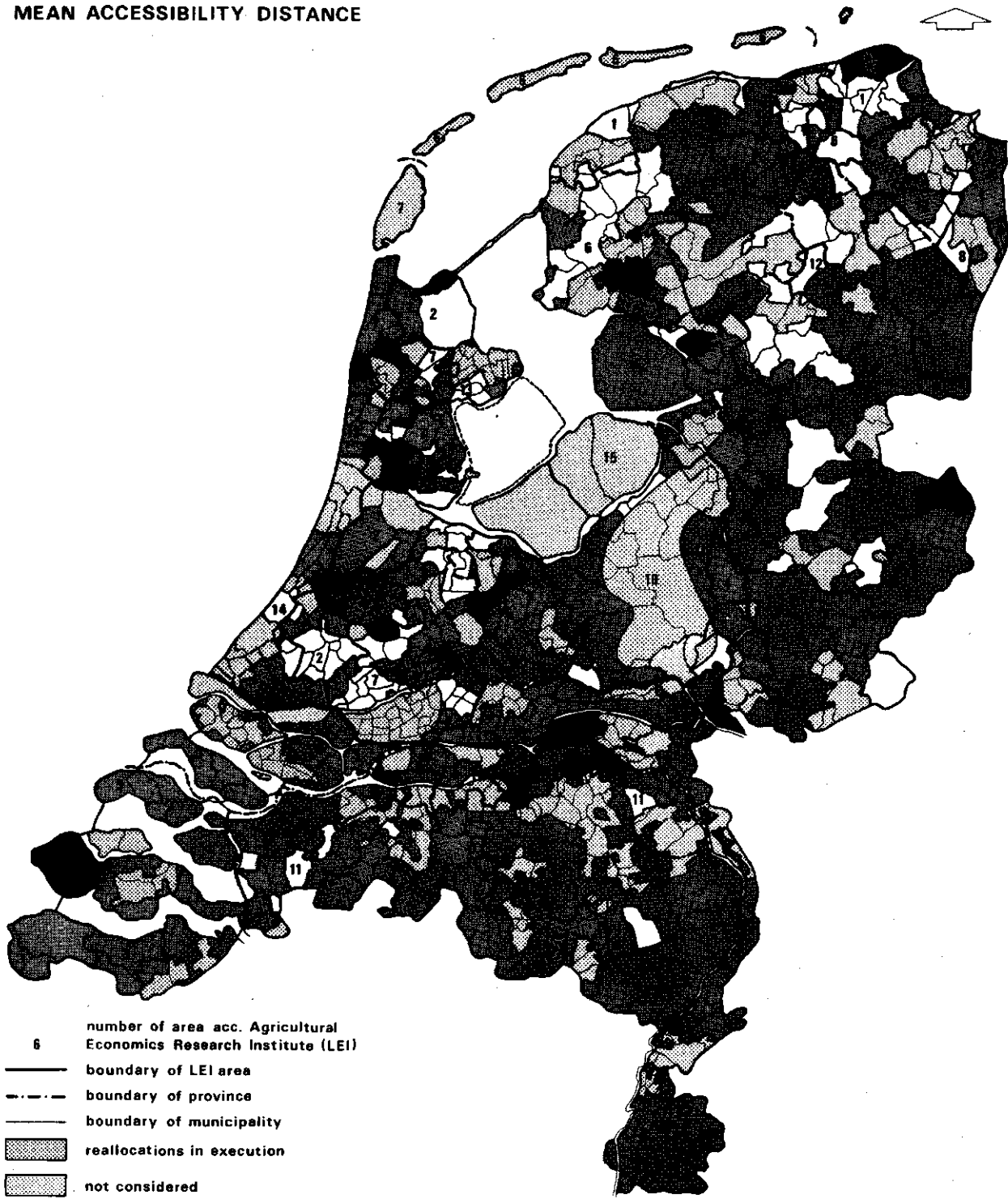
3.4.2. Distance from farmbuildings to nearest metalled road

Analogous to the accessibility distance, the distance of the farmbuildings to the nearest metalled road is defined. It is very important to have farmbuildings lying adjacent to a metalled road, i.e. within a distance of 50 meter. This in relation with the ever increasing demands made by motorized transport on the accessibility of farmbuildings. The transport vehicles and agricultural machines are getting heavier and heavier, and transport of milk with heavy tankers strongly increases. As criterion a limit of 50 m was taken. Then per municipality the percentage of the area pertaining to holdings with the main

Table 13. Summed area of municipalities in per cent of the LEI-area in question according the mean accessibility distance (m over land) per municipality (see also the map: Mean distance from centre of lot to nearest metalled road)

nr.	LEI-area name	Area in 1000 ha	Mean accessibility distance (m over land) per municipality				
			<200	200-<400	400-<500	500-<700	<u>≥700</u>
1.	Northern sea clay area	95	0	25	43	24	8
2.	Land reclamations in N. + S. Holland	58	0	23	52	25	0
3.	Southwestern sea clay area	212	9	88	1	2	0
4.	River clay area	118	7	88	0	0	5
5.	Loess area	41	0	100	0	0	0
6.	Northern pastoral area	143	0	44	33	19	4
7.	Western pastoral area	202	4	27	26	32	11
8.	Northern sand area	224	0	71	21	8	0
9.	Eastern sand area	206	0	81	19	0	0
10.	Central sand area	89	1	84	13	2	0
11.	Southern sand area	258	1	72	6	21	0
12.	Dug-off peat districts	80	0	57	18	25	0
13.	Rest of North Holland	24	15	56	20	9	0
14.	Rest of South Holland	8	0	78	22	0	0
15.	IJsselmeer polders	42	0	100	0	0	0
	Netherlands	1800	2	65	17	13	3

MEAN ACCESSIBILITY DISTANCE

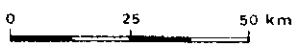


6 number of area acc. Agricultural Economics Research Institute (LEI)
 — boundary of LEI area
 - - - boundary of province
 — boundary of municipality
 [stippled] reallocations in execution
 [cross-hatched] not considered

mean distance from centre lot to nearest metalled road (m. over land)

[solid black] < 200
 [cross-hatched] 200 — 400
 [white] 400 — 500
 [stippled] 500 — 700
 [solid black] ≥ 700

municipalities	
number (%)	area (%)
3	2
62	65
18	17
14	13
3	3



farmbuildings satisfying this criterion was determined. So, the larger the percentage, the better the situation. When less than 75%, it can be said that the circumstances are insufficient or even bad. The middle class was taken to lie between 75 and <85%.

From the map Main farmbuildings situated on metalled road and Table 14 it appears that the areas having an unfavourable situation seen from this point of view particularly are found in Twente, the Achterhoek, the IJssel valley, the Veluwe, West Zeeuw-Vlaanderen and scattered over Groningen, Friesland, Utrecht, South Holland and Southwest Brabant. The relatively unfavourable municipalities are found in concentrations in Groningen, Friesland, Overijssel, Gelderland, South Holland, Zeeland and North Brabant. They mostly are situated contiguous to the first mentioned category of municipalities. Other concentrations of relatively unfavourable municipalities are found in the sand area of Southeast Brabant and central Limburg. In the areas in the Northern Netherlands not reaching the given criterion, many main farmbuildings mostly are accessible by a semi-metalled (private) road; while in the sand areas the main farmbuildings mostly are accessible by an unmetalled road.

For the Netherlands it was shown that in 43% of the municipalities with 36% of the total area, 85% of the main farmbuildings are situated directly on a metalled road; in 14% of the municipalities with 14% of the area, 75 to 85% of the main farmbuildings is situated directly on a metalled road. This implies that in 43% of the municipalities with 50% of the total area, less than 75% of the main farmbuildings is situated directly on a metalled road.

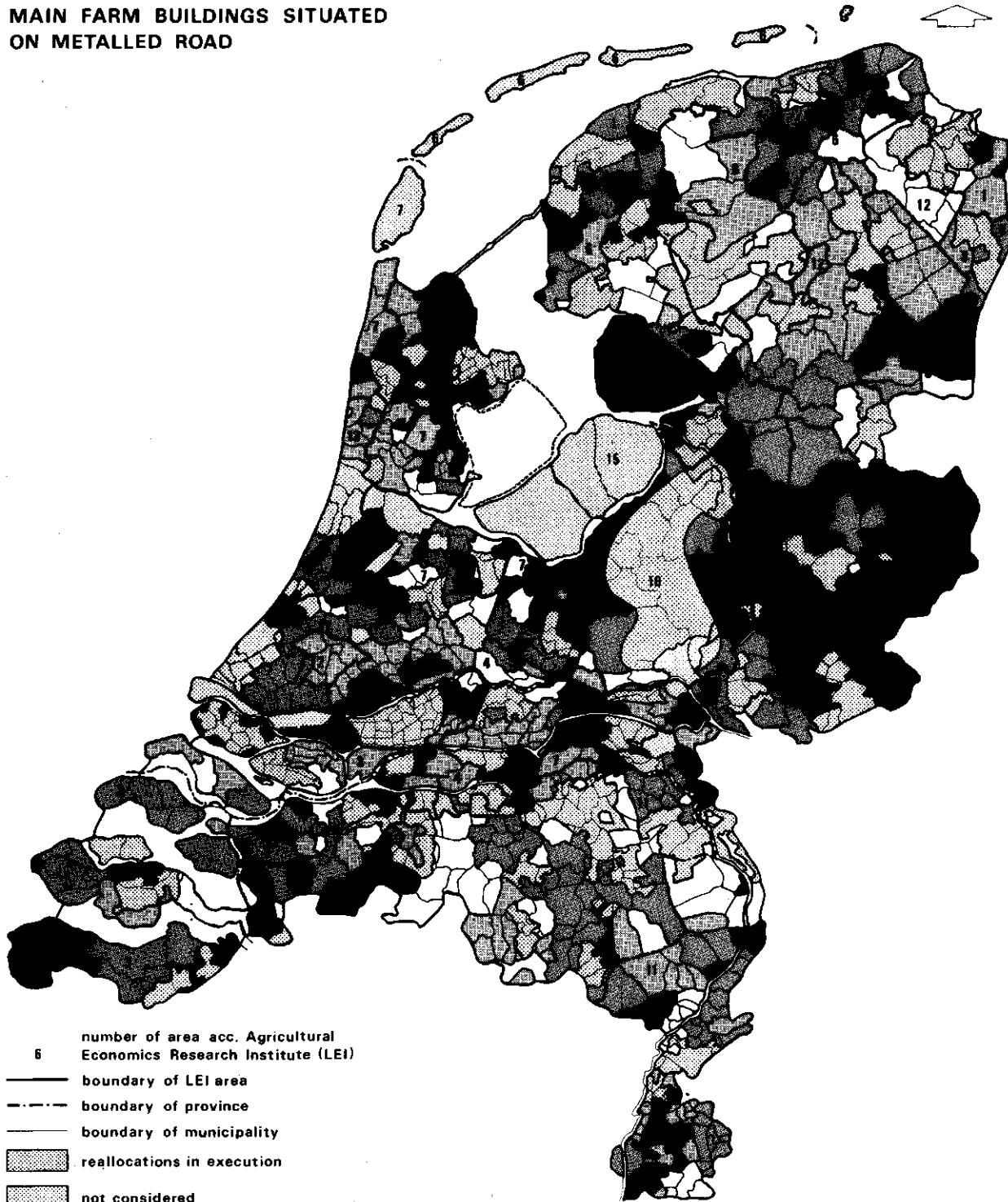
3.5. FARMBUILDINGS IN CENTRE OF VILLAGE

Farmbuildings in the centre of a village form a great difficulty, especially for dairy farms. Not only the general difficulty of not having the possibility to expand, but also other difficulties having to do with transport, noise, smell, etc. are present. When such circumstances are the rule it can be said that they constitute an undesirable agricultural characteristic. Especially the inconveniences for

Table 14. Summed area of municipalities in per cent of the LEI-area in question according the mean area percentage per municipality pertaining to farmbuildings situated on metalled road (see also the map: Main farmbuildings situated on metalled road)

nr.	LEI-area name	Area in 1000 ha	Mean area percentage per municipality with pertaining farmbuildings situated on metalled road				
			<60	60-<75	75-<85	85-<95	≥95
1.	Northern sea clay area	95	23	43	21	13	0
2.	Land reclamations in N. + S. Holland	58	0	0	0	40	60
3.	Southwestern sea clay area	212	19	45	9	16	11
4.	River clay area	118	29	15	10	26	20
5.	Loess area	41	0	21	15	25	39
6.	Northern pastural area	143	27	38	15	9	11
7.	Western pastural area	202	5	23	11	34	27
8.	Northern sand area	224	3	24	22	43	8
9.	Eastern sand area	206	83	14	0	0	3
10.	Central sand area	89	56	33	5	3	3
11.	Southern sand area	258	17	36	29	18	0
12.	Dug-off peat districts	80	0	0	30	44	26
13.	Rest of North Holland	24	0	6	0	27	67
14.	Rest of South Holland	8	39	58	0	0	3
15.	IJsselmeer polders	42	0	0	0	0	100
	Netherlands	1800	24	26	14	21	15

MAIN FARM BUILDINGS SITUATED ON METALLED ROAD

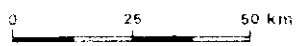


- 6 number of area acc. Agricultural Economics Research Institute (LEI)
- boundary of LEI area
- - - boundary of province
- boundary of municipality
- [diagonal lines] reallocations in execution
- [cross-hatch] not considered

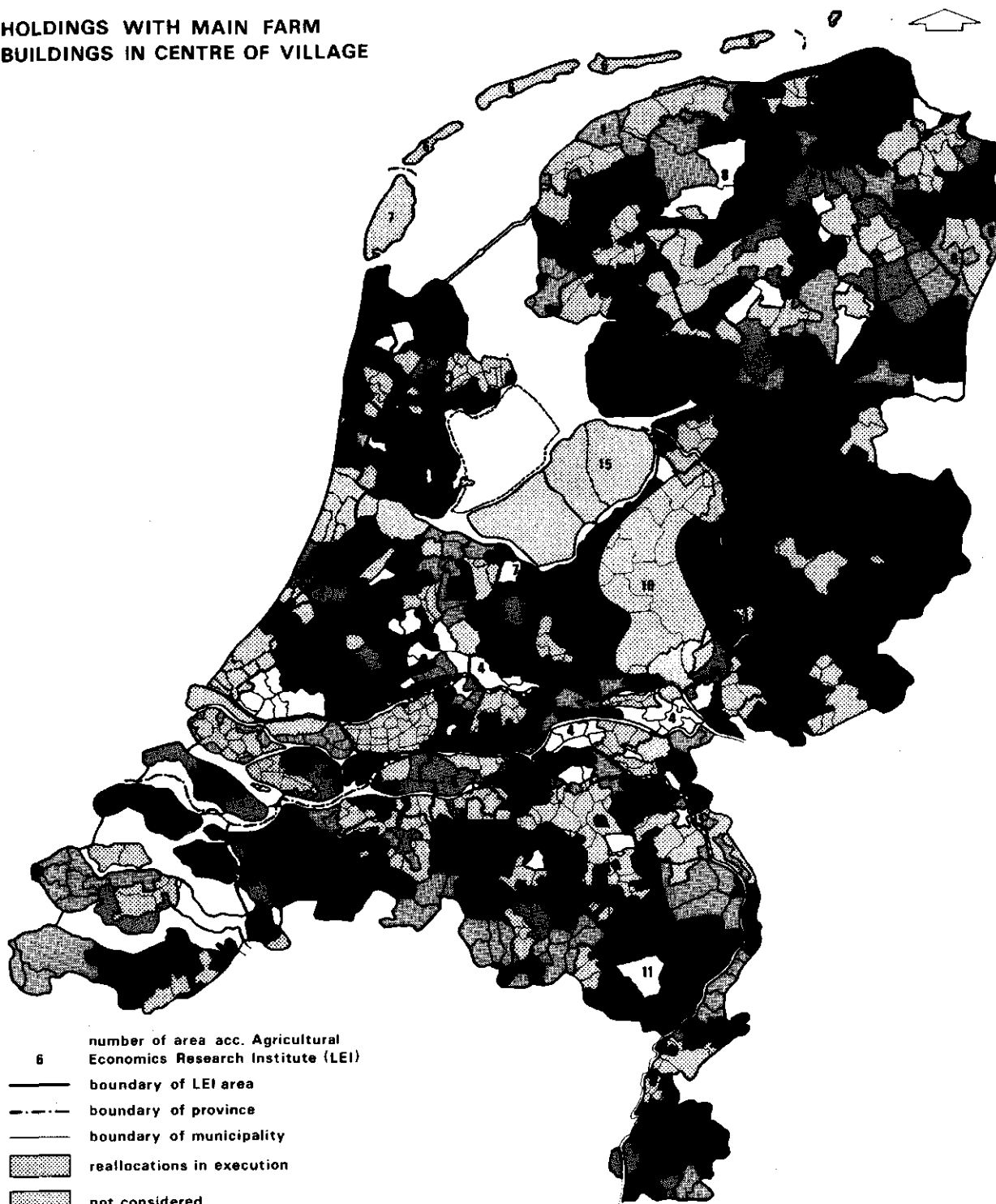
area (%) of holdings with main farm buildings situated on metalled road

[solid black]	≥ 95
[diagonal lines]	85 - 95
[white]	75 - 85
[cross-hatch]	60 - 75
[solid black]	< 60

municipalities	
number (%)	area (%)
19	15
24	21
14	14
26	26
17	24



HOLDINGS WITH MAIN FARM BUILDINGS IN CENTRE OF VILLAGE



- 6 number of area acc. Agricultural Economics Research Institute (LEI)
- boundary of LEI area
- - - boundary of province
- boundary of municipality
- ▨ reallocations in execution
- ▩ not considered

area (%) of holdings with main farm buildings in centre of village

▩	< 10
▨	10 — 15
□	15 — 20
▩	20 — 30
▩	≥ 30

municipalities
number (%) area (%)

48	61
13	13
8	7
8	6
23	13



0 25 50 km

Table 15. Summed area of municipalities in per cent of the LEI-area in question according the area percentage per municipality pertaining to farmbuildings situated in the village centre (see also the map: Holdings with main farmbuildings in centre of village)

nr.	LEI-area name	Area in 1000 ha	Mean area percentage per municipality with pertaining farmbuildings in village centre				
			<10	10-<15	15-<20	20-<30	≥30
1.	Northern sea clay area	95	91	4	3	1	1
2.	Land reclamations in N. + S. Holland	58	87	0	9	0	4
3.	Southwestern sea clay area	212	41	28	4	15	12
4.	River clay area	118	56	8	27	2	7
5.	Loess area	41	0	9	0	14	77
6.	Northern pastural area	143	82	7	0	0	11
7.	Western pastural area	202	47	9	14	6	24
8.	Northern sand area	224	39	25	13	13	10
9.	Eastern sand area	206	98	0	0	0	2
10.	Central sand area	89	87	2	5	5	1
11.	Southern sand area	258	60	21	6	3	10
12.	Dug-off peat districts	80	14	26	0	21	39
13.	Rest of North Holland	24	18	5	0	0	77
14.	Rest of South Holland	8	71	0	0	29	0
15.	IJsselmeer polders	42	100	0	0	0	0
	Netherlands	1800	61	13	7	6	13

rational management (milking for example) are great. It is taken that when more than 20% of the area pertains to holdings with their farm-buildings in the centre of a village the situation gives difficulties and the more so the more the larger area belonging to such holdings.

The map Holdings with main farmbuildings in centre of village and Table 15 give a summary of this aspect per LEI-area and for the Netherlands. It appears that 69% of the number of municipalities with 81% of the total area complies with the given criterion. On the other hand, 23% of the municipalities with 13% of the total area clearly fall short. The municipalities in between possess 8% of the total number with 6% of the total area. The municipalities with a large area belonging to farmbuildings situated in village centres are found in a part of the dug-off peat districts in Groningen and Drenthe, N.E. Overijssel, Staphorst and environs, the central area of North Holland, northern South Holland, a part of the isles of South Holland and central and South Limburg. Except for the three last mentioned areas, such holdings are mostly found in villages with a so-called ribbon development; in the other areas they are found in concentrated parishes (buildings around one or more churches). The category with 20 to 35% of the area belonging to such holdings is concentrated in the dug-off peat districts of Groningen and Drenthe, the isles of South Holland and the area Land van Heusden en Altena. Also here the specific village structures mentioned are found. The sand areas, a greater part of the grassland area in Utrecht and South Holland, the land reclamations in North and South Holland and the isles of Zeeland belong to the areas in which this factor is causing only a relatively minor problem or no problem at all. The areas in the middle class are found particularly in the eastern part of the river clay area and along the river Kromme Rijn.

3.6. SURVEY OF PARCELLATION DATA

In this paragraph a conspectus will be given of the parcellation characteristics as discussed in the paragraphs 3.1 to 3.5. In Table 16 for each parcellation factor criteria are set. The area percentage per

Table 16. Summed area of municipalities in per cent of the LEI-area in question, at present meeting the criteria mentioned

LEI-area		Area in 1000 ha	Parcellation characteristics									
nr.	name		mean number of compound lots per holding ≥ 2.5	as a mean <65% of area as house lots	as a mean >40% irregular topographical parcels	mean area of topographical parcels <2.5 ha	mean total distance farmbuilding to centre lots ≥ 1000 m	mean distance farmbuilding to centre house compound lot >600 m	mean distance farmbuilding to centre field compound lots ≥ 2000 m	mean accessibility distance ≥ 500 m	more than 15% of the farmbuildings badly accessible	more than 20% of area pertaining to farmbuildings in village centres
1.	Northern sea clay area	95	44	25	68	73	19	24	31	32	87	2
2.	Land reclamations in N. + S. Holland	58	2	17	6	17	17	0	36	25	0	4
3.	Southwestern sea clay area	212	54	49	91	37	63	0	55	2	73	27
4.	River clay area	118	77	75	75	75	70	0	49	5	54	9
5.	Loess area	41	100	100	100	100	55	0	19	0	36	91
6.	Northern pastoral area	143	38	23	75	72	12	4	21	23	80	11
7.	Western pastoral area	202	31	41	48	98	50	26	40	43	39	30
8.	Northern sand area	224	52	61	50	91	50	13	31	8	49	23
9.	Eastern sand area	206	77	40	97	91	13	0	28	0	97	2
10.	Central sand area	89	76	68	87	97	90	3	87	2	94	6
11.	Southern sand area	258	85	91	92	97	82	0	55	21	82	13
12.	Dug-off peat districts	80	92	92	45	49	92	53	83	25	30	60
13.	Rest of North Holland	24	30	75	77	88	38	25	19	9	6	77
14.	Rest of South Holland	8	29	28	43	100	58	0	57	0	97	29
15.	IJsselmeer polders	42	0	0	0	0	0	0	0	0	0	0
Netherlands		1800	58	55	71	77	50	9	44	16	64	19

LEI-area meeting such a criterion then is given. The criteria as set in the head of this table are policy criteria. They have been introduced after executing the inventory and are part of the so-called agricultural reconnaissances.

In connection with a number of area bound factors as geographical circumstances, topography, parcellation type, holding size frequency distribution, holding type, etc. a short interpretation of the existing parcellation will be given.

With aid of Table 16 one can get a first impression about the shortcomings with regard to certain parcellation characteristics, which may lead to an appreciation of the urgency to apply improvement measures.

1. Northern sea clay area

Here the main shortcomings are the shape and mean area of the topographical parcels, as well as the accessibility of the farmbuildings. The last mentioned factor is very pronounced: 87% with an insufficient accessibility. Both the other mentioned factors follow closely. Farmbuildings, especially those of large holdings, are mostly accessible by privately owned semi-metalled roads. Their improvement is possible by private measures.

2. Land reclamations in North and South Holland

Within these areas high percentages are not found. Most of the factors are present at a low level. Relatively seen, it can be said that the distance from farmbuildings to the centre of field compound lots is the most unfavourable factor.

3. Southwestern sea clay area

Here, the number of regular topographical parcels is at the very minimum (9%). This shortcoming is tempered a little with the mean area of the topographical parcels being rather good (this in contrast with the northern sea clay area, where both factors are at a minimum). Furthermore, the accessibility of the farmbuildings is less favourable. The same is true of the total distance from farmbuildings to the centre of the lots. The factor holdings having the main farmbuildings in the centre of a village is not to be overlooked, but is of relatively

small weight because this area mostly has arable holdings. The mean number of compound lots per holding will be a more important shortcoming, however, and the same applies to the mean total distance from farmbuildings to the centre of lots.

4. River clay area

This area shows almost equal values for the factors irregularity of parcels, mean area of topographical parcels, the mean total distance from farmbuildings to centre of lots. Together they form a rather big problem. Also with regard to the mean distance from farmbuildings to the centre of field compound lots, the accessibility of holdings and holdings with the main farmbuildings in a village centre such a situation is present, although of smaller concern. The other factors show a more favourable situation.

5. Loess area

This region is characterized by a large number of shortcomings as scatter, shape and mean area of the topographical parcels and holdings with their main farmbuildings in a village centre. The distance from farmbuildings to the centre of lots forms the next problem. The other factors are of less or of no importance.

6. Northern pastoral area

In first instance this area shows a very retarded situation with regard to the accessibility of the farmbuildings, which are very important for dairy holdings as they are specifically found here. Also the shape and mean area of topographical parcels is bad. The other factors are generally speaking, fairly good.

7. Western pastoral area

The mean area of the topographical parcels forms a special big problem here. The shape of these parcels is rather good as a rule. This is caused by the strip parcellation. An important aspect is the site of the main farmbuildings, but this shortcoming is less severe than it seems at first glance because in this area most villages have a ribbon structure. Also as a result of the ribbon structure and the

strip parcellation, the total mean distance from farmbuildings to the lots is rather high. In combination with a high percentage of the holding areas in house compound lots this shortcoming has a lesser weight.

8. Northern sand area

In this area the mean area of the topographical parcels is the factor in the minimum. The shape of the topographical parcels is less extreme. The many, as a rule very regular, but often very small parcels on the mark-grounds will have a limiting influence. The area of house compound lots is relatively small. Many holdings have their main farmbuildings in the centre of a village. These last mentioned factors have a certain relation with each other, this in contrast with the western pastoral area where under the given circumstances there still are rather large house compound lots. The topography of the villages in the northern sand area, however, is quite different from that in the western pastoral area. That is part of the reason why for area here under discussion the mean number of compound lots per holding is rather high as well as the mean distance from farmbuildings to the centre of the lots rather large.

9. Eastern sand area

The shape and mean area of the topographical parcels is a big problem. The same applies to the accessibility of the farmbuildings. The scatter is rather high, although the percentage of the area taken up by house compound lots limits this shortcoming. The other factors do not need discussion.

10. Central sand area

In this region the greater part of the factors is worse than the middle class of the criteria signifies. Shape and mean area of topographical parcels, the accessibility of the farmbuildings and the mean total distance from farmbuildings to the centre of lots have to be mentioned in this context. The scatter is relatively large.

11. Southern sand area

Almost all factors are less than the middle class of the criteria signifies. This concerns especially scatter, shape and mean area of the topographical parcels, mean total distance from farmbuildings to the centre of lots and the accessibility of farmbuildings. The mean distance from farmbuildings to the centre of field compound lots and the factor holdings with main farmbuildings in centre of village are somewhat better than the first mentioned factors.

12. Dug-off peat districts

In this region the factors scatter, mean total distance from farmbuildings to the centre of lots, the mean distance from farmbuildings to the centre of compound lots and the holdings with main farmbuildings in the centre of village can be seen as the biggest problems. As, here the holdings are mostly arable holdings, these shortcomings have a relatively smaller weight. The mean distance from farmbuildings to the centre of the house compound lot is rather large; shape and mean area of the topographical parcels are rather good.

13. Rest of North Holland

The shape and the mean area of the topographical parcels, and the number of holdings with the main farmbuildings in the centre of villages give the biggest problems. The area of house compound lots is rather small. The other factors in general do not show important shortcomings.

14. Rest of South Holland

Here the small mean area of the topographical parcels and a rather poor accessibility of the farmbuildings can be seen as the most important problems. Furthermore, the mean total distance from farmbuildings to the centre of the lots and the mean distance from farmbuildings to the centre of field compound lots are rather large. The other factors cannot be regarded to give any major problems.

15. IJsselmeer polders

The data only relate to the Northeast polder. In this region shortcomings are not to be found.

Summarizing it can be concluded that in the Netherlands the main problems are given by shape and mean area of the topographical parcels and the accessibility of the farmbuildings. The other important problem giving factors are the scatter and the distance from farmbuildings to the centre of the lots. The site of main farmbuildings cannot be seen as an overall big problem. Of course, within each area some particular problems must be given special attention.

4. SUMMARY AND CONCLUSIONS

As part of the setting up of the Outline of Netherlands Land Management Structure a number of characteristics of agriculture has been inventorized. This inventory was realized by organizing a group of specialists from various disciplines. This paper specifically deals with the parcellation characteristics. The procedure of inventorizing a number of the most important data has been adapted to the available material, consisting of a number of different sources (Tables 1 and 2). By processing these materials in a uniform manner, it was possible to inventorize the most relevant data qualitatively as well as quantitatively. This was partly done on the basis of sampling (Tables 4 and 5; Figures 2, 3 and 4). To this purpose the so-called conspectus system of land division survey was developed. This conspectus system closely follows the prevailing system of the Netherlands Land Division Survey. Each characteristic (factor) is presented in tables (per LEI-area and as a total) and in maps (per municipality). The factors are:

	Table	Fig. opposite page
- scatter: number of compound lots per holding	6	21
area percentage of house compound		
lots	7	23
- topographical parcels: shape	8	25
area	9	27
- distance from farmbuilding to centre of lots:		
total	10	29
for house compound lot	11	30
for field compound lots	12	32
- accessibility distance of the lots	13	34
- accessibility of farmbuildings	14	36
- site of main farmbuildings in centre of village	15	37

Furthermore, all data about the factors are given in one table (16) in relation with certain criteria defined on the basis land management policy. In this way each shortcoming can be signalled qualitatively as well as quantitatively. A comparison of these data shows that there exist important differences between the various LEI-areas.

It can be concluded that the procedure followed fits such an inventory. This was of great importance in connection with the small amount of time available.

It must be mentioned that using and interpreting the data and figures must be done with some care, because the procedure used has certain reservations. The major one is that the data obtained and procedure in first instance were meant to supply a working basis for a general land management policy. The scope of the inventory can be compared with the Urgency Scheme for Reallocation and other Land Improvement Measures in the Netherlands (1958), although the data given in the present survey are more detailed.

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LEGEND OF INPUT

GN = number of area

1	GEM	=	number of municipality					
2	GEMN	=	name of municipality					
3	N	=	land users number					
4	B2	=	special characteristic 2 = number of compound lot					
5	KN	=	number of lot					
6	X	=	horizontal coördinate					
7	Y	=	vertical coördinate					
8	H	=	area of lot					
9	R	=	order of rank					
10	D	=	lot depth in 10 m					
11	VW	=	distance from farmbuilding to centre of lot in 100 m over	metalled road				
12	SW	=			semi-metalled road			
13	OW	=			unmetalled road			
14	W	=			water			
15	L	=			land			
16	SWW	=	distance from centre of lot to nearest metalled road over	semi-metalled road				
17	OWW	=			unmetalled road			
18	WW	=			water			
19	LW	=			land			
20	B4	=	special characteristic nr. 4 = site main farmbuildings in centre of village					
21	B6	=	special characteristic nr. 6 = accessibility by metalled roads on more than one side					
22	EL	=	site main farmbuildings in relation with 10 KV ducts					
23	TOP	=	total number of topographical parcels					
24	TOPR	=	total number of regular topographical parcels					
25	B	=	total distance from farmbuilding to centre of lot (incl. $\frac{1}{2}$ D) in m					
26	D	=	total accessibility distance (incl. over lot) in m over land					

INPUT

GY = R8

GEM	GEM	N B2 KN	X	Y	HA. A	H	R	D	VW	SW	OW	W	L	SM	OW	W	L	SM	OW	W	L	B4	B6	EL	TOP	TOP	R	HULPTABEL	
						8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26					
1	2	3	4	5	6	7																							
36121	NOORDWIJKERHOUT	61210277	1	1	1	0.10	1	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15
36121	NOORDWIJKERHOUT	61210277	2	2	1	1.05	2	12	29	0	6	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	3560
36121	NOORDWIJKERHOUT	61210283	1	1	1	0.10	1	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15
36121	NOORDWIJKERHOUT	61210283	2	2	1	2.20	2	35	29	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3075
36121	NOORDWIJKERHOUT	61210288	1	1	1	0.10	1	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15
36121	NOORDWIJKERHOUT	61210288	2	2	1	1.90	2	38	14	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1690
36121	NOORDWIJKERHOUT	61210288	3	3	1	1.40	3	21	21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2205

LEGEND OF TABLE HOLDING DATA

- GN = number of area
- 1 GEM. NR = number of municipality
 - 2 GEB. NR = land users number
 - 3 BEDR. OPP = holding size
 - 4 AANT. KAVLES = number of lots
 - 5 AANT. BEDR. KAVELS = number of compound lots
 - 6 OPP. HUISBEDRIJFSKAVELS = area of house compound lots
 - 7 TOPOGR. PERCELEN = topographical parcels
 - 8
 - 9 LIGGING BEDRIJFS- = site farmbuildings
 - 10 GEBOUWEN T.O.V. in relation to the
 - 11 VERHARDE WEG nearest metalled road
 - 12
 - 13 BEDRIJVEN IN = main farmbuildings in centre of village
 - 14 BEB. KOM
 - 15 GEM. AFSTAND = mean distance from 15 = total
 - 16 v. d. GROND farmbuilding to 16 = for house compound lots
 - 17 in m centre of lot in m 17 = for field compound lots
 - 18 GEM. ONTSLUITINGS- = mean accessibility distance in m over land
 - 19 IN M OVER LAND
 - 19 BEDRIJVEN OP <400 M = holdings with farmbuildings 19 = number
 - 20 VAN 10 KV NET at <400 m from 10 KV ducts 20 = area

TABLE HOLDING DATA

GN = R8

GEM.NR	GFBR.NR.	BEDR. OPP.	AANT KA-VELS	AANT KA-VELS	BEDR. HUIS-BEDRYFS	TOPOGR. PERCELEN	LIGGING	T.O.V.	BEDRIJVEN	GEM. AFSTAND	V.D. GEM. DNT-OP<=400 M	SLUIJ-VAN	TINGS	10-KV	NET	HA. A	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20				
		HA. A	HA. A	HA. A	HA. A	AANT. AANT. REGEL MATIG	<50M	50- <200M	200- <400M	>=400M	HA. A	HA. A	HA. A	HA. A	HA. A	HA. A	HA. A	HA. A	HA. A	HA. A	HA. A	HA. A	HA. A	HA. A	HA. A	HA. A	HA. A	HA. A	HA. A	HA. A	HA. A	HA. A	HA. A	HA. A				
86121	61210204	19.68	6	1	19.68	15	4	0.0	0.0	0.0	0.0	0.0	0.0	19.68	0	0.0	692	692	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
86121	61210208	8.90	3	3	5.76	6	0	8.90	0.0	0.0	0.0	0.0	0.0	0.0	0	0	268	175	439	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
86121	61210209	1.00	2	2	0.10	2	0	1.00	0.0	0.0	0.0	0.0	0.0	0.0	1	1.00	983	15	1090	83	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
86121	61210210	19.52	4	2	14.08	13	9	0.0	19.52	0.0	0.0	0.0	0.0	0.0	0	0.0	967	322	2635	396	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
86121	61210225	7.06	2	2	0.10	12	4	7.06	0.0	0.0	0.0	0.0	0.0	0.0	1	7.06	3628	15	3680	473	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
86121	61210229	2.81	3	2	0.10	3	0	2.81	0.0	0.0	0.0	0.0	0.0	0.0	1	2.81	960	15	994	294	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
86121	61210277	1.15	2	2	0.10	2	0	1.15	0.0	0.0	0.0	0.0	0.0	0.0	1	1.15	3252	15	3560	604	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
86121	61210283	2.30	2	2	0.10	2	0	2.30	0.0	0.0	0.0	0.0	0.0	0.0	1	2.30	2942	15	3075	168	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
86121	61210288	3.40	3	3	0.10	3	0	3.40	0.0	0.0	0.0	0.0	0.0	0.0	1	3.40	1853	15	1908	206	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	46	384.11	99	78	280.96	305	72	217.95	61.03	76.61	28.52	10	35.40	767	400	1767	384	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

LEGEND OF TABLE CHARACTERISTICS PER MUNICIPALITY

GEBIEDSNUMMER = number of area

- 1 GEM. NR. = number of municipality
- 2 GEM. AANTAL KAVELS PER BEDRIJF = mean number of lots per holding
- 3 GEM. AANTAL BEDR. KAVELS PER BEDRIJF = mean number of compound lots per holding
- 4 GEM. OPP. v. d. BEDR. KAVELS = mean area of the compound lots
- 5 OPP. HUISEBEDR. KAVELS in % = area of house compound lots in %
- 6 TOP. PERC. REG. = top. parcels
- 7 GEM. OPP. = 7 mean area
- 8 GEM. AFSTAND V. D. = 8 = total
- 9 GROND IN M = 9 = for house compound lots
- 10 = 10 = for field compound lots
- 11 GEM. ONTSLUITINGSAFST. = mean accessibility distance in m over land
- 12 LIGGING BEDRIJFS- = 12 = number
- 13 GEBOUWEN T.O.V. = 13 = area
- 14 VERHARDE WEG = 14 = number
- 15 = 15 = area
- 16 = 16 = number
- 17 = 17 = area
- 18 = 18 = number
- 19 = 19 = area
- 20 BEDR. IN BEB. KOM = 20 = number
- 21 = 21 = area
- 22 BEDR. OPP. <400 M = 22 = number
- 23 VAN 10 KV NET = 23 = area

TABLE CHARACTERISTICS PER MUNICIPALITY

GEBIEDSNUMMER R 8

GEM.NR	GFM. AANT KA-VELS PER BEDR	GEM. BEDR KA-VELS PER BEDR	GEM. AANT OPP. V.D. BEDR	OPP. HUIS BEDR KA-VELS IN %	TOP. REG OPP.	PERC. GEM. OPP.	GEM. AFSTAND V.D. GROND IN M	TO- TAAL HUIS VELD- BEDR KA-VELS	VELD- BEDR KA-VELS	GEN. ONT- SLUI- TINGS AFST. IN M OVER LAND	LIGGING VERHARDE WEG	BEDRIJFSGEBOUWEN TOV DE BEB. KOM VAN IOKVNET	TOV DE BEB. IN <=400 M >=400M	DE BEDR. AAN OPP TAL	IN AAN OPP TAL	OPP AAN OPP TAL	OPP AAN OPP TAL	OPP AAN OPP TAL	OPP AAN OPP TAL	OPP AAN OPP TAL		
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
86121	2.2	1.7	4.92	73	24	1.26	767	400	1767	384	70	57	13	16	13	20	4	7	22	9	0	0