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THE ANALYSIS OF URBAN AND DISTRICT SOTSIOGEOSYSTEM'S SPECIFICITY OF POLTAVA REGION ON FEATURES OF GEODEMOGRAPHIC DEVELOPMENT

In research of regional social ecosystem always a need to consider trends of the area. Poltava region is characterized by negative trends geodemographic development last years. Thus its geodemographic development has significant territorial disparities. Therefore, assessment of the specificity of district and urban sociogeosystem is of paramount importance and the study of this component of regional development is very important.

In order to investigate the specificity of urban and district sociogeosystems of Poltava region on the specifics of geodemographic a method of synthesis of local classifications was applied. It is used to identify specific frequencies falling sociogeosystem in a class with other classifications for each billing period. Local classifications were based on various parameters of the system and the parameters of the trajectory geodemographic.

The highest level of specificity of the formation geodemographic was marked in Kremenchuk and Poltava, characterized by features demographics (population, natural and migratory movements). Is the least specific are Lubny and Myrhorod. District sociogeosystem have less differentiation in association frequency in the local classifications of geodemographic development compared with urban. The greatest specificity with a huge separation from other areas has Globino district. The lowest specificity of geodemographic development was observed in Shishay, Kozelshchina, Orzhytsia, Reshetylivka, Semenivka, Hrebinka, Velyka Bahachka and Chutove districts. From this analysis we can conclude that some urban and district Poltava sociogeosystems have more or less stable associations, others are more weakly associated with other cities or regions.

Key words*:* sociogeosystem, geodemographic development, the frequency of connections, association, specificity.

Людмила Нємець, Ірина Барило. АНАЛІЗ СПЕЦИФІЧНОСТІ МІСЬКИХ ТА РАЙОННИХ СОЦІОГЕОСИСТЕМ ПОЛТАВСЬКОЇ ОБЛАСТІ ЗА ОСОБЛИВОСТЯМИ ГЕОДЕМОГРАФІЧНОГО РОЗВИТКУ

У статті проаналізовано районні та міські соціогеосистеми Полтавської області за особливостями геодемографічного розвитку. Даний статистичний метод обробки результатів часткових класифікацій соціогеосистем дозволяє отримати опосередковану оцінку ступеню специфічності. Використовуючи цей метод при дослідженні геодемографічного розвитку регіону, було розраховано суму частот зв'язків районів та міст Полтавської області. На основі одержаних результатів проведено ранжирування і групування районів області за особливостями геодемографічного розвитку.

Ключові слова: соціогеосистема, геодемографічний розвиток, частота зв'язків, асоційованість, специфічність.

Людмила Немец, Ирина Барило. АНАЛИЗ СПЕЦИФИЧНОСТИ ГОРОДСКИХ И РАЙОННЫХ СОЦИОГЕОСИСТЕМ ПОЛТАВСКОЙ ОБЛАСТИ ПО ОСОБЕННОСТЯМ ГЕОДЕМОГРАФИЧЕСКОГО РАЗВИТИЯ

В статье проанализированы районные и городские социогеосистемы Полтавской области за особенностями геодемографического развития. Данный статистический метод обработки результатов частных классификаций социогеосистем позволяет получить косвенную оценку степени специфичности. Используя этот метод при исследовании геодемографического развития региона, была рассчитана сумма частот связей районов и городов Полтавской области. На основе полученных результатов проведено ранжирование и группировка районов области по особенностям геодемографического развития.

Ключевые слова: социогеосистема, геодемографическое развитие, частота связей, ассоциированность, специфичность.

Introduction. During the study of regional sociogeosystem (SGS) the need to consider regional development trends is always arisen. In recent years Poltava region could be characterized by negative tendencies of geodemographic development. Moreover, its geodemographic development has significant territorial disparities. Therefore, specificity assessment of the district and urban sociogeosystem is of great importance and this regional development research component is very important.

Literature review. The first sociogeosystem's valuation method was tested in the works of L. Klutchko and K. Niemets on the example of the sacral sphere of Kharkiv region [1]. SGS classification on different criteria and methods creates different versions of grouping. Thus, the analysis shows that some territorial units can form more or less stable associations, while the other ones – more weak [3].

The purpose of the study is a generalization of the method of partial results classifications for city and district SGS of Poltava region for geodemographic development that provides a quantitative assessment of their specificity.

Main contents of research. To investigate the specificity of city and district sociogeosystem of Poltava region on the specifics of geodemographic applied method of synthesis of local classifications. It consists in identifying of specific frequencies of a certain SGS's ability to hit in a classification class for each billing period [2]. Local classifications are based on various sys-

tem parameters and geodemographic development trajectory [4]. Classifications are established by one principle, including the whole range of changes in system development divided into five equal classes. Then a grading procedure is performed, i.e. studied SGSs are distributed by class. The next step is to determine SGS's association frequencies in all local classifications [2, 3]. Results of the study of a SGS's specificity of cities and districts of Poltava region are presented in tables 1 and 2. The results were ranged and grouped (Fig. 1-3) [5].

Table 1

Values of parameters of association frequencies matrix of urban SGS of Poltava region in local classifications for geodemographic development indicators during 2009-2014

Cities	Komsomolsk	Kremenchuk	Lubny	Mirgorod	Poltava
Komsomolsk		1	15	17	6
Kremenchuk	1		2	0	12
Lubny	15	2		45	0
Mirgorod	17	0	45		1
Poltava	6	12	0	1	
Σ	***39***	***15***	***62***	***63***	***19***

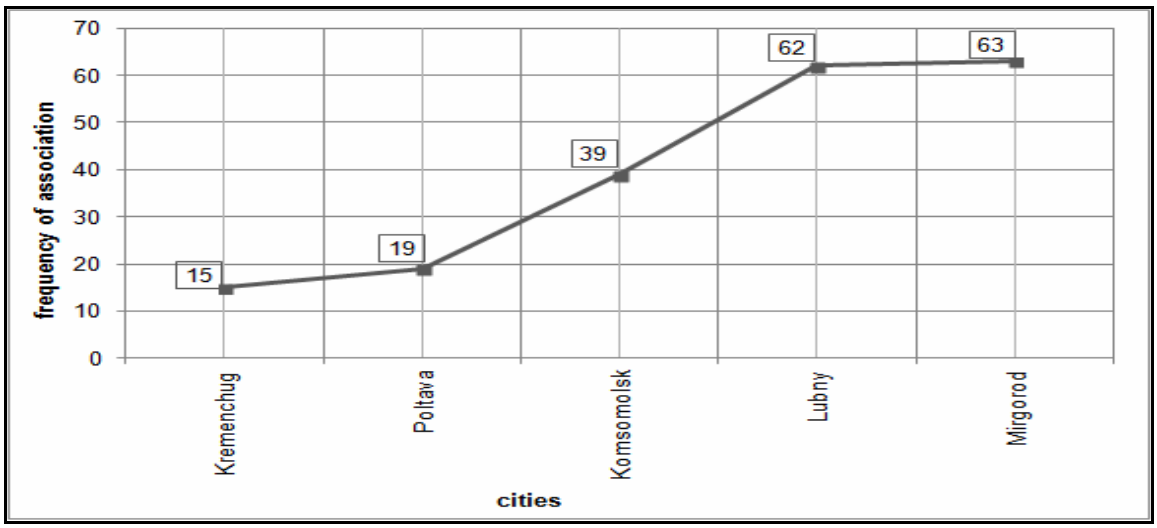

Fig. 1. Ranking of urban SGS of Poltava region for association frequencies in local classifications for geodemographic development indicators for the period 2009-2014

The highest level of geodemographic development formation specificity is observed in Kremenchuk (rated 15) and Poltava (rated 19), characterized by features demographics (population, natural and migratory movements). The least specific are Lubny and Mirgorod with rates of 62 and 63 respectively. In addition, Lubny and Mirgorod have the biggest association quantity together (rated 45) compared to other cities.

District sociogeosystems have less differentiation in association frequency in local classifications for the geodemographic development compared with city's (fig. 2). Globino district differs with a huge margin (rated 121). Also, the relative specificity of different Hadiach (145), Poltava (167), Kobelyaky (169) and Lokhvitsia (194) districts. The lowest specificity for geodemographic development is observed in Shishaky (500), Kozelshchina (503), Orzhytsia (507), Reshetylivka (520), Semenivka (521), Hrebinka (529), Velyka Bahachka (536), and Chutove (543) districts.

Based on the ranking of cities and districts of Poltava region in specificity for association frequencies for the classifications geodemographic development 7 groups were allocated (3 urban and 4 district ones) (fig. 3).

The urban SGS group includes Poltava and Kremenchuk. They have a smaller amount and association frequency and are more specific, because they have fewer symptoms similar to other cities in the region. The second group includes Komsomolsk, the third – Lubni and Mirgorod. They also have a small amount compared to the association frequency of the district SGS.

The most unique districts are Globino, Hadiach, Poltava, Kobelyaky and Lokhvitsia areas (first group) with the lowest rate bonds (121 – 194). The second group has a relatively low communication frequency (328 – 394) and includes Zinkiv, Khorol, Karlovka, Kremenchuk, Novi Sanzhary, Pyryatyn, Mirgorod districts.

Table 2

Values of parameters of association frequencies matrix of district SGS of Poltava region in local classifications for geodemographic development indicators during 2009-2014

Regions	Vlb	Gdch	Glb	Grb	Dkn	Znk	Krl	Kbl	Kzl	Ktl	Krm	Lhv	Lbn	Mshv	Mrg	Nvs	Orj	Prt	Plt	Rsht	Smn	Khrl	Chrn	Chtv	Shshtc
Vlb		1	1	42	32	8	11	1	35	30	12	4	36	29	19	15	38	15	7	41	42	10	28	42	37
Gdch	1		18	3	6	9	10	15	1	2	1	13	1	1	3	4	2	4	29	1	2	9	2	4	4
Glb	1	18		2	5	10	9	13	3	1	2	18	4	3	2	3	0	4	4	3	1	6	2	5	2
Grb	42	3	2		33	5	4	3	37	39	12	3	29	34	10	12	40	10	7	42	40	7	31	46	38
Dkn	32	6	5	33		5	3	6	40	41	2	6	21	36	4	3	40	7	5	37	34	7	36	41	38
Znk	8	9	10	5	5		37	19	4	2	33	14	11	4	34	30	6	33	5	6	5	34	3	7	4
Krl	11	10	9	4	3	37		9	5	2	41	10	23	4	45	40	4	42	4	3	5	35	3	6	4
Kbl	1	15	13	3	6	19	9		1	2	5	40	2	3	3	5	2	6	7	2	2	15	2	3	3
Kzl	35	1	3	37	40	4	5	1		45	5	2	27	35	7	2	45	3	7	39	44	1	34	40	41
Ktl	30	2	1	39	41	2	2	2	45		6	1	24	40	4	5	40	4	7	35	39	1	37	35	37
Krm	12	1	2	12	2	33	41	5	5	6		6	25	9	45	45	4	43	5	9	6	36	3	8	3
Lhv	4	13	18	3	6	14	10	40	2	1	6		7	6	7	7	3	6	8	6	2	11	3	5	6
Lbn	36	1	4	29	21	11	23	2	27	24	25	7		22	29	26	23	26	6	28	31	16	19	30	25
Mshv	29	1	3	34	36	4	4	3	35	40	9	6	22		4	5	34	5	5	33	35	2	39	34	40
Mrg	19	3	2	10	4	34	45	3	7	4	45	7	29	4		47	5	45	5	10	9	39	3	10	5
Nvs	15	4	3	12	3	30	40	5	2	5	45	7	26	5	47		2	45	5	11	6	40	3	8	5
Orj	38	2	0	40	40	6	4	2	45	40	4	3	23	34	5	2		6	10	38	44	3	31	43	44
Prt	15	4	4	10	7	33	42	6	3	4	43	6	26	5	45	45	6		4	11	8	40	4	11	4
Plt	7	29	4	7	5	5	4	7	7	7	5	8	6	5	5	5	10	4		5	8	10	2	5	7
Rsht	41	1	3	42	37	6	3	2	39	35	9	6	28	33	10	11	38	11	5		40	7	34	40	39
Smn	42	2	1	40	34	5	5	2	44	39	6	2	31	35	9	6	44	8	8	40		3	32	43	40
Khrl	10	9	6	7	7	34	35	15	1	1	36	11	16	2	39	40	3	40	10	7	3		1	7	3
Chrn	28	2	2	31	36	3	3	2	34	37	3	3	19	39	3	3	31	4	2	34	32	1		32	33
Chtv	42	4	5	46	41	7	6	3	40	35	8	5	30	34	10	8	43	11	5	40	43	7	32		38
Shshtc	37	4	2	38	38	4	4	3	41	37	3	6	25	40	5	5	44	4	7	39	40	3	33	38	
Σ	**536**	**145**	**121**	**529**	**488**	**328**	**359**	**169**	**503**	**479**	**366**	**194**	**491**	**462**	**394**	**374**	**507**	**386**	**167**	**520**	**521**	**343**	**417**	**543**	**500**

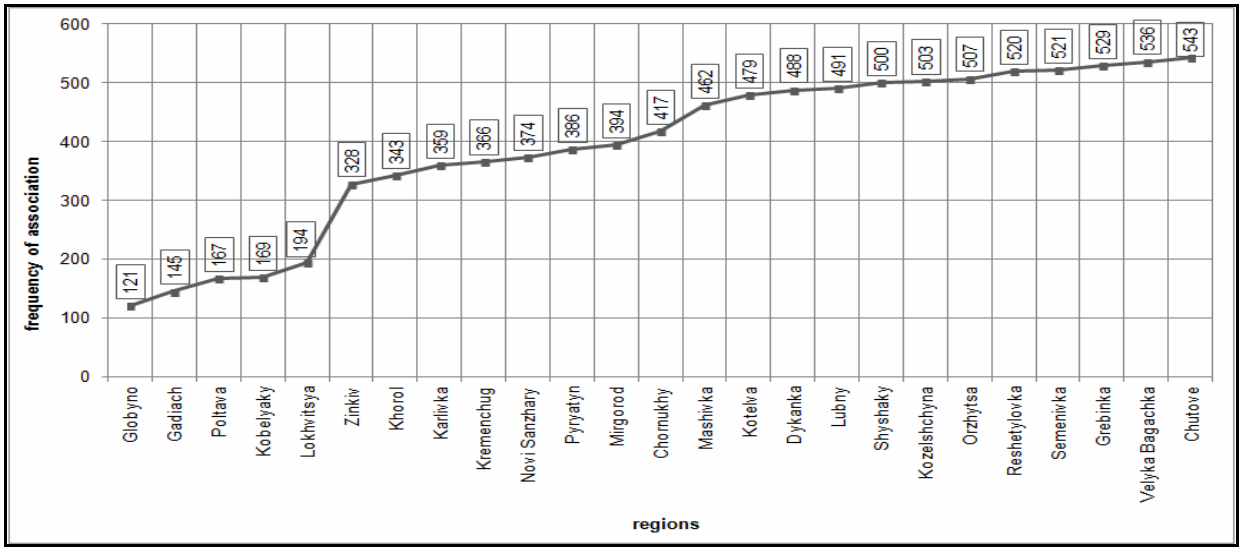

Fig. 2. Ranking of district SGS of Poltava region for association frequencies in local classifications for geodemographic development indicators for the period 2009-2014

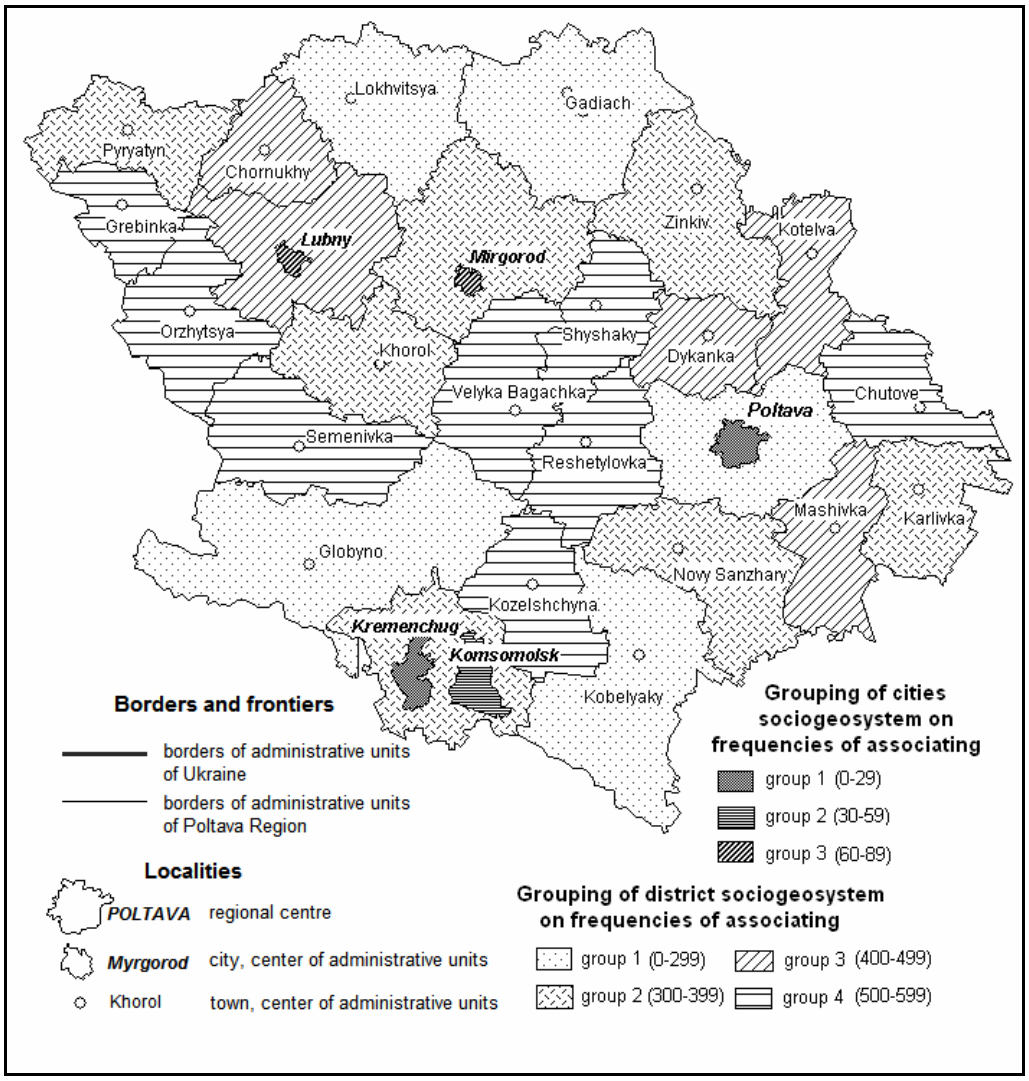

Fig. 3. Territorial distribution of cities and districts of Poltava region on association frequencies in local classifications on geodemographic development for period 2009-2014

The third group has more frequency relations (417 – 491) and includes Chornuhy, Mashivka, Kotelva, Dykanka and Lubny districts. The least specific areas of communications frequencies from 500 to 543, went into fourth group: Shishaky, Kozelshchyna, Orzhytsia, Reshetylivka, Semenivka, Hrebinka, Velyka Bahachka, Chutove districts.

From this analysis we can conclude that while some urban and district Poltava sociogeosystems have more or less stable associations, other ones have weaker associons with other cities or regions.

Conclusions. The described method of statistical evaluation of the specificity of urban and regional sociogeosystems of Poltava region is an effective means of processing the results of the partial classification of objects by different criteria and methods. Generalized grouping units for geodemographic development opens new opportunities for analysis of the relationships between them, interpreting the results grouping of new positions and more. In addition, the analysis allows, to adjust geodemographic further, development of the region, make adjustments to the perspective of socioeconomic development.

Список використаних джерел:

1. Ключко Л.В. Територіальна організація релігійної сфери Харківського регіону: автореф. дис. на здобуття наук. ступеня канд. геогр. наук: спец. 11.00.02 «Економічна та соціальна географія» / Л.В. Ключко. – Харків, 2010. – 22 с.
2. Нємець Л.М. Просторова організація соціально-географічних процесів в Україні: [монографія] / Л.М. Нємець, Я.Б. Олійник, К.А. Нємець – К.; Х.: РВВ ХНУ ім. В.Н. Каразіна, 2003. – 160 с.
3. Нємець К.А. Методика інформаційного аналізу соціально-економічного розвитку регіону / К.А. Нємець, О.К. Нємець // Регіон-2008: стратегія оптимального розвитку: Матеріали міжнародної науково-практичної конференції. – Харків, ХНУ ім. В.Н. Каразіна, 2008. – С. 242-246.
4. Нємець К.А. Просторовий аналіз у суспільній географії: нові підходи, методи, моделі: [монографія] / К.А. Нємець, Л.М. Нємець. – Харків: ХНУ ім. В.Н. Каразіна, 2013. – 225 с.
5. Офіційний сайт Головного управління статистики в Полтавській області. [Електронний ресурс]. – Режим доступу: http://pl.ukrstat.gov.ua.

References:

1. Klyuchko, L.V. (2010). Terytorialna organizatsiya religiynoi sfery Kharkivskoho regionu: avtoref. dys. na zdobuttya nauk. stupenya kand. geogr. nauk: spets. 11.00.02 «Ekonomichna ta sotsialna geografiya». Kharkiv, 22.
2. Niemets, L.M., Oliynyk, Ya.B., Niemets, K.A. (2003). Prostorova organizatsiya sotsialno-geografichnykh protsesiv v Ukraini: [monohrafiya]. K.; Kh.: RVV KhNU im. V.N. Karazina, 160.
3. Niemets, K.A., Niemets, O.K. (2008). Metodyka informatsiynoho analizu sotsialno-ekonomichnoho rozvytku regionu. *Region-2008: strategiya optymalnoho rozvytku: Materialy mizhnarodnoi naukovo-praktychnoi konferentsii.* – Kharkiv, KhNU im. V.N. Karazina, 242-246.
4. Niemets, K.A., Niemets, L.M. (2013). Prostorovyi analiz u suspilniy geografii: novi pidkhody, metody, modeli: [monohrafiya]. Kharkiv: KhNU im. V.N. Karazina, 225.
5. Ofitsiynyi sayt Holovnoho upravlyannya statystyky v Poltavskiy oblasti. Available at: http://pl.ukrstat.gov.ua.

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