

## THE NECESSITY OF AGRICULTURE INDUSTRIALIZATION IN THE REPUBLIC OF ARMENIA

Liana Samvel Azatyan  
Gohar Vazgen Voskanyan

Հոդվածը ստացվել է՝ 02.02.23, ուղարկվել է գրախոսման՝ 14.03.23, երաշխավորվել է տպագրության՝ 08.05.23

**Introduction.** As it has been stated many times, agriculture is one of the important branches of Armenian economy, which not only provides the population with necessary food, but also creates jobs for rural population, solving the issues of unemployment in rural areas. The sector also supplies the processing industry with raw materials, the products of which are sold both in our country and exported abroad. Therefore, the industrialization of agriculture and the introduction and implementation of the latest technologies in agriculture becomes a necessity. This fact provides **the relevance** of this article.

The main **goal** of the article is to identify the problems of agriculture industrialization and to provide the ways of that problems' solution. To achieve that goal following tasks were set:

1. To study the current state of industrialization of agriculture in Armenia,
2. To analyze the main indicators of agriculture productivity,
3. To highlight the existing problems in the field.

**Literature review.** Agricultural production and the industrialization of the sector have been addressed by a number of specialists and scientists, who in the scope of their studies addressed the problems of the sector and proposed ways to solve them. The application of those proposals has an impact on the development of the country's economy.

According to Nechaev and Paramonov, "Production is an activity of creating material, social and spiritual wealth, and its purpose is to satisfy people's needs. Consumable production means and consumer goods must be constantly replenished. Therefore, production cannot stop"<sup>1</sup>.

The problem of increasing the economic efficiency of production resources' usage in agriculture is very important and one of the main issues in the production process. Special attention of the problem of increasing the economic efficiency of the production resources of the agricultural sector is due to the fact that its successful solution directly brings the significant improvement of the country's production supply.<sup>2</sup>

---

<sup>1</sup> Nechaev V.I., Paramonov P.F. Organization of production and entrepreneurial activity in the agro-industrial complex: Textbook / V.I. Nechaev, P.F. Paramonov / KubGAU - Krasnodar, 2007 - 466 p., Art. 28, ISBN 5-94972-116-X, (original in Russian)

<sup>2</sup> Economics of organizations and branches of the agro-industrial complex. In 2 books. Book. 1 / V. G. Gusakov [and others]; under total ed. acad. V. G. Gusakova. - Minsk: Belarus. science, 2007. - 891 pages. p. 179, ISBN 978-985-08-0843-1., (original in Russian)

As A. Bayadyan stated in his work "... the agrarian sector of the republic (RA) faces many unsolved problems, the main part of which is determined by the improvement of marketing services, agrarian market, efficiency and intensive development of industry, sales of products, activity of processing industry, trade and similar other sectors"<sup>1</sup>.

The state agrarian policy is defined as an integral part of the state's socio-economic policy, which is aimed at the sustainable development of agriculture and rural areas. The latter implies stable socio-economic development of rural areas, increasing the volume of production of agricultural products, rational use of arable land, increasing the efficiency of agriculture, increasing the employment level of the rural population and raising the standard of living in rural areas<sup>2</sup>.

The optimal organization of agricultural production should include economical use of land, labor, technical, material and financial resources and increase the production of high-quality products. The production of high-quality and low-cost products is an important prerequisite for facing competitiveness, from the point of view of having its share in the market and further expanding it<sup>3</sup>.

**Methodology.** The study was carried out by using descriptive, analytical, statistical and monographic methods. As a result, practical recommendations were provided.

**Discussion.** Agriculture is one of the most important sectors of Armenian economy, which provides 11.7% of the country's GDP and solves such key issues as ensuring the employment of the population (especially in rural areas), the development of rural areas and, most importantly, ensuring food security.

Agriculture is of particular importance in the system of the real sector of the economy, which, on the one hand, satisfies the vital needs of the population, and on the other hand, creates a raw material base for the development of food and processing industry<sup>4</sup>.

The efficiency of the processing industry too depends on the quantity and quality of agricultural products. The location of the processing factories and farms have their effects on the industrialization of the sector. Industrialization has a key place in the development process of the sector, and one of the important components of it is the productivity. The solution of the issues that hinder production requires large investments, which the farms generally cannot afford.

---

<sup>1</sup> Bayadyan A. - The main problems of the development of agriculture production in the Republic of Armenia and the ways to solve them, "Science" publishing house of the National Academy of Sciences of the RA, 2013, 143 pages, p. 77. (original in Armenian)

<sup>2</sup> Ghazaryan E. S., L. A. Khachatryan, A. S. Mnatsakanyan. - Organization of Farms. Farmer, Yer. Tigran Mets, 2012. - 224 pages, p. 5 (original in Armenian)

<sup>3</sup> Davtyan G., Margaryan L. Abgaryan V. and others - Organization of agricultural production, Yer. Armenian Academy of Agriculture, 2004, 430 pages, p. 8. (original in Armenian)

<sup>4</sup> Hovakimyan A., Karapetyan Ts., Siroyan G., Fidanyan L., Khachatryan M., Karamyan H. - Problems of improving the competitiveness of agriculture in Vayots Dzor and Ararat regions of RA, "Amberd" series 54, Yerevan 2022, 130 pages, p. 7. (original in Armenian)

Back in USSR period state dealt with the industrialization of agriculture, and during that period, the sector was equipped with agricultural machinery including all the necessary equipment in the field of crop production and animal husbandry. After independence and the period of transition to a market economy, for many years no steps were taken for further industrialization of sector and the existing equipment and machinery worn out.

In recent years, there has been a significant increase in state support programs in agriculture, which include the acquisition of high-quality seeds, equipment, fuel and their distribution to farmers with affordable prices. The following support programs for installation of drip irrigation, anti-hail systems, financial leasing of agricultural machinery were also implemented. Although agriculture is declared as a priority sector of the economy in RA, allocations from the state budget to this sector are very limited<sup>1</sup>.

The purpose of agriculture industrialization is to ensure quality production and income growth. Growth in real output and income can be achieved in two main directions. a) spending a large volume of resources in production, for example, labor costs, b) through their more efficient use. The following formula can be used to determine the labor productivity.

$$P_T = \frac{O_T}{I_T}$$

Where O – is the production volume of goods or services for given period,

$I_T$  - labor costs:

The ratio of manufactured products and labor costs is considered as an indicator of labor productivity. Productivity and quality of work depend on the qualification of working personnel and the technical level of production. Table 1 presents the indicators of gross agricultural output, number of employed and productivity.

*Table 1*

**Indicators of gross output, employment and productivity of agriculture in RA, 2017-2021<sup>2</sup>**

| Indicator                | Unit                       | Year  |       |       |       |       |
|--------------------------|----------------------------|-------|-------|-------|-------|-------|
|                          |                            | 2017  | 2018  | 2019  | 2020  | 2021  |
| Gross agriculture output | Million AMD                | 908.6 | 892.9 | 853.3 | 833.3 | 934.4 |
| Employed                 | Year average, thousand man | 481.0 | 503.1 | 451.1 | 452.7 | 493.7 |
| Productivity             | Million AMD/man            | 1.88  | 1.77  | 1.89  | 1.84  | 1.89  |

<sup>1</sup> Avetisyan S., The real opportunities and structures for solving the priority problems of the agrarian policy of RA, the fundamental landmarks of the economic revolution in the Republic of Armenia, National Academy of Sciences of RA, M. Kotanyan institute of Economics, 353 pages, p. 266, (original in Armenian)

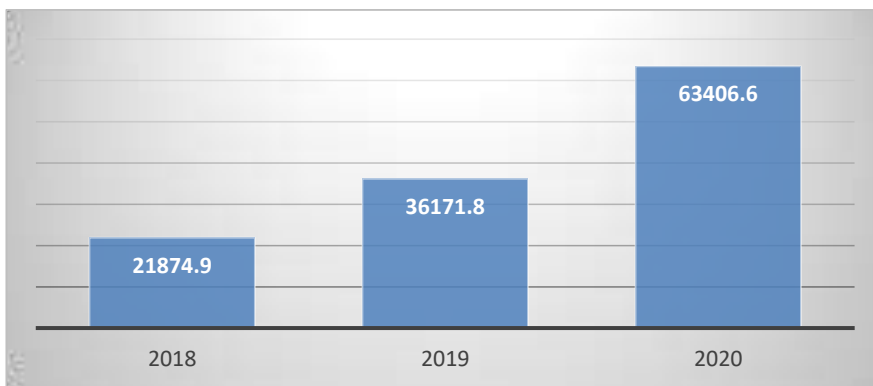
<sup>2</sup> Statistical Committee of RA, Yearbook, Agriculture, Employment, 2018-2022, Productivity indicators were calculated by the author

The data of Table 1 shows, that the indicator of gross output compared to 2017 decreased in 2018-2020. Then, in 2021, this indicator recorded some growth. The significant decrease in 2020 was the consequence of the COVID-19 pandemic and the second Artsakh war.

Farms carry out their agricultural activities mainly through borrowed production means, particularly using loans. One of the main characteristics of agriculture is its dependence on the climate, and as a result of natural disasters, farms suffer such losses that they cannot even pay off their loan obligations<sup>1</sup>.

In the process of industrialization of the sector, the process of lending to farms is important. In this regard there are number of significant problems, related to the loan interest rate, terms and conditions, mortgage and other issues.

Thus, within the scope of the interest rate subsidy program for the agriculture sector, in 2020, 36,608 units of loans were provided to this sector, total monetary amount of which was 63.4 billion AMD. Compared to 2019 the number of loans increased by 4.1 times, whereas the total monetary amount of loans increased by 1.8 times. The volume and numbers of loans provided in the framework of the state support programs of agriculture during 2018-2020 by individual regions is presented in Figures 1, 2 and 3.



*Figure 1. The volume of agriculture loans provided in 2018-2020, million AMD<sup>2</sup>*

<sup>1</sup> Avetisyan S., Tspnetyan H., Dag Hunts, Vardanyan A. - Ways of implementation of agriculture risk insurance system in the Republic of Armenia, Yerevan "TNTESAGET" publishing house 2017, 113 pages, p. 7. (original in Armenian)

<sup>2</sup> Ministry of Economy of RA, Annual report, State support programs of agriculture (2020), yerevan 2021, 26 pages, p. 7

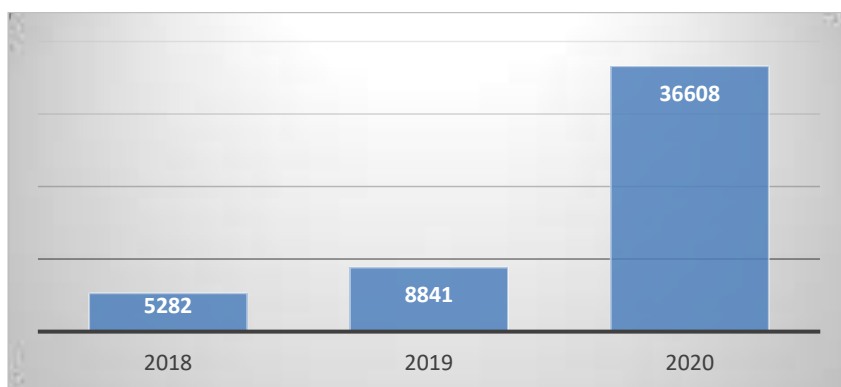


Figure 2. The number of agriculture loans provided in 2018-2020<sup>1</sup>

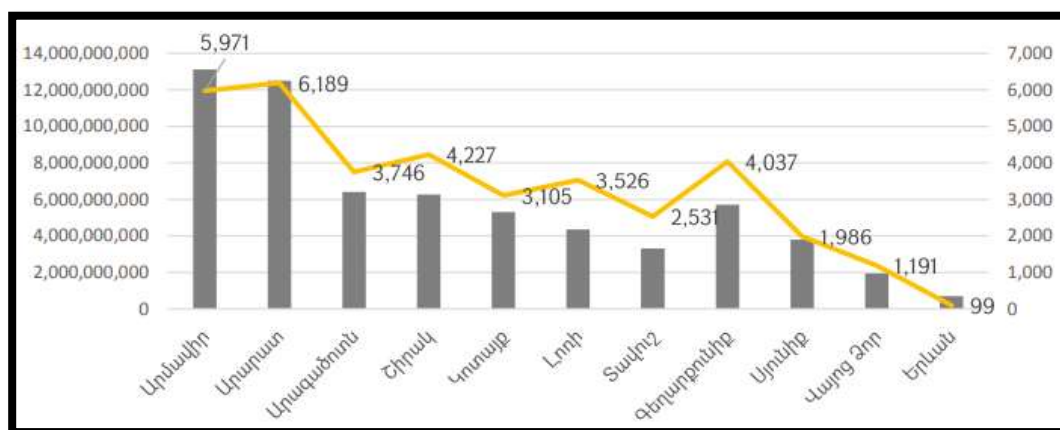


Figure 3. Number and amount of loans by regions in 2020<sup>2</sup>

Taking into account the riskiness and peculiarities of production organization process of agriculture, the industrialization of the sector also gains some peculiarities.

The uniqueness of the agriculture and its industrialization lies in the fact that the land is main production means, the agriculture activity is spatially distributed, and production process has many parts: soil cultivation, sowing, plant care, harvesting, crop transporting, processing, in animal husbandry - animal care, treatment, etc.

<sup>1</sup> Ministry of Economy of RA, Annual report, State support programs of agriculture (2020), yerevan 2021, 26 pages, p. 7

<sup>2</sup> Same place, page 8

Table 2

**The state of agriculture lands and gross output in RA, 2017-2021<sup>1</sup>**

|   | 2017   | 2018   | 2019   | 2020   | 2021   |
|---|--------|--------|--------|--------|--------|
| Agriculture lands, (1000 ha.)                 | 2043.8 | 2044.5 | 2044.2 | 2043.5 | 2042.5 |
| Gross agriculture output (billion AMD), total | 908.6  | 892.9  | 853.3  | 833.3  | 934.4  |
| Crop production                               | 469.3  | 415.8  | 410.9  | 399.5  | 469.1  |
| Animal husbandry                              | 439.3  | 477.1  | 442.4  | 433.8  | 465.3  |

The agriculture industrialization in RA is hindered by the small sizes of farms, the lack of high-quality specialists, the low level of farms' solvency, etc. In addition, it requires the introduction of new technical means and technologies: in order to solve the problems caused by the agriculture industrialization, it is necessary to introduce new, effective technologies that have not yet been applied in the field, and to attract qualified labor.

It is necessary to increase the efficiency of land use, which has decreased considerably in recent years. That improvement can be achieved by acquiring and implementing the latest agricultural machinery.

Thanks to agriculture industrialization, it is also possible to solve the issues of food security. Considering the unfavorable situation of the farmers, the industrialization of the sector and the introduction of the latest technologies is possible only as a result of the improvement of the cooperation between the private sector and the state. The state support for the targeted selection of the production of different types of agriculture products is necessity too, which includes both the sale of the products in domestic market and the exports to the foreign markets

**Scientific novelty.** In the scope of the article approaches were developed and substantiated, the application of which will contribute to the agriculture industrialization. That approaches are:

- introduction of new, effective technologies not before used in the field, and inclusion of qualified labor,
- it is necessary to increase the efficiency of land use, which can be achieved by acquiring and implementing the latest agricultural equipment,
- the possibility of above mentioned approaches can only be secured in the case of the improvement of the cooperation between private sector and state,
- state support for the targeted selection of the production of different types of agriculture products is important, which also includes both the sale of the products in domestic market and the exports to the foreign markets.

**Conclusion.** Since agriculture is one of the important sectors of the Armenian, which supplies the significant part of the demand of agricultural products of country, solves the issue of food security, the industrialization of agriculture is considered as one of the important development issues of the sector.

<sup>1</sup> Statistical Committee of RA, Yearbook, Agriculture, 2022, p. 351-352

In the scope of the article several problems contributing to and hindering the industrialization of agriculture were discussed and studied. As a result recommendations aimed at their solution were provided.

### **References**

1. R'azmavarowt'yown Hayastani Hanrapetowt'yan gyowghatntesowt'ykan olorti tntesakan zargacowmn apahovogh himnakan owghghowt'yownneri 2020-2030 t'vakanneri, Havelvac' N1, HH kar'avarowt'yan 2019 t'. dek-temberi 19-i N 1886 – L oroshman 102 e'j,
2. Avetisyan Samvel - HH agrararin qaghaqakanowt'yan geraka xndirneri lowc'man irakan hnaravorowt'yownnery'v & kar'owcakargery', tntesakan heghap'oxowt'yan himnarar owghenishnery' Hayastani Hanrapetowt'yownowm: HH GAA M.Qot'anyani anvan tntesagitowt'yan institowt, gitajhoghovi nyowt'er, 353 e'j,
3. Avetisyan S., C'pnecyan H., Daghownc A., Vardanyan A. –Gyowghatntesakan r'iskeri apahovagrowt'yan hamakargi nerdrman owghinery' Hayastani Hanrapetowt'yownowm, Er&an «TNTESAGET» hratarak-chowt'yown, 2017, 113e'j,
4. Bayadyan A. - HH gyowghatntesakan artadrowt'yan zargacman him-naxndirneri' & dranc lowc'man owghinery' HH GAA <<Gitowt'yown>> hratarakchowt'yown, 2013, 143e'j,
5. Davt'yan G., Margaryan L., Abgaryan V. & ovrishner – Gyowghatntesakan artadrowt'yan kazmakerpowmy', Er. Haykakan gyowghatntesakan akademia, 2004, 430 e'j,
6. HH E'konomikayi naxararowt'yown, Tarekan hashvetvowt'yown, Gyowghatnteowt'yan petakan ajakcowt'yan c'ragreri, 2020, Er&an 2021, 26 e'j, e'j 7,8: [https://mineconomy.am/media/18869/Programs\\_Arm4.pdf](https://mineconomy.am/media/18869/Programs_Arm4.pdf)
7. Hovakimyan A., Karapetyan C., Siroyan G., Fidanyan L., Xachatryan M., Qaramyan H. – Gyowghatntesowt'yan mrcaownakowt'yan barelavman himnaxndirneri' HH Vayoc D'ori & Ararati marzerowm, <<Amberd>> matenashar 54, Er&an 2022, 130e'j,
8. Ghazaryan E. S., Xachatryan L. A., Mnacakanyan A. S.- Gyowghaciakan tntesowt'yan kazmakerpowm: Feruŧr, Er.: Tigran Mec', 2012. - 224 e'j,
9. Manasyan V. - Gyowghatntesakan artadrowt'yan r'acional teghabashxman & masnagitacman kazmakerpman xndirneri' HH-owm, e'j 29,
10. Gusakov V. G. i dr. - Jekonomika organizacij i otraslej agropromyshlennogo kompleksa. V 2 kn. Kn. 1 / pod obshh. red. akad. V. G. Gusakova. — Minsk: Belorus. nauka, 2007. — 891 s. Str 179 ISBN 978-985-08-0843-1.,
11. Nechaev V.I., Paramonov P.F. Organizacija proizvodstva i predprinima-tel'skoj dejatel'nosti v APK: Uchebnik / V.I. Nechaev, P.F. Paramonov / KubGAU – Krasnodar, 2007 - 466 s., st. 28, ISBN 5-94972-116-H,
12. Jekonomika organizacij i otraslej agropromyshlennogo kompleksa , Minsk, Belorus'. 2007g. 893s.
13. <https://www.armstat.am/am/>

## ՀԱՅԱՍՏԱՆԻ ՀԱՆՐԱՊԵՏՈՒԹՅՈՒՆՈՒՄ ԳՅՈՒՂԱՏՆՏԵՍՈՒԹՅԱՆ ԱՐԴՅՈՒՆԱԲԵՐԱԿԱՆԱՑՄԱՆ ԱՆՀՐԱԺԵՇՏՈՒԹՅՈՒՆԸ

### Լիանա Սամվելի Ազատյան Գոհար Վազգենի Ոսկանյան

**Համառոտագիր:** Գյուղատնտեսությունը Հայաստանի տնտեսության կարևորագույն ոլորտներից է, որը լուծում է այնպիսի առանցքային հարցեր ինչպիսին են բնակչության զբաղվածության ապահովումը, գյուղական բնակավայրերի զարգացումը և պարենային անվտանգության ապահովումը:

Գյուղատնտեսության զարգացման համար անհրաժեշտ է իրականացնել ոլորտի արդյունաբերականացում, որի կարևոր բաղադրիչներից է արտադրողականությունը: Վերջին տարիներին զգալի ավելացել են գյուղատնտեսության ոլորտին աջակցության ծրագրերը, որոնք ներառում են որակյալ սերմերի, պարարտանյութերի, վառելիքի ձեռքբերումը և ֆերմերներին մատչելի գներով տրամադրումը: Իրականացվել են նաև արդյունաբերականացման ուղղված հետևյալ՝ կաթիլային ոռոգման, հակակարկտային ցանցերի, գյուղտեխնիկայի լիզինգի աջակցության ծրագրերը: Երկրի համար կարևոր է ունենալ զարգացած, նորարարական և բարձր արժեք ստեղծող գյուղատնտեսություն:

**Այս խնդիրների կարևորությամբ է պայմանավորված հոդվածի արդիականությունը:**

Հոդվածի հիմնական նպատակն է բացահայտել երկրի գյուղատնտեսության արդյունաբերականացման հիմնախնդիրները և առաջարկել դրանց լուծման ուղիները ՀՀ-ում:

**Գիտական նորույթը:** Հոդվածում մշակվել և հիմնավորվել են մոտեցումներ, որոնց կիրառումը կնպաստի գյուղատնտեսության արդյունաբերականացման իրականացմանը: Դրանք հետևյալներն են.

- ոլորտում դեռ չկիրառված նոր, արդյունավետ տեխնոլոգիաների ներդրում, որակյալ աշխատուժի ներգրավում,
- անհրաժեշտ է բարձրացնել հողերի օգտագործման արդյունավետությունը, որը հնարավոր է իրականացնել նորագույն գյուղտեխնիկայի ձեռք բերմամբ և ներդրմամբ,
- վերոնշյալը հնարավոր է միայն մասնավոր հատված - պետություն համագործակցության կատարելագործման արդյունքում,
- կարևորվում է պետական աջակցությունը միտված գյուղմթերքի տարբեր տեսակների արտադրության նպատակային ընտրությանը, ինչը նաև ներառում է հետազայում մթերքի ինչպես ներքին շուկայում իրացումը, այնպես էլ արտահանման գործընթացը:

**Բանալի բառեր.** գյուղատնտեսություն, արդյունաբերականացում, արդյունավետություն, ներդրումներ, նորագույն տեխնոլոգիաներ, պետական աջակցություն:



## НЕОБХОДИМОСТЬ ИНДУСТРИАЛИЗАЦИИ СЕЛЬСКОГО ХОЗЯЙСТВА В РЕСПУБЛИКЕ АРМЕНИЯ

**Лиана Самвеловна Азатян**

Gohar Vazgen Voskanyan

**Аннотация.** Сельское хозяйство является одной из важнейших отраслей экономики Армении, которая решает такие ключевые вопросы, как обеспечение занятости населения, развитие сельских населенных пунктов и обеспечение продовольственной безопасности. Для развития сельского хозяйства необходимо осуществить индустриализацию отрасли, одной из важных составляющих которой является производительность. В последние годы значительно увеличились программы поддержки аграрного сектора, которые включают закупку качественных семян, удобрений, топлива и предоставление их фермерам по доступным ценам. Также были реализованы следующие программы, направленные на индустриализацию: капельное орошение, противогородовые сетки, программы поддержки лизинга сельхозтехники. Для страны важно иметь развитое, инновационное и высокопроизводительное сельское хозяйство.

**Актуальность статьи определяется важностью этих вопросов.**

**Основная цель статьи - выявить проблемы индустриализации сельского хозяйства страны и предложить пути их решения в РА.**

**Научная новизна.** В статье разработаны и обоснованы подходы, применение которых будет способствовать осуществлению индустриализации сельского хозяйства. Они следующие:

- внедрение новых, еще не применявшихся в сфере, эффективных технологий, привлечение квалифицированной рабочей силы,
- повышение эффективности использования земли, чего можно добиться за счет приобретения и внедрения новейшей сельскохозяйственной техники,
- улучшение сотрудничества между частным сектором и государством,
- государственная поддержка в выборе ассортимента продукции, которая включает как реализацию продукта на внутреннем рынке, так и процесс экспорта.

**Ключевые слова:** сельское хозяйство, индустриализация, эффективность, инвестиции, новейшие технологии, государственная поддержка.

# THE NECESSITY OF AGRICULTURE INDUSTRIALIZATION IN THE REPUBLIC OF ARMENIA

Liana Samvel Azatyan

Gohar Vazgen Voskanyan

**Abstract.** Agriculture is one of the most important sectors of Armenia's economy, which solves such key problems as ensuring the employment in rural areas and food security, as well as the development of rural settlements.

For the development of agriculture, the industrialization of the sector is necessary, and one of the important components of that is productivity. In recent years, there has been a significant increase in support programs for the agriculture, which includes procurement of quality seeds, fertilizers, fuel and providing them to farmers at affordable prices. The following programs aimed at industrialization were also implemented: drip irrigation, anti-hail nets, leasing support programs for agricultural equipment. It is important for the country to have a developed, innovative and high value-creating agriculture. **The relevance** of the article is determined by the importance of these issues. **The main goal** of the article is to identify the problems of industrialization of the country's agriculture and to propose ways to solve them.

**Scientific novelty.** In the scope of the article approaches were developed and substantiated, the application of which will contribute to the agriculture industrialization. That approaches are:

- introduction of new, effective technologies not before used in the field, and inclusion of qualified labor,
- it is necessary to increase the efficiency of land use, which can be achieved by acquiring and implementing the latest agricultural equipment,
- the possibility of above mentioned approaches can only be secured in the case of the improvement of the cooperation between private sector and state,
- state support for the targeted selection of the production of different types of agriculture products is important, which also includes both the sale of the products in domestic market and the exports to the foreign markets.

**Keywords:** agriculture, industrialization, efficiency, investment, latest technologies, government support.