



Gender Equality in Access to the Profession of Land Surveyor and Geodesist & Land Appraiser in Ukraine: National and Regional Assessment

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Abstract

Gender inequality in access to certain professions is an obstacle to achieving genuine equality between men and women. Even now, in developed countries, women occupy only about 25% of technical positions, and the profession of land surveyors in many countries at the level of social stereotype is often considered to be "male". Although from 1995 to 2018, the gender inequality index in Ukraine decreased from 0.480 to 0.284, the problem of equal access to engineering professions, such as the profession of land surveyors, still requires special attention. Taking into account that in Ukraine the activities of land engineers, geodesists and land appraisers are separately regulated and certified, the gender balance was studied among professionals working in these areas at the national level and in the context of individual regions based on data from the relevant state registers. The study found that at the end of 2019, 3770 persons have a qualification certificate of a land surveyor, of which 41% are women. There are 1150 certified geodesists in Ukraine, of which only 20% are women. The best gender balance is among land appraisers, the total number of which is 1100 professionals, and the difference is only 30 persons in favour of men. Gender inequalities in access to the profession vary significantly across regions. Male land surveyors prevail in the west, while female land surveyors dominate in the east and south.

Disciplinary: Gender Inequality Study, Engineering Profession (Surveying).

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1 Introduction

Gender inequality is one of the manifestations of socio-economic differentiation of the population, which leads to different opportunities for self-realization of women and men in society, so research on these problems is relevant, although the results are perceived differently by the public. Foreign experience shows that reducing gender inequalities in the workplace can lead to greater economic efficiency. Gender equality for all citizens of the European Union is guaranteed by the Charter of Fundamental Rights of the European Union. In addition, the Council of Europe (2018) has adopted a new document entitled «Gender Equality Strategy for the Period 2018 to 2023». It identifies ways to reduce gender inequality [1].

The problem of gender inequality is also observed in the USA, despite the significant differences in the socio-economic conditions of American society. However, periodically, the degree of inequality between men and women in social status changes. But the dominance of men over women has never completely disappeared [2].

Historically, Ukrainian women have less ability to express their own abilities. This is explained by several factors: firstly, the workload at home and secondly, confidence among employers that the most important thing for a woman is self-realization in the field of motherhood, family life, and everything else - career growth, development of one's abilities - goes to the 2 places [3].

Gender inequality in Ukrainian society is a consequence of the policy of solving the women's issue in the USSR. Even in Soviet times, women were given more opportunities to work, but under its unequal distribution, their salary was on average lower than men's [4]. In the post-Soviet period, there was a certain revival of patriarchal ideology and practices that cemented and deepened the inequality that prevailed during the Soviet era.

In recent years, gender research in the labour market have attracted considerable scientists' attention. A significant contribution to the development of theoretical and practical aspects of gender research belongs to many authors proving that there are significant gender imbalances in the Ukrainian labour market by analysing the level of economic activity and employment of the population. However, gender studies in the Ukrainian labour market remain underdeveloped and require further development and greater attention.

That is why the article analyzes the labor relations in the field of land relations by gender differentiation. Equal participation of women and men in the professional fields should be an important area of public employment policy.

2 Methodology of research and materials

The basis of methodological approaches to the research of gender problems in the socio-economic area is the analysis of gender imbalances in the labor market, in particular, economic activity and employment of the population, differentiation of wages, gender imbalance in the sphere of economic decision-making. Analyzing the socio-economic structure of society, gender issues are reflected in the unequal opportunities for women and men to participate in the

structures of power, education and employment, income and property. The method of studying the problem involved the study not only of quantitative characteristics but also the transition to the research of the conditions and statuses of employment of men and women.

3 Discussion and Results

Ukraine is a participant of many international legal treaties that promote and establish a gender equality regime, such as: the Universal Declaration of Human Rights, 1948; International Covenant on Civil and Political Rights, 1966; United Nations Charter, 1945; Declaration on the Elimination of Discrimination against Women, 1967; Convention for the Suppression of the Trafficking in Human Beings and the Exploitation of Prostitution by Third Parties, 1949; Convention on the Elimination of All Forms of Discrimination against Women, 1979; Convention for the Protection of Human Rights and Fundamental Freedoms, 1950; Beijing Declaration, 1995 etc. According to the Sustainable Development Strategy of Ukraine until 2030, the strategic goal of sustainable development for the period until 2030 is to expand the economic opportunities of women in the context of employment, income and development of entrepreneurial potential.

Although gender mainstreaming is not strictly required in the context of employment, it is worth noting that land relations professionals are not tasked with the performance which is influenced by the physiological abilities to exist members.

To determine the professional and social skills that a progressive land relations specialist should possess in the future, job offers were analyzed on job search sites. The most common requirements for candidates for the job of land engineer and surveyor engineer are determined. 85% of employers were interested in the candidate's ability to work with the appropriate software, which absolutely greatly simplifies the activity, and in some cases - opens up new opportunities (Figure 1).

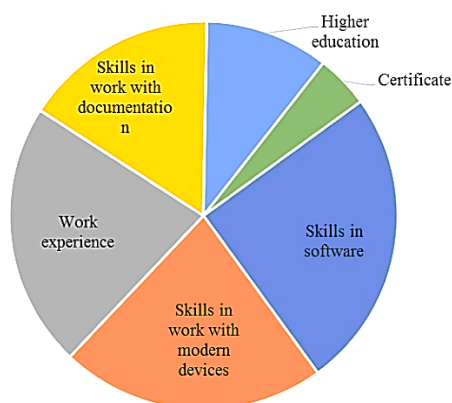


Figure 1: Requirements for candidates for the position of the land manager

Software is most commonly understood as computer-aided design systems, such as Autodesk AutoCad, DraftSight, and others. Typically, these programs are used to produce a graphical part of land documentation such as cadastral maps, longitudinal profiles, and others.

Compulsory skill in every enterprise is the ability to work with a suite of office applications: Microsoft Office, namely, Microsoft Word, Microsoft Excel. Employers 90% require an engineer to be proficient in these programs. It is worth noting that the skills of working with these software

tools will be useful not only for land management companies but also in any other specialty and activity (Figure 2).

An important requirement for candidates is the ability to work with modern GIS systems such as ArcGis and QGis. A quarter of employers require candidates to work with geo-information systems. They can be used to visualize location data, create and compile maps, atlases, plans, and land monitoring. You can also use these software tools to plan protective and sanitation zones.

The job of surveyor-engineer in 40% of cases requires a person who is able to work in the programs of data capture processing. Examples of such programs are Digitals and CredoDat. They relieve the engineer of the need to independently process the results of measuring work, and fully automate computing. This greatly improves the productivity and efficiency of the surveyor, as the human impact on results and errors is minimized.

Most employers are looking for land managers who are able to work with modern geodetic tools. These are electronic tachometers, laser levels, GPS-receivers, electronic roulette, etc. However, given the experience, the ability to work accurately and accurately with modern geodetic instruments is acquired in a minimum amount of time with basic knowledge of the operation of the device and the basic principles of shooting that this device provides.

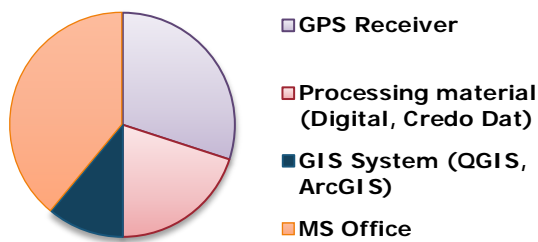


Figure 2: The software necessary for cadastral engineers for work.



Figure 3: Requirements for work experience.

Also, most employers require some experience in land management. Almost 40% of vacancies require 2 years of experience, 1 year and 3 years - 15%, and only 5% require as much as 4 years of work experience (Figure 3).

Most land managers are working in Kyiv, Kharkiv and Lviv regions, the least - in Ternopil and Kherson regions. The land-use engineer certificates have 2914 people, 60% of whom are men and 40% are women. According to the registry, there are about 880 certified surveyor engineers in Ukraine. 77% of them are men and 23% are women. Most surveyors are working in the Kyiv, Lviv and Dnipro regions. Sumy, Kirovohrad and Kherson regions have the least amount of surveyors.

There are currently about 1141 appraisers of expert monetary valuation of land. The gender balance is almost equal, with a difference of only 41 in favor of men (Table 1).

Information about certified land managers, surveyors engineers, and appraisers is in the relevant state registers. They include information about the professional development of the specified types of work and place of conducting economic activity (administrative-territorial unit) (Figure 4). The most number of male land managers are in western Ukraine (Ternopil, Ivano-

Frankivsk and Lviv regions), and vice versa, female land managers dominate in the east and south of Ukraine (Donetsk, Dnipro and Mykolaiv regions).

Table 1: Gender balance in the field of geodesy, land management and land valuation in Ukraine (01.01.2020)

Region	Land management engineers		Surveying engineers		Experts-appraisers	
	Men	Woman	Men	Woman	Men	Woman
Vinnitsya	72	35	21	3	18	24
Volyn	61	27	21	5	13	11
Dnipro	71	101	52	18	34	30
Donetsk	48	54	15	9	17	23
Zhytomyr	67	23	15	7	17	10
Zakarpattia	63	34	24	10	14	18
Zaporizhzhya	45	44	25	7	18	20
Ivano-Frankivsk	86	37	41	19	15	9
Kyiv	245	180	117	30	158	120
Kirovohrad	47	22	13	0	21	11
Lyhansk	20	12	6	1	6	3
Lviv	121	55	49	12	50	22
Mykolaiv	42	46	12	9	21	22
Odessa	99	95	71	10	23	46
Poltava	82	87	24	8	22	24
Rivne	66	32	25	3	10	12
Sumy	40	29	10	1	17	17
Ternopil	64	15	16	10	7	12
Kharkiv	101	86	41	13	34	54
Kherson	33	23	10	1	15	14
Khmelnytskyi	95	31	17	7	16	16
Cherkasy	61	27	22	3	19	13
Chernivtsi	53	31	25	10	16	4
Chernihiv	80	26	14	5	10	15
Total	1762	1152	680	200	591	550
	2914		880		1141	

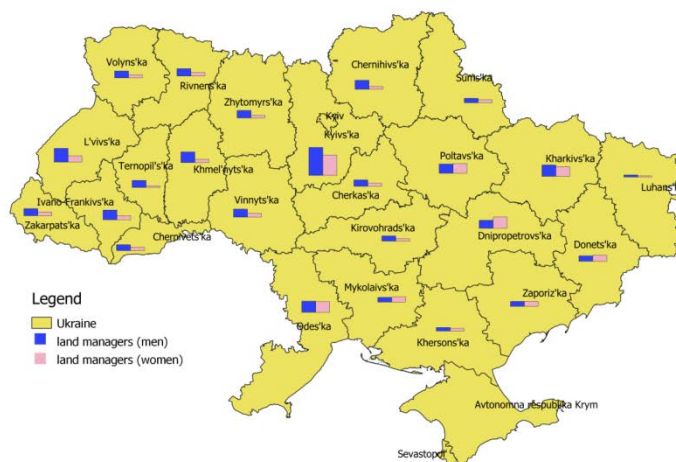


Figure 4: The ratio of land managers of men and women

Information about certified land managers, surveyor’s engineers and appraisers is in the relevant state registers. The number of certified surveyor’s engineers is well correlated with the regional construction product and urban housing stock (Figure 5).

On all territories of Ukraine dominate male surveyor’s engineers. This may be due to the fact that the work of a surveyor engineer is closely linked to physical activity and, in some cases, extreme working conditions.

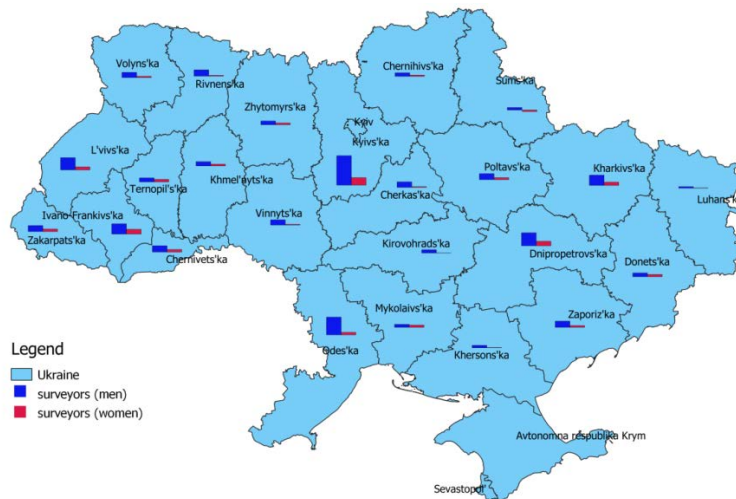


Figure 5: The ratio of surveyors of men and women.

Today, the gender balance is almost preserved among the appraisers of the expert land valuation, the difference is only 1%. Most appraisers are in Kyiv, Kharkiv and Odesa regions. In the Kirovohrad region, unlike the number of land managers and surveyor’s engineers, there were quite a few appraisers- about 60. Rivne, Ternopil, and Chernivtsi regions have a low amount of appraisers.

Male appraisers dominate only in the Kyiv region, and female appraisers dominate the Odessa region. Gender equality remains in the rest of the country in terms of the number of specialists (Figure 6).

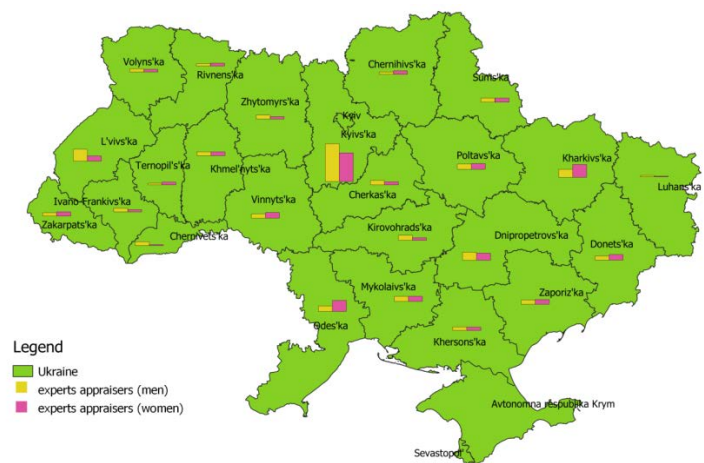


Figure 6: The ratio of experts appraisers of men and women.

At the same time, there is an extremely low-level representation of women in higher government, political and trade union structures in Ukraine. Women in Ukraine control from 5 to 10 percent of economic resources. They have fewer opportunities than men in high-paying jobs and career advancement. Also, most employers prefer men because women can interrupt their working hours and lose their skills due to the birth of children or their care in case of illness. Women are the first to be made redundant and are forced to seek employment in the shadow economy, perform prestigious, low-paying jobs without observing their state-mandated social guarantees, or seek employment abroad, having the opportunity to be in danger, to be humiliated, and to deprive the upbringing of their children [5].

Women have more difficulties than men in terms of career and pay. Today, the labour market continues having a tendency to discriminate against women. Yes, women earn less than men on average [6]. Men have more career prospects than women. A small percentage of women become executives, especially at a high level. The analysis of statistics shows that 61% of men have leadership positions. According to the survey, the number of enterprises in the private business of geodesy and land management headed by men is 70% (Figure 7(a), 7(b)). So, the higher the social status of the position, the less in these positions women.

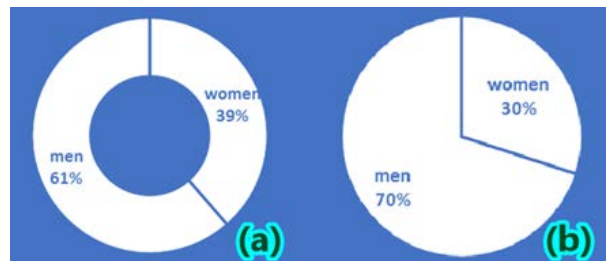


Figure 7: The ratio of men and women (a) to management positions in state land management bodies, (b) to senior positions in private land surveying and surveying organizations.

According to the State Statistics Service of Ukraine, the average monthly salary of women in the III quarter of 2019 is UAH 9348,42, or 75.7% of the salary of men (UAH 12 350). The downward trend in women's salaries continues. In the first quarter of 2019, women's salaries were UAH 8473, or 77.2% of men's salaries (UAH 10 968), and in the II quarter - UAH 9210, or 77.8% of men's salaries (UAH 11 838). The smallest gap between the salaries of men and women is in the Chernivtsi region: 86.4%. The largest is in Donetsk: 60% [7].

Regardless of the position, powers, functions performed - a man is «valued» more. Most of the gap is caused not by direct discrimination in the setting of salary, but by horizontal and vertical stratification of the labour market: women are more likely to work in less paid sectors of the economy and in lower positions [8].

4 Conclusion

Nowadays approximately equal numbers of men and women are involved in land relations. There is no clear trend of gender inequality in the territory of Ukraine, only in some eastern regions, the preference of women is evident, while in the west there is a clear preference of men.

But despite the high proportion of women among land appraisers, land managers, and surveyor engineers, they typically hold lower-level positions and have fewer career prospects than their male colleagues. Thus, there is gender inequality in the labor market in Ukraine, which is expressed in the fact that women, in general, occupy less prestigious and paid jobs, earn less on average, less often occupy senior positions, but in the meantime have higher levels of education.

Gender problems of employment are not only problems for women or men, they are problems for the whole society, so successful solutions for them will benefit the population of Ukraine as a whole.

5 Availability of Data and Material

Data can be made available by contacting the corresponding authors.

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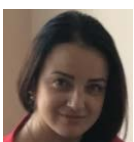
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