

*Inna Koblianska*\* (ORCID <https://orcid.org/0000-0002-7844-9786>)  
*Oleh Pasko*\*\* (ORCID <http://orcid.org/0000-0002-6275-5885>)  
*Mykola Hordiyenko*\*\*\* (ORCID <http://orcid.org/0000-0003-0686-9797>)  
*Inessa Yarova*\*\*\*\* (ORCID <https://orcid.org/0000-0001-9840-131X>)

## Are Peasant Households Feasible in Terms of Policy? The Debate on the Future of Semi-Subsistence Households in Ukraine

### Abstract

The paper provides an analysis of semi-subsistence farming in Ukraine during the period 2008–2018, with a special focus on policy towards peasant households, and its feasibility.

Ukraine currently has several strategic documents that set the vectors for regulating the development of the industry. The current policy on the strategic development of agriculture, rural areas, and support for farming is found to be chaotic and inconsistent.

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\* Associate Professor of Economics Department, Sumy National Agrarian University (Sumy, Ukraine).

\*\* Associate Professor of Accounting and Taxation Department, Sumy National Agrarian University (Sumy, Ukraine).

\*\*\* Professor, Head of Accounting and Taxation Department, Sumy National Agrarian University (Sumy, Ukraine).

\*\*\*\* Associate Professor, Senior Lecturer of the Department of International Economics Relations, Sumy State University (Sumy, Ukraine).

The paper confirms the thesis regarding the low economic efficiency of natural farming, and given the specific weight of households in the production of certain types of food, emphasises that public costs for ensuring the country's food security are thus fairly high. The overall identified trends in the Ukrainian countryside are a) the reduction of land size, naturalisation of economic activity and reduction of market activity (farms, as a rule, keep cattle, poultry and bees, although the safety and quality of livestock products produced in such farms is rather dubious); and b) the enlargement of individual peasant households and their focus on commodity production of agricultural products (mainly crops), with the simultaneous distortion of reported production volumes and, accordingly, tax evasion.

Thus, private peasant households (PPHs) appear as economic structures with a special status: on the one hand, they can be considered as full participants in the market of agri-food products (in terms of sales and production), but on the other hand they are not recognised as entrepreneurial structures. This has negative consequences for the local economy as a whole. PPHs are a legalised form of informal employment, an informal entrepreneurial activity. PPHs are, in our opinion, enjoying preferential status in comparison with that of farmers. Furthermore, existing measures (often patchy and haphazard) of political regulation only deepen the problematic functioning of semi-subsistence farms; and taking into account the peculiarities of tax regulation and the obligatory participation of household members in the pension system, in our opinion, they only intensify the crisis in the rural economy and related social problems.

We find that PPHs in their present form (we stress the last four words) are manifestly untenable, and policy-wise are not feasible for Ukraine. The long-term strategy of reforming this crucial part of Ukraine's agriculture should not include new innovations, but be wisely tailored to Ukraine's conditions within the EU. PPHs ought to be accommodated within and be part and parcel of the tax system, and then be an element of future balanced and sustainable rural development. To achieve the latter aim, the recalibration of tax and legal regulations, underpinned by solid strategic policy, is desperately needed.

**Keywords:** semi-subsistence farming in Ukraine, peasant households, personal peasant households, agricultural policy, rural development.

## Introduction

The problem of the functioning of semi-subsistence farms (SSF) in the agrarian sector has become the subject of close attention in the EU, due to the prevalence of this type of farming in new member countries (Poland, Romania, Bulgaria, Hungary, etc.) (Alexandri, Luca & Kevorchian 2015; Alexandri et al. 2015; Forgács 2012; Jędrzejczak-Gas 2018; Szumelda, 2013). The search for a future strategy for such farms (their commercialisation, preservation of the status quo, or disappearance) and the corresponding optimal set of regulatory measures have been the subject of research by scientists and relevant political agencies within the framework of the EU Common Agricultural Policy (CAP) (Barnes et.al. 2016; Csurgó, Kovách & Megyesi 2018; Davidova 2011, 2014; Halamska 2016; Istenič & Hočevar 2013; Overmars, Helming, van Zeijts, Jansson & Terluin 2013; Piras, Vittuari, Möllers & Herzfeld 2018; Popescu 2014; Szumelda 2013; Viaggi, Gomez y Paloma, Mishra & Raggi 2013). Ukraine, as a country of the Eastern Partnership of the European Union, seeks to integrate institutionally and policy-wise with the European field (Gurova 2018; Tyushka 2017).

Taking into account the European integration transformations in Ukraine, the study of the state of development and structural changes taking place in this area is an urgent problem. Its significance is aggravated by the fact that in Ukraine, every third household (including livestock, poultry and bee-keeping farms) on average is mainly engaged in subsistence or semi-subsistence management practices, and their activities are quite significant not only in terms of self-sufficiency and income support for owners, but also due to the fact that such farms, since Ukrainian independence, have traditionally been an important integrated component of the agricultural production system. In fact, the main share of agricultural products for final consumption is produced in such households. Therefore, the question of the existence of natural economy in the country is also closely related to the question of ensuring the food security of the country's population. In addition, one should answer the question of how far the spread of the practice of semi-subsistence farming is justified, given the social costs traditionally associated with this form of organization of agricultural production. This, ultimately, should lay the foundation for developing a future strategy for the agro-sector of Ukraine, and rural areas in modern conditions.

### Analysis of recent research and publications

The problem of the functioning of the SSF is that the production of such households is characterised by low economic efficiency and non-profitability (Buchenrieder 2009); such farms receive low incomes, and, as a result, are on the brink of poverty (Davidova 2011). From the perspective of society (the state), the functioning of such farms entails inappropriate use of land and labour, and a weak contribution to the development of rural areas. Consequently, their mass proliferation poses a real threat and challenge to rural development (Davidova 2011: 504).

However, it should be pointed out that under conditions of market transformations, such farms play an important role in ensuring a minimum welfare level for socially vulnerable populations (Giurca 2008; Vlad 2014; Popescu 2014). This role consists, first of all, in providing food and income generation for both the rural population and their urban relatives (Davidova 2014). SSFs thus serve as a kind of social buffer in a transitional period (Buchenrieder 2009; Davidova 2011; Fritzsich 2010).

Researchers also emphasise the important socio-cultural role SSFs play, which is important for the development of rural areas (Alexandri 2015; Davidova 2013; Forgács 2012), as well as the environmental benefits of this form of management, driven by more diversified production and the implementation of traditional practices of farming (European Parliament 2013). Nonetheless, despite the above-mentioned benefits, the expansion of SSFs leads to an increase in public spending related to food, due to inefficient use of land and management of non-viable farms (Davidova 2011: 517).

The low incomes of the rural population, which they derive from the SSF, determine their low purchasing power; this hinders the development of other sectors (trade, services) of the rural economy. Informal employment also leads to risks associated with pension provisions; thus, SSF ultimately emerges as a “path to poverty” (Davidova 2011), leading to the so-called “civilisation degradation” in the countryside (Jędrzejczak-Gas 2018). Hence, in the EU, the agricultural support policy in relation to the SSF mainly consists in the need to support the restructuring of the SSF of the new member states (i.e. Bulgaria, the Czech Republic, Estonia, Cyprus, Latvia, Lithuania, Hungary, Malta, Poland, Romania, Slovenia and Slovakia). These measures are an integral part of the system of measures aimed

at increasing the competitiveness of agriculture and forestry in general (Council Regulation 2005, Section 1 Axis 1).

By contrast, in Ukraine, there is no systematic and strategic vision for the further development of SSF. There are also few systematic research papers on this issue (Strochenko & Koblianska 2016). The existing policy on the functioning of the SSF is rather of “maximum assistance” (in particular, embodied in the exemption from taxation, the recognition of non-entrepreneurial status (Law of Ukraine 2003)); the policy is widely justified by the socio-economic and demographic crisis in rural areas, and accordingly, with the goal of “preserving” rural areas.

While investigating the issue of the SSFs’ functioning, Ukrainian scholars do not consider the current system to be in any way critical and threatening; in their opinion, the SSFs are in fact the only way to support the innovation of rural households, in conditions of the total decline of rural areas (Mishenin 2011; Pavlov 2009; Swinous 2009; Slavkova 2010). Some studies emphasise the market risks of reducing the SSFs’ output to only their own consumption levels, through the introduction of some imaginary control tools for monitoring and regulating their activity (Pavlov 2009).

While acknowledging the prevalence of the SSFs in Ukraine and recognising the important socio-cultural role of these farms in preserving the traditions and identity of the nation, we at the same time believe that the goal of ensuring the proper level of well-being for rural residents can hardly be considered debatable. Therefore, rural development and agricultural development policy should focus on finding mechanisms and measures for the balanced development and transformation of the SSFs. “Balanced” means they are effective, environmentally responsible, and contribute to the preservation of national traditions; but they must also be human-centred, where a proper quality of life is recognised as a priority, and societal interests (including societal opportunity costs) are robustly calculated and stringently preserved.

The economic policies and practices should be effective, environmentally responsible and conducive to the preservation of national traditions, with proper quality of life being recognised as a priority, and being of key societal interest (including societal opportunity costs) (Sineviciene et al. 2018; Melnyk & Kubatko 2012, 2013).

## **The purpose of the article**

Therefore, in this study, we aim to answer the main research question: “Are personal peasant households (PPH, the legally recognised name of the most prevalent type of SSFs in Ukraine) feasible in terms of policy?” Hence, we explore the significance of the SSFs in the development of the regional economy, and the current state and retrospective trends in the development of the SSFs in Ukraine, by identifying structural changes in this area. Equally important is the analysis of compliance with existing measures regarding the political regulation of SSFs, in terms of supporting such farms’ transformational changes in accordance with the conditions of a market economy.

## **Methods**

In the process of research, official statistics of the State Statistics Service of Ukraine are employed. Using correlation analysis methods, the relationship between the dynamic trends and the main characteristics of agricultural activity of households in the regions, along with the volume of production of the industry, is investigated. On the basis of a comparison of the main parameters characterising the agricultural activity of farms over time, structural changes in the private sector of the country’s agricultural sector are researched. Using correlation analysis, we try to determine the significance of the relationship between the parameters of SSF development and their contribution to the following: development of territories, improving the welfare of the population, ensuring food security and solving social problems where there are government failures (e.g. guaranteeing income, pensions), and promoting entrepreneurship and small forms of management. These outcomes are traditionally marked as the goals of state policy regarding the development of the agricultural sector and rural areas.

## **The article is structured as follows**

In the next section, we elaborate on the definition and scope of semi-subsistence farming, in order to fully grasp this phenomenon. A brief

overview of Ukraine's strategic document concerning agriculture in Ukraine is included in the second section, to familiarise the reader with current long-term views on how to deal with SSF. Based on a wealth of quantitative and qualitative data, the third and fourth sections explain the development of the SSFs in Ukraine, their contribution to the regional economy, and the evolving social and demographic profile of households in Ukraine, respectively. The penultimate section is devoted to elucidating and discussing features of the administrative regulation of agricultural activity in Ukraine, and the paper finally provides a conclusion.

### **1. Subsistence / Semi-subsistence Farming: definition**

In order to define the category of semi-subsistence farms, the global practice does not establish a single criterion. Typically, indicators such as the volume of production in value terms, physical criteria (usually the size of the land area) and market activity (economic size, physical measures and market participation) (Buchenrieder 2009) are used; however, all the proposed criteria (thresholds) are disputed. As a rule, the category of semi-subsistence farms include farms with an area of land for cultivation of 0.5–2.0 hectares, in which a certain proportion of the output is consumed internally, and the remainder is supplied to the market. There are various criteria for the assessment of the degree of market integration. Doppler (1992), for example, suggests that subsistence farms are those that sell less than 10% of production; those in the range of 10 to 90% he calls “transitory” (or “semi-subsistence”), and those that sell more than 90% are “commercial farms” (cited by Buchenrieder 2009). Davidova (2014) believes that it is more expedient to use the 50% threshold for the identification of subsistence farmers – that is, those who consume more than 50% of the produced products. In value terms, the European Size Units (ESUs) are used to distinguish natural farms. According to Buchenrieder (2009), semi-subsistence farms are defined as “agricultural holdings that produce primarily for their own consumption and market share of their output”, without indicating valuations or thresholds of market activity. However, it is emphasised that semi-subsistence farms are those with a value of 1–4 ESUs, which sell part of their produce (Buchenrieder 2009).

Thus, the main criterion for classifying a subsistence/semi-subsistence farm can be considered the goal of its functioning – mainly, supplying its own needs for food. The thresholds for values and the area of land are determined, ultimately, by socio-economic conditions and resource availability. From these positions, the class of semi-subsistence/subsistence farms in Ukraine includes households' plots (both urban and rural, including gardening), as well as a specific class of personal peasant households, whose activities are regulated by a special law, "On Personal Peasant Households" (PPH). The resource basis for such farms comprises owned or rented agricultural land acquired for the management of a personal peasant farm, gardening, hay and grazing, etc. (Law of Ukraine 2001), as well as the labour of family members (Law of Ukraine 2003).

The personal peasant household, in accordance with the synonymous law (Law of Ukraine 2003), is an economic activity which is carried out without the creation of a legal entity, by an individual solely, or by persons who constitute a family or family relations, and live together in order to meet their personal needs through the production, processing and consumption of agricultural products, and the sale of its surpluses and provision, including in the field of rural green tourism. Such activity is not entrepreneurial; nonetheless, members of private peasant households are recognised as persons who provide themselves with work independently and belong to the employed population, provided that the work in this household is mainly for them (Law of Ukraine 2001).

It should also be emphasised that the statistical evaluation of the activity of such farms is not perfect, since a number of normative documents on statistics have introduced the concept of "households" (*hospodarstva naselennya*). These are defined as households engaged in agricultural activity for the purpose of self-provision of food products, and for the purpose of producing agricultural products for market. This category includes rural households, households in urban areas (including collective gardens), as well as individuals – specifically, entrepreneurs who conduct their agricultural activities without a legal entity (SSSU 2015). Thus, according to Ukrainian legislation, "households" are comprised of a) personal peasant households, b) individuals-entrepreneurs, and c) household plots, both urban and rural.



## 2. Overview of the strategic documents concerning agriculture in Ukraine

Issues of de-shadowing, overcoming the spontaneity of the agricultural market, and strengthening the motivation of the rural population to conduct entrepreneurship, have always been the focus of national agricultural policy in Ukraine (Law of Ukraine 2005; CMU 2007; CMU 2013; MAPFU 2015; CMU 2017; CMU 2019b). The current policy on the strategic development of agriculture and rural areas, and support for farming, is also, to some extent, chaotic. In particular, it should be noted that, as of May 2020, the country has several strategic documents that set the vectors for regulating the development of the industry (Table 1).

**Table 1.** *Strategic documents that set the vectors for regulation and development of agriculture in Ukraine (as of May 2020)*

Name of the document	Year	Approved by	Status
Strategy for the development of the agricultural sector of the economy until 2020 (CMU 2013)	2013	Cabinet of ministers of Ukraine	in force
The Unified Comprehensive Strategy and Action Plan for the Development of Agriculture and Rural Areas in Ukraine for 2015–2020 (MAPFU 2015)	2015	has not been officially approved	A draft. Has not officially entered into force, although it defines the main current policy measures in place
Concept of development of farms and agricultural cooperation for 2018–2020 (CMU 2017)	2017	Cabinet of ministers of Ukraine	in force
Strategy for the development of exports of agricultural products, food and processing industries of Ukraine until 2026 (CMU 2019b)	2019	Cabinet of ministers of Ukraine	in force

Source: Own study.

We briefly outline the main content of these documents in the areas relating to the activities of the SSF.

The issues of PPH activity are articulated in the Strategy for the Development of the Agrarian Sector of the Economy for the Period up to

2020 (CMU 2013), unlike in previous documents (Law of Ukraine 2005; CMU 2007).

According to this document, among the principles of development of the agricultural sector, priority is given to “the formation of farms that have a great socio-economic role for the community”. This indicates that these include PPHs which conduct commodity production, as well as businesses owned by residents of the community, including farms. In disclosing the socio-economic significance of these types of producers, emphasis is placed on increasing total income and producing labour-intensive products with one’s own labour (relative to PPH), using both one’s own and the hired labour of local residents, and contributing to the local economy (for farms). This approach can be interpreted as regarding PPHs as a means of overcoming social problems in rural areas (through employment) and, to some extent, economic problems (by providing income). Based on the formulation of the goal of the strategy, the agricultural sector is viewed in terms of efficiency and social orientation, meeting the needs of the domestic market, and gaining a leading position in the world market. It should be added that the strategy should be implemented using the programme-target method, by compiling and implementing the relevant State Target Programme, the concept of which was approved in 2015, and revised in 2018 and 2019, though programme itself is still missing (CMU 2015).

The concept of the development of farms and agricultural cooperation for 2018–2020 (CMU 2017) draws attention to the phenomenon of the expansion of private households and their significant share in the production of gross agricultural output, which is usually not export-oriented. The economic and organisational structure is recognised as a factor in the long-term sustainability of the agricultural sector in terms of economic and social indicators, without indicating the role of PPH in this. However, the functioning of households is seen as a problematic phenomenon that must be eliminated through the “transformation of households into farms” (CMU 2017). As the document has a conceptual nature, clear and specific measures and procedures are not defined, but the expected results are suggested: in particular, a 10% increase in the number of farms with an area of up to 100 hectares; and wider participation of PPHs in the processes of cooperation (40–50 units of growth of agricultural service cooperatives on the basis of farms and/or PPHs, etc.). It should be noted that the measures to provide state support for cooperatives, introduced in 2018, had a certain

positive effect. Thus, the state programme to reimburse cooperatives 70% of the cost of purchased equipment in 2018 used six agricultural cooperatives, two of which were newly created (Dema 2019). However, those numbers are far too low, and did not have a significant impact on the development of cooperation in the SSF environment in general.

The strategy for the development of agricultural exports and the action plan for its implementation (CMU 2019b) are to some extent also relevant to the activities of PPHs, by allowing for the promotion of organic products, and cooperatives that will form commodity batches. However, the subject of PPHs still did not gain direct focus, because they produce non-export-oriented products (CMU 2017); nevertheless, they are in fact important players in the export market, especially honey. Thus, most of the measures envisaged by the concept only indirectly relate to PPHs, and because the adoption of regulations to address these issues is scheduled for the end of 2020 (CMU 2019b), it is therefore difficult to predict their impact on the functioning of PPHs.

It is in the unified comprehensive strategy (MAPFU 2015) that the problem of naturalisation is recognised, and a wide range of steps to solve it are offered. The document is fairly comprehensive and covers numerous issues: food security, the development of agricultural production, institutional transformations in the industry, development of forms of management, exports, compliance with European integration requirements, rural development, and environmentally sustainable development of the industry and local communities (rural areas). An implementation action plan has been developed for each of the strategic priorities. Briefly commenting on the main provisions of the document as regards households, we emphasise that the strategic vision set in this strategy presupposes that natural production should give way to more market-oriented family farms (MAPFU 2015). This should be facilitated by such actions as completion of land reform (opening of the land market), development of producer organizations (through the creation of favourable conditions), investment in the sector's modernisation and education, and ensuring the transparency and stability of agricultural policy through reduced-price support and production-related payments. The strategy thus recognises the key role of PPHs in ensuring food security.

The document pays special attention to the problem of tax reform; in particular, "development of a simplified system of taxation for small

agricultural producers (including households, families and farms)”; although attention to subsistence farming is still focused on personal income taxation for the use of natural resources (harvesting mushrooms, berries, fish and wild plants), due to which it is expected to de-shadow up to 80% of this market. However, the draft of relevant amendments to the Tax Code developed in 2017 remains only a draft (Law of Ukraine 2018).

A separate block of the strategy concerns the support of small farmers, to help increase their productivity and profitability, modernisation, diversification of agricultural activities, as well as boost their value added, use of innovative products, access to finance, etc. The content of the problem to be solved is formulated as follows:

Contrary to the socio-economic significance of small agricultural producers, the legal prerequisites for granting them the status of full participants in the markets of material, financial resources and agricultural products have not yet been created. There is no access to the system of labour protection and social protection. They receive almost no state support for the development of production. The system of registration of small agricultural producers, accounting for the results of their activities, income and employment in them is inefficient. (MAPFU 2015)

In our opinion, it is in this document that the problem of naturalisation of rural farms has acquired clear contours and is fully recognised. To address it, some modifications are proposed in taxation and legislation on registration, accounting and pensions, in order to promote the development of producer organizations, market infrastructure, dissemination of advisory services, creating conditions for non-agricultural activities, etc. What is the strategy expected to achieve? The expected results are: to legalise family-type farms; provide them with access to state support, investment, social protection and security; and “enable family-type farms to increase their contribution to quality of life, food security and sustainable rural development”, among others (MAPFU 2015). However, this document remained a draft and did not enter into force; in fact, it is impossible to allocate state funds in the envisaged areas. Taking into account the absence of the State Targeted Programme for the Development of the Agricultural Sector until 2022, it can be concluded that despite the presence of several strategic documents, the regulation of the industry remains short-term.

### **3. The development of SSFs in Ukraine and their contribution to the regional economy**

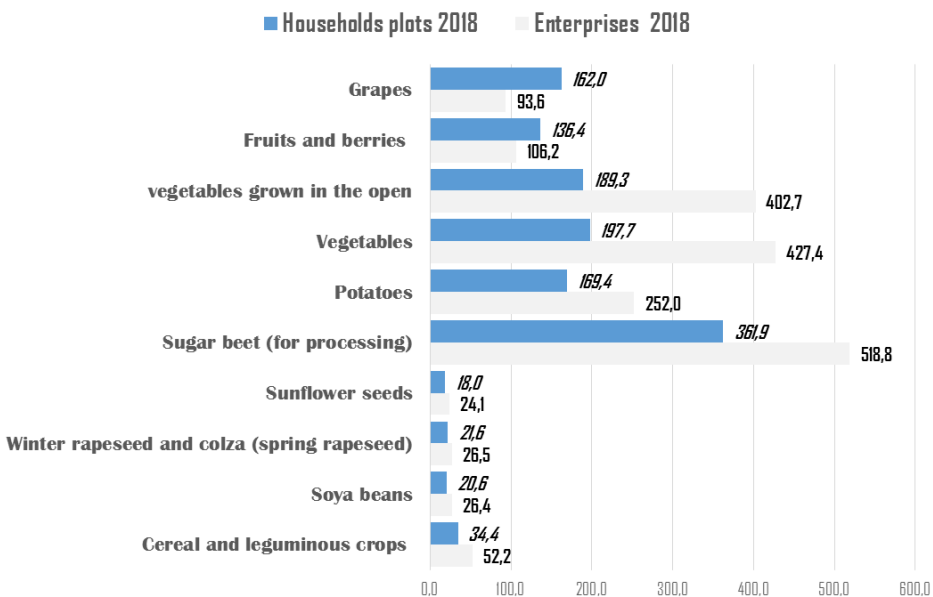
According to data for 2018, households produced 41.24% of agricultural production in Ukraine (by comparison, farmers contributed only slightly more than 7%). In 2018, households produced 37.22% of crop production, and 52.53% of livestock products. In Ukraine, households in 2017 were the main producer of potatoes, vegetables and melons (92%); fruit, berries and grapes (79.74%); livestock products, including milk (73.14%); wool (87.5%); and other livestock products, including honey (98%). Households provided more than a third of total meat production (36.14%), as well as a significant share of egg supply (44.83%) (Agriculture of Ukraine 2009–2018; SSSU). All these products actually form a consumer basket of Ukrainians; and therefore, the role of SSFs in providing the population with domestic food is quite significant.

The following data are eloquent about the prevalence of this form of management (SSSU). In general, according to data for 2018, there are 14.93 million households in Ukraine, of which 67.4% (10.06 million) are urban households, while the rest (32.6%) are located in rural areas. Among the first group, 22.6% own land or have it in use, while among rural households this indicator reaches 98.5%. Therefore, although the semi-natural farm is predominantly a rural tradition, it is also characteristic of urban areas, where every fifth household is involved in this process. The total land area occupied by household plots in urban settlements is 0.76 million hectares, and in rural areas, 14.02 million hectares. The latter comprises 33% of the total agricultural land of Ukraine. For comparison, the land used by agricultural enterprises totals 20.92 million hectares (Agriculture of Ukraine 2009–2018). Therefore, the household plot is a serious player in the market, especially in terms of land.

Due to the lack of statistical estimates regarding the volume and share of products sold by households, in relation to total market volume, we use the data on the distribution of the land area by the direction of its use, in order to identify the degree of market integration. According to the data of 2018, only 20.7% of the land in urban areas is used by households to grow products for their own needs, while land used for their own needs and for sale is only 1.3%. In rural areas, only 15.7% of the land area is allocated to their own needs, whereas about 10.0% supplies their own needs and for

sale. The remaining land plots, both urban and rural, are leased (on average, 77.3 and 73.2% of the land respectively, as of 2018) (SSSU). Consequently, households, according to the degree of market integration and depending on the thresholds proposed (Davidova 2014), are mainly natural farms. It should be noted, however, that the statistical data were obtained from a population survey, and hence there may be a concealment or distortion of the real picture of farms' market activity. This assumption is not hollow, given the households' high contribution to the production of certain types of food in the country, as mentioned above.

We now consider the households' level of efficiency, according to the data on yields in terms of the main crops in agricultural enterprises and household plots (Figure 1).



**Figure 1.** Yields of main crops in households and agricultural enterprises, 2018, cwt/ha

Source: <http://www.ukrstat.gov.ua/>.

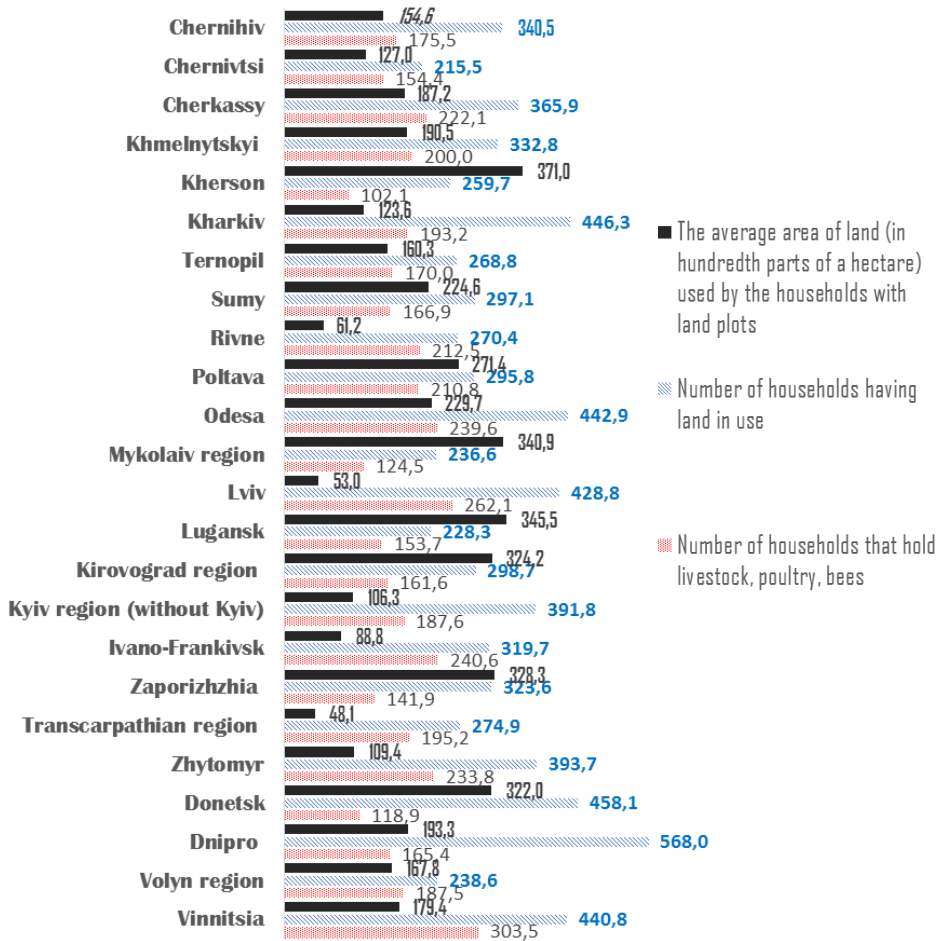


Figure 2. Distribution of the households in Ukraine by region, 2018

Source: <http://www.ukrstat.gov.ua/>

Thus, the productivity of households' land use is, for the most part, lower than that of enterprises. Farms are more effective only in the production of grapes (productivity in farms is 162.0 cwt/ha, versus 93.6 cwt/ha in enterprises) and fruits and berries (136.4 versus 106.2 cwt/ha). In the production of vegetables and potatoes, where households hold leadership,

yields by households are lower by 53.7 and 32.7%, respectively, compared to enterprises. In the production of cereals and legumes, sunflowers, soya beans and rape, the efficiency of land utilisation by household plots is also lower than that of enterprises, though not significantly. However, in the production of these crops, the share of household plots is negligible.

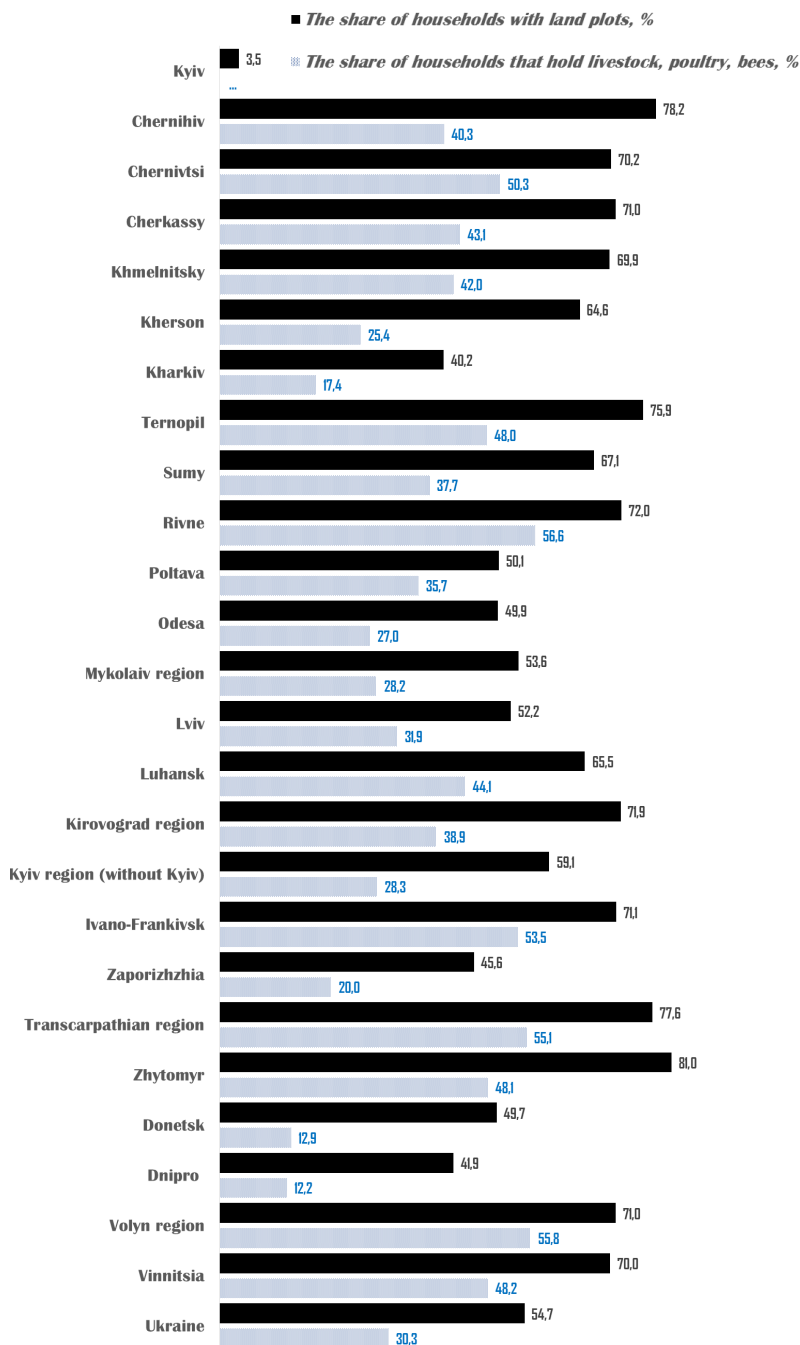
The above data confirm the thesis regarding the low economic efficiency of natural farming (Buchenrieder 2009; Fredriksson 2016), and given the specific weight of households in the production of certain types of food, we can emphasise that the public cost of ensuring the country's food security is fairly high.

The degree of distribution of SSFs in the country by region is heterogeneous, as shown in Figure 2.

In general, the country has 8.17 million households with land plots and 4.5 million households that hold livestock, poultry and bees. Fig. 2 indicates that the largest number of households with land plots is concentrated in the Dnipro region (0.57 million farms, and the largest number of households keeping cattle, poultry and bees is concentrated in the Vinnytsia region: 0.30 million. The regions also vary in the size of the average land area: from 48.1 hundredth parts of a hectare (Transcarpathian region) to 371.0 (Kherson region). However, the absolute number of such households does not allow us to identify the extent of the spread of this phenomenon; therefore, we now turn to the indicator of the proportion of household plots in relation to the total number of households in the region (Figure 3).

Consequently, the share of households with land plots is highest in the Zhytomyr region (81.0%), and the lowest in the Kharkiv region (40.2%). In Dnipro, the region with the greatest number of households with land overall, the share of farms with land is only 41.9%; while in Vinnitsa, the leading region in terms of absolute numbers in Ukraine, the share of household plots keeping cattle, poultry and bees is only 48.2%. The share of households with these activities is highest in the Rivne region (56.6%), and lowest in Dnipropetrovsk (12.2%). On average, in the country, the share of households plots having land plots is 54.7%, while 30.3% are involved in the production of livestock products. Thus, the most widespread natural form of management for the production of livestock products is in the Rivne region, and the least widespread in Dnipro.





**Figure 3.** Shares of household plots that hold livestock, poultry, bees and have land, in the total number of households by region, 2018

Source: <http://www.ukrstat.gov.ua/>

Given the significant contribution of households to the production of agricultural products, we can infer that as the number of households (those with land plots and those keeping livestock, poultry and bees) increases, the contribution of the region to the production of agricultural goods rises too. Consequently, the following questions need to be addressed:

1. What is the relationship between the number of households having land and the regional contribution to the production of goods?
2. What is the relationship between the number of households keeping cattle, poultry and bees and the regional contribution to the production of goods?
3. Are these results related to the average size of the land plot?

To answer these questions, we used the methods of correlation analysis (Table 2).

**Table 2.** Findings of the correlation analysis of the relationship between the proliferation of subsistence farms in the regions with the agricultural industry's state of development in the region, 2018

	Number of households that hold livestock, poultry, bees, <i>unit</i>	Number of households that hold livestock, poultry, bees, <i>unit</i>	Number of households that hold livestock, poultry, bees, <i>unit</i>	Number of households that hold livestock, poultry, bees, <i>unit</i>
Number of households that hold livestock, poultry, bees, <i>unit</i>	1.00	0.36	-0.62	-0.09
Number of households having land, <i>unit</i>	0.36	1.00	-0.17	0.47
The average size of land plot (in hundredth parts of a hectare) in use by households with land plots	-0.62	-0.17	1.00	0.54
Share of the region in the total production of agricultural products, %	0.40	0.53	0.02	0.69
• in the production of crop production, %	0.28	0.46	0.17	0.81
• in the production of livestock products, %	0.56	0.54	-0.32	0.21

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	Number of households that hold livestock, poultry, bees, <i>unit</i>	Number of households that hold livestock, poultry, bees, <i>unit</i>	Number of households that hold livestock, poultry, bees, <i>unit</i>	Number of households that hold livestock, poultry, bees, <i>unit</i>
Agricultural output, <i>millions UAH</i>	0,31	0,47	0.11	0.72
Areas of agricultural land in use of agricultural enterprises, <i>thousand ha</i>	-0.09	0.47	0.54	1.00

Source: Calculated according to data from Social and Demographic (2018) and <http://www.ukrstat.gov.ua/>.

The data in Table 2 show that among the number of households having land and agricultural production in the regions, there is a direct, medium-density connection ( $r = 0.47$ ); although indicators such as the households' number of livestock and the volume of agricultural production are related, the connection between them has a lower degree of significance ( $r = 0.31$ ). Taking into account that the households make a significant contribution to the production of livestock products in the country (as noted above), their economic (production) activity has little impact on the competitiveness of the region's agricultural sector ( $r = 0.40$ ). This claim is also supported by the fact that there is a close connection between the areas of agricultural land used by the enterprises and the volume of agricultural production ( $r = 0.72$ ). Moreover, it is notable that with the growth of the number of households having land plots, there is a significant increase ( $r = 0.47$ ) in the land used by agricultural enterprises, while there is no such link with the number of livestock households ( $r = -0.09$ ). As the number of cattle-keeping households grows, it is clear that, based on the fact that they are

the main producers of most livestock products, the region's share in the production of the country's livestock products is increasing ( $r = 0.56$ ).

Interestingly, the change in the average size of the land plot used by households is closely related to the corresponding change in the area used by agricultural enterprises ( $r = 0.54$ ), and also inversely related to the number of households holding livestock, poultry and bees ( $r = -0.62$ ). The change in the number of households having land is negatively related to the change in the size of the average size of the land plot, although the connection is insignificant ( $r = -0.17$ ). The latter can be explained by the farms' competition for land resources.

In summary, we can make a number of preliminary conclusions that require further testing: 1) farms holding livestock are smaller than the average in terms of land plot size; 2) their contribution to the production of agricultural products in the region is insignificant; 3) in regions where the number of households having land plots is higher, there is also a higher activity of agricultural enterprises and the volume of regional agricultural production; 4) with the growth of the average plot size used by the household, the area of agricultural enterprises increases too. This shows that the way land is used is vital; therefore, we shall proceed to investigate how the particularities of using land plots are interrelated to their size, number, etc. (Table 3).

Therefore, the average size of the land plot is positively correlated with the share of the leased land area ( $r = 0.7$ ). In addition, households which keep cattle, poultry and bees play another role: the number of such farms and the average size of the land plot are quite closely tied ( $r = -0.62$ ). As the number of such households in the region changes, the land use structure of the averaged household adjusts in favour of land for cultivating products only for own needs ( $r = 0.47$ ). Thus, such farms are a vivid example of the natural form of functioning. It is noteworthy that the number of such farms is closely and directly related to the overall number of households in the region ( $r = 0.84$ ), while the simple availability of the land plot is not significantly related to this phenomenon ( $r = 0.29$ ).

The average size of the land plot in the region is closely and inversely related to the number of households. This confirms our preliminary assumption that with increasing size of the land plot, households do not increase their production, but instead lease the land to other economic players.

**Table 3.** Results of the correlation analysis of the relationship between the nature of the land use by households in the regions with the state of development of the agricultural sector of the region, 2018

	Number of households that hold livestock, poultry, bees	Number of households having land	The average size of land plot (in hundredth parts of a hectare) in use by households with land plots	Share of land used for growing produce only for their own needs	Share of land used for growing produce for own needs and for sale	Share of land leased out	Number of households, thousand	Land area, thousand ha
Number of households that hold livestock, poultry, bees	1.00	0.36	-0.62	0.47	-0.25	-0.33	0.84	0.08
Number of households having land	0.36	1.00	-0.17	-0.07	-0.66	0.29	0.29	0.29
The average size of land plot (in hundredth parts of a hectare) in use by households with land plots	-0.62	-0.17	1.00	-0.77	-0.05	0.70	-0.77	0.20
<b>Distribution of land and direction of its use</b>								
• for growing produce only for their own needs	0.47	-0.07	-0.77	1.00	0.21	-0.94	0.62	0.01
• for growing produce for own needs and for sale	-0.25	-0.66	-0.05	0.21	1.00	-0.52	-0.14	-0.06
• leased out	-0.33	0.29	0.70	-0.94	-0.52	1.00	-0.49	0.04
Number of households, thousand	0.84	0.29	-0.77	0.62	-0.14	-0.49	1.00	0.06
Land area, thousand ha	0.08	0.9	0.20	0.01	-0.06	0.04	0.06	1.00
• including rented land, thousand ha	-0.46	0.31	0.59	-0.54	-0.23	0.56	-0.50	0.62

Source: Calculated according to data from SSSU and <http://www.ukrstat.gov.ua/>.

After examining the question of the connection between the average size of the land plot and the forms of its use over the 2008–2018 time period (Table 4), we can conclude that on average in the country, the growth of the average size of the land plot of urban households is closely linked to the reduction of land used for growing food only for their own needs ( $r = -0.95$ ), while in rural areas, such a connection is less close ( $r = -0.51$ ). In the context of rural households, there is a close link between this indicator and the increase of households' market activity (production for sale  $r = 0.55$ ). This is corroborated by the tightness of the connection between the average size of households' land plot and the average size of the area allocated for growing food for their own needs and for sale. With the growth of the average size of a plot in the urban environment, there is also an increase in the share of the rented land ( $r = 0.49$ ); but for rural households, these phenomena are reversed: the share of the rented land, by contrast, is decreasing. This is confirmed by the results of the research (World Bank 2016): an increase in the average size of a land plot gives impetus to the commercialisation of rural natural farms. Trends in the dynamics of these indicators are presented in Fig. 4.

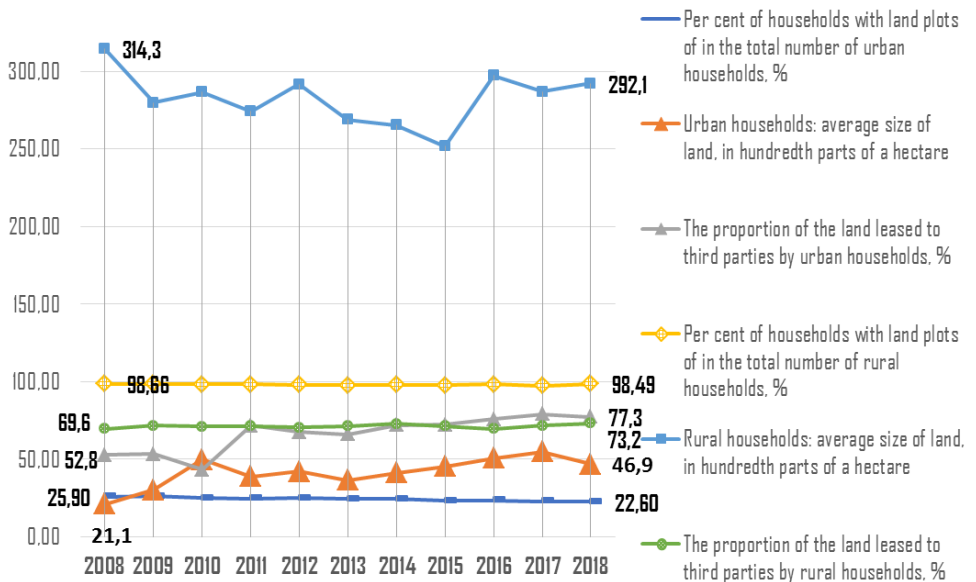
**Table 4.** Correlation analysis of the connection between the average size of the land plot used by households and the directions of its use, 2008–2018

Indicators	Urban households	Rural households
Distribution of land area by type of its use (among households having land plots and using them), %		
• for growing food only for their own needs	-0.95814	-0.51663
• for growing food for own needs and for sale	0.164381	0.55396
• leased out	0.491805	-0.49412
• just for spending their leisure time	-0.80738	0
• just started to master it, and other	-0.55146	0.29605
The average size of land plot (in hundredth parts of a hectare) (among households having land plots and using them in the direction):		
• for growing food only for their own needs	-0.01459	0.415187
• for growing food for own needs and for sale	0.298647	0.819989

**Table 4.** Correlation analysis of the connection between the average size of the land plot used by households and the directions of its use, 2008–2018

Indicators	Urban households	Rural households
• leased out	0.176251	0.37604
• just for spending their leisure time	0.198004	0.234253
• just started to master it, and other	-0.3057	0.395059

Source: Calculated according to data from SSSU.



**Figure 4.** Trends in the dynamics of number, size of land plots and direction of their use by urban and rural households, 2008–2018

Source: <http://www.ukrstat.gov.ua/>

Thus, the dynamics of the average size of the land plot in urban area indicate that there is a growing tendency of landowners who acquire land plots with the purpose of obtaining additional income in the form of renting

the land to enterprises. The preservation of the tradition of growing food for own needs is to be regarded as a certain lifestyle which is becoming less widespread, given the decline in the share of such households. Thus, we can conclude that mainly agricultural activity is concentrated in SSFs. In this regard, we consider it necessary to investigate the role of PPHs in the formation and use of the potential of the region in the production of agrarian products (Table 5).

**Table 5.** Results of the correlation analysis of the interconnection of PPHs' activity in regions with the state of development of the agricultural sector of the region, 2018

	Number of PPHs, thousand	Land area, thousands of hectares	Used for the construction and maintenance of a dwelling house, buildings and structures used in production	Used for a personal peasant farm	Used for growing food for sale	Including rented land	Share of regions in the total production of agricultural products, %	in crop production, %	in the production of livestock products, %	Agricultural produce, millions UAH	Areas of agricultural land in use by agricultural enterprises, thousand ha
Number of PPHs, thousand	1.00	0.06	0.90	0.55	-0.39	-0.50	0.34	0.16	0.63	0.23	-0.29
Land area, thousands of hectares	0.06	1.00	0.18	0.42	0.81	0.62	0.22	0.24	0.07	0.10	0.37
Used for the construction and maintenance of a dwelling house, buildings and structures used in production	0.90	0.18	1.00	0.54	-0.28	-0.40	0.38	0.22	0.59	0.24	-0.21
Used for a personal peasant farm	0.55	0.42	0.54	1.00	-0.17	-0.33	0.16	0.08	0.28	0.08	-0.20



**Table 5.** Results of the correlation analysis of the interconnection of PPHs' activity in regions with the state of development of the agricultural sector of the region, 2018

	Number of PPHs, thousand	Land area, thousands of hectares	Used for the construction and maintenance of a dwelling house, buildings and structures used in production	Used for a personal peasant farm	Used for growing food for sale	Including rented land	Share of regions in the total production of agricultural products, %	in crop production, %	in the production of livestock products, %	Agricultural produce, millions UAH	Areas of agricultural land in use by agricultural enterprises, thousand ha
Used for growing food for sale	-0.39	0.81	-0.28	-0.17	1.00	0.91	0.09	0.19	-0.18	0.04	0.55
Including rented land	-0.50	0.62	-0.40	-0.33	0.91	1.00	0.11	0.21	-0.15	0.10	0.63
Share of regions in the total production of agricultural products, %	0.34	0.22	0.38	0.16	0.09	0.11	1.00	0.96	0.80	0.97	0.69
in crop production, %	0.16	0.24	0.22	0.08	0.19	0.21	0.96	1.00	0.61	0.95	0.81
in the production of livestock products, %	0.63	0.07	0.59	0.28	-0.18	-0.15	0.80	0.61	1.00	0.76	0.21
Agricultural produce, millions UAH	0.23	0.10	0.24	0.08	0.04	0.10	0.97	0.95	0.76	1.00	0.72
Areas of agricultural land in use by agricultural enterprises, thousand ha	-0.29	0.37	-0.21	-0.20	0.55	0.63	0.69	0.81	0.21	0.72	1.00

Source: Calculated according to <http://www.ukrstat.gov.ua/>.

Commenting on data provided in Table 4, it should be noted that the number of PPHs has no significant relationship with the area of their land plots and the dynamics of agricultural production in the regions ( $r = 0.23$ ;  $0.1$ ).

Interestingly, indicators such as the number of PPHs and the area of PPHs' land plots in the region are not interrelated ( $r = 0.06$ ). In this case, one can assume that there is an individual consolidation of PPHs (not the average size of the PPHs' land in the region) in households oriented towards commodity production ( $r = 0.81$ ), due to leasing land ( $r = 0.91$ ). Here we want also to emphasise that the increase in the area of the PPHs used for satisfying own needs is closely related to the dynamics of the number of PPHs ( $r = 0.55$ ), and is negatively related to the dynamics of the size of the area used by agricultural enterprises ( $r = -0.20$ ). However, the dynamics of PPHs' areas of commodity production are positively related to this indicator ( $r = 0.55$ ). Against this background, it is rather strange that there is a lack of correlation between the indicator of PPHs' land used for commodity production and the volume of agricultural production ( $r = 0.04$ ), and in relation to its indicators (the region's weight in crop production, livestock and the industry in general). We can infer from the above that a) land leased by PPHs for the production of livestock products is not used; and/or b) the efficiency of commodity production in PPHs is extremely low; and/or c) there is a distortion (concealment) of the data due to the lack of reporting obligations on the part of households. The latter explanation seems to us the most probable.

Instead, the number of PPHs and the region's contribution to livestock production are quite closely related ( $r = 0.63$ ). Comparing this indicator with the contribution of livestock farms, poultry and bees ( $r = 0.56$ , Table 1), we confirm the thesis that PPHs are the main producer of livestock products among households. Nevertheless, PPHs' activity is insignificant in terms of increasing production in the region ( $r = 0.23$ ) and its competitiveness in the industry ( $r = 0.34$ ).

The current state and transformational aspects of the development of households over the time are presented in Table 6.

Thus, it is evident from Table 6 that among households located in urban settlements, the share of those with land plots in the last ten years has decreased by 3.3%. Moreover, even in rural areas this trend is taking place: the reduction is 0.23%. There is also an enlargement of farms by

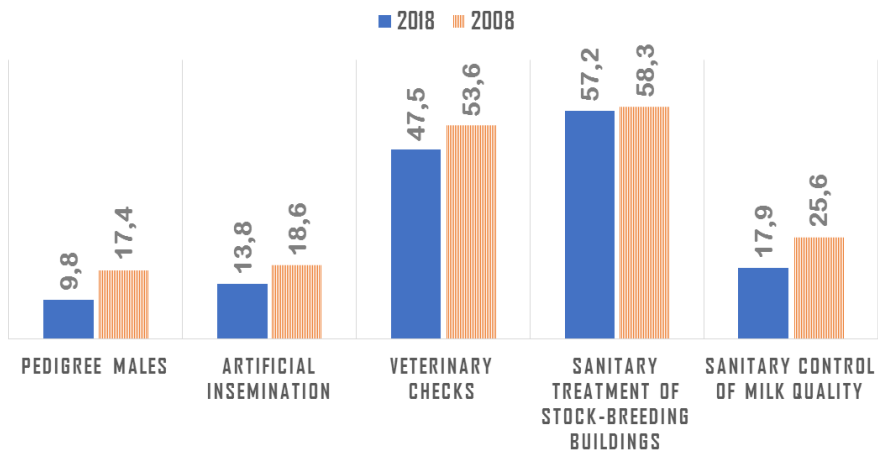
**Table 6.** Profile of agricultural activities of households: current state and development trends, 2008–2018 (SSSU)

Indicators	Urban households		Rural households	
	2008	2018	2008	2018
Households having land, thousand	4454.7	3376.0	5262.6	4799.8
Share of households having land in the total number of households, %	25.90	22.60	98.66	98.49
The average size of land plot, in hundredth parts of a hectare	21.1	46.9	314.3	292.1
Total land area, thousand hectares	1153.81	763.14	16540.4	14020.2
Proportion of households having live-stock, poultry and bees, %	9.2	8.1	80.9	76.0
The share of farms with an area of land in range 0.0–0.5 ha	96.6	92.7	34.2	39.4
The share of farms with an area of land in range 0.51–2 ha	1.4	1.7	26.9	23.7
The share of farms with an area of land in range 2.1–5 ha	1.1	2.5	17.4	19.0
The share of farms with an area of land in range 5.1–10 ha	0.6	2.1	13.9	11.8
The share of farms with an area of land more than 10.1 ha	0.3	1.0	7.6	6.1
Distribution of land area by type of its use (among households having land plots and using them), %				
• for growing food only for their own needs	42.3	20.7	13.0	15.7
• for growing food for own needs and for sale	3.9	1.3	16.4	10.0
• leased out	52.8	77.3	69.6	73.2
• just for spending their leisure time	0.2	0.1	0	0
• just started to master it, and other	0.8	0.6	1	1.1

the size of the land plot in urban settlements (the average size of land more than doubled, from 21.1 to 46.9 hundredth parts of a hectare), with a simultaneous decrease in the share of areas used to provide food for own

needs (20.7% in 2018, compared with 42.3% in 2008), as well as for sale (from 3.9% to 1.3%), in favour of land lease (77.3% of the area in 2018, compared to 52.8% in 2008). The enlargement of urban households is also evidenced by the change in the structure of farms by size of land, since the share of farms with land plots of more than 5.0 ha has increased by 2.2%. All of the above shows that the acquisition of land plots by urban households today is mainly a means of obtaining additional income in the form of rent.

In rural households, on the contrary, there is a decrease in the size of land. While the share of land used for production for own consumption is increasing (by 2.7%), the share of land used for production of products for sale is decreasing (by 6.4%). Consequently, there is a growing trend of naturalisation of economic activity and a decrease in market activity. Significant changes in the structure of farms by the size of the land plot are also marked, with an increase in the share of farms with an area of up to 5 hectares (by 1.6%), but a decrease in those with more than 5 hectares (collectively, by 3.4%) Describing the production activity of rural households in the field of animal husbandry, we emphasise that there is a reduction in the number of holdings keeping cattle, poultry and bees, by 4.9%. A distinct deterioration should also be noted in the quality of the organisation of production and economic processes in the field of livestock (Figure 5).



**Figure 5.** Percentage of households using modern production technologies, %

Source: <http://www.ukrstat.gov.ua/>

Thus, the organization of households' production processes is characterised by a low technological level (only every tenth farm uses pedigree males, and every seventh performs artificial insemination of animals), which is a clear deterioration compared to 2008. Moreover, it should be emphasised that the safety and quality of such products are rather dubious, since only half of the farms use sanitary treatment of premises and veterinary inspections, and only every sixth farm uses sanitary milk quality control. Compared to 2008, these indicators have also deteriorated significantly.

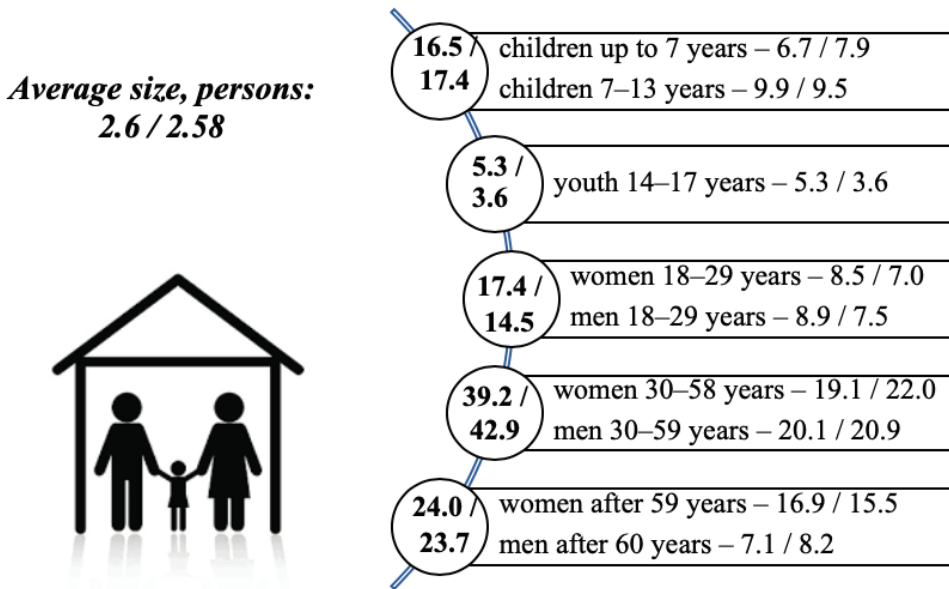
Thus, the two main conclusions are that in the countryside, there are:

- On the one hand, a reduced size of land, naturalisation of economic activity and reduction of market activity. Such farms, as a rule, keep cattle, poultry and bees, although the safety and quality of livestock products produced in such farms is rather dubious.
- On the other hand, an enlargement of individual peasant households and their focus on commodity production of agricultural products (mainly crops), with the simultaneous distortion of reporting on production volumes and, accordingly, tax evasion.

In this context, we consider it necessary to investigate the specific details of the political regulation of PPHs' activities, and of households engaged in agricultural activities.

#### **4. The evolving social and demographic profile of households in Ukraine**

The analysis of households will be incomplete without data on the social and demographic profile of households in Ukraine. As can be seen from Figure 6, the average household in Ukraine is dominated by persons aged 30–58 years (for men, 30–59 years). This age category accounted for 42.9% of residents 2018; compared to 2008 the share of these persons increased, especially women (from 19.1% to 22.0%, on average). The share of people of retirement age has fallen slightly, although retired men increased (from 7.1% to 8.2%). The share of children under the age of 7 has slightly increased, which can be interpreted as an improvement in the demographic situation in the country.



**Figure 6.** Demographic profile (composition) of the average household in Ukraine (2008/2018), % (SSSU)

Additionally, in rural areas, compared to the average data, presented in the Fig 6., the population is older: in rural households in 2018, the share of men over 60 is 9%, and women over 59 form 16.9%. Compared to urban households, the share of children under the age of 7 is much lower: 6.6% against 8.6% in cities. The share of children aged 7–13 and adolescents aged 14–17 is comparable to that of urban households. The most numerous categories in rural households are men aged 30–59 (21.8%) and women of the same age (21.6%).

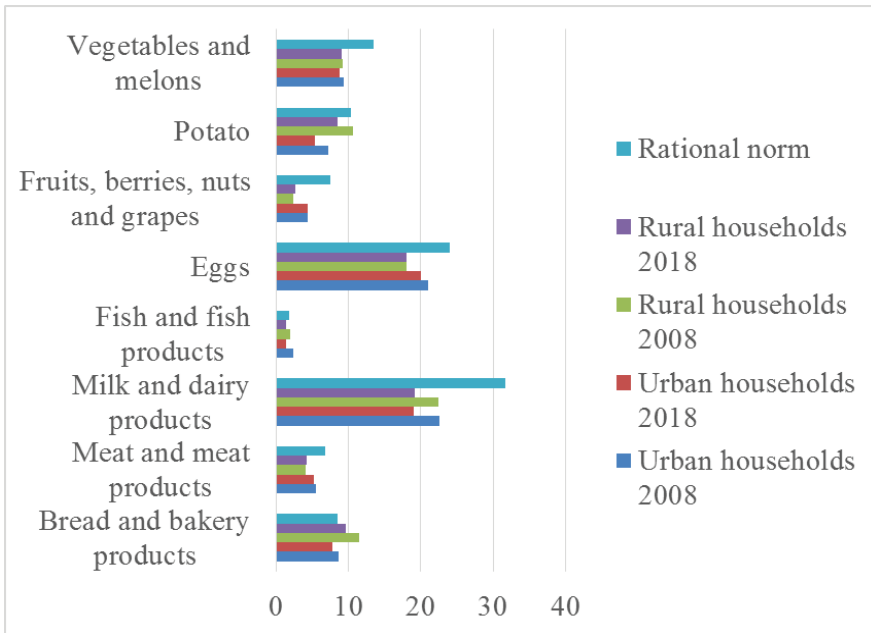
An important trend to note is that in cities between 2008 and 2018, the share of households with children under 18 increased from 37.8 to 39.4%, while in rural areas it decreased significantly (from 37.8 to 34.6%). Thus, as of the end of 2018, 65.4% of rural households lack children under 18 years of age.

Among rural households, those headed by a man aged 30–59 predominate (30.6% of households), while during the analysed period the share of households headed by women aged 30–58 increased significantly (from 14.2

to 21.2%). There is also a noticeable trend in urban households: the share of households headed by women aged 30–58 increased from 22.6 to 26.3%, but those headed by men of the same age decreased from 29.7 to 27.7%.

In both urban and rural areas, the most common households consist of two persons (33.9 and 30.7%, respectively, in 2018). In cities, the second most common category is households that include three people (28.6% of households), while in rural areas, one person (23%). Households of four or more people are more typical of rural areas (26.2% vs. 18.5% in cities), and their share has declined during the analysed period.

The structure of households by number of employees has changed slightly: the share of households in rural areas where there are no employees decreased by 6 points to 44.2% in 2018, while in urban areas it increased by 2.3 points, to 31.2%. The average number of employees per farm in cities in 2018 is 1.1 people, and in villages, 0.9.



**Figure 7.** Consumption of certain food products in households of Ukraine by location, on average per month per person, kg

Source: Statistical Yearbook of Ukraine 2009–2018.

For a fuller description of the socio-demographic structure, we note that among the rural population aged 6 years and older, those with vocational education predominate (24.4%), although there is an increasing tendency of those with higher education (26.7% in 2018 against 19.0% in 2008). Urban settlements are dominated by those with higher education: 50% in 2018 (43.5% in 2008). The increasing share of people without primary general education and with illiteracy in cities in 2018 is somewhat concerning (5.7% against 4.5% in 2008). In rural areas, the share of such persons is declining (5.8% against 7% in 2008).

The social characteristics of households must also include data on the state of food security; as can be seen from Figure 7, Ukrainians consume insufficient amounts of basic foodstuffs. Strangely enough, in rural households, where most of these products are directly produced, the situation is more critical with regard to eggs, fruit and meat. Dietary imbalances lead to a deterioration in the health of the population; in particular, in 2018, 0.8% of the rural population were underweight, while those who were overweight and had various degrees of obesity reached 40.9 and 16.8%, respectively. Only 41.5% of the rural population has a normal body weight. In cities, the share of such persons is slightly higher, at 45.5% in 2018.

## **5. Features of administrative regulation of agricultural activity in Ukraine**

Proceeding from the fact that commercialisation of the natural economy involves the transformation of farms into entrepreneurial structures, we will investigate how conducive are the administrative conditions for conducting business within the framework of PPH and regular business units (in particular, the individual entrepreneur) (Table 7).

Therefore, functioning in the form of a farmer, when subject to the simplified taxation, entails the following requirements: the need for registration; maintenance of records and documents for accounting, tax, statistical reporting; payment of taxes (with the tax rate being higher than the lower bound for land tax, and payment for state social insurance is controlled by the relevant state authorities); and restrictions on the use of hired labour and the area of land. Among the advantages of legalising commercial activity is the possibility of obtaining compensation for the



value of seeds (though this is rather insignificant), compensation for the value of livestock facilities built using borrowed bank loans, as well as compensation for 15% of the cost of acquiring machinery and equipment. However, the given advantages are rather limited, especially when taking into account the specifics of the taxation of the PPHs' activity.

**Table 7.** Comparative characteristics of the features of the regulation of PPHs' activities and of entrepreneurial structures

Indicator	Personal peasant households	For the subject of entrepreneurial activity as an agricultural commodity producer*
Tax policy	<ul style="list-style-type: none"> <li>• An obligation to pay land tax as a landowner, at a rate of 0.3 to 5% (by the decision of the local self-government body); cases of exemption from payment of land tax are foreseen;</li> <li>• An obligation to pay personal income tax; cases of exemption from tax are foreseen;</li> <li>• Obligations to pay a single contribution to compulsory state social insurance are provided by the Law (Law of Ukraine, 2010a), although on a voluntary basis for PPHs</li> </ul>	<ul style="list-style-type: none"> <li>• The obligation to pay a single tax, 0.95% of the normative monetary valuation of the land plot; or</li> <li>• The payment of taxes within the framework of the normal tax system;</li> <li>• Obligation to pay a single contribution to the compulsory state social insurance, from the date of registration as a business entity</li> </ul>
Registration of activities and keeping records	<p>With registration as an PPH by the local self-government body (registration), there are no obligations for accounting and statistics; the statistical record is conducted by the local self-government body on the results of surveys and questionnaires.</p>	<p>It is mandatory to register as a business entity or legal entity in the consolidated State register; accounting, tax and statistical accounting and reporting are obligatory.</p>
Use of labour	<ul style="list-style-type: none"> <li>• The work of family members is used;</li> <li>• The employment of hired persons by the law "On PPH" is not provided; however, the responsibility for the violation of this norm is also not established</li> </ul>	<ul style="list-style-type: none"> <li>• For the farmers, the work of only family members;</li> <li>• The work of hired persons is not used</li> </ul>

**Table 7.** Comparative characteristics of the features of the regulation of PPHs' activities and of entrepreneurial structures

Indicator	Personal peasant households	For the subject of entrepreneurial activity as an agricultural commodity producer*
Use of land resources	<ul style="list-style-type: none"> <li>• The right of every citizen to receive free-of-charge land in ownership for a PPH is guaranteed by the law;</li> <li>• Moratorium on the sale of agricultural land;</li> <li>• There are no restrictions on the size of the land plot for PPHs.</li> </ul>	<ul style="list-style-type: none"> <li>• The right of every citizen to receive free-of-charge land in ownership for farming is guaranteed by the law;</li> <li>• The size of the land plot ranges from 2 to 20 hectares.</li> </ul>
State support	<ul style="list-style-type: none"> <li>• Directed to stimulate breeding and increase cattle population: the annual amount of payments for keeping juvenile animals (up to 13 months) in total can reach up to 2,500 UAH / head;</li> <li>• Compensation for 90% of the cost of advisory services (no more than 10,000 UAH).</li> </ul>	<ul style="list-style-type: none"> <li>• Compensation for the cost of facilities financed by bank loans, for the construction and reconstruction of livestock farms and complexes;</li> <li>• Compensation for the cost (up to 80%) of seed of agricultural plants for domestic selection (but not more than 30,000 UAH per farm);</li> <li>• Compensation for the cost for acquisition of machinery and equipment (15%);</li> <li>• Compensation for 90% of the cost of advisory services (no more than 10,000 UAH)</li> </ul>

Source: Compiled on the basis of analysis and generalization (Law of Ukraine, 2010a; 2010b; 2003; MAPFU, 2019).

\* Subject to the simplified taxation, accounting and reporting system.

PPHs, as landowners and land users (with the right of lease), are required to pay a tax on land. Nevertheless, the Tax Code of Ukraine (Law of Ukraine, 2010b) provides for the exemption of certain categories of persons from the payment of land tax: in particular, pensioners, persons with three or more children under the age of 18, veterans of war and persons with equivalent status, and others. Given that the heads of households

in rural areas are mainly women (52.7% of households in 2018) with an average age of 62 years, as well as men with an average age of 57 years (Statistical Yearbook of Ukraine 2009–2018), we can assume that about half of households are headed by old age pensioners; and therefore the revenues for local budgets from this source are extremely small.

As individuals who are not business entities, members of PPHs would have to pay personal income tax, which forms the bulk of the state and local budgets. But, according to Art. 167 of the Tax Code (Law of Ukraine 2010b), members of private peasant households are exempt from taxation of income tax, provided that the proceeds are derived from the sale of produce grown on the plot of 2.0 ha. If a PPH uses more land, then there is a liability to pay taxes. Also, the income received from the lease of such a land plot (no more than 2.0 ha) is exempt from the payment of income tax. Income derived from the sale of own livestock products of groups 1–5, 15, 16 and 41 of the UCT ZED (Ukrainian classification of foreign economics goods) shall not be taxed if their yearly amount does not exceed 50 times the minimum wage established by law on 1 January of the reporting (tax) year.

It should also be added that the participation of PPHs' employees in the compulsory state pension insurance is voluntary (Law Of Ukraine 2010a, 2003) and, predominantly, not implemented. As of May 2016, out of 2.5 million farms, only 12,744 people (0.2% of existing farms) voluntarily paid Single Social Tax. In our view, such a situation in the medium term may cause social collapse in the countryside, due to lack of social insurance coverage for a large part of the population (for example, according to the 2014 data, only 45% of the population aged 18–59 were employed outside the PPHs) (Statistical Yearbook of Ukraine, 2009–2018), this being the basis for the appointment of a pension. This, together with the inability to determine the size of real incomes of PPHs as a non-business entity, will ultimately lead to the need to direct additional social transfers from budgets and funds at different levels, and in the form of transfers, grants, etc. It should also be noted that on average, every sixth household in the countryside involves hired employees: on a constant basis, 2.3% of farms; for seasonal work, 52.3%; ad hoc, 45.4% (Agriculture of Ukraine 2009–2018); yet at the same time there is no requirement for payment of personal income tax and social contribution by these persons.

The PPHs' tourism activity, subject to its proper development, could serve as a source of financial resources for local budgets, even in traditio-

nally non-tourist areas (as these are attractive from the point of view of rural tourism, with green tourism as an affordable option for urban residents who lack recreational and recreational tourism facilities). However, the peculiarities of collecting a “tourist tax”, as defined by the Tax Code of Ukraine (Article 268), make it impossible to pay, since PPHs cannot act as a tax agent without having the status of a business entity (Article 268.5, Article 168.2.2 of the Tax Code Code) (Law of Ukraine 2010b).

Thus, the existing regulatory policy is overly preferential to PPHs. There is a risk of spreading this form of management, due to the fact that the non-entrepreneurial nature of activity means that PPHs are not subject to mandatory registration as a legal entity – i.e. as a taxpayer, as well as a tax agent for certain types of fees, particularly for tourism. Consequently, PPH owners in fact use local resources (which, although they are privately owned, still have a socially significant essence, due to their natural origin, complementarity and interaction with other components of the natural environment) practically free of charge, without contributing to community development, at least in the form of tax payments.

This is the case in Hungary and Romania (European Parliament 2013: 68). The poor coverage of households within the formal tax system is an obstacle to their involvement in investment (Csata 2018) with the aim of commercialising their activities; therefore, in this case, farms should register as a business, which would expose them to control from the tax authorities.

We also consider it necessary to emphasise that the features of land relations in the country affect the increase in the number of landowners. For example, in 2014, in Ukraine the priority of land allocation for the social protection of military servicepeople was initiated. Since the introduction of this initiative, those eligible filed approximately over 187,000 applications for land plots to the State bodies. According to the results of the consideration of the applications, the authorities provided the military with 135,030 permits for land development, representing 72% of the number of applications filed. As of 3 January 2018, servicemen arranged for the ownership of more than 90,378 land plots with a total area of 0.12 million hectares (Government of Ukraine 2019). Acquisition of a land plot does not contribute to a significant increase in the income and social protection of the serviceman; rather, it in some way compensates for the traditionally unfulfilled obligations from the state, in terms of housing,

logistical and financial support. However, it also has negative consequences for macroeconomic regulation, leading to parcellation of plots, shadow schemes for their use, and distorting statistics on land relations and the agricultural activity of PPHs.

Recent changes in land legislation (Law of Ukraine 2020), which specify that agricultural land in Ukraine can be sold from 1 July 2021, could also impact the PPH sector significantly. This legislation abolishes the moratorium on the sale of agricultural land, which has lasted 20 years and had a rather dubious effect in social, environmental and economic terms, especially for private owners of agricultural land (Mishenin & Koblyanska 2016). The issue of opening the land market was extremely hotly debated in the professional environment and society, especially in regard to provisions related to restrictions on land concentration, and the possibility of foreigners (both individuals and as legal entities) acquiring land.

Without providing a detailed account of the content of the amendments to the legislation, we note that from 1 July 2021 to 1 January 2024, the amount of land that can be acquired by an individual will be limited to 100 hectares, for purchase or sale in any other way in favour of legal entities; the law guarantees that the minimum price level of land plots, until 1 January 2030, cannot be less than their regulatory monetary value. Legislative amendments prohibit the participation of individuals and legal entities of foreign origin, in land purchase and sale transactions.

Therefore, when assessing the impact of the changes provided by law, it should be emphasised that the restrictions (in particular, until 1 January 2024) primarily restrict competition from buyers of land. Some recent studies (Agropolit 2017) on the supply in the land market show that 10.4% of agricultural landowners plan to sell their land in the event of the opening of the land market (about 1.5–2.8 million hectares of agricultural land) (NSC Institute of Agrarian Economics 2018); and 48.6% of land users intend to buy. The supply price was set at more than 6,000 dollars/ha (39.4%) and more (39.7%); and the demand price, mainly at the level of up to 1,000 dollars/ha (54.2%). At this price, only 4.8% of those who plan to sell the land are ready to do so (Agropolit 2017). It is clear that the land market in its current format will not experience a boom, but it will have some socio-economic consequences for landowners; in particular, ensuring a more equal distribution of income between producers and landowners.

This will directly affect the well-being of those owners who continue to lease their land (Nizalov 2017).

How will all this affect the development of the SSF? We can assume that with the opening of the market for agricultural land, there will still be some reduction in the numbers of “forced” SSFs, with the formation of more market-oriented farms. This is mainly due to the reduction of landowners who have inherited land, because they are more likely to sell land (13% of such owners plan to sell), compared to those who received land at work (5% plan to sell). However, for those who inherited the land, the opening of the market can be a starting point to an agricultural business: of those with their own farm, 7% plan to take this opportunity, as opposed to 3% of those who received land at work (Agropolit 2017). Since the mass unbundling of land and the acquisition of ownership of the place of work took place at the start of land reform in Ukraine (1990s), we can assume that this group of landowners’ attitude is due to the fact that they represent the older generation and are of retirement age; they are therefore more likely to continue to lease out land (49%) and pass it on to inheritors (30%). By contrast, the share of landowners who have inherited land and who plan to use their land in this way is lower, at 39% and 20%, respectively (Agropolit 2017). Given that such forms of further land management are prevalent for both these types of landowners, significant changes in the commercialisation of SSFs should not be expected, at least in the coming years (until 1 January 2024, when a number of restrictions on land acquisition will be lifted).

The other side of the coin when considering the issue of PPH is the issue of the shadow economy. More specifically, in the SSF sector, landowners and households are, basically, a prerequisite for the development of the shadow economy in the agricultural sector. There are currently no real and reliable estimates of the scale of the shadow economy associated with rural households, but some separate studies and expert assessments provide at least a rough idea of the scale of the problem.

Thus, according to Ernst & Young (NBU 2020), 23.8% of the Ukrainian economy in 2018 (based on official GDP) was in the “shadow”, amounting to UAH 846 billion. In fact, only 4.1% of GDP (UAH 144 billion) is generated by domestic production of goods for own final consumption; thus, the non-monetary shadow economy is directly related to the activities of subsidiary farms. The other 19.7% of GDP (UAH 702 billion) is the cash

shadow economy, which is largely affected by PPH, as sales of products, as well as rents for land use, are usually made using cash payments.

In particular, the situation regarding honey is indicative of the scale of cash sales. In 2018, honey exports amounted to 49.41 thousand tons, which in monetary terms is USD 98.1 million. Out of the total amount of product produced in the country, i.e. 71.28 thousand tons, households produced 70.39 thousand tons (98.8%); farms – 0.12 thousand tons (0.2%); and enterprises – 0.89 thousand tons (1.2%) (Agriculture of Ukraine 2009–2018). Settlements with honey-supplying households and enterprises are made in cash, without proper documentary proof of its origin (Chalenko, 2017). Thus, the approximate amount of non-taxable cash turnover (in PPHs) for exported honey alone in 2018 was at least 1778.76 million UAH (calculated by the market price for 2018), which equates to USD 62.98 million.

The scale of the shadow turnover and losses caused by illegal land lease relations are estimated at 19–69 billion UAH, and budget losses reach 6–22 billion UAH per year. In spatial terms, this concerns about 6.1 million hectares of land (ISET 2019).

The existing legal conditions that allow production and commercial activities to be conducted without the formation of a business unit (as stated in Section 5) also hinder the official spread of cooperatives; although the processes of cooperation and integration in the PPH sector take place, they do so in a semi-legal form (Gubeni 2019: 28). The basis of such cooperation is the provision of mechanised services by farms that are better equipped, as well as the exchange of knowledge and management practices. As a result, there is an active mechanisation and chemicalisation of economic activity in PPHs (Gubeni 2019). However, the key in this context is that such forms of cooperation are not official; and therefore, the actual cooperation of small agricultural producers does not enable all the benefits of legal cooperation (greater market power, protection, state support, etc.) (Dema 2019).

In some ways, the inadequate organization of the market helps to preserve PPHs. Although statistical data on informal trade in the country are not available, we can estimate the size of this trade from secondary data. As of the end of 2016, the turnover of organised markets for the sale of agricultural products, and informal markets, amounted to 7.0% of the country's retail trade turnover (Retail Trade of Ukraine 2016); this indicator has a tendency to increase (from 6.5% in 2014 to 6.9% in 2015). At the



same time, informal trade and its spread as a socio-cultural and economic phenomenon provide the preconditions for the development of short supply chains (Tregear, Arfini, Belletti & Marescotti 2007; Strochenko 2017). The positive experience of such initiatives, introduced on the basis of the spread of informal trade, is abundant in Poland and Romania (Davidova 2014; Halamska 2016; Michalska 2016).

Our goal in this study was to analyse the phenomenon of SSFs in Ukraine. At this point, we have already examined the definition and scope of semi-subsistence farming, strategic documents concerning agriculture in Ukraine, explicated the development of SSFs in Ukraine, and their contribution to the regional economy; we have presented the social and demographic profile of households, as well as discussed features of the administrative regulation of agricultural activity in Ukraine. We believe it to be a ripe time to address the question posed in the title of the article: Are peasant households feasible in terms of policy? The shortest possible answer is: no. As a more precise answer that summarises our assessment: PPHs *in their present form* are untenable, and policy-wise are not feasible for the Ukraine. To help us elaborate our judgment on the issue, we enlist several criteria that have been implicitly explicated in the body of the article. First, there is the productivity issue: in terms of productivity, PPHs compare poorly to enterprises. Second, there is a societal cost, in the form of unearned income. Due to a preferential legislative approach to PPHs, owners use local resources practically free of charge, without contributing to community development, at least in the form of tax payments. At the same time, such farms can become and often are a means of tax optimisation by large landowners, providing a loophole in tax legislation. The next point to mention is the shadow economy; PPHs are very susceptible to this uncommendable practice, which in turn does not contribute to budgetary funds. One could argue that PPHs also perform a social function; although we fully appreciate and support this view, in our opinion, today the balance is not maintained, as there is a tangible bias in favour of PPHs. Therefore, PPHs ought to be accommodated into and be part and parcel of the tax system, rather than being exempt from virtually all regulations.



## Conclusions

The phenomenon of semi-subsistence farming is quite common in Ukraine, given that every other household owns land, and one in three holds livestock, poultry or bees. Prerequisites for the development of this phenomenon are formed, firstly, by socio-economic factors, which include the following: the underdevelopment of the rural economy, its high dependence on agricultural production, underdevelopment of entrepreneurship, low incomes of the population, the poor state of the social infrastructure and the social protection system, unemployment, etc. On the other hand, they are reinforced by the existing policy of land relations (where land allocation serves as compensation for certain benefits, in particular for servicemen), and the containment of market relations in this area (through extension of the moratorium on the sale of agricultural land).

The formation of a broad class of landowners, as demonstrated by the analysis, is not directly related to the management of the natural economy, but creates obstacles to the development of agricultural enterprises (through land parcellation, excessive bureaucratic procedures for the acquisition of land); it also promotes the creation of shadow business structures in the field of consolidation and land leasing, as well as corruption schemes that concern land relations. However, the reduction of the share of farms having land, especially in urban areas, suggests that today a certain tendency has emerged in the country to reduce the prevalence of the practice of conducting subsistence farming, and even the acquisition of land ownership.

As the second-largest producer of agricultural products and a leader in the production of important products for the Ukrainian food basket, the PPHs, however, do not make a significant contribution to the local economy. Most farms are small, non-entrepreneurial, private farms engaged in the production of livestock products. As the results of the analysis showed, the market activity of PPHs (which shows a change in the share of the area allocated for commodity agricultural production) and their specialisation (leaning more towards crop production) depends on the size of land plot. Nevertheless, this has no affects whatsoever on the region, which gives grounds for suggesting the concealment of real information on volumes of production in such market-oriented farms. The factors contributing to this are the legalised form of economic activity without the

creation of a business unit, as explicitly provided by law, as well as market factors (in particular, the spread of informal trade).

Thus, PPHs appear as economic structures with a special status: on the one hand, they can be considered as full participants in the market of agri-food products (in terms of sales and production), but on the other hand they are not recognised as entrepreneurial structures. This has negative consequences for the local economy as a whole. Commenting on the social role of semi-subsistence farms, particularly PPHs, we emphasise that there is certain legal conflict: as members of the private peasant households are recognised as providing themselves with work independently (that is, in addition to the goal of food security), it therefore is assumed that PPHs are also a form of employment that provides income that is also sufficient for paying social security contributions. Thus, PPHs are in fact a legalised form of informal employment, an informal entrepreneurial activity.

Having examined the measures for political regulation of the activity of semi-subsistence farms in Ukraine, we can state that there is no single and clear vision for the development of the sector, nor an appropriate programme of action, despite the existence of many documents related to this issue, and the fact that the existing conditions for PPHs are, in our opinion, preferential compared to those of farmers. Although the promotion measures outlined in law are aimed at improving the efficiency of PPHs' economic activity (through facilitating logistics, extension services, establishment of service cooperatives, allocation of land plots into a single array, etc.), in fact, the only measure implemented so far is direct payments for keeping livestock, thereby stimulating the preservation of inefficient, low-tech, socially costly forms of management. Moreover, the production of such farms, in the context of the spread of informal trade, creates a threat to the health of the population. Furthermore, existing measures of political regulation only deepen the problem of the functioning of semi-subsistence farms; and taking into account the peculiarities of tax regulation and household members' obligations to participate in the pension system, in our opinion they only intensify the crisis in the rural economy and its social problems.

We believe that PPHs in their present form are manifestly untenable, and policy-wise not feasible for Ukraine. The long-term strategy of reforming this crucial part of Ukraine's agriculture should not include new innovations, but be wisely tailored to Ukraine's conditions within the EU.

It is important to develop a clear vision of the transformation of this class of farmers into a sector that corresponds to the model of societal needs. Here it is of the utmost importance to study the EU's experience in this regard, and farmers' motives for choosing these activities; these could be the subjects of subsequent qualitative research.

The paper is of course far from the final word on this issue. Based on the current state explored in this paper, future research will need to concentrate on how normative prescription and policy instruments are accommodated in current strategic documents, and in newly issued ones. There is also enormous explorative potential for conducting comparative studies on agricultural policies, in particular regarding PPHs, in neighbouring Eastern European countries with various institutional settings.

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