
THE ROLE OF AGRICULTURE IN THE ECONOMIC STRUCTURE OF SERBIA AND BUDGET SUPPORT FOR RURAL DEVELOPMENT OF KLADOVO MUNICIPALITY

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ABSTRACT

The purpose of writing the paper is the situation in agriculture in Serbia and the municipality of Kladovo, as well as the importance it achieves in the economic structure. At the level of Serbia, the importance of agriculture, forestry and fisheries (AFF) is analyzed through their contribution to gross domestic product (GDP) creation from 2016 to 2020, while for the municipality level the importance is determined by the amount of funds allocated in the local self-government unit (LSU) for the needs of agriculture from 2018 to 2020. The obtained results indicate a high share of AFF in GDP creation (6.3% during 2020) and a low share of budget funds in the total budget of the municipality for support of rural development (2.34% in 2020). The aim of this paper is to analyze the possibilities for further development of agriculture in the Republic and the Municipality. The paper uses methods of critical analysis of relevant literature, as well as descriptions for interpreting the results obtained by empirical research.

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Introduction

Agriculture is one of the branches of the economy that is of exceptional importance for the country itself as well as for the rest of the world, and the sustainable development

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of agriculture is a priority for both the nation and the world. However, the sustainable development of agriculture primarily implies the preservation of the environment and natural resources for future generations, and Wrzaszcz & Zielinski (2022) point out that this future state of resources should not be worse than the current one.

It is well known that the agricultural sector highly impacts the macroeconomic indicators of each country, and further, according to the authors (Nowak & Rozanska-Boczula, 2022; Arisoy, 2020), many environmental, economic and social functions are found in agriculture. This opinion is explained by the authors in a way that agriculture contributes to the creation of GDP, employs labour force, participates in shaping the foreign trade balance, provides food to the population, and provides raw materials to industry.

The authors of Mishra & Satapathy (2022) also expressed their views on the functions that agriculture performs in each country who believe that solving economic, social and environmental issues can contribute to the sustainable development of agriculture, and together form a whole that they have identified as the “*agricultural system*”. The mentioned authors explain *economic sustainability* as the capacity of an agricultural producer to produce enough food for his family, community and to contribute to the economic sustainability of agriculture. They define *social sustainability* as a set of measures that contribute to the quality of life of an agricultural producer, consumer and all members of a society. In *environmental sustainability* they have included environmental quality and natural resources. Therefore, the “*agricultural system*” designed in this way can contribute to the sustainable development of agriculture in a country, while it is necessary to constantly maintain strong links between these functions.

The author Arisoy (2020) especially emphasizes the importance of the social and economic function of agriculture from the aspect of creating the national income of the country and providing food for the population. Therefore, agriculture has been supported in every society since ancient times with the application of all precautionary measures for agricultural activities.

We can conclude that agriculture is significantly important also from the aspect of competitiveness, which affects other sectors and other countries, while the globalization of agriculture further strengthens the sense of competition within the agricultural sector (Nowak & Rozanska-Boczula, 2022).

If the region's agriculture is observed, e.g. European Union (EU), we can notice that it is very diverse and differentiated. One of the reasons for the differentiation of agriculture is the Common Agrarian Policy (CAP) in some countries within the EU, which is used by some countries in aim to be more competitive compared to other EU member states (Nowak & Rozanska-Boczula, 2022).

The need for a sustainable agricultural sector is increasing rapidly, but it also requires that it be implemented in a way that does not endanger food security (Wieliczko & Florianczyk, 2022). In 2001, at the third conference of the FAO, it was pointed out that agriculture: significantly affects the economic development of the least developed

countries, is important for the development of other economic areas and, therefore, has a high share in GDP. The results of their research (FAO, 2001) show that in two thirds of the least developed countries, the share of agriculture in the creation of GDP is 30-60% and they employ 40-90% of the population. Due to the strong ties of agriculture within the sector itself, as well as with other activities, a strong incentive is created for income generation and economic development of the least developed countries.

Frequently asked question is how agriculture can contribute to economic development, especially the reduction of the poor, who are more represented in rural than in urban areas. In some regions of the world, urban areas are becoming more and more populated, and the number of poor people who settle in cities is growing in proportion to the increase in urbanization. However, more and more poor people remain in rural areas than in urban areas, according to the authors Meijerink & Roza (2007), who estimates 60-75% of them are poor. South Asia and sub-Saharan Africa can be used as examples, where the share of the rural population in total is above 50%. We can say that in Serbia, too, the rural population is more exposed to poverty, primarily those who live in mountainous areas and earn income only from agriculture (Veličković & Jovanović, 2021). Authors Dimitrijević et. al. (2021) believe that they need to strengthen rural-urban ties in order to reduce rural poverty in developing countries.

Therefore, the participation of the poor remained the same, but they emigrated from rural to urban areas, so the predominantly poor population remained in rural areas.

One of the possible solutions for reducing poverty in rural areas, especially those engaged in agricultural production, is to promote investment in agricultural infrastructure and increase the representation of the advisory system (Pawlak & Kolodziejczak, 2020). These activities are of highly importance to developing countries because mentioned activities increase the productivity of agricultural production.

Also, state support in the form of non-refundable financial resources can contribute to reducing the price of used capital, increasing financial stability and greater competitiveness of agricultural producers (Aleksieva et. Al., 2022).

The author Kushter (2021) believes in socio-economic and political significance of agriculture in Serbia primarily due to its favorable geographical position. After 2010, there were significant changes in Serbia that affected the review of macroeconomic indicators. In order to achieve more efficient use of natural resources and maintain economic increase, fiscal and monetary reforms have been implemented in Serbia, the state administration has been restructured, which has influenced the liberalization of foreign trade (Ćurčić et al., 2021).

In the countries of region, the share of agriculture in GDP is higher than in the EU (1.5%): in Croatia 2.9%, Bosnia and Herzegovina 5.6%, Slovenia 2%, Hungary 3.3%, Romania 4% and 3.2% in Bulgaria (Ćurčić et. al., 2021). In the five-year period (2016-2020), the highest GDP growth rate was achieved in 2018, with an increase of 4.5% compared to 2017. After the negative rate of real growth of agriculture, forestry and

fisheries in the creation of total GDP of -11.4% in 2017, there was an increase of 15.1% in 2018, which is the share of this activity in the creation of GDP increased from 6% to 6.3%. During 2020, the share of AFF in the creation of GDP was 6.3% and 2.2% higher than in 2019.

In the structure of the economy of the municipality of Kladovo, agriculture has the most significant position. However, the budget of the municipality is insufficient for further development of agriculture and retention of the population in rural areas. More precisely, during 2020. to support rural development, the municipality planned only 2.34% of funds (EUR 17,010) of the total budget. Since the municipality of Kladovo does not plan funds in its budget to subsidize the interest rate on agricultural loans approved by commercial banks, the recovery of agriculture will be difficult and gradual.

Materials and methods

The paper predominantly presents data from the Statistical Office of the Republic of Serbia, which are available in electronic form within the *Farm Structure Survey (FSS)*. Analyzed indicators by whom are shown the importance of AFF activities for the degree of Serbia are changes in GDP and gross value added (GVA), as well as participation of AFF in GDP creation. For the degree of the municipality of Kladovo, the importance of AFF in the economic structure is shown by the amount of funds allocated in the budget of the LSU for the agriculture requirements.

The paper is presented by three basic units - graphics, statistical reviews and comments. The paper uses a critical analysis of the relevant literature from plentiful authors aligned with the research topic. Also, the method of description is used in the part of the paper that describes the results of empirical research. In accordance with the obtained results, adequate comments and conclusions were given.

Results and Discussion

We know that the country's economic growth is best measured by GDP. The basic indicators of economic growth are employment, foreign trade balance, level of capital and the like. (Cvetković et al., 2021). We also know that there is no certain generally accepted theory that would contribute to structural changes in the country's economy (Ćorović et al., 2021). Accordingly, we believe that there is no generally accepted activity that could contribute to the economic growth of the country, but that every economic branch and their interconnectedness is important.

Industry is important for the economic development of every country. When it comes to Serbia, apart from industry, agriculture also has an important place, but additional reforms and changes are needed in order to remain competitive with other activities. However, these changes are not only necessary for the agricultural sector, but also for the entire economic system in order to increase Serbia's development opportunity.

Observing the contribution of agriculture to the creation of GDP, the authors Popović & Grujić (2014) assess agriculture as an activity which could be used for establishing further development of the economic system. Table 1 shows the development of GDP and GVA⁵ in Serbia from 2016 to 2020.

Table 1. Changes of GDP and GVA in Serbia from 2016 to 2020 (in %)

Indicators	Year	GVA	GDP
Share of GDP	2016	82.9	100
	2017	83	100
	2018	82.9	100
	2019	82.7	100
	2020	83.1	100
Real growth rates, previous year = 100	2016	2.9	3.3
	2017	2.1	2.1
	2018	4.3	4.5
	2019	4.4	4.3
	2020	-0.8	-0.9

Source: SORS, electronic database, National accounts, GDP by production approach, GDP

The data presented in the table show that in the five-year period, a positive growth of both GDP and GVA was recorded. The share of GVA in total GDP was around 83%, while the highest real growth of GVA was achieved during 2019 and amounted to 4.4% compared to 2018. However, GDP achieved the highest growth rate in 2018 with a value of 4.5% compared to 2017. We can also see that 2020 ended with a decrease in GDP of -1%, which is a good result compared to the surrounding countries (Albania -3.5%, Bulgaria -3.8% and Romania -3.9%). The Annual Financial Stability Report 2020 points out that the significant drop in GDP was due to reduced economic activity caused by the virus pandemic, and the service sector - transport, tourism, catering trade - was most affected.

The following table (Table 2) shows the share of total GVA and AFF activity in total GDP from 2016 to 2020. In this analysis, agriculture means agricultural production, hunting and related catering trade.

5 Gross value added is a measure of the participation of individual producers, activities or institutional sectors in the GDP. It can also be explained as the value of output reduced by the value of intermediate consumption (SORS, Dictionary of National Accounts).

Table 2. Share of total GVA and AFF activity in total GDP from 2016 to 2020 (in %)

Indicators	2016		2017		2018		2019		2020	
	Share of GDP	Real growth rates, previous year = 100	Share of GDP	Real growth rates, previous year = 100	Share of GDP	Real growth rates, previous year = 100	Share of GDP	Real growth rates, previous year = 100	Share of GDP	Real growth rates, previous year = 100
Total GVA	82.9	2.9	83	2.1	82.9	4.3	82.7	4.4	83.1	-0.8
<i>Agriculture, forestry and fishing</i>	6.8	7.5	6	-11.4	6.3	15.1	6	-1.7	6.3	2.2

Source: SORS, electronic database, National accounts, GDP by production approach, GVA by activities

The table shows that in the observed five-year period, the largest contribution of AFF activity in the creation of GDP was recorded in 2016 with a share of 6.8%, which is 0.8 pp. more than in 2017. The contribution of AFF activity in creating GDP in 2020 is less by 0.5 pp. compared to 2016. However, if we look at the last twenty years, we notice that in 2000 this share was as high as 17.1%, and in 2001 it was 14.7%. After 2001, the share of agriculture in the creation of total GDP has never returned to this level and is around 6.5% (SORS, database, national accounts).

If we take a look at the indicators for the analysis of the real economic growth rate in the current compared to the previous year, we notice that the highest real growth in the contribution of AFF to GDP was recorded in 2018 and it was 15.1% higher than in 2017, while it was 11.4% lower in 2017 compared to 2016. This negative rate of real growth can be explained as a consequence of adverse climate impacts. Also, we notice that in 2020, the AFF sector made a 2.2% higher contribution to GDP creation than in 2019.

When we analyze the total annual decrease or increase in GVA, we notice that in the five-year period, a growth of 12.9% was achieved. If we place this value over the five observed years, we get that the change in total GVA was on average 2.6% per year. If we repeat the same procedure with the indicator of the share of AFF activity in the increase / decrease of GDP, we come to the result that this activity in the three-year period contributed to the growth of 11.2%, and an average of 2.4% per year.

Therefore, in the observed period, agriculture had a significant share in the creation of Serbia's GDP and ranged from 6-7%. However, the rate of real economic growth has shown there are certain oscillations in their interannual flow (increase and decrease), but it is concluded that it still has a high share in the structure of the country's GDP.

Administrative and geographical position of the municipality of Kladovo. According to its administrative affiliation, Kladovo has the status of a municipality, it is located in the Bor district, the region of Southern and Eastern Serbia. The district of the municipality is divided into Gornji (50.3% of the territory of the municipality) and Donji Ključ (49.7% of the territory of the municipality). The district of Donji Ključ

consists of and includes the alluvial plain of the Danube and the Danube terrace. The district of Gornji Ključ consists of hilly and mountainous terrain (Support Program for the Implementation of Agricultural and Rural Development Policy for the Municipality of Kladovo in 2020). In the municipality of Kladovo during 2015, 19,532 inhabitants were estimated (as of June 30, 2015), so we conclude that Kladovo belongs to the group of smaller municipalities with an average population density of 31 inhabitants / km² (Municipalities and regions of the Republic of Serbia 2016).

Economic position of the Municipality. The participation of small and medium enterprises and entrepreneurs, as well as economic entities in the tourism sector, significantly contributes to the economic development of the municipality of Kladovo. In 2018, 161 companies and 484 entrepreneurs were operating on the territory of the municipality (Support Program for the Implementation of Agricultural and Rural Development Policy for the Municipality of Kladovo in 2020).

Importance of agriculture for the Municipality. The municipality of Kladovo is a remarkably agrarian area due to the high share of agricultural area at its disposal. Therefore, we can say that agriculture ranks high in the further development of the municipality's economy. During 2018, the utilized agricultural area (UAA) on the territory of the municipality amounted to 12,165 ha, which is 61.7% of the total available area. Of the total UAA, even 60.9% are arable land and gardens, while 35.1% are meadows and pastures. The remaining share in the structure of the UAA belonged to perennial plantations with 3%, while about 2% are kitchen gardens and fallow land (Farm structure survey 2018, electronic database). So, we notice that the agricultural production of the municipality of Kladovo is based on crop farming, and in a very small percentage on fruit plantations, vineyards and vegetables growing.

The livestock in the municipality of Kladovo is insufficient, and livestock as a branch of agriculture is no longer dominant. Farmers are mostly engaged in cattle breeding within family holdings in the hilly and mountainous areas of the Municipality, while in the plains there are no more. Accordingly, in the area of the municipality of Kladovo, a constant decrease in livestock was observed, and possible causes are unstable prices of cattle, low purchase price of milk, high prices of animal feed and the like.

The circumstances in plant production and livestock production shows that the Municipality is inattentive to agriculture, which has contributed to its unfavorable position. The unfavorable position in agriculture is also affected by the poor situation in the economy of the municipality of Kladovo, and two possible causes have been identified. First, the reduced participation of industry in creating economic growth and development of the Municipality. Second, the structure of the economy is determined by natural and physical resources with the neglect of capital resources.

Since the structure of the municipality's economy is not diversified, Kladovo has a significantly lower level of economic development, which is why in 2016 it was classified in the third group of underdeveloped municipalities (Regulation on establishing a single list of development of the region and local self-government units for 2014). According

to this Regulation, the third group of underdeveloped municipalities includes those with a level of economic development that ranges from 60% to 80% of the national average. Therefore, it can be concluded that the municipality of Kladovo belongs to the economically underdeveloped areas of our country, which is certainly not favorable from the aspect of sustainable development. Observing the level of agriculture, the reasons for this economic situation are unfavorable working conditions associated with extensive land cultivation, fragmentation of land, outdated machinery and lack of financial resources for its modernization.

Although only bad indicators of economic and agricultural development have been mentioned before, we notice that the Municipality is outstanding for attracting investments in the field of renewable energy sources. The strategic national project of the hydroelectric power plant “Đerdap I”, the use of solar energy in the solar park “Solaris Energy” and the use of energy from biomass in the pellet factory are remarkable.

In general, due to the large fragmentation of land, underdeveloped infrastructure, low investment and difficult life and work in rural areas, there have been numerous problems in dealing with this activity, which reduces the importance of this activity.

Financial support for agriculture from the budget of the municipality of Kladovo.

In accordance with the Article 13 of the Law on Incentives in Agriculture and Rural Development (Official Gazette of the RS, No. 10/2013, 142/2014, 103/2015 and 101/2016), the authorities of the LSU are given the opportunity to determine support measures for the implementation of agricultural policy and rural development policy on their territory, where funds must be provided in their budgets. The mentioned Law article points out that LSU cannot determine incentives for direct payments, except for regress for costs of storage in public warehouses and for artificial insemination. The essence of this policy of support to farmers is to avoid double funding of measures.

Accordingly, we will analyze the budget of the Municipality, which shows the funds provided for agriculture and rural development. The data are contained in the municipal documents that must be harmonized with each other, namely the Decision on the Budget of the Municipality of Kladovo and the Support Program for the Implementation of Agricultural and Rural Development Policy. The mentioned documents are adopted by the Municipality every year.

The Decision on the Budget of the municipality of Kladovo for 2020 (Official Gazette of the municipality of Kladovo, No. 16/2019, 2/2020 and 6/2020) for *Program 5 Agriculture and Rural Development* allocated EUR 149,688 (average exchange rate of the National Bank of Serbia for 2020 was RSD 117.5777 for 1 EUR) for the implementation of the following activities:

- 1) support for the implementation of agricultural policy in the local community in the amount of EUR 132,678;
- 2) support measures of rural development in the amount of EUR 17,010, while in the total budget of the LSU it has a share of 2.34%.

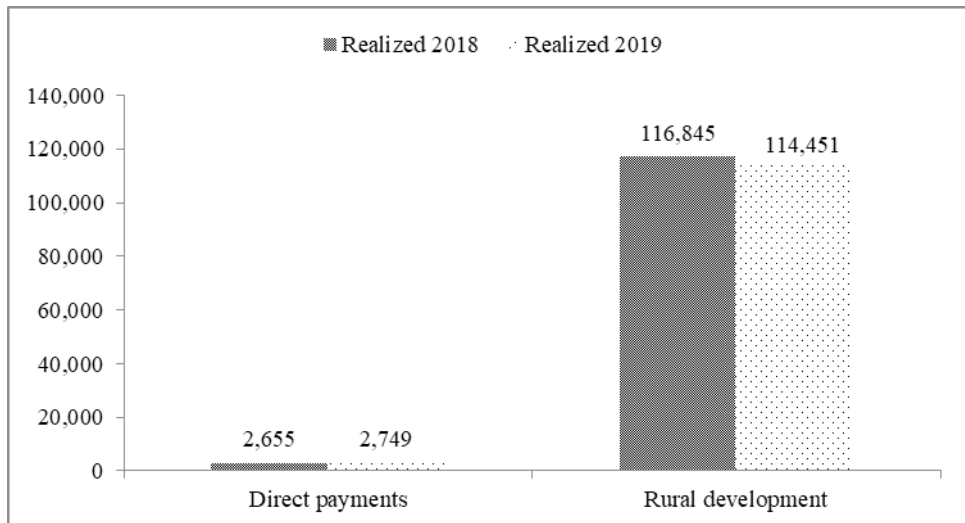
Each year, the Municipality of Kladovo adopts *the Support Program for the Implementation of Agricultural and Rural Development Policy*, which is in accordance with the planned funds in the budget. The support measures contained in the programs are intended for registered agricultural holdings, and they are in active status in the Register of Agricultural Holdings. Figure 1 shows the spent budget funds of the Municipality provided by this Program during 2018 and 2019 (the average exchange rate of the National Bank of Serbia for 2018 was RSD 118.2716, and for 2019 it was RSD 117.8524 for 1 EUR).

The graphic review (Figure. 1) shows that during 2018 and 2019, no funds were paid from the municipal budget for the measure of credit support and special incentives, because no cash benefits are provided for these purposes.

When it comes to direct payment measures, the artificial insemination of cows is highlighted as necessary in the aim of the recovery of livestock production, but also because of direct impact which have been achieving on the development and stability of total agricultural production of households (Support program for the implementation of agricultural and rural development policy for the municipality of Kladovo in 2020).

According to the Report on implemented measures of agricultural policy and rural development policy for the municipality of Kladovo in 2018, a total of EUR 119,500 was paid from the municipal budget (Figure. 1), with most funds allocated for the purchase of beekeeping equipment almost EUR 25,365.

Figure 1. Realized budget funds Municipality of Kladovo planned with Support Program for the Implementation of Agricultural and Rural Development Policy (2018-2019, in EUR)



Source: Report on implemented measures of agricultural policy and rural development policy for the municipality of Kladovo, 2018 and 2019

The Report on implemented measures of agricultural policy and rural development policy for the municipality of Kladovo for 2019 records a total decrease in paid value compared to 2018 and amounts to 117,200, and the structure of paid funds is dominated by funds for investments in physical assets of agricultural holdings (EUR 98,428).

For 2020, the total planned funds of the municipality of Kladovo for the development of agriculture and rural development were EUR 120,771, and 95% of these funds are provided for rural development measures.

The implementation of the Program of Support Measures contributes to the stability of income of agricultural producers, encourages self-employment and employment, reduces producer costs and increases the productivity and efficiency of agricultural holdings.

The municipal budget also generates certain incomes from the rent of agricultural area being in the state property of the Republic of Serbia. The funds collected in this way have precise purposes, with most of the funds allocated to the arrangement of agricultural area (consolidation of agricultural area, arrangement of rural roads and equipping the anti-hail service). Accordingly, out of 7,126.6 ha of agricultural area that are in the state property, about 14.4% or 1,023 ha are under valid rent contracts (Annual program of protection, arrangement and use of agricultural area in the municipality of Kladovo for 2020).

The previous analysis of the budget support of the Municipality intended for agriculture and rural development shows that the support for agricultural production and processing changes from year to year, both in total value and by individual types of incentives.

Additional sources of funding. Data from the 2012 Census of Agriculture (http://popispoljoprivrede.stat.rs/?page_id=6221) show that in Kladovo, about 0.7% of the total number of agricultural holdings used *bank loans* to finance agricultural production (only 16), which is below the national average (which was 2.9%). We conclude that the current situation is deficient considering the bad credit conditions, and dealing with the repayment deadlines, high interest rates, unfavorable credit security conditions and the like.

Since the municipality of Kladovo disregards funds in its budget to subsidize the interest rate on agricultural loans approved by commercial banks, the recovery of agriculture will be difficult and gradual.

Concerning *donations*, during 2014, the municipality of Kladovo received a donation from the Turkish International Development Agency (TIKA), which consisted of 20 greenhouses. During 2015, the FAO organization gave a donation in the form of aid to goods and animals to agricultural holdings affected by the floods. More precisely, seed material, fertilizer, fodder, fruit seedlings, greenhouses, attachment units, beehives, cattle and sheep were donated. Residents of the district of Donji Ključ, who were not affected by the flood, donated bulky food for cattle from their own production for the most endangered settlements from the territory of the Municipality. The Department of Economy, Social Affairs and Local Economic Development of the Municipality has no information on realized donations after 2015.

Conclusions

Agricultural production is significant for Serbia, considering it has a high share in the creation of the country's GDP, even higher than some countries in the region that are members of the EU. Therefore, agro-economic policy should be adjusted to real possibilities and opportunities in order to keep the existing population in the countryside and motivate them to continue with agricultural production.

The paper mentioned that the municipality of Kladovo belongs to economically underdeveloped districts, which is inadequate from the aspect of sustainable agricultural development. In order to improve the situation, it is recommended to conduct the consolidation of holdings, renewal of mechanization and greater financial support to registered agricultural holdings that are actively engaged in agriculture. Another recommendation could be greater availability of advisory services to more agricultural producers.

Considering that the Municipality allocates certain funds in its budget for assistance to agricultural producers, we conclude that they are not enough, which leads agricultural producers to leave this activity.

We know that agriculture in Serbia and the municipality of Kladovo is the framework of further development of the entire economy, because it provides raw materials for all other activities. Apparently, further development of agriculture should focus on:

- increase the agrarian budget;
- knowledge and innovation, using modern achievements in the field of science and technology;
- specialization of production;
- consolidation of holdings, in order to raise the quality and scope of production activities to a higher level;
- processing of agricultural products of a higher degree of finalization, etc.

In general, agriculture in Serbia is a significant activity and can contribute to a better standard of living for the population for whom agriculture is the only source of income. However, the number of agricultural producers is decreasing because agriculture requires constant financial investments and requires certain risks, such as placement, collection of receivables, etc.

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Conflict of interests

The authors declare no conflict of interest.

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