The impact of municipal characteristics on dealing with farmers' interests in local spatial planning

Introduction

The COVID-19 pandemic led to an urban exodus, with people from the cities looking for living space in the countryside (Åberg and Tondelli 2021), fostered by digitalisation and the resulting opportunities of working from home. Farmers are particularly affected by these relocations (Primdahl and Kristensen 2011): the change in agricultural structure has already been decimating the number of farmers for years; the influx of people from the city to the countryside now causes their share to shrink further. At the same time, these counterurbanisation processes intensify the struggle over land use (Shaw et al. 2020; Seifollahi-Aghmiuni et al. 2022). Given the democratic approach to spatial planning, the risk arises that the interests of farmers, as a shrinking population group, might be increasingly neglected in the planning decisions concerning land use. To assess this risk, this study addresses the following question: What impact do municipal characteristics have on the integration of farmers' interests in local spatial planning? In a questionnaire, 428 Austrian farmers assessed the degree of their interests' integration within local spatial planning. Their assessment was then compared to characteristics of the respective municipality using a multiple linear regression.

Methods

The farmers' assessment of the integration of their interests in local spatial planning was conducted using a Likert scale. The scale consisted of nine statements to which the farmers could respond with a number between one and five. Full agreement was signalled with the number one, complete rejection of the statement with the number five. Furthermore, the farmers could choose the answer "I don't know" for each statement. The score reliability of the scale was assessed and found to be satisfactory with a Cronbach's alpha of 0.802.

The Likert scale was embedded in an online questionnaire. Austrian agricultural institutions, such as the Austrian Chamber of Agriculture or various agricultural media, distributed the associated link among the Austrian farmers, who had access to the link between January 2021 and October 2021. A total of 428 farmers located in 308 of the 2093 Austrian municipalities completed the questionnaire. Farmers located in Vienna were excluded from the survey, as Vienna's spatial planning legislation is not comparable to the other Austrian federal provinces.

Through a multiple linear regression, the assessment by the farmers was then confronted with agricultural-, land-, political- and population-related characteristics of the respective municipality, which were collected partly via the questionnaire and partly via national databases. Regarding the prerequisites for a multiple linear regression, the selected variables proved suitable.

Results

Altogether, the participating farmers were moderately satisfied with the integration of their interests in local spatial planning (Table 1).

Table 1: Scale Statistics "Assessment of the integration of farmers interests in local spatial planning"

N	Mean	Median	SD	min	max
428	2,9915	3,0000	,76273	1,00	5,00

The farmers attest their municipalities on average a rather poor knowledge of and consideration for their interests; concerning the zoning of their land, they are moderately satisfied (Table 2).

Table 2: Likert Scale „Assessment of the integration of farmers interests in local spatial planning"

	N	min	max	Mean	SD
"I got the feeling that the members of the municipal council know what requirements I need as a farmer in the zoning and development plan."	412	1	5	3,25	1,129
"The members of the municipal council know the needs of all farmers in the municipality."	419	1	5	3,64	1,058
"The municipal council is open to my concerns as a farmer."	416	1	5	3,19	1,136
"As a farmer, I am invited to all municipal events that are relevant to me and my farm."	405	1	5	3,09	1,373
"Most members of the local council know my farm."	414	1	5	2,55	1,299
"The needs of the local farmers do not play a role in municipal council's decisions." (Scale inverted)	416	1	5	3,10	1,234
"I am satisfied with the zoning of my land."	409	1	5	2,28	1,164
"It is easy to be elected to the local council of my municipality as a farmer."	378	1	5	2,91	1,212
"It is difficult for a farmer to gain a position in my municipality that allows participation in decision-making." (Scale inverted)	383	1	5	2,75	1,300

The selected municipal characteristics as possible determinants of the integration of farmers interests in local spatial planning explain the farmers' assessment to a moderate extent: The R^2 for the overall model was .17 (adjusted R^2 = .11), indicative for a moderate goodness-of-fit (medium effect size) according to Cohen (1988, 413). The chosen predictors were nonetheless able to statistically significant predict the perception and implementation of farmers' interests, F (24, 357) = 2,956, p < .001.

Table 3: Regression model of the integration of farmers interests in local spatial planning

	Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
	B	Std. Error	Beta	T	p	Tolerance	VIF
(Constant)	3,681	,324		11,362	,000		
Share of farmers in the working population (2019)	-,006	,013	-,032	-,462	,644	,477	2,097
Population (2021)	7,176E-6	,000	,049	,763	,446	,565	1,769
Population development 2011-2021	,002	,006	,021	,338	,736	,605	1,652
Share of agricultural land in the municipal area (2021)	-,002	,002	-,061	-,819	,413	,418	2,390

Share of sealed area in the inhabitable area (2018)		,010	,017	,047	,597	,551	,370	2,701
Average building plot price 2015-2020 in €/m²		1,973E-5	,001	,002	,027	,978	,305	3,274
Share of ÖVP[a] mandataries in the municipal council		-,003	,002	-,096	-1,485	,139	,559	1,790
Relationship of the Mayor to Agriculture[b]	Mayor works as farmer	-,233	,100	-,127	-2,320	,021	,774	1,293
	Mayor is no farmer, but has private ties to agriculture	-,085	,098	-,049	-,868	,386	,749	1,336
	"I don't know the mayor's connection to agriculture."	-,318	,205	-,082	-1,554	,121	,847	1,181
Share of farmers in the municipal council[c] (2021)	1% - 25%	-,332	,244	-,188	-1,364	,173	,123	8,104
	26%-50%	-,609	,270	-,292	-2,257	,025	,139	7,184
	> 50%	-1,016	,377	-,180	-2,697	,007	,525	1,906
	"I don't know"	-,580	,314	-,149	-1,847	,066	,360	2,781
Classification of the municipality according to the Urban-Rural Typology of Statistics Austria[d]	Urban centre	,100	,187	,039	,538	,591	,451	2,218
	Regional centre	,000	,175	,000	-,001	,999	,841	1,189
	Rural area surrounding centres	-,037	,098	-,023	-,378	,706	,641	1,561
Federal provinces[e]	Lower Austria	,056	,129	,036	,435	,664	,342	2,925
	Burgenland	,051	,246	,011	,208	,835	,790	1,266
	Upper Austria	,019	,134	,012	,145	,885	,364	2,747
	Carinthia	,081	,203	,023	,399	,690	,691	1,448
	Salzburg	,201	,345	,038	,582	,561	,548	1,826
	Tyrol	,100	,242	,024	,414	,679	,697	1,435
	Vorarlberg	-,581	,273	-,134	-2,133	,034	,593	1,687

[a] *Austrian People's Party: conservative governing party that traditionally represents self-employed people and thus Austrian farmers*

[b] *Reference Category: "Mayor has no connection to agriculture"*

[c] *Reference Category: "Share of farmers in the municipal council: 0%"*

[d] *Reference Category: "Rural area"*

[e] *Reference Category: "Styria"*

Following the regression model (Table 3), only the situation of a farmer in the position of mayor, a share of more than 25% farmers in the municipal council and the affiliation of the municipality to the province of Vorarlberg showed a significant influence on how well integrated the resident farmers perceived their interests to be in the processes of local spatial planning. All the variables identified as significant ensured a higher degree of integration of farmers' interests.

Discussion

The regression model based on municipal characteristics explained only part of the degree of the integration of farmers interests within local spatial planning. None of the variables which served as indicators of the spatial and demographic presence of farmers in the municipality showed a significant influence on the integration of farmers' interests. The degree to which farmers interests are integrated in planning processes is actually determined by the political structures of a municipality. If a farmer serves as mayor or if farmers hold more than a quarter of the mandates in the municipal council, farmers perceive their interests as significantly better integrated in local spatial planning. The political commitment of farmers within local politics indeed promotes the local agricultural sector (Fałkowski 2017; Paniagua 2019). Farmers are probably aware of the importance of their political engagement, as they are indeed disproportionately high represented in local councils as surveys in individual European countries show (Koebel 2014; Fałkowski 2017). However, it remains to be questioned to what extent those disproportionate representation of a population group can be justified, given the democratic approach to spatial planning. Moreover, leaving the controversy aside, those high shares of farmers in local political bodies will be increasingly difficult to achieve, considering the declining farm numbers in most municipalities.

Other models are therefore needed to promote the integration of farmers' interests, such as the landscape mediation "Prospective Vision" as presented by Planchat-Héry (2011), which enables farmers to integrate their interests into local spatial planning processes in a sustainable manner, without having to rely on a strong political presence. The finding that politically active farmers have a positive impact on the implementation of farmers' interests reinforces, however, the recognition that, whatever participation tool is used, an early involvement of farmers in the planning process is necessary (Simon Rojo et al. 2014). The establishment of participation models ensuring a timely involvement of farmers, supplemented by the creation of awareness of the importance of farmers and their activities, should therefore allow farmers to see their interests satisfactorily integrated into local spatial planning, even in the face of the ongoing structural change in agriculture. Further guidance might be provided by a more in-depth study of the local spatial planning processes in the province of Vorarlberg, where farmers' interests were perceived as significantly better integrated.

It should be noted that the interests of the farmers were considered collectively in this study. A more differentiated examination of the individual types of farmers' interests might allow for more differentiated analyses of the impact of municipal characteristics.

Conclusion

The spatial or demographic presence of agriculture in a municipality does not significantly impact the integration of resident farmers' interests in local spatial planning if there are not enough farmers present in local politics. Farmers need to be politically even overrepresented compared to other population groups to promote an integration of farmers' interests in local spatial planning, which farmers might describe as satisfactory. Such conditions are, on the one hand, questionable and, on the other hand, not achievable in many municipalities. However, as farmers' active and timely participation in the planning process is needed to integrate their interests, participatory planning models need to be implemented, which do not depend on farmers' overrepresentation in the municipal council.

References

Åberg, H. E. and Tondelli, S., 2021. Escape to the Country: A Reaction-Driven Rural Renaissance on a Swedish Island Post COVID-19. *Sustainability*, 13 (22), 12895.

Fałkowski, J., 2017. Promoting change or preserving the status quo? The consequences of dominating local politics by agricultural interests. *Land Use Policy*, 68, 448–459.

Koebel, M., 2014. Le profil social des maires de France. *Pouvoirs*, 148 (1), 123.

Paniagua, A., 2019. Farmers' resistance in urbanised and remote rural places: a geographical perspective. *Rural Society*, 28 (1), 15–28.

Planchat-Héry, C., 2011. The prospective vision: integrating the farmers' point of view into French and Belgian local planning. *In*: Jones, M. and Stenseke, M., eds. *The European Landscape Convention: Challenges of Participation*. Dordrecht: Springer, 175–197.

Primdahl, J. and Kristensen, L. S., 2011. The farmer as a landscape manager: Management roles and change patterns in a Danish region. *Geografisk Tidsskrift-Danish Journal of Geography*, 111 (2), 107–116.

Seifollahi-Aghmiuni, S., Kalantari, Z., Egidi, G., Gaburova, L. and Salvati, L., 2022. Urbanisation-driven land degradation and socioeconomic challenges in peri-urban areas: Insights from Southern Europe. *Ambio* [online]. Available from: https://link.springer.com/10.1007/s13280-022-01701-7 [Accessed 28 Feb 2022].

Shaw, B. J., van Vliet, J. and Verburg, P. H., 2020. The peri-urbanization of Europe: A systematic review of a multifaceted process. *Landscape and Urban Planning*, 196, 103733.

Simon Rojo, M., Moratalla, A. Z., Alonso, N. M. and Jimenez, V. H., 2014. Pathways towards the integration of periurban agrarian ecosystems into the spatial planning system. *Ecological Processes*, 3 (1), 13.