

HOW CAN QUANTITATIVE
METHODS CONTRIBUTE TO
PLACE-NAME RESEARCH?

—

PLACE-NAMES IN A SPATIO-
TEMPORAL CONTEXT

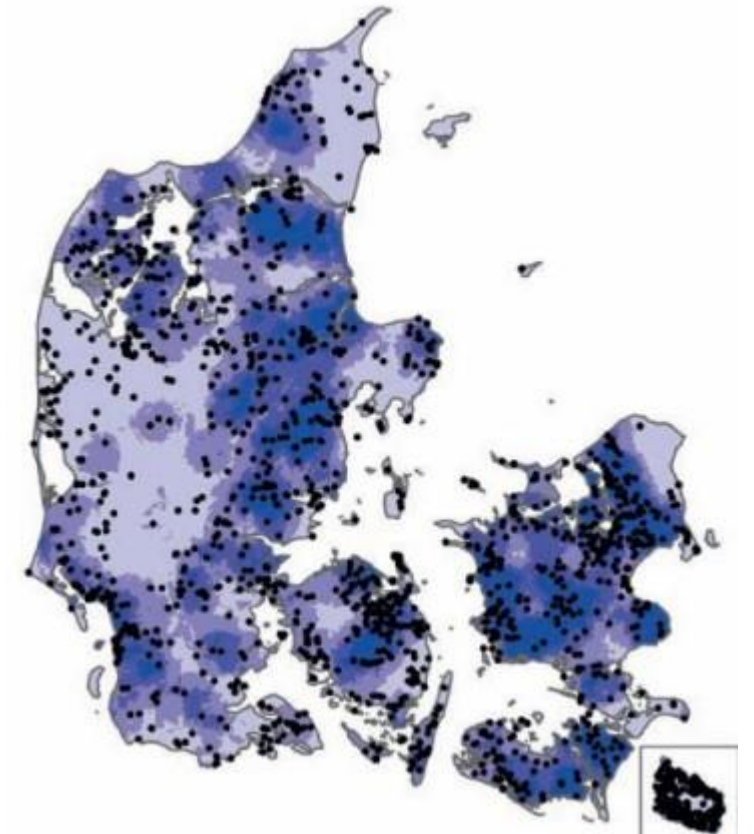
Peder Gammeltoft

April 16th, 2023



Why are quantitative place name studies interesting?

- Enable us to say something general about place-name generics
- Elevate name research from single-name study and ‘impressions’ to hard facts
- Enable comparative studies regionally, nationally and between countries

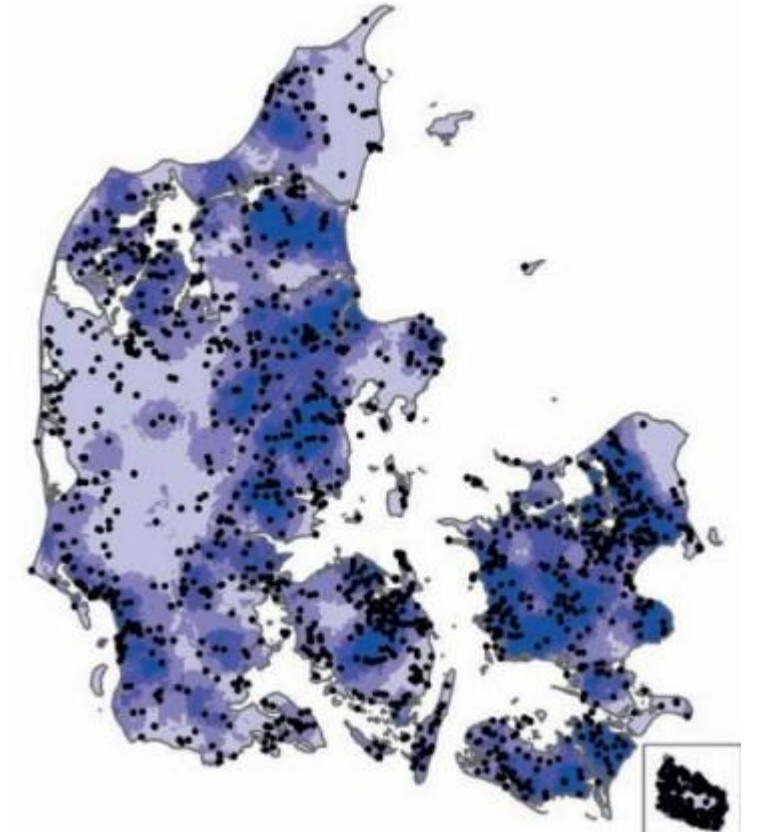


Types of quantitative studies

- Area
 - Total area
 - Usage of area
- Soil quality
 - quality
 - Physical composition

Taxation

- Taxed value
- Valuation
- Demography



How do we get there?

- Source availability

Norwegian Farm-Names

1886-Cadastre

- Joining of data

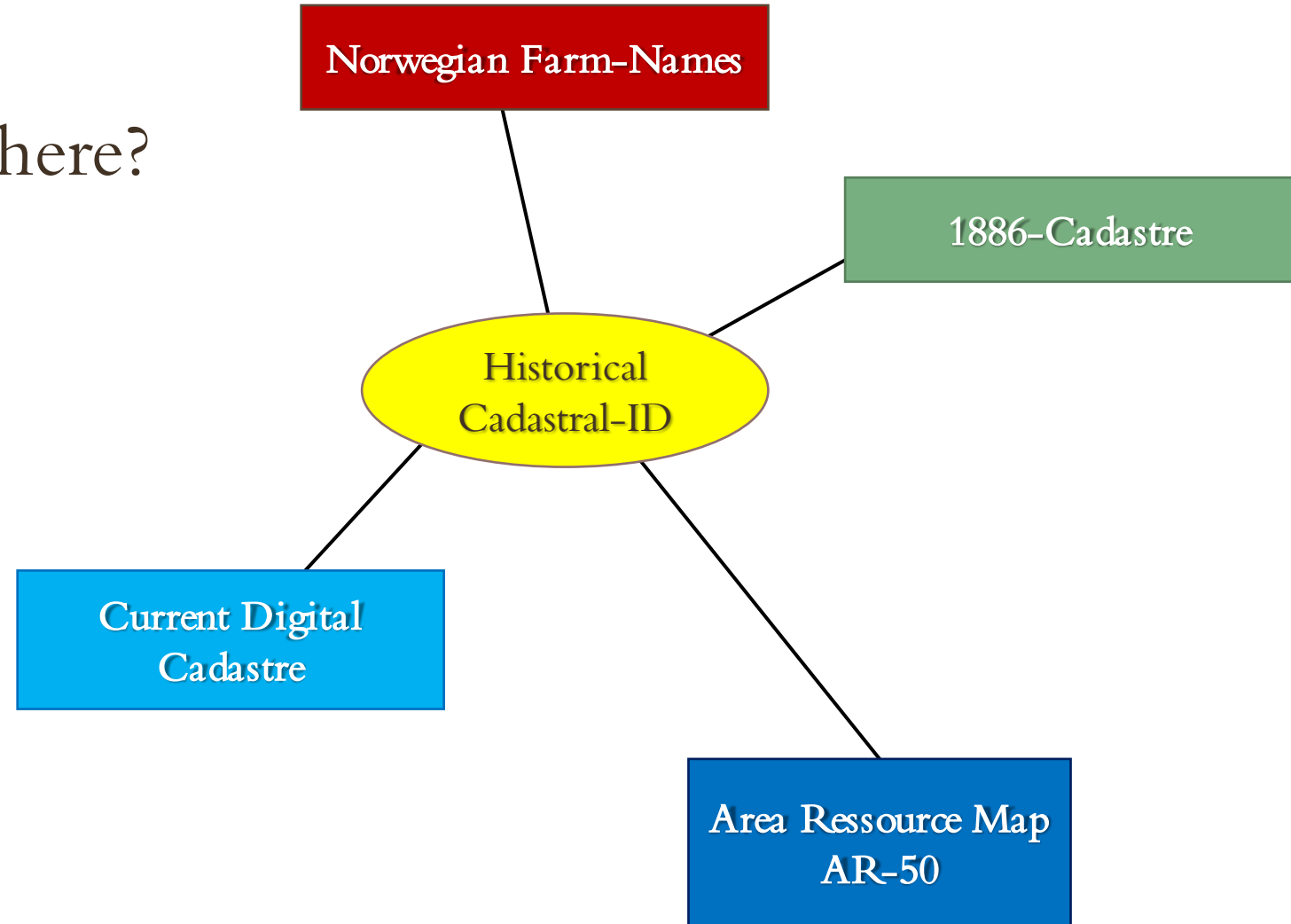
Current Digital
Cadastre

Area Ressource Map
AR-50

How do we get there?

- Source availability
 - Digitised
 - Codified
- Joining of data
 - Time
 - Extent
 - Codification

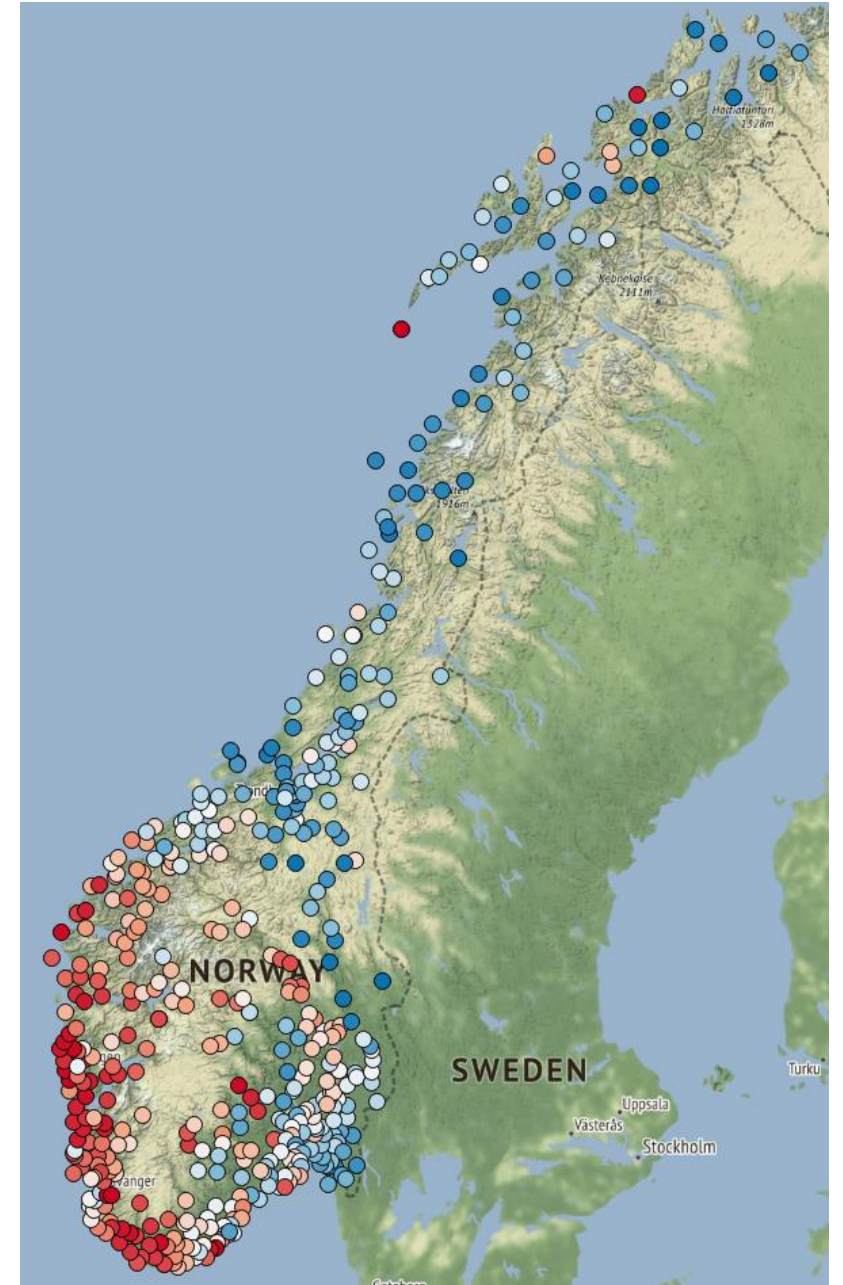
> GIS & relational databases



The 1886-Cadaastre

Digitised by the **Registreringsentral** for historiske data

- Codification
 - Municipality number
 - Farm number (Norw. 'Farm' \approx Irish 'Townland')
 - Cadastral number (number of single holding under a 'Farm')
- Property information
 - Owner/user information
 - Taxation
 - For 1886 (new taxation)
 - For 1838 (old taxation)



The digital cadastre, property mapping

Data set from the **National Mapping Agency**
at Geonorge.no

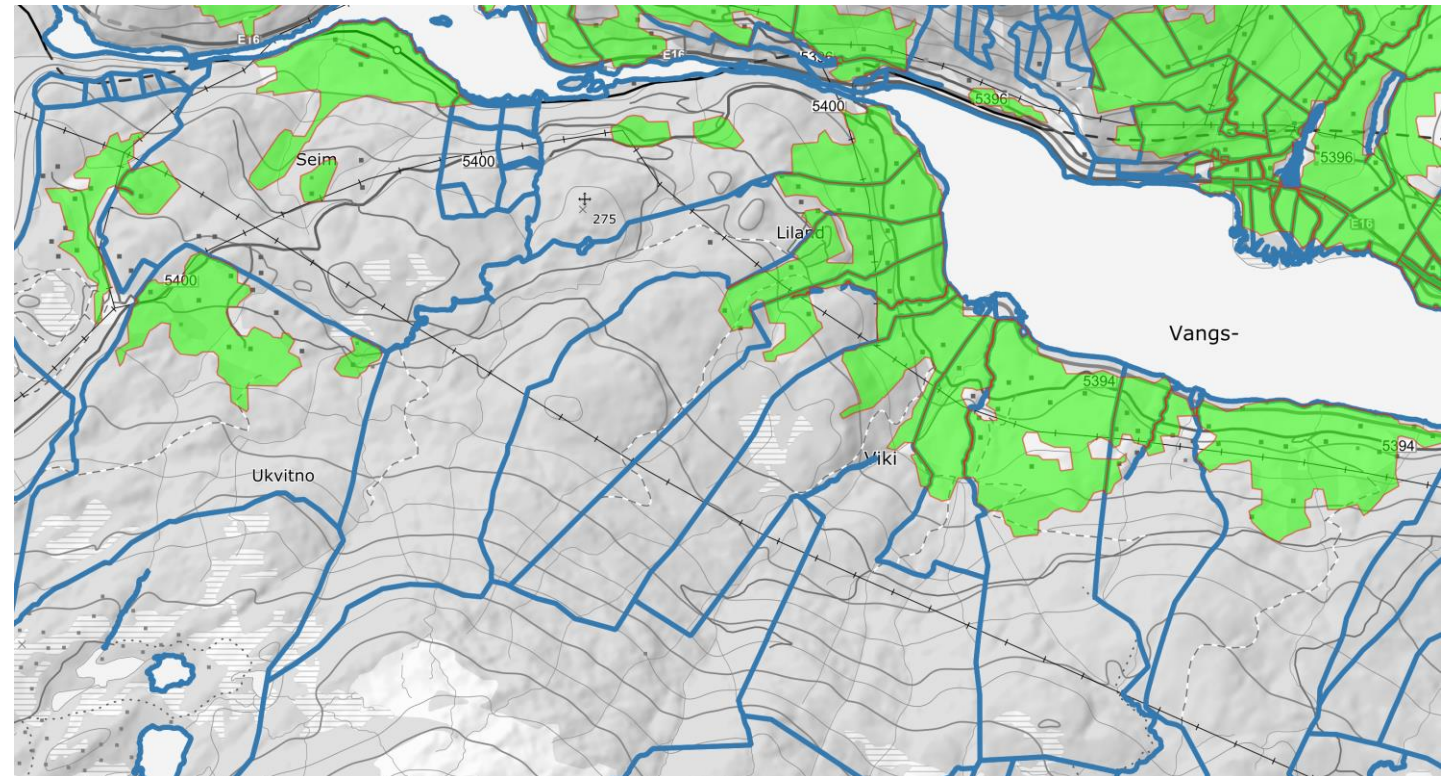
- Codification
 - Municipal number
 - Farm number
 - Cadastral number
- Geodata
 - Polygon data
 - At cadastral unit level
 - May be joined to Farm unit level (Union)
 - > Area calculated from Farm unit size



Arealressurskart, AR-50

Data set from the **Norwegian Institute for Bio-economy (NIBIO)** på Geonorge.no

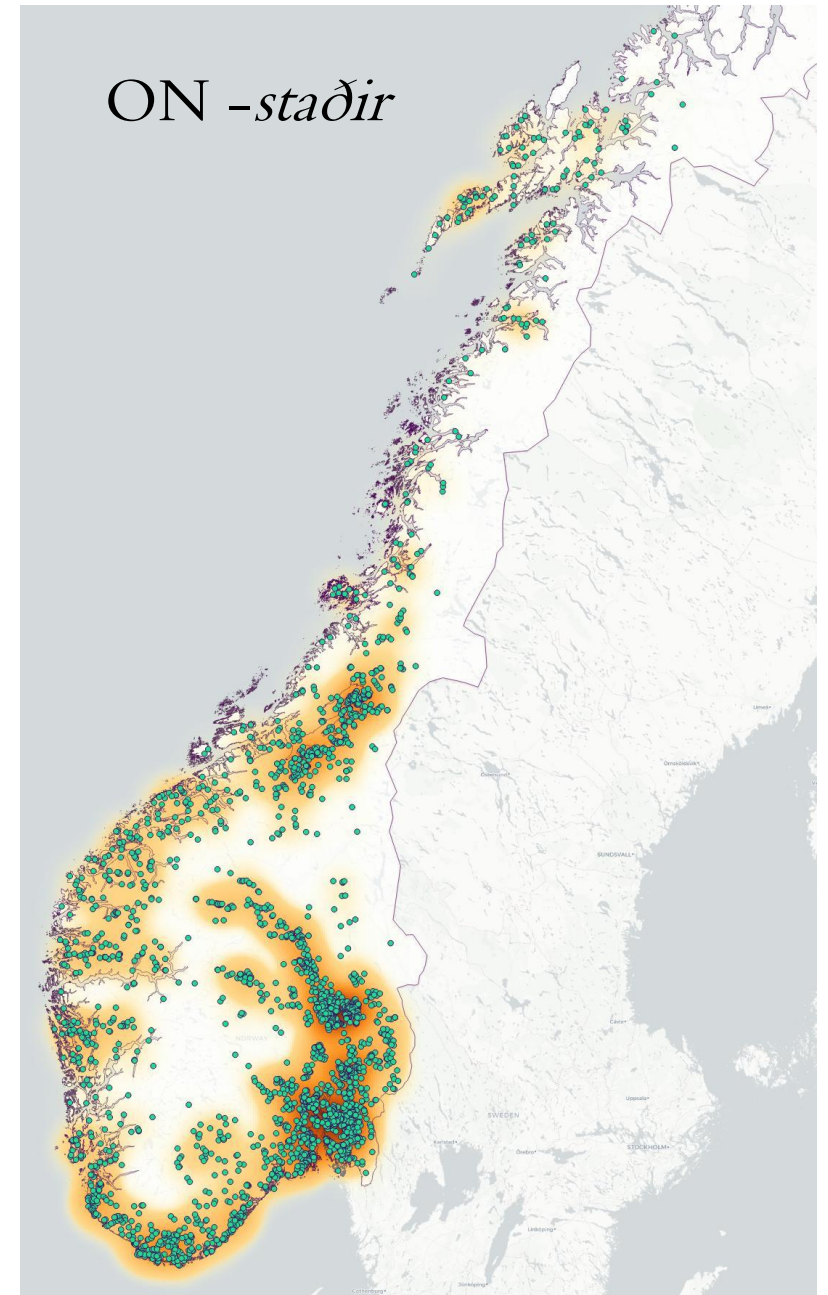
- Geodata
 - Polygon data
 - Types of usage, area size
 - Area type 20 – farmed land
 - Area type 10 – settled land
 - > Area types have to be joined (Union)
 - > Joined area types must be split on Farm unit
 - > Area type calculated per Farm unit



Norwegian Farm-Names

Data set developed by **Dokumentasjonsprosjektet**

- Codification
 - Municipality name
 - Farm number
 - Cadastral number (when applicable)
- Analytical data
 - Linguistic interpretations
 - Generic
 - (Specific)



Historisk matrikkel-ID

How to join data?

- Establish joint codification:
 - Municipal number/-name
 - Farm number
 - Cadastral number
- BEWARE!
 - The Norwegian cadastrals sytem is not stable over time
 - All norwegian farm units have an average **three manifestations** over time
- The solution:
 - ‘The Historical Cadastral-ID’
 - Alfa-numeric code *MMM-FF/CC* > **MMMMFFFFCCCC**
 - Temporally inspecific
 - Developed by Kåre Bævre, FHI

Kinsarvik og Ulvik

1230 Ullensvang (1838-1913)

1230 Ullensvang (1913-1977)

1231 Kinsarvik (1913-1964)

1230 Ullensvang (1964-2020)

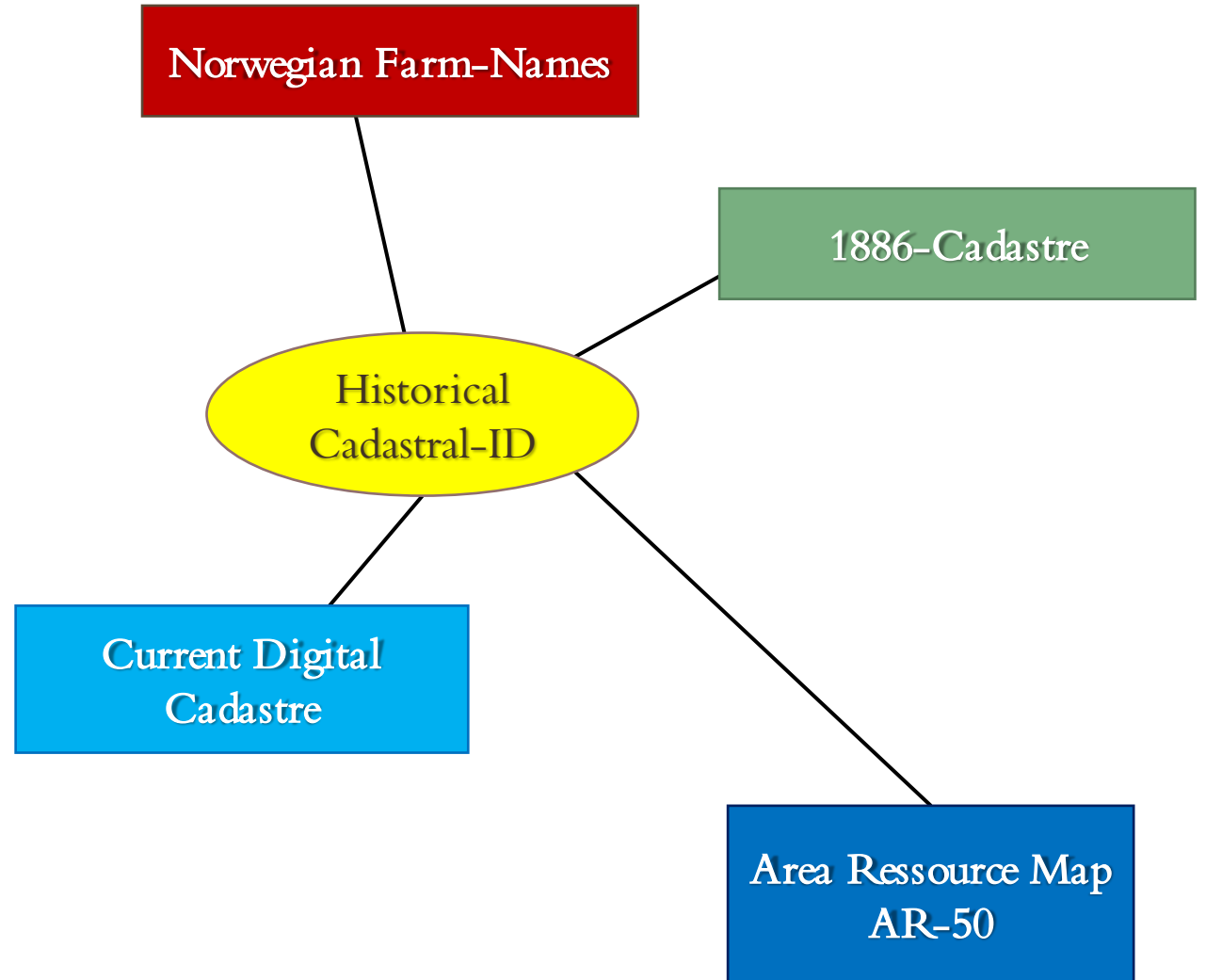
1233 Ulvik (1838-1891)

1233 Ulvik (1891-2020)

1234 Granvin (1891-2020)

STARTn	SLUTTn	HID	MIDu
18910630	19010101	1723-57/25	172300570025
19010101	19680101	1724-57/25	172300570025
19680101	20120101	1723-57/25	172300570025
20120101	20171231	1723-357/25	172300570025
20180101	99990101	1756-357/25	172300570025
20200101	99990101	5053-357/25	172300570025

AND...
THE RESULT?



Analyses from four parametres

- Total area
- Cultivated area (incl. built up area)
- Percentage between cultivated area and total area
- Taxation valuation

NB!

- This is a test, and
- ‘Work in progress’

Place-name generics

Iron Age, central generics

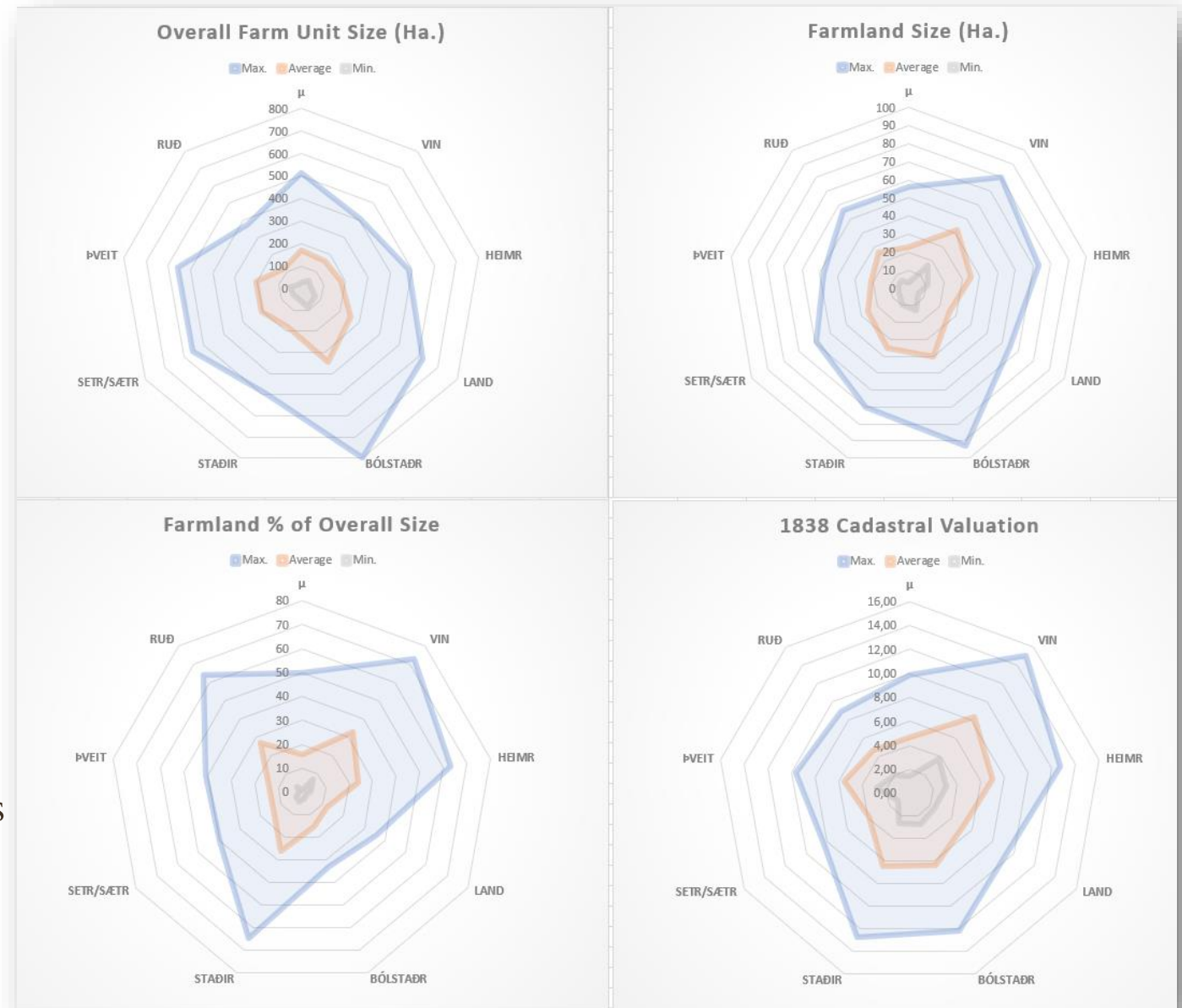
- ON *vin* f.
- ON *heimr* m.
- ON *land* n.

Viking Age, central generics

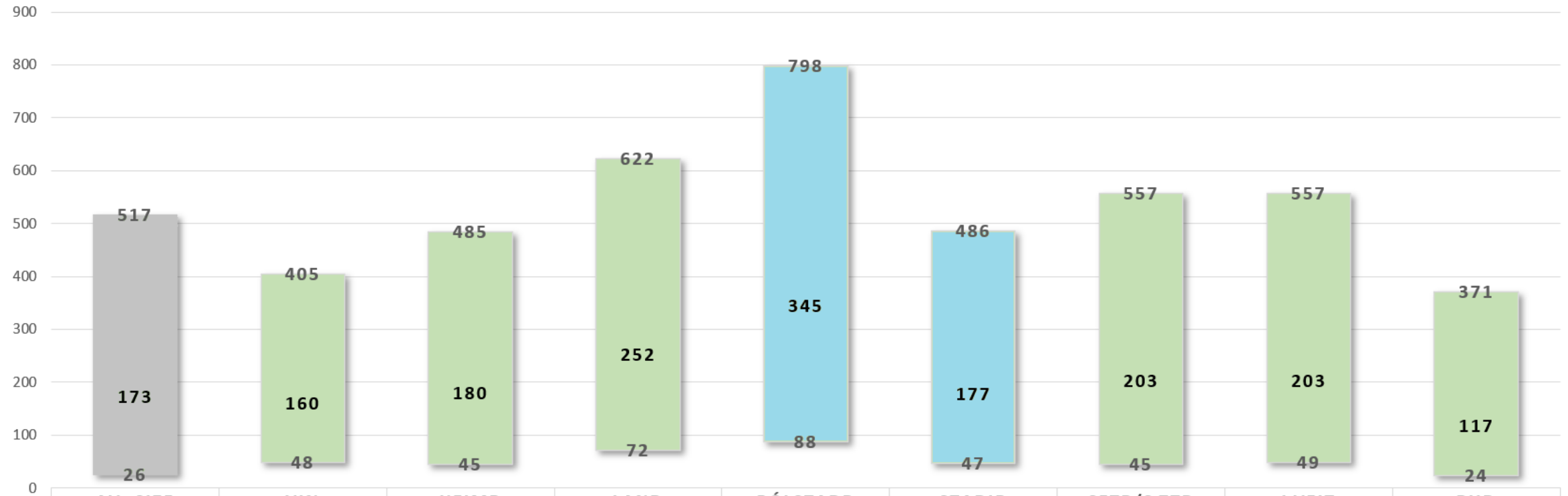
- ON *bólstaðr* m.
- ON *staðir* m.

Marginal generics, Viking Age/Mid.Ages

- ON *setr/sætr* n.
- ON *þveit* f.
- ON *ruð* n.

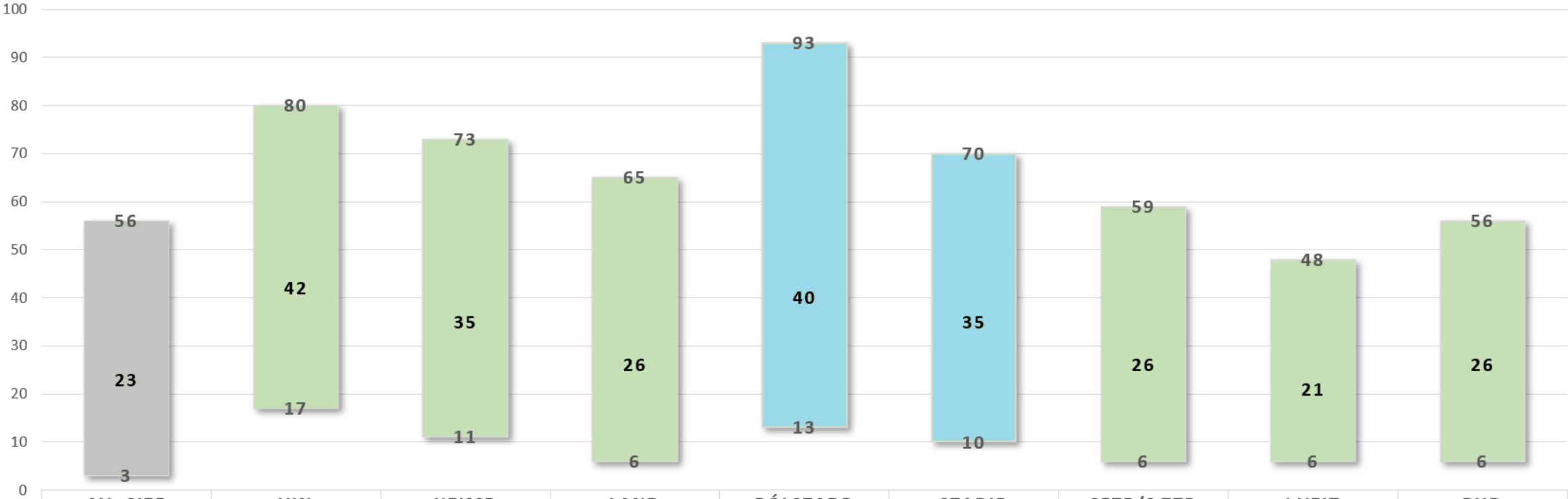


Average Size and Gaussian Distribution Range of Select Norwegian Name Types,
Hectares (Ha.) per Cadastral Unit (Gard)



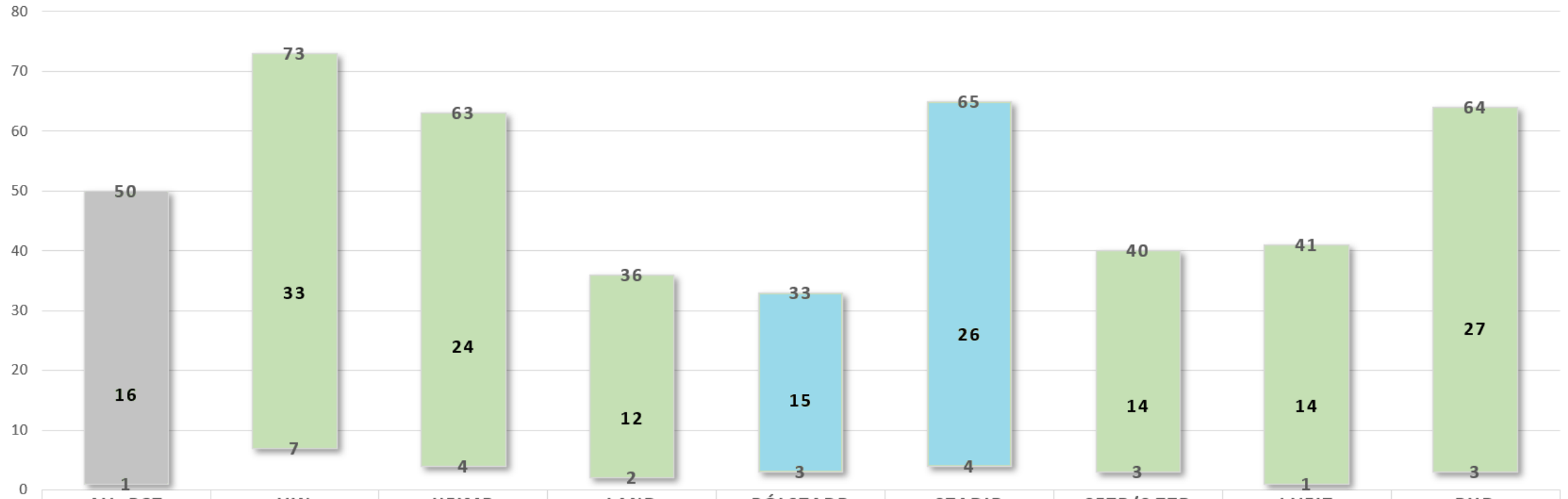
	AV. SIZE	VIN	HEIMR	LAND	BÓLSTAÐR	STAÐIR	SETR/SÆTR	ÞVEIT	RUÐ
Min.	26	48	45	72	88	47	45	49	24
Average	173	160	180	252	345	177	203	203	117
Max.	517	405	485	622	798	486	557	557	371

Average Farmland Size and Gaussian Distribution Range of Select Norwegian Name Types,
Hectares (Ha.) per Cadastral Unit (Gard)



	AV. SIZE	VIN	HEIMR	LAND	BÓLSTAÐR	STAÐIR	SETR/SÆTR	ÞVEIT	RUÐ
Min.	3	17	11	6	13	10	6	6	6
Average	23	42	35	26	40	35	26	21	26
Max.	56	80	73	65	93	70	59	48	56

Average Farmland Percentage and Gaussian Distribution Range of Select Norwegian Name Types,
Percent (%) per Cadastral Unit (Gard)



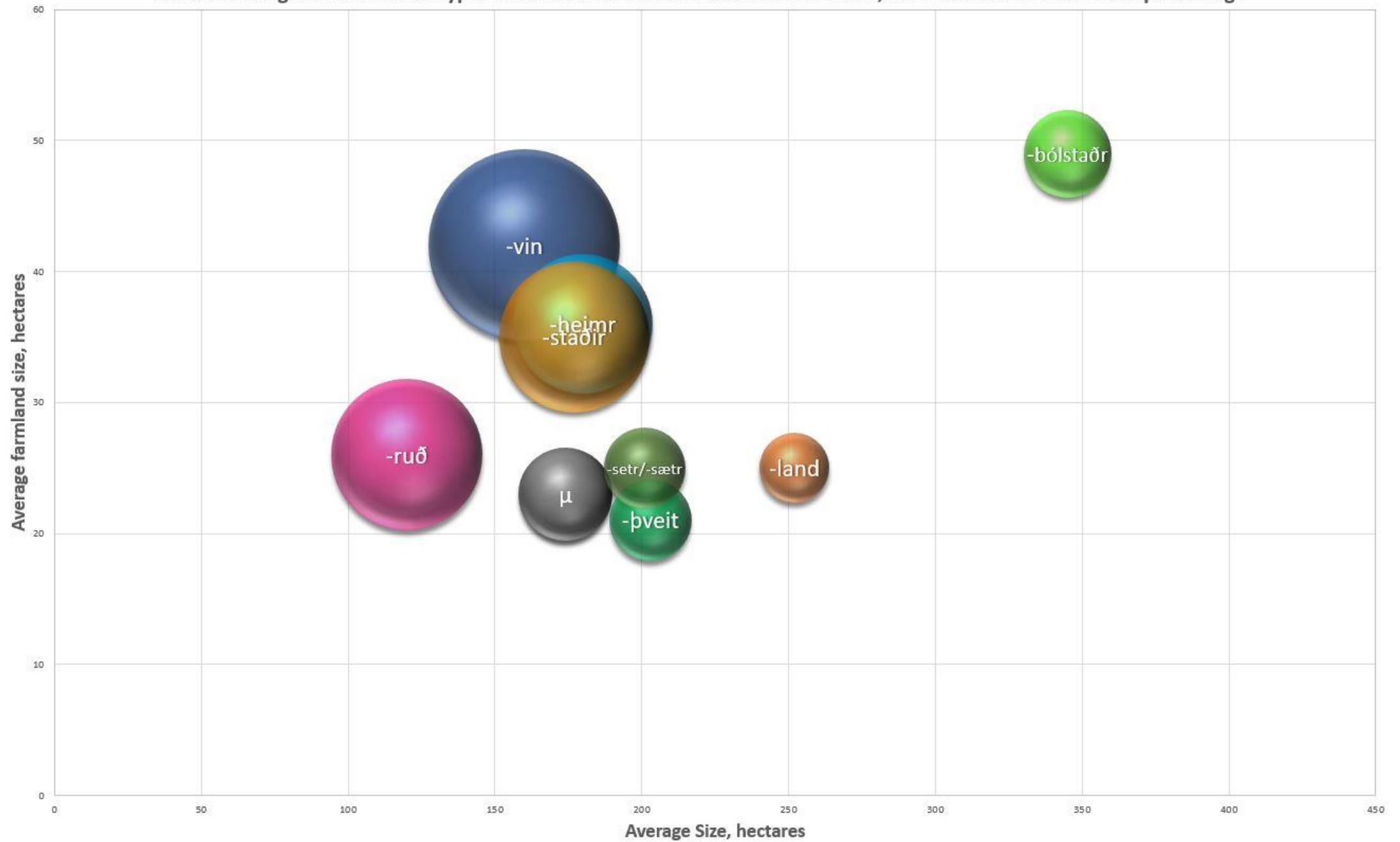
	AV. PCT	VIN	HEIMR	LAND	BÓLSTAÐR	STAÐIR	SETR/SÆTR	ÞVEIT	RUÐ
Min.	1	7	4	2	3	4	3	1	3
Average	16	33	24	12	15	26	14	14	27
Max.	50	73	63	36	33	65	40	41	64

Average Taxation Value in the 1838 Cadastre and Gaussian Distribution Range of Select Norwegian Name Types, Skylddaler (desimal value) per Cadastral Unit (Gard)

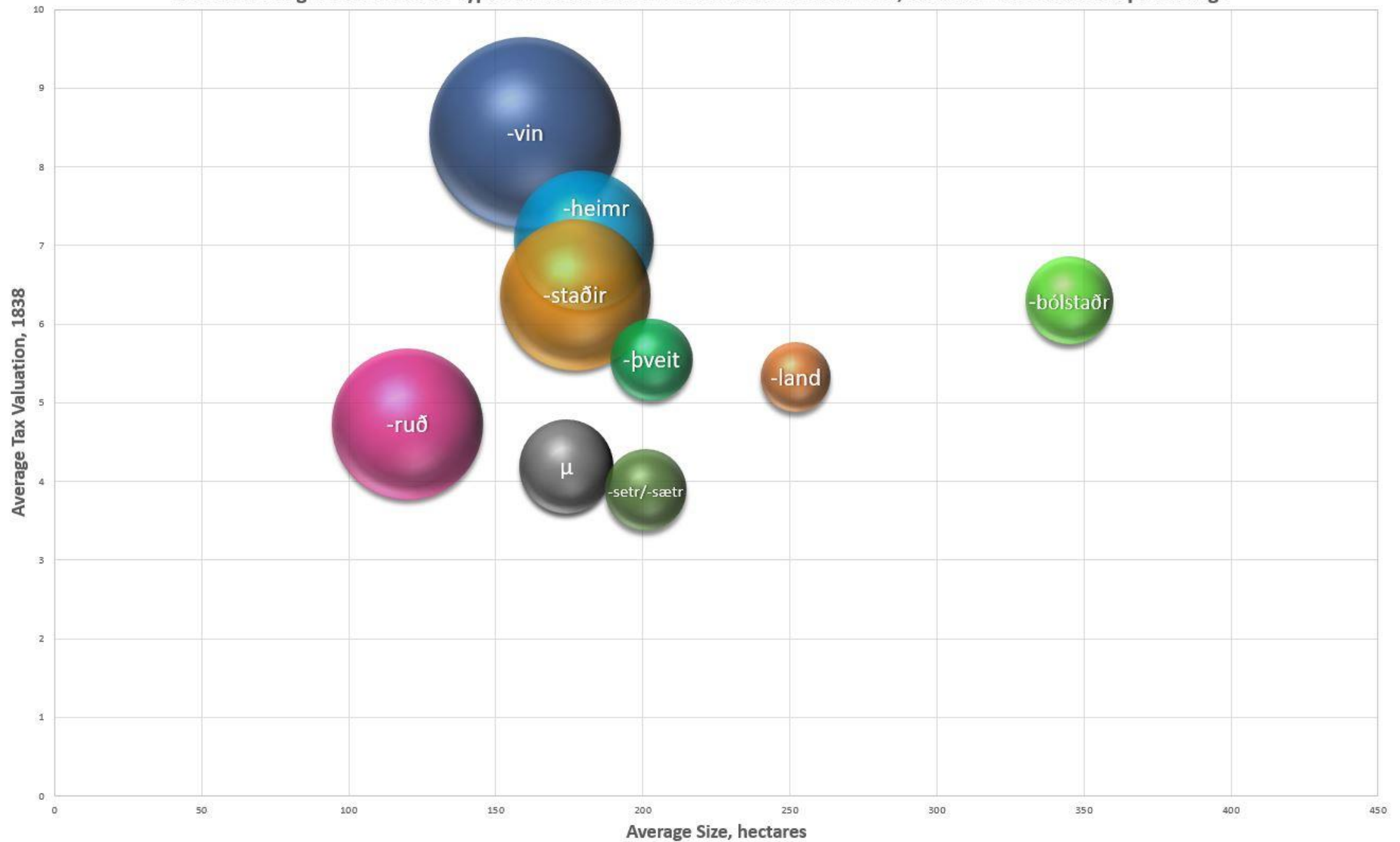


	AV. SIZE	VIN	HEIMR	LAND	BÓLSTAÐR	STAÐIR	SETR/SÆTR	ÞVEIT	RUÐ
Min.	1,42	3,73	3,13	2,40	2,73	2,61	1,15	2,83	1,97
Average	4,66	8,38	7,05	5,25	6,33	6,44	3,93	5,55	4,76
Max.	9,90	15,06	12,78	9,48	12,18	12,75	8,31	9,69	8,88

Select Norwegian Place-Name Types calculated from overall cadastral farm size, farmland size and farmland percentage



Select Norwegian Place-Name Types calculated from overall cadastral farm size, valuation and farmland percentage



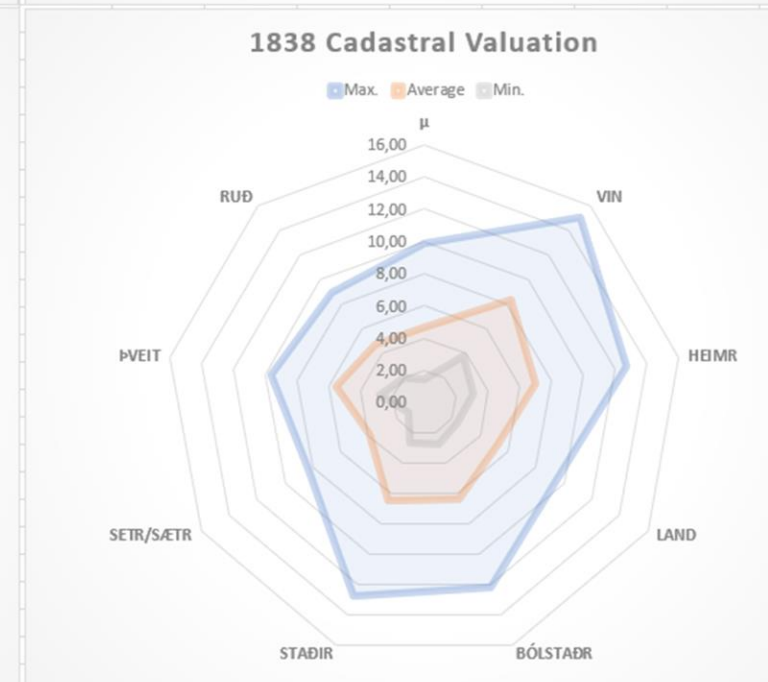
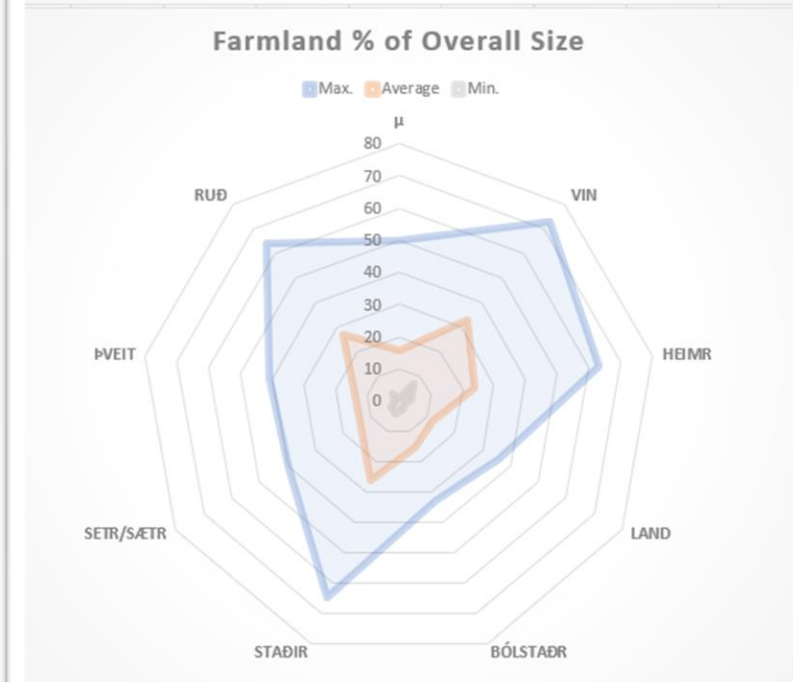
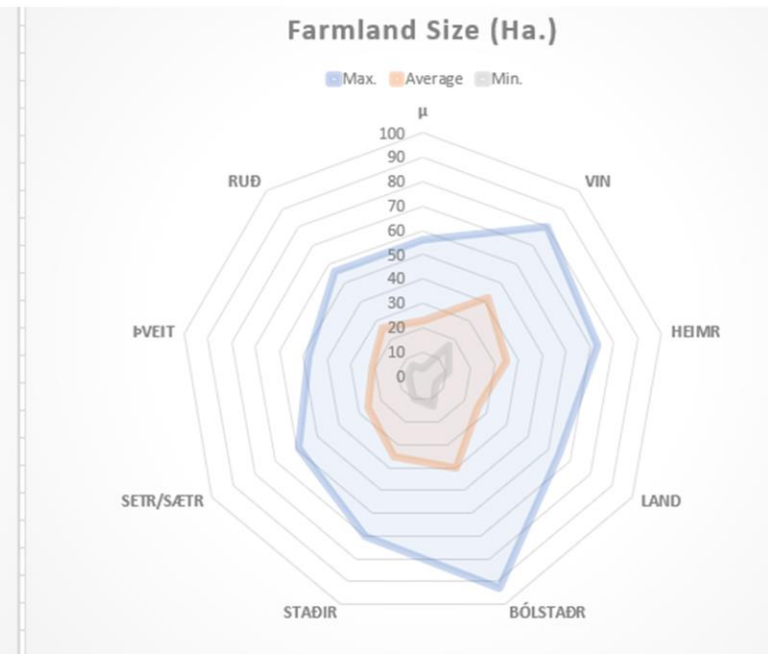
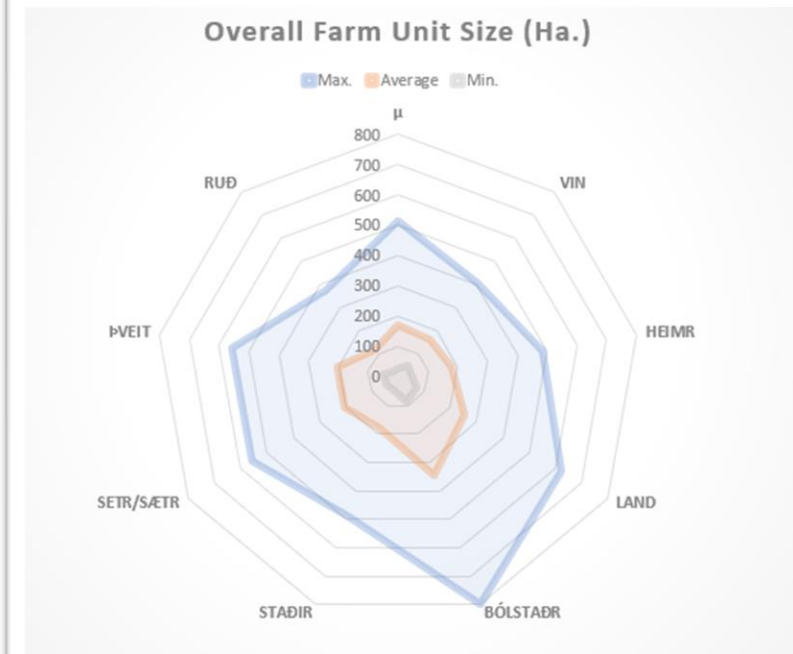
What are we seeing?

Signs of diversified farming usage

- Differences in cultivation focus

Age does matter!

- Older = the better taxation valuation
- Older = more land
- Older = better soil



Is it usable?

Yes, we achieve quantifiable analyses of place-name generics

The data will enable us to make more scientific descriptions of place-name generics

But we must be aware of the limitations and issues in the material

Place-names were formed about 1700–900 years ago, but:

- The cadastre is from 1886
 - The taxation valuations are from 1838
 - Digital cadastral data are from 2018
 - Area data are from 2018
-
- The material may show later conditions than the original farming conditions at the time of naming
 - ‘Noise’ must be cleaned out (normal distribution/gaussian distribution).

Questions?