Fiscal incentives for personal peasants in the context of ecological development of rural territories of Ukraine

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Abstract. A study based on the example of Ukraine and other countries reveals the need to form a mechanism for financial incentives for high-end households of the rural population, including for the creation of additional environmental benefits in the context of the stable development of rural areas of Ukraine. The general scheme of the financial incentive mechanism, tools for ensuring environmental benefits for sustainable development of rural areas is given. A hypothesis has been put forward about the full participation of private peasant farms as stakeholders in the structure of the agricultural sector by involving them in the taxation system and state support through the application of a fixed amount of tax per 1 ha of farmland (or exemption from it); preferential procedure for the payment of social contributions; stimulation of production through access to credit resources (Credit Guarantee Fund), stimulation of diversification of activities; formation of preferences for capitalization; creation of specialized local markets for the sale of products of the household plots; simplification of access to land resources. The results obtained confirmed the positive impact of fiscal levers of transformation of households on sustainable economic development and environmental benefits of rural areas, which can be considered as the basis for the formation of state policy in terms of developing a strategy for rural development, ensuring food and environmental security in Ukraine.

1 Introduction

The development of rural areas and the growth of the well-being of rural residents is a priority task for the governments of many countries. In 2018, a United Nations General Assembly resolution adopted the Declaration on the Rights of Farmers and Other Categories of Citizens Working in Rural Areas, which aims to protect the rights of rural people, including farmers, agricultural workers and rural workers, which recognizes them, contribution to sustainable development and biodiversity. The Declaration sets out the Voluntary Guidelines for the Responsible Management of Tenure and Use of Land, Fisheries and Forests in the Context of National Food Security. On a global scale, the task is to involve rural residents in the process of sustainable development, which becomes part of the state management policy.

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In modern market conditions, an important element of management is the regulation of economic, social and environmental processes using a fiscal mechanism. The state, establishing a certain level of taxation, a system of tax benefits and simplifications, forms the budget and redistributes the funds received in accordance with the established socioeconomic development goals, forms the sources of financial support.

For the environmental sphere, special fees and payments are also important, in particular in Ukraine, since 2011, an eco-tax has been introduced. According to the law, it is paid by those enterprises that pollute the environment, and the proceeds are used to restore the environment. But the incentive system for environmentally friendly agricultural production is reactive - either ineffective or virtually nonexistent. If for large agricultural enterprises of industrial type taxation, including environmental, is organically inscribed in the institutional environment of their functioning, then the potential of the household farm, as the stratum of the rural population most interested in the environmental friendliness of the environment and management, is not yet a component of the economic, fiscal and ecological mechanisms.

Therefore, one of the declared priorities of the state agrarian policy of Ukraine is to support individual, small and medium-sized agricultural producers. To ensure proper conditions for their development, in particular, the creation of prerequisites for the transformation of personal peasant farms into full-fledged participants in agrarian relations, the Law of Ukraine "On Amendments to the Tax Code of Ukraine and some laws of Ukraine regarding stimulating the creation and operation of family farms" No. 2497-VIII dated On July 10, 2018, a regulatory field of their activity was created. However, equal competitive conditions have not been created for household plots and other agricultural enterprises, due to the fact that the determination of the organizational and legal form is carried out according to economic, not legal criteria. According to the current legislation, a private peasant farm is a form of non-entrepreneurial activity in the production and processing of agricultural products, predominantly of a consumer direction, and farms have a commercial, entrepreneurial oriented type of activity and are legal entities. It is this difference that basically prompts the search for motivation for the involvement of households in the economic field, including through fiscal regulation.

The Agreement between the Government of Ukraine and the European Commission on the financing of the event "EU Support for the Development of Agriculture and Small Farms in Ukraine" dated 28.01.2020 [1] aims to promote the development of a more inclusive, competitive and growth-oriented agricultural sector with a responsible attitude towards the environment and, due to this, the fight against impoverishment and depopulation of rural areas of Ukraine, with a specific goal - improved and transparent management of agricultural resources, including land, ensuring an appropriate environment for sustainable development of rural areas focused on small and medium-sized farms and businesses that are integrated into consolidated value chains.

The Concept for the Development of Family Farming for the Period up to 2030, developed by specialized agrarian associations, including the National Research Center "Institute of Agrarian Economics" [2], emphasizes that household farming produces products, storage and production of which requires significant labor costs (fruits and berries, potatoes, vegetables, milk). These farms have up to 20 hectares of land, their number is 8.4 thousand (30% of all farms as of 2018), so there is a need to introduce them into the sphere of state regulation through the use of an adapted fiscal mechanism.

The Agrarian Committee of the Supreme Council of Ukraine presented the program of activities of the Fund for the Development of Rural Areas [3], the funds of which will be directed to such important areas as: infrastructure, Internet, energy conservation, education and medicine in rural areas, rural tourism. In addition, through the Fund, state programs for the development of small and medium-sized agricultural producers will be implemented, in
particular, in the field of organic production. At the panel discussion "Land Market 2020" within the framework of GRAIN UKRAINE (2020), it was emphasized that household farms (family farms) have a preferential tax system, compensation for ERUs, and will not be taxed per 1 ha. It is expected that this will contribute to the development of small and medium-sized businesses in the countryside in the agricultural sector and related industries.

The general model of sustainable development of rural areas, according to research by Polichkina [4], was proposed by a group of agricultural scientists headed by A.V. Chayanov and A.N. Chelintsev in Ukraine back in the 20s of the last century. They considered the structure of family-labor peasant farms, which do not use hired labor, as the most stable, socially significant and just form of organizing agriculture. To attract such farms into commercial production, it was proposed to cooperate, where the operations of the agrarian production cycle are combined: sales, supply, product processing, land reclamation, etc.

Prokopa [5] revealed the need for a more complete involvement of households, primarily those that produce commercial products, in the institutional, economic, social mechanisms of the functioning of the domestic agricultural sector by: formation and implementation of the state support program; organizing the registration of commercial peasant farms and formalizing the employment of their members on the basis of self-identification; application of incentive approaches to participation in public social insurance.

Researchers Kirilenko, Ivchenko [6] analyzed the role of small and small farms, as well as personal peasant farms in the national economy, proposed a number of measures to create appropriate conditions that will stimulate the development of small family farms, including specific bills to improve the legislative framework and programs to pay attention to to improve financial support from the state. Nemish et al. [7] considered the dependence of income from the management of household plots on factors: social - available able-bodied members of the economy, the number of family members, the age of the owners, social status, the degree of manifestation of economic activity; economic - the direction of production activities, the size of land use, productivity, livestock productivity, the availability of its own equipment and the necessary means of production in the economy, the possibility of selling surplus products.

Thus, domestic researchers have established that PPF are already full subjects of market agrarian relations. Regarding their activities and impact on the environment, the researchers of Stegney [8] found that the effectiveness of the strategy for environmentally sustainable development of rural areas largely depends on the state's ability to take into account the interaction of objective environmental and economic laws, including their specific manifestations in the agricultural sector. At the same time, the use of laws of proportional development of the economy and social infrastructure, land rent, cyclical reproduction, regularities of labor activity, especially the laws of functioning of the resource potential of rural areas, which is the basis for sustainable life support of the rural population and has a direct impact on the development and functioning of the agricultural labor market is of particular importance, . production efficiency, diversification of agribusiness, employment rate of the rural population, quality of life.

Popova et al. [9] argue that large-scale and small-scale agricultural production should become the basis of rural development, with increased government incentives for agro-ecological farming. Stimulating the effective use of the natural and human potential of the village contributes to: the creation of added value in agricultural production, the expansion of other activities due to the diversification of the economy, a change in the focus of the support policy from production to socio-ecological.

Pidgrebelnaya [10] emphasizes that agricultural holdings ignore the environmental problems of the village, pointing out that it is useless to expect environmental effects of a
social scale from the functioning of agricultural holdings, due to the maximum orientation of these economic structures to making a profit, and the costs of maintaining environmental safety and preserving the environment are unproductive for them ... It is concluded that public goods such as food self-sufficiency, the economic base of the rural population and the maintenance of ecological balance are not sufficiently produced, and the family type of farming, focused on the creation of these goods, does not receive proper development, therefore, the existing model of agricultural production requires comprehensive modernization, carried out on a socio-economic basis.

In the Russian Federation, the State Program for the Development of Agriculture and Regulation of Markets for Agricultural Products, Raw Materials and Food for 2013-2020 is in force; for peasant farms, a subprogram "Support for small forms of farming" is envisaged in the following directions: support for novice farmers, development of family livestock farms based on peasant (farms, support for lending to small businesses and registration of land plots in the ownership of peasant (farmer) households.

Nikulin et al. [11] point out that for Russia, environmental issues are in the focus of scientific and managerial interest, and we are talking about a village that has lost its former “status” of an environmental “enclave” due to an increase in the number and severity of environmental crisis situations in rural areas ... On the basis of statistical, historical and empirical data, they considered the types of practices that determine the formats of sustainable local and regional agronomic and socio-economic interaction of social agents in rural areas. Dovby et al. [12] emphasize that small business in the agricultural sector is in fierce competition with large agro-industrial companies. At the same time, PPFs successfully coexist with farmers, playing a significant role in food production. However, they are in no hurry to transform into an entrepreneurial sector, despite the existing advantages both in terms of the size of the available land and the possibilities of building housing and infrastructure on agricultural land. The reasons lie primarily in the insufficient number of incentives and preferences for entrepreneurial structures, the presence of a huge number of barriers. During the transition from the form of private household plots to peasant farms, the issues of credit security and insurance, technical and energy equipment, modern technologies for the production of livestock products and growing crops are especially acute. Also extremely important is the problem of selling agricultural products within the region and outside of it, private household plots, in comparison with peasant farms, pay significantly less taxes, since the income of citizens received from the sale of crops, livestock, beekeeping, floriculture products grown and produced in private households is not subject to taxation. , and in a revised form. When transferring to the status of a peasant-farm enterprise, tax liabilities arise in accordance with the criteria determined by the tax legislation of the Russian Federation for agricultural producers. In particular, various systems of taxation of income are used: corporate income tax (Chapter 25 of the Tax Code of the Russian Federation), the unified agricultural tax of the Unified Agricultural Tax (Chapter 26.1 of the Tax Code of the Russian Federation), the simplified taxation system of the USN (Chapter 26.2 of the Tax Code of the Russian Federation), personal income tax Personal income tax (Chapter 23 of the Tax Code of the Russian Federation).

Kovalenko [13] believes that the expansion of the scale of organic agriculture in Russia and the involvement of the unused potential of small forms of farming in it requires purposeful actions by state and municipal authorities, representatives of agricultural science and the education system, business and civil society. Laipanova [14] identified modern problems of the development of personal subsidiary plots of the population and peasant (farm) farms, which include: lack of agricultural machinery, low wages, insufficient level of state support for the development of small and medium-sized businesses, land depletion, problems of selling agricultural products ... Also, the author studied measures of state
support carried out by the Government of the Russian Federation, which include: concessional lending, subsidies; participation in grants, allocation of land plots for low-income families and large families for the purpose of organizing personal subsidiary plots of the population, preferential taxation / rent.

Thus, the problems of integrating household plots in the agricultural sector have similar trends in Ukraine and Russia. At the same time, Ukraine has chosen the path of European integration, which provides for the harmonization of its legislation with international requirements. Problems of greening the development of agriculture and rural areas for Ukraine are part of international agreements. So, ch. 6, sec. 5, Art. 360 of the Association Agreement between Ukraine and the European Union [15] declares that the parties will develop and strengthen cooperation on environmental protection, and thus contribute to the implementation of long-term goals of sustainable development and a green economy. It is assumed that strengthening environmental protection will have positive consequences by conserving natural resources, increasing economic and environmental efficiency, integrating environmental policy into other spheres of government policy, as well as increasing the level of production thanks to modern technologies.

In the countries of the European Union (EU-27) today there are about 27 million agricultural producers, 97% of which are individual (family) farms. By providing significant support to the agricultural sector, the EU countries [16] channel it to their peasants - the owners of family farms. The same, in turn, use support funds to a large extent for the arrangement of their farms and the surrounding (rural) environment. Codification of budget payments is envisaged: for the balanced use of agricultural land (payments to farmers, payments for biodiversity conservation, agroecological payments, payments for the maintenance of animals, non-productive investments) and land under forests. Payments for agroecological measures in the EU countries were introduced in 1992 and include over 200 schemes that compensate for the loss of farmers' income through the implementation of environmentally friendly mechanisms to support rural areas in a favorable condition for living. These payments represent 27% of the support funds allocated for rural development.

Baur [17] found that estimates of agroecological support at the European level are still rare, but examining agricultural support schemes in the EU, Norway and Switzerland in terms of the share of payments that compensate farmers and other recipients for the cost of providing services, an average estimate is set, percentage of payment for services (PPS) at 72.3%. Especially high PPS scores were found for measures related to organic farming and conservation, while integrated production and more general extensive management options were perceived as less efficient.

Busck & Schmidt [18] examining the role of ecology for peasant farms, point to a lack of adaptation strategies and favor rural livelihood strategies based on sustainable natural resource management and organic / agro-ecological production. This is due to the harmful climatic and environmental consequences.

Can Financial [19] proposes a conceptual and methodological approach to assess how new institutional structures such as PES (Payments for Ecosystem Services) interact with motives for land use change at the individual and collective level. A growing body of empirical evidence suggests that the impact of payments on stimulating long-term behavioral change can vary significantly depending on how they are integrated into territorial dynamics. We show how individual motivation is the result of collective social pathways that create opportunities and constraints, as well as guiding ideas and habits that "work" along these paths. Through an illustrative case study on the border with agriculture in Nicaragua, we show how the ‘agrarian system’ approach offers a deeper understanding of dynamic local interactions and allows us to better align individual farmers’ motives with collective development paths in this area. territory. Our case study also demonstrates that local PES interventions are unlikely to permanently change the logic of farmers' production
systems or stimulate long-term 'pro-ecological' behavior unless accompanied by other types of policies.

As an example of China [20], it is shown that participants and beneficiaries of the construction of sustainable rural areas of peasant households can have an impact on rural construction policies. This research establishes a symbiotic relationship, that is, the allocation of resources, benefits and responsibilities for sustainable construction.

The United Kingdom's [21] approach to promoting environmentally positive behavior has three parts: voluntariness, incentives and regulation, and while financial incentives and regulatory approaches have proven effective in bringing about some changes in farmer environmental management behavior, ultimately they can be considered as temporary. The results of the study show that a deep understanding of the readiness and ability of farmers to apply environmental management practices, as well as their existing level of participation in consultation and support, is necessary to develop appropriate approaches to interaction for achieving sustainable and sustainable environmental management.

A review of the literature on the impact of agri-environmental policies on environmental sustainability and economic performance in agriculture [22] reveals what opportunities there may be for “win-win” policies that improve both types of productivity. At the farm level, a number of factors have been identified that positively influence the relationship between environmental and economic performance - farm size, availability of demand for environmental goods, and the ability to “proactively” respond to improved environmental performance.

Summarizing foreign experience, the national center for environmental initiatives "Ecodia" [23] to improve the environmental friendliness of the agricultural sector of Ukraine sets the following tasks: detecting environmental problems in agriculture and informing the population about potentially negative consequences for the environment and human health, encouraging companies to implement the best environmental standards, standards and techniques so that the activities do not violate the rights of the local population to a healthy environment. At the same time, rural communities should be able to participate in shaping decisions about a safe environment. It is emphasized that sustainable rural development is possible only with care for small farms, which are an alternative to large industrial farms due to the fact that small rural producers are guided by the principles of thrift and responsibility to the environment. Their well-being is the key to the formation of a balanced and viable entrepreneurship, which will become the basis for the formation of environmentally conscious and socially active communities, and ensure sustainable development of rural areas.

Summarizing the above studies of national and foreign experience, this article poses the task of substantiating the environmental benefits from the involvement of the household farm of Ukraine in the market turnover, the transformation of these farms into business entities with an appropriate fiscal incentive mechanism.

2 Materials and Methods

The methodological basis of the study is a systematic method of understanding the processes of development of household farms, the features of their entrepreneurial transformation and integration into market relations, participation in the development of the economy and environmental programs in rural areas. General scientific research methods were used: historical, logical, empirical, series of dynamics, index, factor analysis, comparison, tabular, graphic, scientific foresight. The aim of the study is to substantiate or refute the hypothesis about the impact of fiscal levers of transformation of households on sustainable economic development, environmental benefits and the quality of life of the rural population. The main methods used in the study are comparative analysis, time series
and integral assessment. The statistical basis of the study is data on the activities of rural households in Ukraine.

## 3 Results

Environmental development is important for conservation efforts as it is part of the agricultural production process. The main goal of agroecology is to ensure agrobalance, sustainable production of high-quality products, preservation and reproduction of the natural resource base of the agricultural sector, effective greening of all branches of agricultural production. At the same time, the cost of environmental protection in 2019 is the lowest in the industry - from 1% (Fig. 1), out of the total expenditure of UAH 43.7 billion, of which 62% falls on current expenses.

![Fig. 1. Sectoral structure of expenditures on environmental protection by type of economic activity in 2019, %](image)

The state of production by indices of the physical volume of products sold by household and agricultural enterprises and agricultural enterprises is given in Table. 1. The number of products sold by households and agricultural enterprises has a general trend, although in recent years the growth rate of enterprises is slightly higher - by 2-7 percentage points.

### Table 1. Indices of the physical volume of products sold agriculture, (in% of the previous year). Source: [http://www.ukrstat.gov.ua/](http://www.ukrstat.gov.ua/).

| Year   | Agricultural products - total including | Agricultural products - total including |
|--------|-----------------------------------------|-----------------------------------------|
|        | household farms |         | agricultural enterprises |
|        | crop products | livestock products | crop products | livestock products |
| 2010   | 99.6          | 100.2    | 99.2         | 95.8          | 90.1          | 107.8        |
| 2011   | 111.3         | 130.5    | 99.3         | 112.0         | 114.5         | 106.9        |
| 2012   | 95.1          | 92.9     | 96.7         | 117.5         | 122.9         | 105.3        |
| 2013   | 108.9         | 123.2    | 98.8         | 110.6         | 111.4         | 108.6        |
| 2014¹  | 98.6          | 99.4     | 97.9         | 107.7         | 108.7         | 105.3        |
| 2015¹  | 99.6          | 109.9    | 90.1         | 106.9         | 111.1         | 95.4         |
| 2016¹  | 96.7          | 100.0    | 91.8         | 87.9          | 83.4          | 105.1        |
| 2017¹  | 101.2         | 102.1    | 99.7         | 107.5         | 108.3         | 103.1        |
| 2018¹  | 103.4         | 106.0    | 98.8         | 105.7         | 107.2         | 98.8         |
| 2019¹  | 107.3         | 114.6    | 94.4         | 114.1         | 116.9         | 101.2        |

¹Data are given without taking into account the territory of the Autonomous Republic of Crimea, part of the territories in Donetsk and Luhansk regions.
Regarding the prices for the sold products of household plots and agricultural enterprises (Table 2), the trend is ambiguous, but in recent years the price level for the former has a more positive trend. This is facilitated by organized sales and a wide range of products.

Table 2. Price indices of agricultural products sold, (in% to the previous year). Source: http://www.ukrstat.gov.ua/.

|        | household farms                      |        | agricultural enterprises                      |
|--------|--------------------------------------|--------|-----------------------------------------------|
|        | Agricultural products - total         |        | Agricultural products - total                 |
|        | crop products including               | livestock products | crop products including | livestock products |
| 2010   | 135.5                                | 143.7  | 127.1                                         | 130.0              | 139.8              | 114.3 |
| 2011   | 105.7                                | 103.9  | 107.5                                         | 113.6              | 115.7              | 109.2 |
| 2012   | 99.8                                 | 95.3   | 104.5                                         | 106.8              | 105.6              | 108.0 |
| 2013   | 106.9                                | 105.7  | 108.2                                         | 97.1               | 91.8               | 102.4 |
| 2014¹  | 110.1                                | 113.8  | 106.2                                         | 124.3              | 129.2              | 119.1 |
| 2015²  | 135.2                                | 149.9  | 120.3                                         | 154.5              | 167.2              | 141.3 |
| 2016²  | 108.8                                | 104.6  | 113.7                                         | 109.0              | 116.3              | 101.7 |
| 2017³  | 122.9                                | 116.6  | 133.0                                         | 111.5              | 107.3              | 130.7 |
| 2018⁴  | 110.4                                | 109.8  | 112.2                                         | 109.3              | 109.8              | 108.6 |
| 2019⁴  | 109.3                                | 110.2  | 107.3                                         | 92.4               | 91.2               | 96.8  |

¹Data are given without taking into account the territory of the Autonomous Republic of Crimea, part of the territories in Donetsk and Luhansk regions

As established by scientists of the NSC "Institute of Agrarian Economics" (2020), personal peasant farms occupy a significant niche (more than 43%) in gross agricultural output, while they are not registered entrepreneurs, their activities are not controlled by tax authorities, and are not subject to systemic state monitoring. They do not receive budgetary support. Tulush, Hryshchenko (2018) emphasized that we can talk about a phenomenon that has no analogues either in European practice or in the practice of post-Soviet countries - entities that are not registered as business entities occupy a significant share in the volume of agricultural production. For comparison, in the Russian Federation the share of subjects without entrepreneurial status in the production of industrial crops - such as cereals, sunflower, sugar beet - does not exceed 1%, and in Ukraine the share of such subjects in grain production is more than 21%, sunflower - almost 14%, while the production of such types of agricultural products does not correspond to the very essence of the peasant economy as a subsidiary (that is, intended primarily for consumption). The level of per capita equivalent total household incomes in Ukraine for 2018-2019 is shown in table. 3.

The households, which are the main source of income for rural residents, employ approximately 2.6 million people of working age. In the context of increasing unemployment in the countryside, the cultivation of agricultural products for many peasant farms remains the only real source of income. At the same time, self-employed peasants are mainly making efforts to produce labor-intensive and low-profit agricultural products. Based on the above data, it is obvious that the use of taxes in the existing format for agricultural producers does not encourage households to transform into a family farming.

In the analytical part of the project Concept for the development of family farming for the period up to 2030, it is indicated that today in Ukraine the accounting of the scale of development of family farming is just being formed. Family farms include farms that process (owned and used) up to 20 hectares of land. Their number in 2018 was more than 8.4 thousand, that is, about 30% of all farms, the share in land use does not exceed 2%, in gross agricultural output - 1.8%, in revenue - 1.6%, in income - 0.9%. It has been established that the obvious potential of family farming is represented by household plots with a land use area of more than 2 hectares. The number of such farms in 2019 amounted to 2,781.8 thousand out of a total of 3,975.1. Their share in land use was 73%, and in gross output, while they are not registered entrepreneurs, their activities are not controll...
agricultural output - 77%. On the basis of such farms, first of all, family farms can be created, especially since almost 55% of rural households already have income from the sale of products, in 18.3% the share of income from entrepreneurial activity and the sale of agricultural products in the total resources of households exceeds 20 %, and 2.4% - 73%. Taking into account the number of existing small farms and households, the estimated potential of family farming in Ukraine is about 1 million farms. At the same time, the activities of small farms in 2018 indicate that family farms can operate at a profit. In particular, the level of profitability of small farms, cultivating from 5 to 10 hectares of agricultural land, is 15.3%, 10.1-20 hectares - 29.9.

Table 3. Distribution of population and households by level of per capita equivalent total income, %.

|                   | 2018         | 2019         |
|-------------------|--------------|--------------|
|                   | all households | urban | rural | all households | urban | rural |
| All population    | 100.0        | 100.0       | 100.0 | 100.0          | 100.0 | 100.0 |
| With an average per capita equivalent total income per month, UAH |
| to 3000.0         | 23.4         | 21.8        | 27.0  | 11.8           | 9.8   | 15.9  |
| 3000.1-4000.0     | 27.3         | 27.4        | 27.3  | 19.7           | 18.7  | 21.6  |
| 4000.1-5000.0     | 21.9         | 20.3        | 24.5  | 21.5           | 21.2  | 22.3  |
| 5000.1-6000.0     | 27.4         | 30.5        | 21.2  | 14.4           | 14.3  | 14.6  |
| 6000.1-7000.0     | -            | -           | -     | 11.1           | 11.0  | 11.3  |
| 7000.1-8000.0     | -            | -           | -     | 7.5            | 8.4   | 5.8   |
| 8000.1-9000.0     | -            | -           | -     | 4.5            | 4.8   | 3.8   |
| 9000.1-10000.0    | -            | -           | -     | 2.8            | 3.3   | 1.7   |
| 10000.1-11000.0   | -            | -           | -     | 2.5            | 3.1   | 1.3   |
| 11000.1-12000.0   | -            | -           | -     | 1.6            | 1.8   | 1.0   |
| over 12000.0      | -            | -           | -     | 2.6            | 3.6   | 0.7   |
| Share of population with average per capita equivalent total income per month is lower |
| average general income | 60.0 | 60.7 | 57.5 | 60.3 | 61.8 | 58.1 |
| living wage (legislative) | 1.7 | 1.3 | 2.4 | 1.3 | 0.9 | 2.1 |
| the actual living wage | 29.3 | 27.6 | 32.6 | 24.3 | 21.4 | 30.1 |
| All households (thousand) | 14934.9 | 10061.3 | 4873.6 | 14881.7 | 10037.5 | 4844.2 |

Source: [http://www.ukrstat.gov.ua/](http://www.ukrstat.gov.ua/)

Given the selectivity of statistical data, it can be stated that a significant part of such farms have income levels comparable to taxation. Table 4 shows the options for the tax burden on transformed into personal peasant farms under different taxation scenarios.

Consequently, the incomes of households with commercial agricultural land plots, the area of which is 4 hectares or more, may well be involved in taxation, since even after deducting the cost of the material component of expenses, they exceed the annual minimum wage fund. Their exemption from taxation is difficult to justify economically.

Taking into account previous studies (Tulush, Hryshchenko [24]), it seems that taxation of high-value households of the population should not exceed 3% of gross income and 18% of net income. Taking this into account, the best option for the formation of a tax mechanism for this category of agricultural producers is to provide them with the opportunity to pay a single tax of the fourth group, according to which tax liabilities are fixed per hectare and there is no need for tax control of income, as well as the introduction of a preferential procedure for collecting ERUs.
Table 4. Options for the tax burden on transformed into personal peasant farms under different scenarios of taxation, UAH.

| Area, ha | Unified tax (UT) | Unified social contribution (USC) | Total |
|----------|------------------|----------------------------------|-------|
|          | Group 2 Single tax (standard 20% of the minimum wage) + 100% USC |                                  |       |
| 2        | 7700             | 8500                             | 16200 |
| 4        | 7700             | 8500                             | 16200 |
| 8        | 7700             | 8500                             | 16200 |
| 10       | 7700             | 8500                             | 16200 |
|          | Group 2 Single tax (10% preferential from the minimum wage) + 50% USC |                                  |       |
| 2        | 3850             | 4250                             | 8100  |
| 4        | 3850             | 4250                             | 8100  |
| 8        | 3850             | 4250                             | 8100  |
| 10       | 3850             | 4250                             | 8100  |
|          | Group 4 of the Single tax (0.95% of the NDOz *) + 100% USC |                                  |       |
| 2        | 600              | 8500                             | 9100  |
| 4        | 1200             | 8500                             | 9700  |
| 8        | 2400             | 8500                             | 10900 |
| 10       | 3000             | 8500                             | 11500 |
|          | Group 4 of the Single tax (0.95% of the NDOz) + 50% USC |                                  |       |
| 2        | 600              | 4250                             | 4850  |
| 4        | 1200             | 4250                             | 5450  |
| 8        | 2400             | 4250                             | 6050  |
| 10       | 3000             | 4250                             | 7250  |

NDOz * - normative monetary value of land
Source: Tulush, Hryshchenko [24].

4 Discussion

The principles of environmental friendliness for agriculture and rural areas are a priority, since production and its natural environment constitute a closely related bioeconomic system, on the state of which the sustainable development of the industry and the well-being of the population depend. Intensive agricultural development, an increase in yields and productivity of livestock due to the use of advanced technologies, an increase in the level of scientific and technological progress in the last decades of Ukraine allowed to occupy a significant niche in the structure of GDP, increase export potential, raise the level of income and profitability. But at the same time, the conduct of agricultural production on an industrial scale does not always take into account environmental laws, which generates a conflict of interest in the field of natural resource security. It is intensive agricultural production that is the cause of many environmental challenges: violation of the reproductive balance, depletion of natural resources, pollution of air, water, soil, unethical attitude to animals, deterioration of living conditions in rural areas, global climate change.

Therefore, the economic mechanism of management should take into account this tendency and, if possible, smooth it out, maintaining the balance of the natural environment, the use of resources, incomes and a comfortable level of rural life. The factors of the economic mechanism in support of environmentally sustainable agricultural development are resources and incentives (direct and indirect) to maintain the agricultural ecological balance.

Under these conditions, a special role is played by the strengthening of traditional agricultural production, an increase in the share of organic farming, the development of high-value personal peasant farms (PPF), primarily because these are indigenous rural residents focused on the reproduction and maintenance of the ecological agro-balance as their living environment. To involve them in active entrepreneurship, in addition to those existing in the legal framework of Ukraine, additional fiscal measures are needed that will create an institutional framework for their activities and will contribute to their involvement
in full-fledged market relations, thus guaranteeing compliance with the foundations of environmental development.

The basic components of the mechanism of entrepreneurial transformation of the household sector are: involvement in the state support system; simplification of income taxation by applying a fixed amount of tax per 1 ha of agricultural land (or exemption from it); preferential procedure for the payment of social contributions; stimulating the increase in production and technical re-equipment by accessing credit resources (through the Credit Guarantee Fund), as well as stimulating the diversification of activities; formation of preferences for capitalization; introduction of specialized local markets for the sale of household products; simplification of access to land resources. These measures, proposed by various institutions for the Agrarian Committee [3], are necessary for state regulation of the activities of household plots, as well as the creation of a comfortable living environment in rural areas, since the owners of these farms constitute the bulk of the rural population. The need for a fiscal transformation of such farms is also due to considerations of obtaining environmental benefits, since such farms, without additional incentives and restrictions, are interested in the environmental friendliness of farming in the territory of their residence.

The mechanism of fiscal stimulation of the entrepreneurial transformation of the household plots provides for a complex interaction of methods, tools and levers, with the help of which the optimal parameters for the formation of financial resources of the household plots are determined to be included in the market mechanism of entrepreneurship, to ensure sustainable development of the rural economy and territories (Fig. 2). The instruments of this mechanism include: taxes, rent and resource payments; payment for the use of biological resources; fines for dangerous or unhealthy products; payment for harmful emissions; energy and environmental subsidies, and other measures.

![Mechanism of fiscal incentives for peasant farms](image)

**Fig. 2.** The mechanism of fiscal stimulation of entrepreneurial transformation of personal peasant farms in Ukraine. Source: authors' synthesis based on Tulush, Hryshchenko [24].

When forming the mechanism of financial incentives for the formation of high-value households, it is necessary to justify the “threshold” of the volume of activity, upon reaching which such a decision will be expedient both for the subjects of agricultural business - from the point of view of the acceptability of the level of tax expenditures, and for the state - in terms of the efficiency of administration of the taxation mechanism such subjects.
A shift in the focus of the state's agricultural policy towards supporting family farming is necessary to create a middle class in the countryside. Table 5 shows the measures to ensure the priority of supporting the transformation of personal peasant farms.

| Measures                                                        | Implementation of measures                                                                 |
|-----------------------------------------------------------------|-------------------------------------------------------------------------------------------|
| Formation of a mechanism for promoting the transformation of   | stimulating the diversification of the activities of household plots                      |
| household farms into family farms                               | provision of guaranteed one-time state financial support for the opening;                 |
|                                                                 | providing access to credit resources;                                                    |
|                                                                 | introduction of a system of state credit guarantees;                                     |
|                                                                 | exemption from taxation for the period of formation (5 years);                          |
|                                                                 | formation of preferences for capitalization;                                             |
|                                                                 | allocation of state support for household plots from the general system of support for   |
|                                                                 | FG and ensuring its minimum level;                                                      |
|                                                                 | provision of preferences for the access of their products to local markets;             |
|                                                                 | the introduction of specialized local markets for the sale of products of the household  |
|                                                                 | farm;                                                                                    |
|                                                                 | simplification of access to land resources;                                             |
|                                                                 | adoption of programs and measures of state support;                                    |
|                                                                 | creation of a favorable institutional environment                                        |
| Improvement of regulatory and legal support of activities      | introduction of a monitoring system and analysis of the effectiveness of the              |
|                                                                 | implementation of legal norms regarding the activities of household plots;             |
|                                                                 | improvement of the regulatory framework for the creation and operation of the household |
|                                                                 | farm on the basis of monitoring and analysis of efficiency;                            |
|                                                                 | stimulation of cooperation of households                                               |
| Governmental support                                            | stimulating the creation of new farms;                                                   |
|                                                                 | stimulating the development of agricultural service cooperatives;                       |
|                                                                 | stimulating the transition of farms to the production of organic products (raw materials); |
|                                                                 | stimulation of primary processing and processing of grown products;                    |
|                                                                 | support for the development of animal husbandry;                                       |
|                                                                 | stimulating the development of viticulture, horticulture and hop-growing;              |
|                                                                 | technical and technological update                                                     |

Source: Draft Concept for the Development of Family Farming until 2030 (2020) [26].

State support is primarily aimed at: completing the adaptation of Ukrainian legislation to the EU requirements in the field of agriculture (for small businesses), especially in terms of creating a certification system and regulation of the market for organic products and raw materials; stimulating the transition of households to the production of organic products (raw materials); improving the regulatory environment for doing business, creating a favorable investment climate; introduction of instruments to stimulate priority types of economic activity; promotion of full and productive employment, protection of rights and provision of safe working conditions. A special role is played by providing small business with credit resources, which we considered earlier [25].

The activities of high-end households of the population remain risky, given the fluctuations in income levels and the lack of financial mechanisms to stabilize them. The prospects for the development of these entities are rather uncertain, given the significant share of farms with a low level of agricultural technologies, increased standard requirements for product quality and safety, lack of access to credit resources, underdeveloped cooperative movement, lack of social protection in terms of minimum incomes and pension guarantees. As projected in the Concept (2020), it is necessary to ensure the priority of the provision of land plots for horticulture, viticulture, hop growing and organic farming. According to the results of our study, the potential number of household farms, which have grounds for fiscal transformation into commodity ones, is about 110 thousand units, of which about a third are dairy farms; 20% each - for general livestock and vegetable production; 15% each - fruit and berry and grain and technical.
Thus, it has been established that environmentally oriented agricultural entrepreneurship is an innovative direction of activity of business entities of various organizational and legal forms for the production of goods (provision of services) in the rural economy, the business strategy of which tends to make a profit with a focus on preserving the environment, taking into account environmental factors. The ecological development of rural areas should be considered as part of the economic growth of the state. The ecological sphere in this context plays a significant role: its functioning creates conditions for human life, determines the level of well-being of the population, health status, duration and comfort of life.

The results obtained are consistent with current knowledge of the subject. This is confirmed by the fact that the main institutional outlines of the ecological development of rural areas of Ukraine are laid down in the Concept of the State Target Program for Sustainable Development of Rural Areas for the period up to 2020 [26].

The theoretical basis of the observed results is explained by the financial mechanism (Fig. 3) for ensuring environmentally sustainable development of rural areas, which provides for the creation and functioning of: a system of fiscal incentives for sustainable development of rural areas; resource potential of rural areas; balanced production on an ecological basis; new jobs; introduction of high-tech, eco-friendly, resource-saving technologies; alternative energy sources; environmental taxes; attraction of budgetary and extra-budgetary funds for the implementation of environmental programs; creation of a competitive environment for equal access to the activities of all organizational forms of management, with a priority on self-employment of the rural population in commodity household plots, etc.

![Fig. 3. Financial support mechanism logically sustainable development of rural areas. Source: compiled by the authors by Stegney [8], Prokopa, Borodina, Popova [9], Concept [26].](https://doi.org/10.1051/e3sconf/202020305007)

The state financial policy for the development of Ukraine, solving the socio-economic problems of the agricultural sector should be based on the observance of both economic and environmental principles, requirements and goals. It is necessary to use the natural biological, labor and material and technical potentials in the most efficient, rational, environmentally balanced and safe way. The goal of greening is to stabilize and improve the ecological state of the territory of the state by approving the national environmental policy as an integrated factor in the socio-economic development of Ukraine to ensure the transition to sustainable economic development and the introduction of an ecologically balanced system of environmental management.

One of the ways to change the current situation for the better is to increase the role of financial mechanisms for greening, which requires not so much the development of new methods and approaches, but the improvement of existing regulators adapted to new
challenges and demands and a combination of forcibly restrictive and incentive-compensatory regulators. This is how you can provide more favorable conditions for the conservation of nature, as well as for the application of environmentally friendly technologies and methods of management in the agricultural sector.

Thus, the significance of the studies carried out is that it was confirmed that the system of fiscal support for household plots should be focused on providing benefits to existing farms that are able to rationally, with full dedication to use it, to ensure the maximum possible volume of production of high-quality, organic products in compliance with ecological balance and support of traditional farming systems, rural habitats.

At the same time, it is assumed that rural producers of small businesses are initially guided by the principles of thrift and responsibility for the state of the environment, since this is the place of their residence and future generations. Their well-being is the key to the formation of economically and environmentally balanced entrepreneurship, is the basis for the formation of environmentally friendly rural communities, and ensures sustainable development of rural areas.

Further research that needs to be carried out to solve the problem of forming a mechanism for financial incentives for high-end agricultural households, including for creating additional environmental benefits in the context of stable development of rural areas of Ukraine, relate to the scientific justification for giving official status to such farms, and as a consequence - a certain taxation system; the need for them to maintain statistical or accounting records; recognition of them as equal stakeholders of agricultural market relations; involvement in the system of state support and other areas of research. At the same time, for Ukraine, it is especially relevant to choose a methodology for grading household plots according to the level of marketability, profitability, involvement in added value chains. The priority criterion of state management of their activities remains the reliance on these farms as the basic low-lying step in compliance with environmental requirements, since they are attractive in growing ecological and organic products, craft goods, and other various activities in rural areas, thus replenishing local budgets and contributing to sustainable development.

5 Conclusions

At the current stage of development of the agricultural sector of Ukraine, in the conditions of a systemic global and national crisis, there is a need to stimulate qualitative changes in the agricultural sector, first of all, to maintain the ecological balance of production and consumption.

The most effective is the fiscal incentive mechanism due to the fact that it acts purposefully and allows taking into account the interests of profitability, efficiency and environmental friendliness of agricultural production. The most predisposed to the optimal combination of these requirements are PPF. While they, despite the significant volumes of agricultural activity, are actually outside the system of state financial relations. It is necessary to introduce them into the legal field of entrepreneurship, through transformation through the mechanism of fiscal benefits. Additional fiscal measures will create an institutional framework for the activities of household plots and will facilitate involvement in full-fledged market relations. As a result of the involvement of these farms in the subjects of market relations, due to their mobility and the continuity of the traditions of management, significant economic, social and environmental effects are expected. This will have a positive effect on the prospects for their development, competitiveness, income level, social protection of members, sustainable development of rural areas, compliance with the ecological balance of use and reproduction of resources.
The mechanism of eco-friendly development should act as an organic component of the economic mechanism of nature management, thus measures should be consistent with natural processes and existing economic mechanisms and be implemented in a single economic complex.

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