INVESTMENT INTO INDIVIDUAL FARMING HOUSEHOLDS AS A REQUIREMENT OF UKRAINIAN FOOD SECURITY

Kateryna Prib, National University of Kyiv-Mohyla Academy
Svitlana Stepanchuk, National University of Food Technology
Olha Antonova, National University of Food Technologies
Anna Dergach, National University of Life and Environmental Sciences of Ukraine
Olha Bodnar, National University of Kyiv Mogyla Academy
Nataliia Karpinska, Lesya Ukrainka Volyn National University

ABSTRACT

The aggravation of the food crisis in the world highlights the problem of finding additional reserves to increase food production. In this context, personal farms of Ukraine attract special attention. They ensure the production of much of the country's food; contribute to the employment of peasants and the development of rural areas. The aim of this article is to assess the resource and production potential of private farms, as well as to justify the feasibility of using their existing investment instruments. General scientific and special methods are used in the work. The main emphasis is on assessing the resource and production potential of the studied categories of farms. Methods of structural analysis and evaluation of time series have made it possible to establish the link between the level of crisis phenomena and the growing importance of personal farms in the country's food supply, as well as to compare their potential with the potential of the agricultural sector of the country as a whole.

It was found that personal farms play an important role in the country's food security, as well as in the formation of a system of self-employment and socio-cultural relations. It is established that such farms successfully provide food needs for the rural population, as well as sell surplus products on the market. It has been proved that these economic entities have significant resource and production potential, but expanding the scope of their activities requires a number of measures, including changing the public policy to support farms, as well as ensuring active investment in their development. In the process of assessing the production and resource potential of private farms, it was determined that they have significant resources to invest their own resources in their development. Recommendations on intensification of investment activity of personal peasant farms are generalized; as a result, a number of measures, which can be applied in Ukraine, are resulted. It is established that the key areas for the application of these measures are information and educational activities, strengthening the competitive position of private farms, improving access to public and private investment, as well as diversification of activities. It was agreed that the complex combination of these measures within a single strategy would allow achieving maximum results in terms not only of food supply of the country, but also the development and improvement of welfare of individual rural households.

Keywords: Investment; Farming households; Food security; Sustainable economy.

Citation Information: Prib, K., Stepanchuk, S., Antonova, O., Dergach, A., Bodnar, O., & Karpinska, N. (2021). Investment into individual farming households as a requirement of Ukrainian food security. *Journal of Management Information and Decision Sciences, 24*(S5), 1-12.

INTRODUCTION

The issue of investment of personal farms in Ukraine is at the intersection of a number of current scientific issues, including the transformation of property and economic relations in post-socialist countries, socio-economic development of rural areas, increasing the intensity and efficiency of agricultural production of small businesses and food security of the country in difficult economic conditions. Accordingly, the relevance of the problem formulated in the title of the article is interdisciplinary. However, the primary factor is food security, which is associated with the growing importance of Ukraine as a food producer in the world in the context of population growth and exacerbation of hunger.

According to UN forecasts, in 2050 the number of people on the planet will reach 9.7 billion (Department of Economic and Social Affairs Population Dynamics. UN, 2019), and the need for food security will reach unprecedented levels. Therefore, today the search for additional reserves for the growth of agricultural production is an important scientific task. After a long period of focusing on large agro-food companies as key objects of the agricultural sector, the emphasis is gradually shifting to small farms or peasant farms. They play an important role not only from the standpoint of food producers, but also from the standpoint of employment, socio-cultural development and ecology.

That is why the assessment of the production potential of private farms, as well as the search for methods, directions and tools for investing in them is an urgent scientific problem, the solution of which will improve food security and ensure the development of these forms of management through better adaptation to market conditions.

LITERATURE REVIEW

Report of the FAO World Security Committee (CFS, 2013) has become a kind of watershed in the search for tools to solve the problem of food security in the world. The report highlighted the special role of smallholder farmers in food security at the local and global levels. At the same time, it was stated that they are the main investors in their own economy. The Food and Agriculture Organization (FAO, 2015) declared 2014 as the International Year of Family Farming. International Year of Family Farming, which contributed to the recognition of their importance by sensitizing the world community to the impact of these farms on reducing hunger and poverty, increasing food security, nutrition and well-being of the population, etc. In 2021, the previously outlined benchmarks were again supported by the Committee (CFS, 2021), which characterizes the consistency of the priorities of world food policy in relation to small farms in agriculture.

The shift in the focus of world food policy has resulted in a gradual shift in the focus of research. If previously peasant farms were studied to a greater extent in terms of shortcomings, risks and institutional failures inherent in the scope of their operation (Wiggins et al., 2010; Varga, 2017), further research is more often focused on the prospects of development of farms of this type (Hubeni et al., 2017; Whittet al., 2020).

An important area of research on the issues raised was the search for correspondences between personal farms operating in Ukraine and forms of farms in other countries. (Poczta et al., 2015; Borodina et al., 2018; Vasylieva & James, 2020; Guarin et al., 2020; Nivievskyi et al., 2021). In this context, it was established that Ukraine has a large number of agricultural producers who are not officially economic entities. Individual farms, agricultural households and secondary agricultural farms (Ternivskyi, 2013; Nemish et al., 2021) form their basis. World practice tries to minimize the number of such farms without entrepreneurial status, limiting them to agricultural households, individual agricultural farms or so-called "hobby

Citation Information: Prib, K., Stepanchuk, S., Antonova, O., Dergach, A., Bodnar, O., & Karpinska, N. (2021). Investment into individual farming households as a requirement of Ukrainian food security. *Journal of Management Information and Decision Sciences, 24*(S5), 1-12.

farms". In addition, the analysis of agricultural farms in most cases is closely intertwined with a number of other entities - food producers, including small and family farms. These studies focus on the combined characteristics of small farms and agricultural households (Chernyakov, 2012; Poczta et al., 2015), assess their coexistence with large farms (Samarets & Nuzhna, 2018), assess the production potential (Hubeni et al., 2017; Ricciardi et al, 2018), substantiate common directions of development (Whitt et al., 2020), and also offer directions of their classification and grouping (Guarin et al., 2020).

Given the similar characteristics of personal farms in Ukraine, as well as the relevant forms of management in other countries, assumptions are made about the feasibility of using similar methods and tools of support with those used abroad. (Graeub et al., 2016; Otsuka et al., 2016; Hubeni et al., 2017; Varga, 2017). Among the given directions of support of development of agricultural farms, the offers on application of available tools of investment occupy a special place (Inclusive Investment Team, 2014; The World Bank, 2019), which are combined with thoughts about creating favorable institutional conditions for their development (Graeub et al., 2016; Varga, 2017; Vasylieva & James, 2020) or transformation of personal farms into other forms of management with the official status of a business entity (Hubeni et al., 2017; Mishenin et al., 2017).

A separate group of studies on the problem of investing in private farms (IAP) is formed by complex developments that take into account the risks of financial institutions in a pandemic Covid-19 (Bobrovska et al., 2021), ensuring the management of investment processes through public administration (Karpa et al., 2021), investment with an emphasis on the development of intellectual potential of IAP, the formation of management skills through a system of comprehensive training (Mordvinov et al., 2021), the potential of integrating the investment system in private farms in the structure of public finance (Bashtaninyk et al., 2021).

In this context, we note the weak statistical base of the study of personal farms in Ukraine, the lack of thorough work assessing their production and investment potential, as well as the need to assess the proposed areas of investment incentives for personal farms, taking into account national characteristics.

The aim of the article is to identify the production and investment potential of personal farms in Ukraine and determine their institutional capacity to use existing investment instruments.

METHODS

The methodological basis of the study is general scientific methods (analysis, synthesis, classification, generalization and analogy) and methods of scientific knowledge (formally logical, historical-legal, formal-legal, and comparative-legal). The methods of analysis and synthesis, logical and comparative analysis were also used in the work, which allowed revealing interdependencies and evaluating the efficiency of personal farms and their role in the food supply of the country.

An important group of methods consisted of methods of comparison aimed at determining the potential of private farms in comparison with agricultural enterprises of Ukraine. The use of such a method is intended to test the assumptions about the depression of small organizational forms in agriculture. The application of methods of structural analysis and time series in the work allowed establishing a number of patterns of resource provision and production and investment potential of personal farms.

Citation Information: Prib, K., Stepanchuk, S., Antonova, O., Dergach, A., Bodnar, O., & Karpinska, N. (2021). Investment into individual farming households as a requirement of Ukrainian food security. *Journal of Management Information and Decision Sciences, 24*(S5), 1-12.

The informational basis of the research was formed by the data of the State Statistics Service of Ukraine, partly based on the reports of local self-government bodies (data on the number and area of IAP), and partially by means of inventory of households (data on expenditures of households, sales of surplus agricultural products, use of products grown in IAPs for catering purposes, etc.).

RESULTS OF THE RESEARCH

The formation of a diversified economy in Ukraine was the result of a long-term agrarian reform, which resulted in the decollectivization and privatization of agricultural land. In the early stages of institutional transformation, the key role was given to individual agricultural farms, which, in the face of the collapse of the socialist economic system, took on the role of major food producers in the country. After the settlement of organizational processes related to the formation of mechanisms for land lease and access to financial and material resources, the dominant position in the field of agro-food production gradually passed to agricultural enterprises. This is connected with the current state of the agricultural sector of Ukraine, the growth of gross production, strengthening export potential and so on.

Nevertheless, private farms in Ukraine still provide the production of a significant part of agricultural products, which is 30% in crop production and 48% in animal husbandry. At the same time, self-sufficient households dominate in the production of labor-intensive and low-profit products (potatoes, vegetables, fruits, berries, milk, wine, honey), while large agricultural enterprises specialize in the production of highly productive and profitable products (cereals and industrial crops, production of meat and eggs).

Without being able to distinguish between unregistered farms and small farms in other countries of the world, we note that there they also account for the majority of entities in the food market. According to a low-level European farmers' organization, The European Coordination via Campesina (ECVC, 2017), there are over 1.2 million small farms in Europe, cultivating 174 million hectares of land. However, an estimated 69% of them have less than 5 hectares of land. The ECVC puts a special emphasis on employment, noting that large farmers account for only 5% of the total number of those employed in agriculture.

The activity of personal agricultural farms in Ukraine is clearly regulated by a special law "On personal agricultural economy". According to the law, they are economic activities carried out without the creation of a legal entity by an individual or persons who are in a family or cohabitation and live together, in order to meet personal needs through production, processing and consumption of agricultural products, sale of its surpluses and provision of services using the property of personal farming, including in the field of rural green tourism (On Individual Farm Law of Ukraine, 2003). Among the key features that distinguish this type of economic activity from others, we emphasize the following:

- this activity does not apply to business;
- land plots with an area of not more than 2.0 hectares are used for farming activities (although the area may be increased by renting, acquiring or inheriting other land plots);
- this activity is not registered by any state or local authorities, although it is subject to statistical accounting by survey and observation methods.

The lack of the status of a business entity limits the possibility of collecting factual material about the activities of personal farms. According to the methodology of statistical observations, almost all information about the state of these farms is obtained because of a survey and survey of a sample of respondents with subsequent extrapolation of the

Citation Information: Prib, K., Stepanchuk, S., Antonova, O., Dergach, A., Bodnar, O., & Karpinska, N. (2021). Investment into individual farming households as a requirement of Ukrainian food security. *Journal of Management Information and Decision Sciences, 24*(S5), 1-12.

information obtained. The weak information base necessitates the use of information about other subjects of statistical accounting, which is characterized as controversial in the domestic scientific community. Thus, official statistical reports use the notion of "households in rural areas" in addition to the term "individual rural households", "households" (when referring to the production of agricultural products in individual farms of villagers) or "subsidiary farms" (in the case of research on the volume of production of products by villagers for their own needs).

For a better understanding of the subject of the study, we analyze its key parameters (Table 1).

TABLE 1
NUMBER OF PRIVATE FARMS AND THEIR LAND USE AT THE BEGINNING OF THE YEAR

Indexes	Years					2021 to 2017,%
	2017	2018	2019	2020	2021	
Number of farms, thousand	4075.2	4031.7	3996.5	3975.1	3954.8	97.0
Area of land plots, thousand hectares	6268.0	6175.6	6132.2	6133.6	6125.7	97.7
including with the intended purpose						
for construction and service of a house, outbuildings and constructions	799.7	793.3	791.0	788.3	787.0	98.4
for personal farming	2580.9	2551.3	2513.4	2512.6	2517.7	97.6
for conducting commodity agricultural production	2818.9	2799.3	2777.1	2781.8	2772.6	98.4
of which are rented	330.2	338.5	345	348.2	350.9	106.3
The average area of one farm, ha	1.54	1.53	1.53	1.54	1.55	100.7

Source: State statistics service of Ukraine, (SSSU, 2021).

As we can see, the total number of private farms in Ukraine at the beginning of 2021 amounted to almost 4 million units with an average area of 1.55 hectares per farm. The basis of their land use is formed by lands intended for personal farming and commodity agricultural production (over 86% of the land). Part of the land is leased; the rest is land with buildings and structures located on it, part of which is used as utility rooms. In the dynamics, we can observe a reduction in the number of private farms in Ukraine and a decrease in their total area against the background of maintaining the average size and increasing the area of land leased. For comparison, the total number of agricultural enterprises in Ukraine according to the Ukrainian State Statistics Service is more than 45 thousand.

The differences in the number and volume of land use are directly related to the main reason for the creation of the economy. Thus, the main purpose of creating a personal agricultural farm is to provide food for his family by cultivating their own land. This contributes to stimulating the productive activity of the rural population, overcoming food shortages, growing environmentally friendly products. The main purpose of creating an agricultural enterprise - commodity production of agricultural products for profit.

The volume of non-commodity production of agricultural products for personal consumption of the family and the sale of surpluses of such products essentially determine the economic potential of private farms (Table 2).

Citation Information: Prib, K., Stepanchuk, S., Antonova, O., Dergach, A., Bodnar, O., & Karpinska, N. (2021). Investment into individual farming households as a requirement of Ukrainian food security. *Journal of Management Information and Decision Sciences, 24*(S5), 1-12.

TABLE 2
THE STRUCTURE OF TOTAL RESOURCES OF HOUSEHOLDS RELATED TO PERSONAL (AUXILIARY) ECONOMY, %

Indexes	Years										
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Revenues from sales of agricultural products	3.4	3.1	2.8	2.8	3.2	3.4	2.9	3.0	2.5	2.4	2.2
The cost of consumed products obtained from personal farms and from self-procurement	5.0	4.8	3.8	3.9	4.6	5.1	4.8	4.0	3.8	3.6	3.3
Together	8.4	7.9	6.6	6.7	7.8	8.5	7.7	7.0	6.3	6.0	5.5

Source: State statistics service of Ukraine, (SSSU, 2021).

As we can see, the incomes and resources received at the expense of personal economy for the last 11 years formed from 5,5 to 8,5% of the general resources and incomes of peasants. At the same time, the largest values of the share of income from the sale of agricultural products, as well as the value of consumed products obtained from own economy was observed in the most crisis periods for the country - after the global financial crisis in 2009 and after Russia's military aggression against Ukraine. (2014-2015). As of 2020, there is a record decrease in the share of these items of household income and resources to a total of 5.5%, which can be conditionally perceived as the absence of acute threats to food security in the country.

The results of production were the result of economic activity and financial costs of the peasants. At the same time, all the resources used either belonged to the peasant personally or were attracted by him at his own expense. The general property status of personal farms for 2020 is given in Table 3.

TABLE 3
SOME PARAMETERS OF THE PROPERTY STATUS OF PERSONAL FARMS IN 2020

Type of property	The level of security of personal farms,%
Farm animals	62.3
of them	
bird	96.7
pigs	37.8
shuttle	28.0
Premises and outbuildings	99.2
incl. buildings of complex use	62.9
for crop storage	56.7
for keeping animals	41.8
for feed storage	28.4
for maintenance of equipment and stock	11.4
Availability of agricultural machinery	21.0
incl. tractor	18.9
plows and harrows	22.0
combines	1.5
trucks	2.5

Source: State statistics service of Ukraine, (SSSU, 2021).

Citation Information: Prib, K., Stepanchuk, S., Antonova, O., Dergach, A., Bodnar, O., & Karpinska, N. (2021). Investment into individual farming households as a requirement of Ukrainian food security. *Journal of Management Information and Decision Sciences, 24*(S5), 1-12.

In addition to the data given in the table, we note that about 83.9% of all personal farms have land up to 2 hectares. Thus, their common property generally corresponds to the level of land supply, as well as the main task of personal farms - food production for their own family. Accordingly, the low level of technical means is not a risk factor or a weakness of such farms, but rather an objective consequence of their legal and economic status.

At the same time, we will note that personal agricultural farms conduct rather intensive production. More than 80% of them use organic fertilizers and plant protection products, more than 63% apply mineral fertilizers and follow crop rotations, 54% carry out sanitation of premises, 42.8% - veterinary inspections. At the same time, only 16.6% of farms attract hired labor mainly on a seasonal or one-time basis.

The performance of rural households today is expected to be lower than in agricultural enterprises. Thus, in terms of crop yields, they are 15-35% inferior to the level of enterprise yields. We will note that such situation became steady only after 2010. Until then, many cultures had a predominance of households or relative parity. As for livestock, more pigs and poultry are kept in agricultural enterprises. For all other species of animals - a significant advantage belongs to households, including 64.9% of cattle, 86.7% of sheep and goats, and 94.7% of horses.

These values of resource provision and productivity of private farms generally correspond to their mission, defined in the process of agrarian reform and legally legitimized - "satisfaction of personal needs through the production, processing and consumption of agricultural products." At the same time, the changes and challenges associated with the deterioration of food security in the world and the need to strengthen Ukraine's competitive position in the world food market require them to increase production and reach a new level of economic activity.

For a clearer understanding of the scale of economic activity of personal farms, we will estimate the costs of agricultural households for personal subsistence farming. Thus, according to the State Statistics Service of Ukraine, in 2020 the costs of subsidiary farming averaged UAH 148.5 per month per household, which totaled UAH 2.2 billion per year for all households.

For comparison, total capital investment in agriculture in the same year amounted to UAH 50.2 billion. Thus, the total costs of peasants to run their own personal (subsidiary) farm are comparable to 4.4% of total investment in the industry. Estimating the proceeds from the sale of agricultural products produced in the personal subsidiary farm based on data from the State Statistics Service of Ukraine, we will receive a total amount of UAH 47.5 billion from all households in 2020. The calculations of the total value of products consumed by households produced in personal subsidiary farms will allow obtaining the amount of UAH 72.2 billion. That is, in total, the total production potential of private farms reaches 119.7 billion UAH. For comparison, the gross domestic product of the industry in 2019 amounted to UAH 356.8 billion. If we extrapolate the ratio of capital investments attracted to agriculture to the size of gross output in the industry (14.1%) to the corresponding parameters of personal farms, we obtain the amount of investment equal to the total value in the industry - 16.8 billion UAH. Thus, in order to reach the level of investment in individual rural households, which corresponds to the ratio in the whole sector of agriculture, at least 16.8 billion dollars should be invested in individual rural households. This amounts to UAH 4248 per rural household.

A prerequisite for attracting systemic investment in private farms should be certain actions aimed at expanding production, changing the scope or organizational form of activity.

Citation Information: Prib, K., Stepanchuk, S., Antonova, O., Dergach, A., Bodnar, O., & Karpinska, N. (2021). Investment into individual farming households as a requirement of Ukrainian food security. *Journal of Management Information and Decision Sciences, 24*(S5), 1-12.

We believe that only in this case, personal farms will be able to really help solve the problem of food security of the country and the world.

Following the announced policy of promoting the development of small farms in rural areas, international financial institutions have developed appropriate projects and models that contain directions, tools and proposals for creating better investment conditions for private farms, improving their financial capacity or increasing market weight (World Bank 2019; Inclusive Investment Team; 2014; Committee on World Food Security (CFS) 2013). The results of summarizing these proposals and their arguments for strengths and weaknesses are presented in Table 4.

The given directions of stimulation of investment activity have complex character and allow improving not only access to investment resources and level of awareness about them, but also a financial condition of personal agricultural farms, their competitive position and resource maintenance. That is, they also allow you to create better conditions for self-investment or improve creditworthiness. Nevertheless, there are reservations about each of these measures, due either to the low level of funding for government programs, or the lack of special preferences for private farms, or the need to educate farmers and intensify their economic and entrepreneurial activity.

TABLE 4
ASSESSMENT OF THE IMPACT AND RESERVATIONS ON THE USE OF THE PROPOSED AREAS TO STIMULATE INVESTMENT ACTIVITY IN PRIVATE FARMS (IAP)

Activities and directions	Expected impact	Reservation
to raise awareness and capacity of agricultural farms to receive state investments and subsidies;	will convey existing proposals for investment programs and resources to recipients	existing systems of subsidies in the field of animal husbandry and horticulture are often underfunded, other areas are not supported
to improve the access of farms and agricultural farms to the state land lease market	will increase the amount of land use through the lease of state lands	the procedure of lease of state lands is competitive without preferences for IAP
diversification of production and increase in the market value of agricultural products	reduce possible risks in bad or unfavorable years, expand the market	often requires the development of new technologies or the availability of technical means
creating better economic opportunities for smallholders in the markets	strengthening the market influence of the peasants will increase the price of products and better financial security	there are no mechanisms to regulate competition for IAP
protection against price imbalances in food markets in relation to small producers	provides for cheaper production and a reasonable increase in food prices	lack of a mechanism to compensate for the cost of means of production IAP and regulation of prices for their products
integration of small farmers into value chains	gives the chance of realization of production with the highest level of processing at the highest price	needs tools to form value chains
creation of investment banking products focused on small producers	will provide access to financial resources at lower interest rates and better conditions	lack of entrepreneurial status IAP prevent the conclusion of preferential credit and investment agreements
development of non-agricultural employment among rural residents.	will contribute to the diversification of financial revenues and reduce seasonality	needs consulting services and training of peasants

Source: The (Committee on World Food Security (CFS) 2013; Inclusive Investment Team; 2014; World Bank 2019).

Citation Information: Prib, K., Stepanchuk, S., Antonova, O., Dergach, A., Bodnar, O., & Karpinska, N. (2021). Investment into individual farming households as a requirement of Ukrainian food security. *Journal of Management Information and Decision Sciences, 24*(S5), 1-12.

The elaboration of the above reservations should serve as a basis for a comprehensive strategic plan to improve the mechanism of investment in personal farms. To do this, firstly, it is necessary to equate personal farms to business entities, which will allow them to access investment and credit programs addressed to small businesses. In addition, it is necessary to create conditions for information and educational development of agricultural farms, aimed at the development of new technologies, methods of processing and storage of products, non-agricultural activities and more. Such actions will help increase the level of financial security of agricultural farms and their economic development. We will single out measures aimed at mitigating price disparities, creation of chains of the increased cost and interaction with other market participants. These measures primarily involve the creation of consumer or service cooperatives, for which Ukraine has already developed favorable conditions for attracting private or public investment in joint projects, such as the purchase of equipment, the creation of outlets and more.

Thus, investing in private farms is an important task not only in the context of food security in Ukraine. The level of material security and economic activity of peasants today allows solving this problem. Much greater prospects in terms of attracting investment are facing this category of farms in the context of economic development, improving market interaction, development of new technologies and activities, among which the priority is organic farming, green tourism, floriculture, ornamental and productive gardening, breeding of ornamental species of animals and birds, cultivation of medicinal herbs, production of spices, etc. The tools available today to ensure full investment in private farms have a number of limitations that can be removed through targeted administrative action, training and information activity, as well as more active market interaction through the creation of cooperatives and associations.

DISCUSSION

In scientific works aimed at the study of small farms and agricultural farms, a significant role is given to substantiate the value of this type of economic entities and determine their impact on food security of countries and the world (Chernyakov, 2012; Poczta et al., 2015; Samarets & Nuzhna, 2018; Whitt et al., 2020). At the same time, it is pointed out that there are certain obstacles and problems of an institutional nature related to market imbalances, lower financial and investment potential compared to large agro-industrial companies (Hubeni et al., 2017; Varga, 2017).

Agreeing with the opinion that the lack of personal farms in the status of business entities is a disadvantage of their involvement in organized trade, however, we note that this type of farm has significant resource and production potential, and given the volume financial costs and revenues, they have fairly large domestic investment opportunities.

In view of this, the priority task of institutional transformation or investment support for the development of personal farms, which is emphasized by a number of scholars (Hubeni et al., 2017; Mishenin et al., 2017; Nemish et al., 2021; Dmytryk, 2019), there should be an assessment of the possibility of using internal resources and market relations.

Developed practices and proposals for investing in private farms (Committee on World Food Security (CFS), 2013; The World Bank, 2019; Inclusive Investment Team, 2014; Bashtaninyk et al., 2021; Mordvinov et al., 2021) allow to solve a number of problems concerning attraction of investments in agricultural farms, and also improvement of their financial condition, resource maintenance and a competitive position. However, these measures also contain a number of caveats related to the insufficient level of funding for state

Citation Information: Prib, K., Stepanchuk, S., Antonova, O., Dergach, A., Bodnar, O., & Karpinska, N. (2021). Investment into individual farming households as a requirement of Ukrainian food security. *Journal of Management Information and Decision Sciences, 24*(S5), 1-12.

programs to support the development of agricultural farms, low level of familiarization of farmers with advanced technologies, lack of business status, which limits access to soft loans and investments for small business. In such conditions, the strategy of increasing the level of investment support of personal farms should be formed based on a combination of the following components: promoting the process of creating cooperatives of farms,

These proposals require additional justification, coordination and implementation through the tools of public administration, fiscal policy and financial and credit activities. These areas should be the key topic of further research to achieve the maximum economic and social effect of investing in the activities of personal farms.

CONCLUSIONS

Private agricultural farms are special economic entities that play an important role in the country's food supply and peasant employment, but do not have the status of business entities. They perform the function of meeting the personal needs of peasants through the production, processing and consumption of products with the right to sell surplus products on the market. In the scientific literature and statistical reports of Ukraine, along with the concept of "personal farms", the terms "households", "households", "subsidiary farms" are used, which is associated with the information accounting system based on sample surveys and extrapolation of sample data to the whole set of farms of this type.

The number of private farms and the total size of their land tenure is gradually declining, but their average size (1.53-1.55 hectares) is virtually unchanged. In the overall structure of total household resources, the share of resources and income received from personal farming is 5.5%. However, this value increases in the crisis to the level of 8.4-8.5%, which confirms the important role of private farms in the country's food supply, especially in unfavorable periods.

The general resource and property status of private farms is good enough to meet the own food needs of peasants, however, to solve more important problems of improving the economic situation and increase production; it needs to be improved, including through investment.

Analysis of costs and incomes of private farms in the context of personal subsidiary farming showed the presence of significant financial and production potential, which is comparable to a third of the gross product of the industry. This indicates the possibility of investing in personal farms at their own expense. Extrapolating the ratio of capital investments attracted to agriculture to the parameters of personal farms, it was found that to ensure the same level of development per farm must attract at least 4.2 thousand UAH per year.

Elaboration and generalization of existing programs, models and recommendations for stimulating investment in private farms, allowed forming a list of key measures aimed at raising awareness of available investment resources, improving the financial condition of farms and their competitive position, as well as diversification. The existence of reservations on each of the proposed measures identified the need to improve financial mechanisms for state support for agricultural development, the need to implement a holistic policy aimed at educating and providing information to farmers in the field of technological innovations and alternative employment, and the use of existing conditions for cooperation.

Citation Information: Prib, K., Stepanchuk, S., Antonova, O., Dergach, A., Bodnar, O., & Karpinska, N. (2021). Investment into individual farming households as a requirement of Ukrainian food security. *Journal of Management Information and Decision Sciences, 24*(S5), 1-12.

REFERENCES

Bobrovska O. Y., Lysachok AV, Kravchenko TA, Akimova LM. & Akimov OO (2021). The current state of investment security in Ukraine in the context of covid-19 and its impact on the financial and economic situation of the state. *Collection of scientific papers Financial and Credit Activity-Problems of Theory and Practic,. 1*(36), 233-242.

Borodina, O. M., Kyryziuk, S. V. & Prokopa, I. V. (2018). Farming potential of households: methodological approaches to valuation and development. *Ekonomika prohnozuvannia (Economics of forecasting), 4*, 106-115.

CFS (2021). Investing in smallholder agriculture for food security and nutrition. Retrieved from: http://www.fao.org/3/av034e/av034e.pdf

Chernyakov, V. A. (2012). Modern drivers of modernization of USA agriculture. *SShA and Canada: Economics, Policy, Culture [USA and Canada: economics, policy, culture], 11*, 89.

Dmytryk, O. V. (2019).The role and place of personal farming in the formation of rural household incomes. *Ekonomika ta derzhava (Economy and the State), 9*, 73-77.

ECVC (2017). *10 Facts about Peasant Agriculture in Europe (2017)*. European Coordination Via Campesina ECVC. Retrieved from https://www.eurovia.org/10-facts-about-peasant-agriculture-in-europe/

Graeub, B., M. Chappell, H. Wittman, S. Ledermann, R. Kerr & B. Gemmill-Herren (2016). The State of Family Farms in the World. *World Development, 87*, 1-15.

Guarin A., Rivera M., Teresa Pinto-Correiab, Nuno Guiomarb, Sandra Šūmanec, Olga M. Moreno-Perez (2020). A new typology of small farms in Europe. *Global Food Security, 26*, 100389.

Hubeni, Yu.E., Koverko, Yu.A. & Olishchuk, P.O. (2017). Development of personal farms in terms of institutional changes. *Economy of Ukraine (Ukraine economy), 3*(664), 59-67.

Inclusive Investment Team (2014). Inclusive Investment Model for Peasant Farming. Retrieved from https://www.utviklingsfondet.no/files/uf/documents/Inclusive_Investment_FULL_DOC_web.pdf

Karpa, M., Akimova, L., Akimov, O., Serokhina, N., Oleshko, O. & Lipovska, N. (2021). Public administration as a systemic phenomenon in society. *Ad Alta: Journal of interdisciplinary research, 11*(1), 56-62.

Mishenin, Y. Valentynov, V. Maslak O. & Koblianska I. (2017). Bluen transformations in small-scale agricultural commodity production in Ukraine. *Marketing and management of innovation, 4*,358-366.

Mordvinov, O., Kravchenko, T., Vakhonova, O., Bolduiev, M., Romaniuk, N., & Akimov, O. (2021). Innovative tools for public management of the development of territorial communities. *Ad Alta: Journal of interdisciplinary research*, *11*(1), 33-37.

Nemish, D. V., Humeniuk, M. M., Balaniuk I. F., Shelenko, D. I., & Sas, L. S. (2021). Prospects for the development of private farms in the context of administrative decentralization. *Bulletin of Agricultural Science, 2*(815), 76-87.

Nivievskyi, O., Yavorskyi, P., & Donchenko, O. (2021). *Small farmers and households in agriculture and rural economy: assessment of their role and measures to support their sustainable development*. Kyiv School of Economics. Retrieved from https://kse.ua/kse-research/assessing-the-role-of-small-farmers-and-households-in-agriculture-and-the-rural-economy-and-measures-to-support-their-sustainable-development /

Otsuka, K., Liu, Y., & Futoshi, Y. (2016). The future of small farms in Asia. *Development Policy Review, 34*(3), 441-461.

Poczta, W., Szuba-Baranska, E., Beba, P., & Czubak, W. (2015). Structural and economic heterogeneity and opportunities for the development of family farms in the EU. *Wieś i Rolnictwo, 1*, 59-66.

Ricciardi, V., Ramankutty, N., Mehrabi, Z., Jarvis, L., & Chookolingo, B. (2018). How much of the world's food do smallholders produce? *Global Food Security, 17*, 64-72.

Samarets, N., & Nuzhna, S. (2018). The modern contribution of the basic categories of producers to Ukrainian agrarian production. *Agricultural and Resource Economics: International Scientific E-Journal, 4*(4), 52-71.

Ternivskyi T. (2013). Ukrainian phenomenon: personal peasant farms must change their status. Ridne village [Native village]. Retrieved from http://ridneselo.com/node/9781 [in Ukrainian].

The World Bank (2019). Program appraisal document on a proposed loan in the amount of US $ 200 million to Ukraine for an accelerating private investment in agriculture program (2019). Report No: PAD3078. Retrieved from https://documents1.worldbank.org/curated/en/903491559008866876/pdf/Ukraine-Accelerating-Private-Investment-in-Agriculture-Program-Project.pdf

UN (2019). The 2019 *Revision of World Population Prospects (2019)*. Department of Economic and Social Affairs Population Dynamics. UN. Retrieved from https://population.un.org/wpp/

Citation Information: Prib, K., Stepanchuk, S., Antonova, O., Dergach, A., Bodnar, O., & Karpinska, N. (2021). Investment into individual farming households as a requirement of Ukrainian food security. *Journal of Management Information and Decision Sciences, 24*(S5), 1-12.

Varga, M. (2017).Small farmers survival and growth: Making investments despite credit constraints. *Sociologia Ruralis*, *57*(S1), 641-660.

Vasylieva, N., & James Jr., H. (2020). Prospects of family farming: Ukrainian vs EU experience. *Journal of International Studies, 13*(3), 129-142.

Whitt, C., Todd, J. E., & Macdonald, J. M. (2020). America's Diverse Family Farms: 2020 Edition. *Economic Information Bulletin, (EIB-220),* 30. Retrieved from https://www.ers.usda.gov/publications/pub-details/?pubid=100011

Wiggins, S., Kirsten, J., & Llambi, L. (2010). The Future of Small Farms. *World Development, 38*,(10), 1341-1348.

Citation Information: Prib, K., Stepanchuk, S., Antonova, O., Dergach, A., Bodnar, O., & Karpinska, N. (2021). Investment into individual farming households as a requirement of Ukrainian food security. *Journal of Management Information and Decision Sciences, 24*(S5), 1-12.