

Rural change and green infrastructure: how can the immigration form the green areas of villages?

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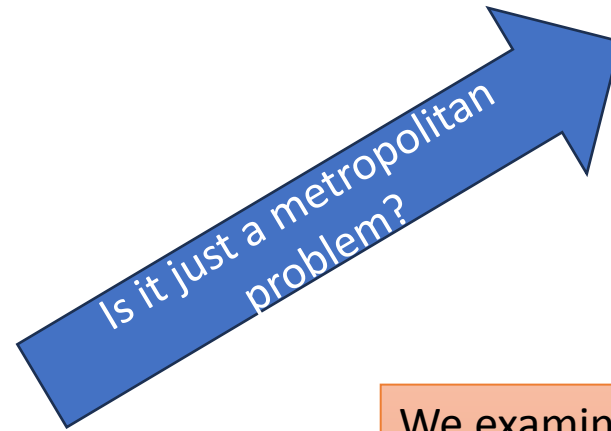
West Hungarian Research Department

Győr, Hungary

Structure of the presentation

1. Introduction to our research
2. Why do people move to villages? Motivations – from our questionnaire survey
3. How has the structure and landscape of the settlement changed? Aerial photos and street views
4. What is the role of residents in shaping rural green infrastructure? Findings of our questionnaire survey
5. Summary

Introduction – what is the green infrastructure and why is it so important?

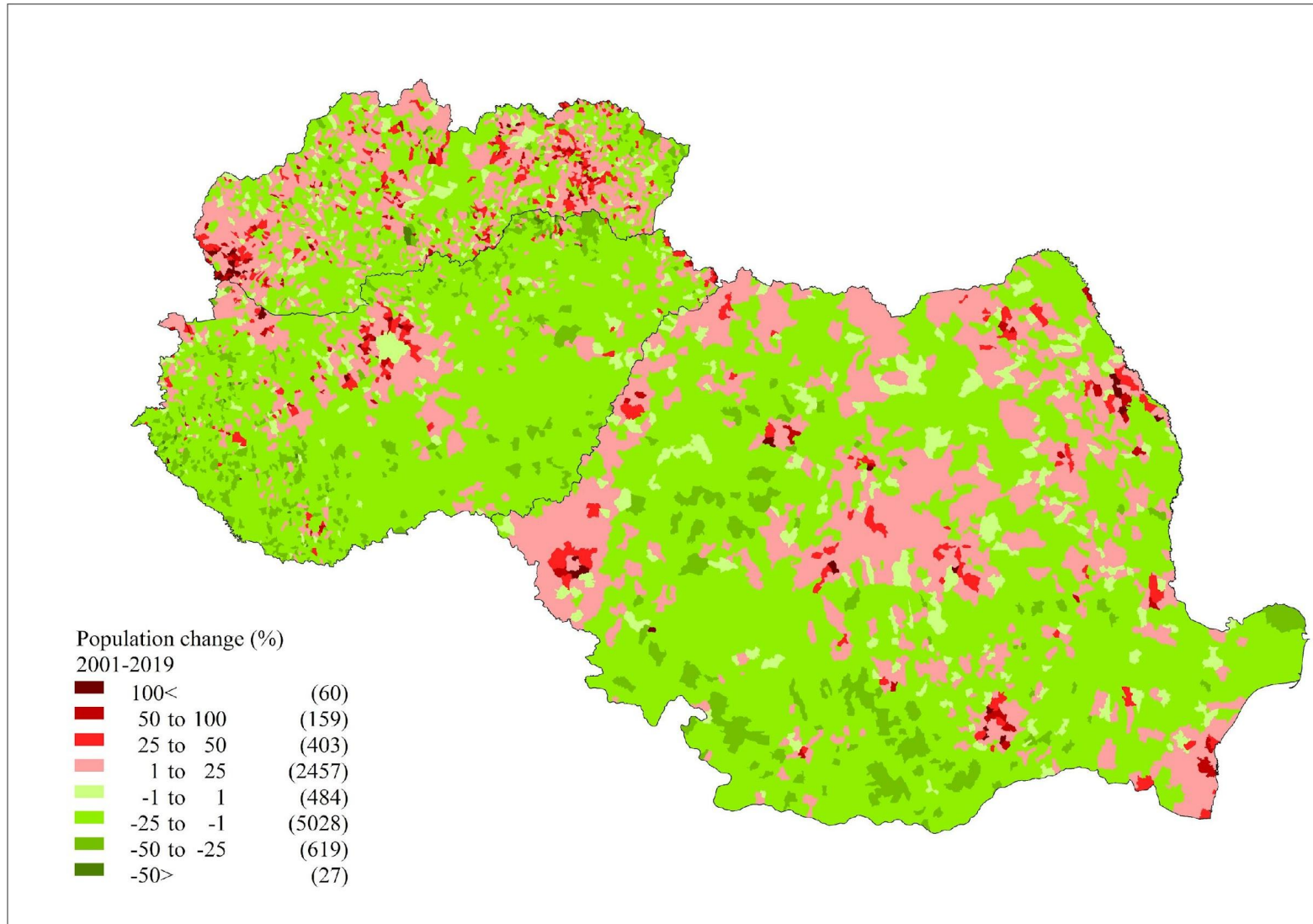


climate adaptation of the human settlements,
reduction of the heat island effect,
regulation of micro-climate,
managing the run-off of the rainwater,
creating an aesthetically pleasing space,
provides habitat for native pollinators and wildlife

We examined this
problem in rural
settlements,
affected by
immigration



Population change in the settlements of Romania, Hungary and Slovakia



Source: database made by Jenő Farkas, using EU COPERNICUS programme and EUROSTAT; processed by the author

How has immigration changed the village environment and the settlement landscape?

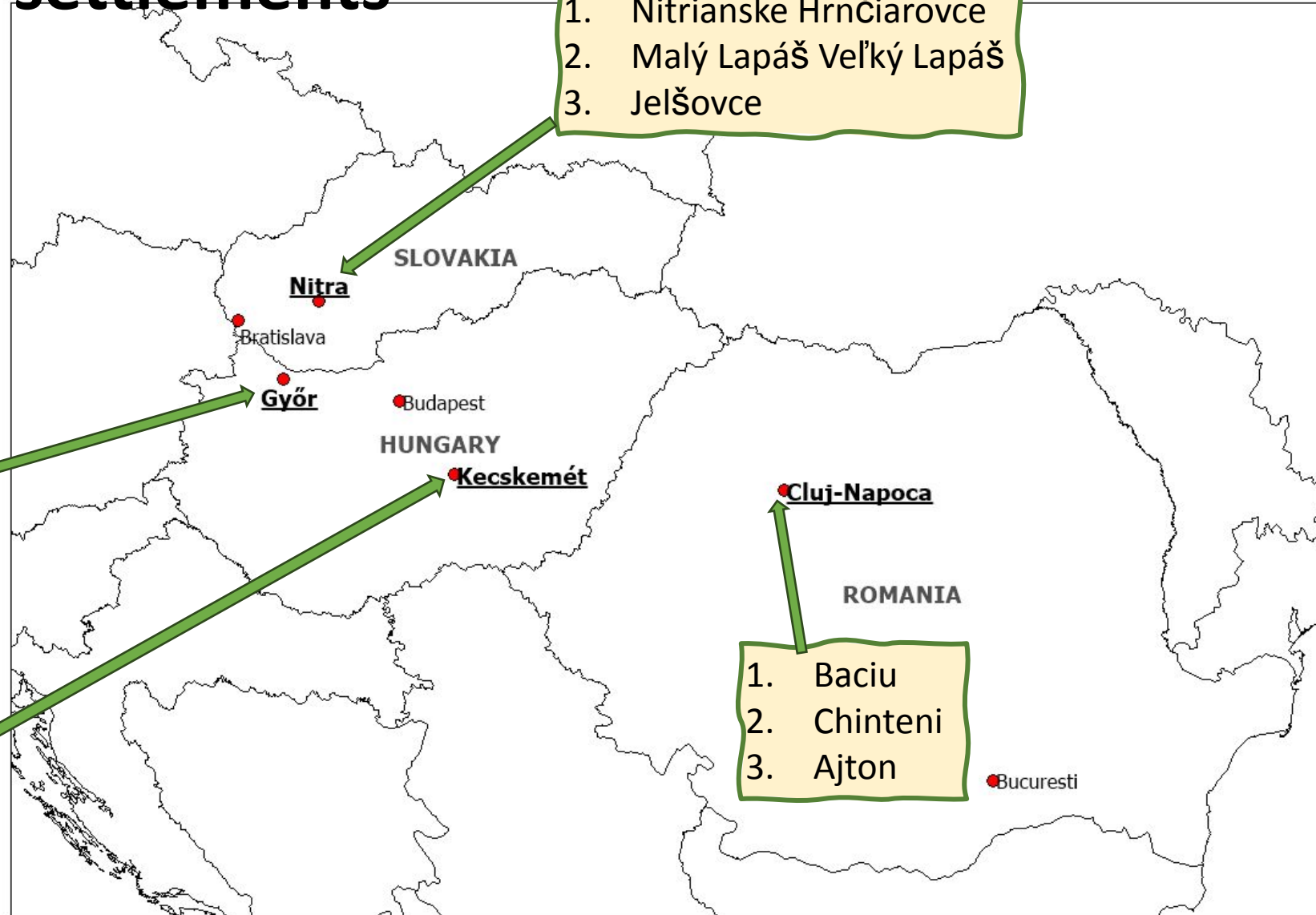
How has the green infrastructure of the settlement changed, and what was the role of the inhabitants?

- Analysis of aerial photos
- GIS analysis of impervious surfaces
- Botanical survey of street vegetation
- Questionnaire survey on the attitudes of the population towards green spaces
- Interviews

Research area, sample settlements

Settlements 1, 2, 3 selected along an urban-rural gradient

1. Nitrianske Hrnčiarovce
2. Malý Lapáš Veľký Lapáš
3. Jelšovce



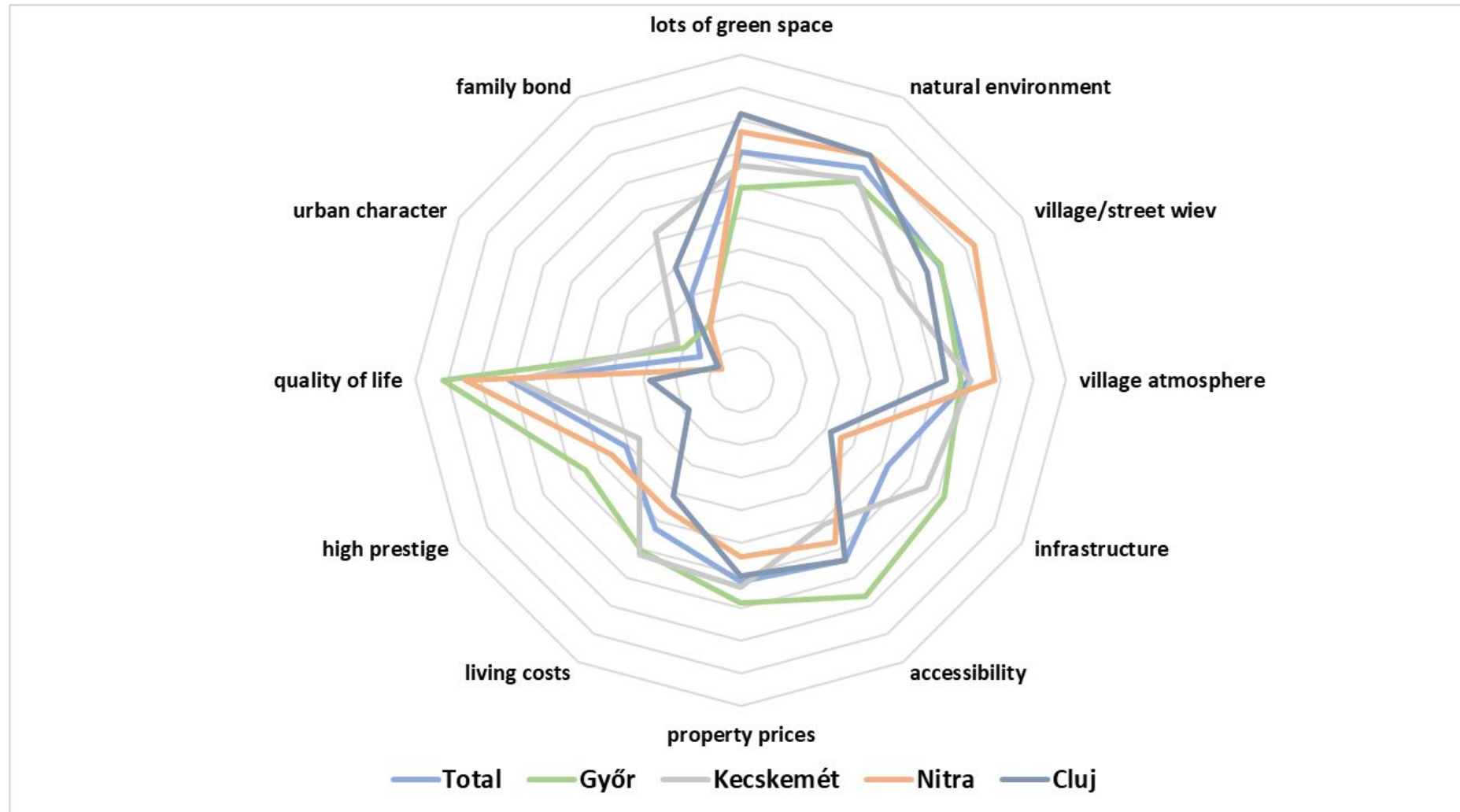
1. Győrújfalú
2. Győrzámoly
3. Börcs

1. Ballószög
2. Kerekegyháza
3. Fülöpszállás

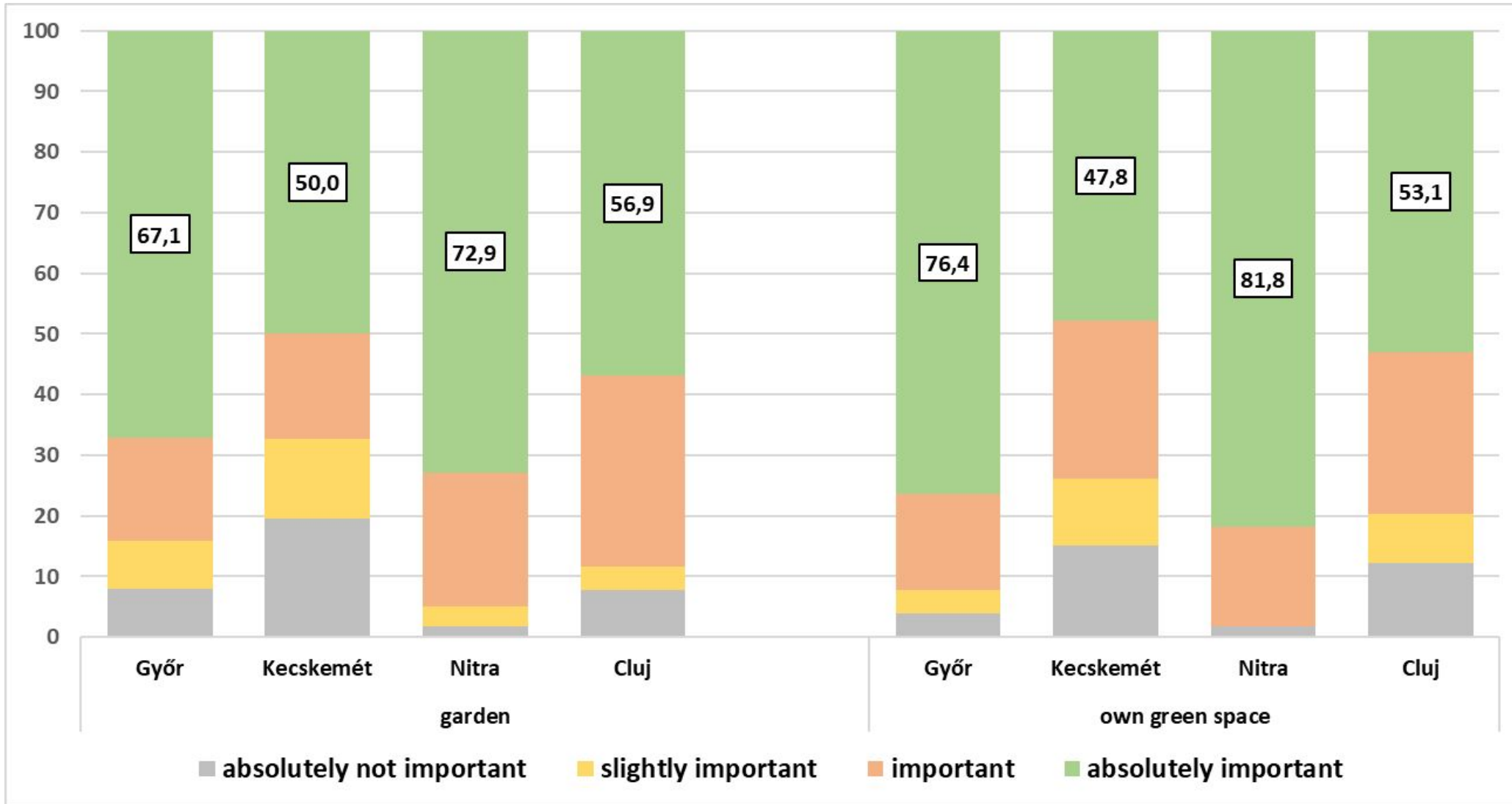
1. Baciú
2. Chinteni
3. Ajton

Why do people move to villages?

Motivations for moving to a settlement as a percentage of mentions by agglomeration



Importance of having a garden and own green space by agglomeration, per cent (n=238)



How has the structure and landscape of the settlement changed?



1964



2000



2022

Growing and densifying residential area

1964



Traditional part
of the village



2000



2022

New streets were created by
dividing traditional peasant plots.
(1500-2000 m²).

New plots: 600-800 m².

Newly established residential areas



Image © 2023 Airbus

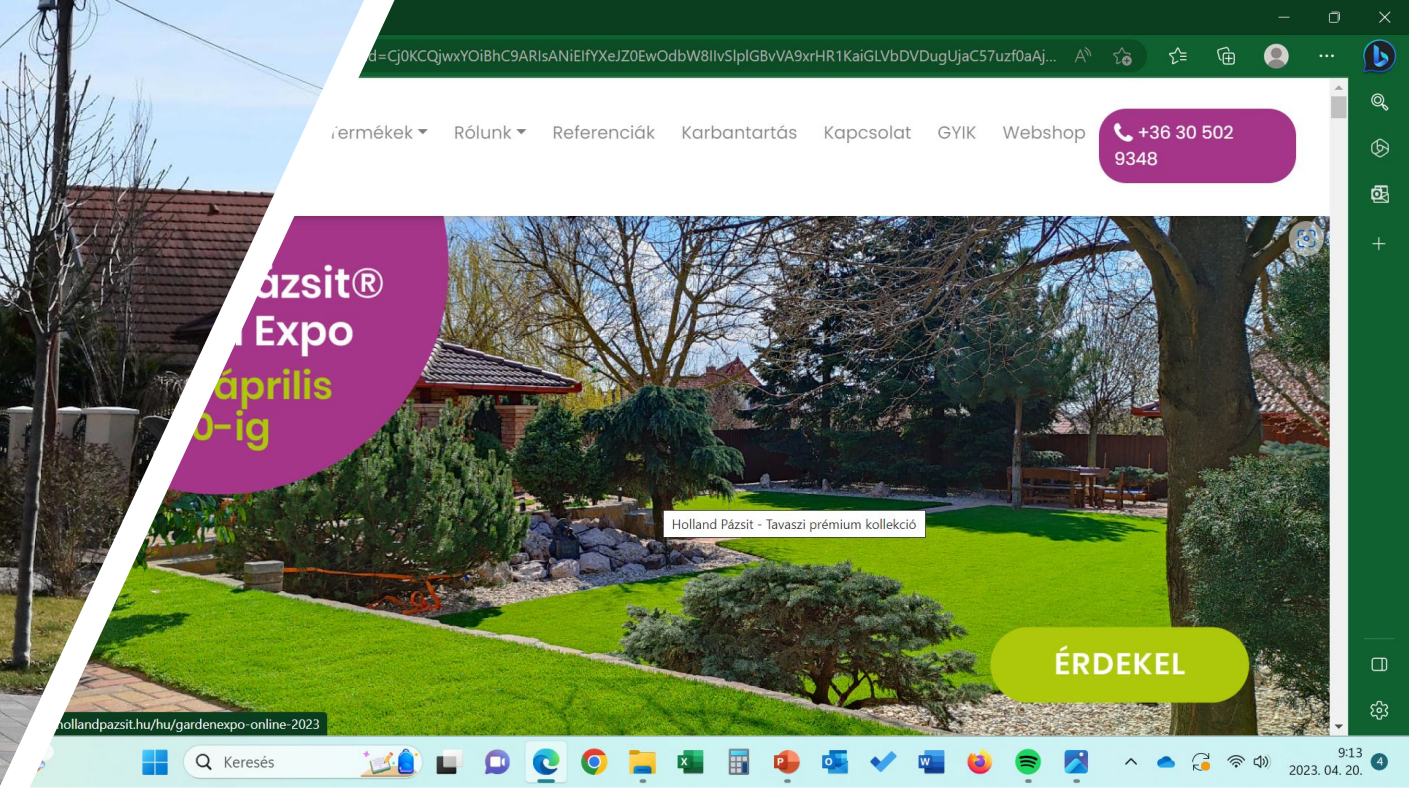
Very small residential plots (around 500 m²)
Shared residential plots
Minimal green area



Image © 2023 Airbus

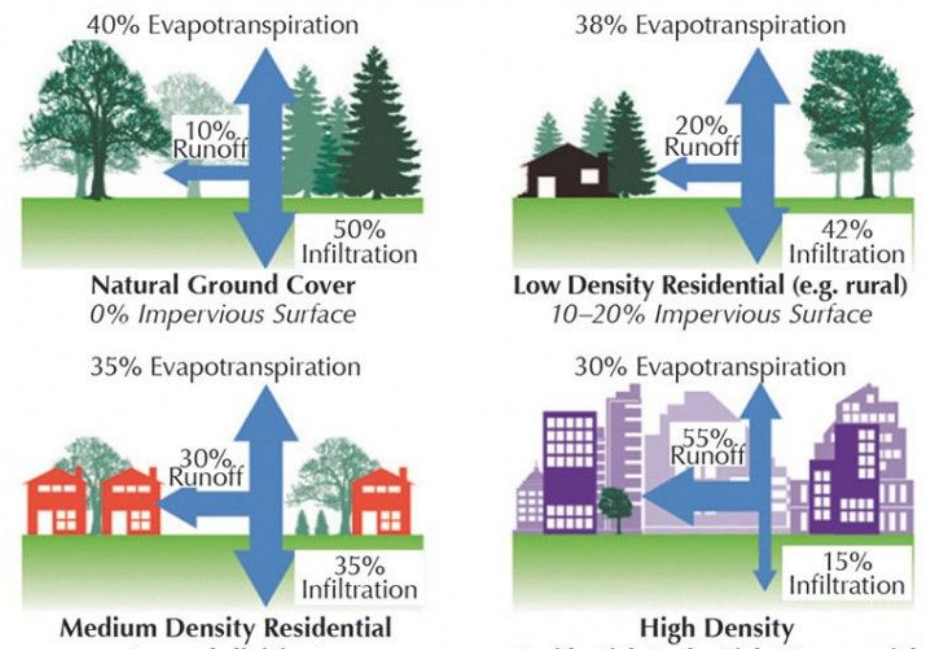








EFFECTS OF IMPERVIOUSNESS ON RUNOFF AND INFILTRATION



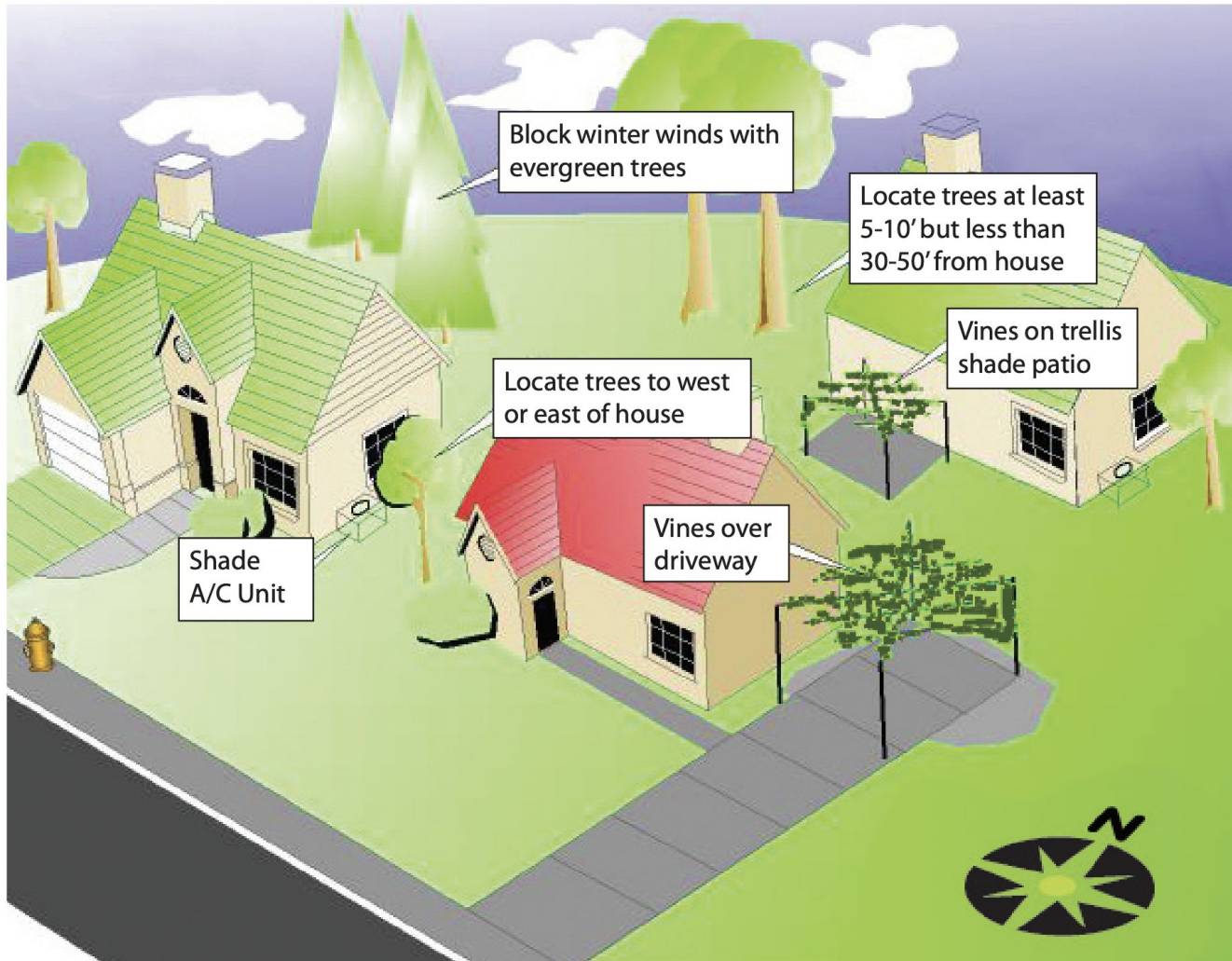
What is the role of residents in shaping rural green infrastructure?

In a rural residential area, the 80-90% of green areas are in private ownership of residents (yards, gardens etc.)

or

are managed by residents (roadside vegetation in front of the dwelling)

Figure 5: Tree Placement to Maximize Energy Savings



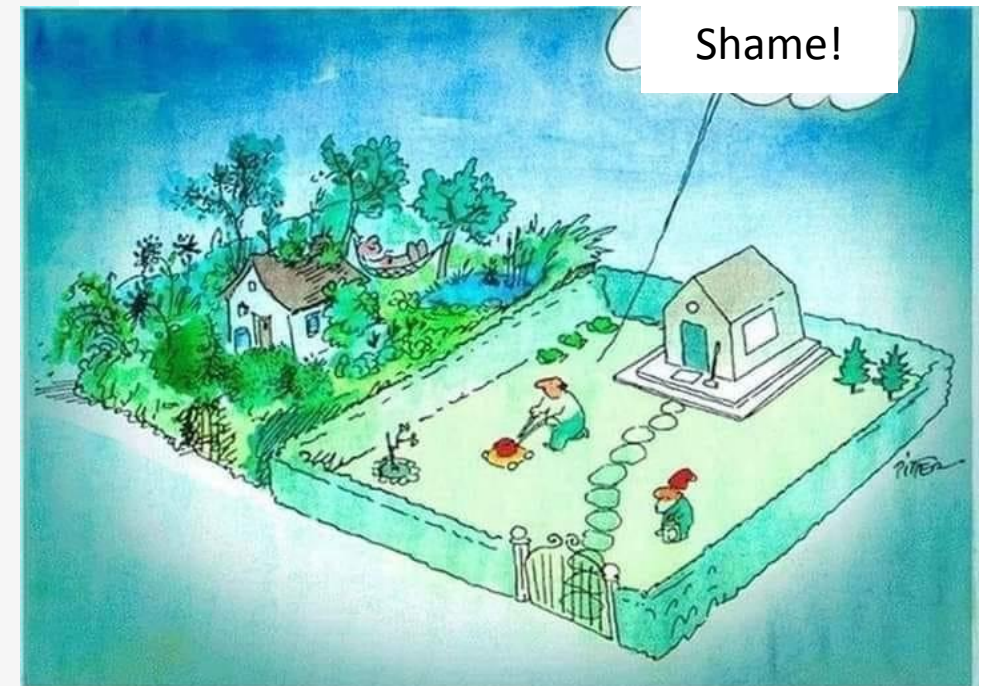
Picking the right trees and putting them in the right location will maximize their ability to shade buildings and block winds throughout the year.

Source: U.S. Environmental Protection Agency. 2008. "Trees and Vegetation." In: Reducing Urban Heat Islands: Compendium of Strategies. Draft.

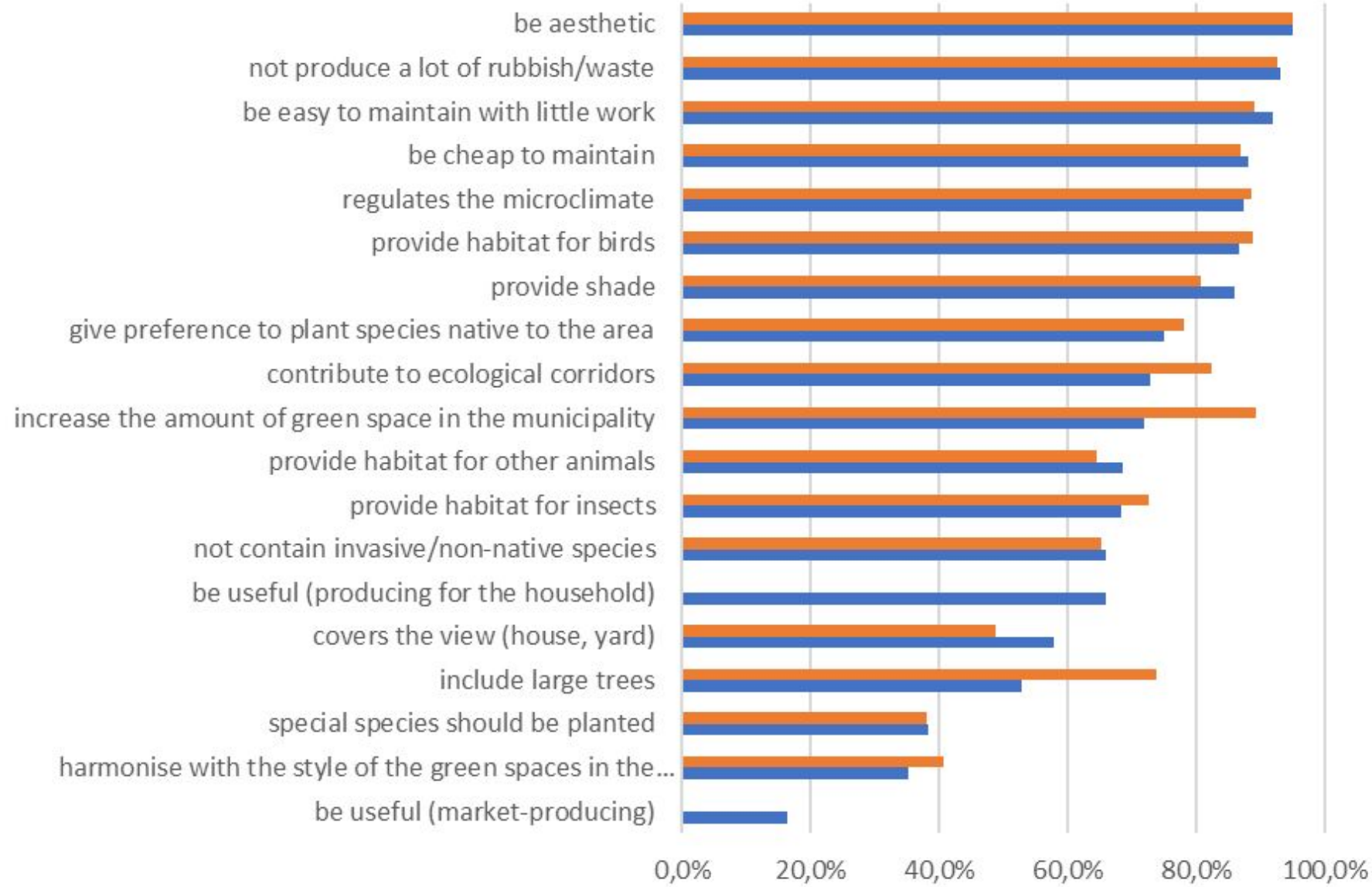
<https://www.epa.gov/heat-islands/heat-island-compendium>.

Useful recommendations can be found online, and science recommends the same. Trees, bushes, vines; Picking the right trees and putting them in the right location

What is the experience?



Public spaces Own garden



Is it important for greenspaces to...?

Share of „YES“ answers (%)

AESTHETIC
NO RUBBISH
NO WORK
CHEAP

Microclimate

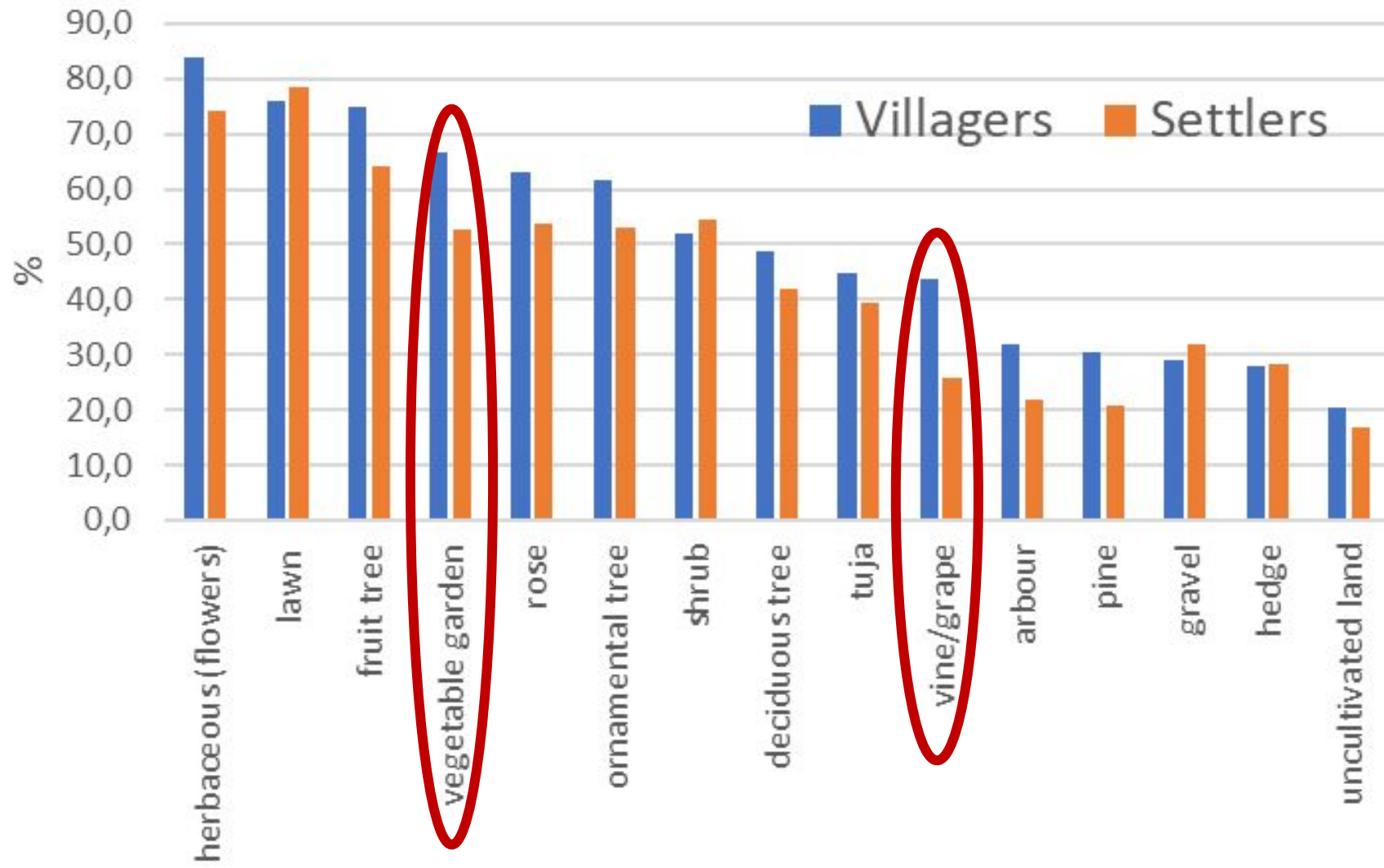
Ecologically:
BIRDS and
native species

Economic usefulness is
not important

No large trees!

Respondents do not recognise
that their green is part of a
system

Types of greens on residential plots



Summary

- The proportion of green space is decreasing due to smaller and smaller plots, so the proportion of paved, impervious surface is increasing.
- No significant cultural differences between new settlers and villagers
- For the vast majority, owning and maintaining their own green space is important,
 - mainly for its **aesthetic benefits**
- Low level of **ecological** awareness and knowledge
- Low acceptance of the importance of **large trees**
- Lack of awareness that our garden **is part of a larger**, settlement-level **ecological system**

Thank you for your attention!

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