

ANALYSIS OF THE LABOR FORCE IN ROMANIAN AGRICULTURE BETWEEN 2010 AND 2020

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Abstract: The labor force represents, of course, next to the nature factor, an important factor, absolutely necessary for the development of the agricultural production process. The paper analyzes the numerical evolution of the population employed in agricultural activities at the national level and in the West Region, for the interval 2010-2020.

Key words: work, employment, efficiency, agriculture, sector

INTRODUCTION

Production resources belong to the broad field of resources. The notion of resource frequently interferes with the notion of reserve and that of production factor. In their action between the different categories of resources, there are ample relations of interconditioning, of mutual influence. The effect of increasing the level of resource allocation on production, within normal limits, is to increase production.[9]

What are the factors of production and how do we allocate them? Production factors, in the strict sense, represent that part of the elements that directly participate in the production of various products, being incorporated into them, being transmitted gradually or not to the resulting product. The theory of production factors was born and was developed in the science of economics for the first time by Jean Batiste Say, a French economist, also being the representative of the classic liberal doctrine. [3]

The doctrine of economic science can be found in the drafting of a long line of modern economic theories, such as: [9,12]

- This theory of factors through which the French economist learns work, nature and capital as balance, respectively salary, rent and profit. It must be stated that this theory has not lost its value and novelty until now.

- J. B. Say is the first to innovate the notion of "entrepreneur" in economic theory. He sees the entrepreneur as the link of the economic mechanism, he acts the factors of production, associates them to obtain products that he is going to put on the market and obtain profit. [1.7]

Production factors represent the possibility of profitable resources in the economic mechanism. Productive capitals in turn have a varied range of forms[2,3,4]

- Material resources - equipment and non-material resources - services;

- Primary resources (natural, demographic resources) and derived resources (equipment - machines, machinery, installations)

MATERIALS AND METHODS

The paper uses statistical data reported by the Romanian National Institute of Statistics [INSSE]. Table processing was performed using Microsoft Excel.

RESEARCH RESULTS

The demographic factor must be analyzed in quantitative relation to work. The volume of the population depends a lot on the essential demographic processes (mortality, birth rate) being under the consequence of economic and social factors (average life span,

standard of living, health protection). The population's activity can also be influenced by international migration.[5]

The labor production factor action refers to the specific human action through which people use their qualities, knowledge and experience, helping themselves to this end with specific tools, the task of this activity being that of producing the goods necessary to satisfy needs. As a production factor, work is characterized by: [9]

- it is original and associated with the personality of each individual, and cannot be artificially reproduced nor separated from the person of the beneficiary;
- represents an active production factor, which attracts other factors to the creation of economic goods.

Compared to other sectors of the economy, agriculture stands out due to certain particularities of the labor force depending on the field of production.[8]

If in animal breeding, the labor force has an apparently uniform distribution throughout the whole year, in vegetable production the labor force requirement is closely related to the works that are performed at different times, to the agricultural systems adopted, to the technology used. [10,11]

The labor force in Romanian agriculture (figure 1) recorded the following developments in the period 2010-2020.

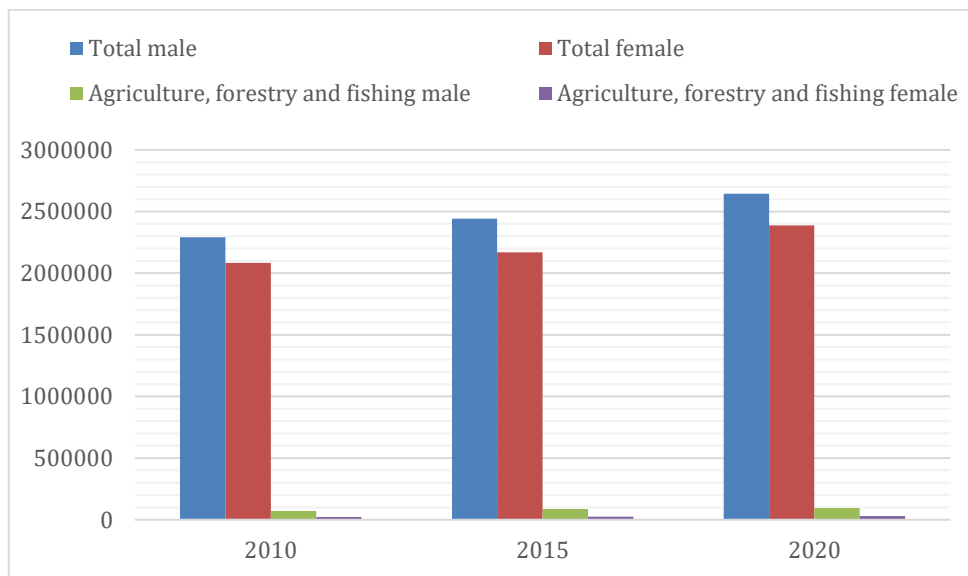


Figure 1. The average number of employees in agriculture by gender (number of people)

Source :Built on [13,15]

On the national economy as a whole, in the period 2010-2020, an increase in the salaried labor force is observed, a fact that is also accompanied by an increase in the salaried labor force in agriculture. If at the level of the national economy we can speak of an increase in employees by 655,723 people within 10 years, which denotes an increase of 14.98%, in agriculture we have an increase of only 28,385 employees, but a growth rate of 29.82%.

At the national level, we work with the aggregated data at the sector level, which includes agriculture, forestry and fishing. A more detailed analysis reveals clear differences between the various agricultural industries, included in figure 2. Thus, within the activities of agriculture, hunting and including related services (AHRs) we have a much larger workforce than in forestry, logging and fishing and aquaculture activities (SFEFA).

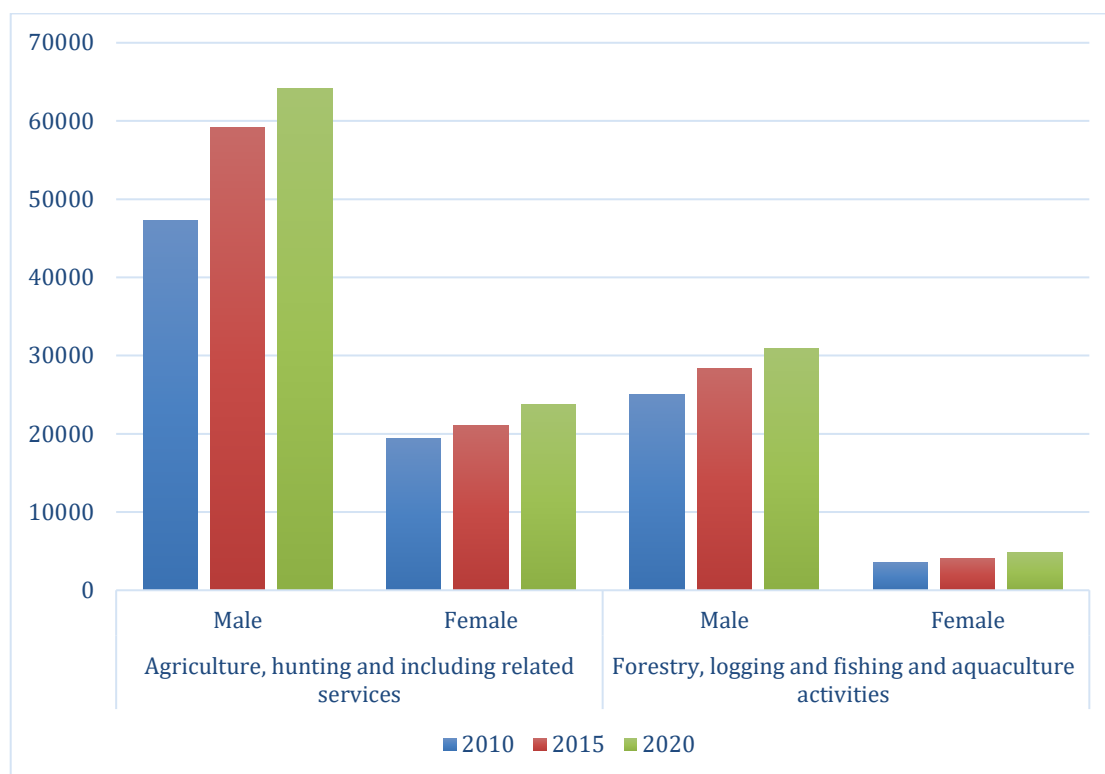


Figure 2. The average number of employees by branch of agriculture and gender (number of people)

Source: Built on [13,15]

The year 2015 marked a significant increase in male employees in agriculture. In 2020, the male population employed in AHRS registered a 35.80% higher value compared to 2010. As for the female population, SFEFA represents the branches in which in 2020 the greatest increase was recorded compared to 2010, more precisely 34.44%.

Between 2010 and 2020, there have been various fluctuations and mutations in the labor force at the national level. The year 2018 was the year with the highest average number of employees recorded at country level, more precisely 5,068,063 total employees and 123,821 employees in agriculture, forestry and fishing. Of the average number of employees working in agriculture, forestry and fishing in 2018, 27,602 employees worked in publicly owned units. Within privately owned units, in 2020 the highest value of AHRS employees was recorded, while 2018 represented the maximum point for SFEFA employees.

At the national level, agriculture, forestry and fishing represented only 2.45% of the average number of employees. As can be seen from the table 1, the private sector in agriculture in the last reference year totaled 78.29% of the number of employees in agriculture. If we analyze the number of employees at the end of the month in agriculture, hunting and fishing, we will notice that in the period 2010-2022, it increased by approximately 40 thousand people, the highest increase being recorded in AHRS, from 52.5 thousand to 87,3 thousand people, while in SFEFA a much slower increase was recorded, from 24.3 thousand to 29 thousand people.

Table 1

The average number of employees per activity of the agriculture branch (number of people)

Number	Year	2010	2012	2014	2016	2018	2020
1.	Total	4376044	4442865	4507729	4759419	5068063	5031767
2.	Agriculture, forestry and fishing	95185	103663	107721	117046	123821	123570
3.	Agriculture, hunting and related services (AHRs)	66634	72644	75008	83951	86724	87900
4.	Silviculture and forestry exploitation ; Fishing and aquaculture (SFEFA)	28551	31019	32713	33095	37097	35670
5.	Public property-Total	1389150	1265656	1240961	1227391	1260588	1269613
6.	Agriculture, forestry and fishing	32345	26805	24279	25582	27602	26815
7.	Agriculture, hunting and related services (AHRs)	12451	7592	6184	7100	8687	8332
8.	Silviculture and forestry exploitation ; Fishing and aquaculture (SFEFA)	19894	19213	18095	18482	18915	18483
9.	Private property-Total	2986894	3177209	3266768	3532028	3807475	3762154
10.	Agriculture, forestry and fishing	62840	76858	83442	91464	96219	96755
11.	Agriculture, hunting and related services (AHRs)	54183	65052	68824	76851	78037	79568
12.	Silviculture and forestry exploitation ; Fishing and aquaculture (SFEFA)	8657	11806	14618	14613	18182	17187

Footnote-Agriculture, hunting and related services =AHRs, Silviculture and forestry exploitation ; Fishing and aquaculture= SFEFA

Source: Built on [14,15]

We have presented, in figure 3, the number of employees at the end of each year from the interval under study. For AHRs, in December 2021, the most employees were posted, while for SFEFA, the most employees were in December 2018.

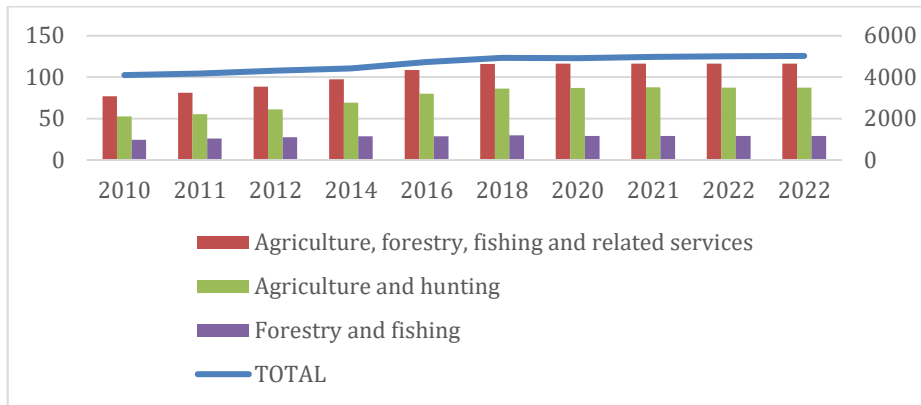


Figure 3. The number of employees at the end of the month in agriculture, hunting and fishing December (thousands of people)
 Source: Built on [14,15]

In Timiș county, in 2012, the lowest number of male employees in agriculture, forestry and fishing was recorded (figure 4). After this moment, the number of male employees in this field increased, reaching 4524 people in 2020 compared to 3517 people at the end of 2012.

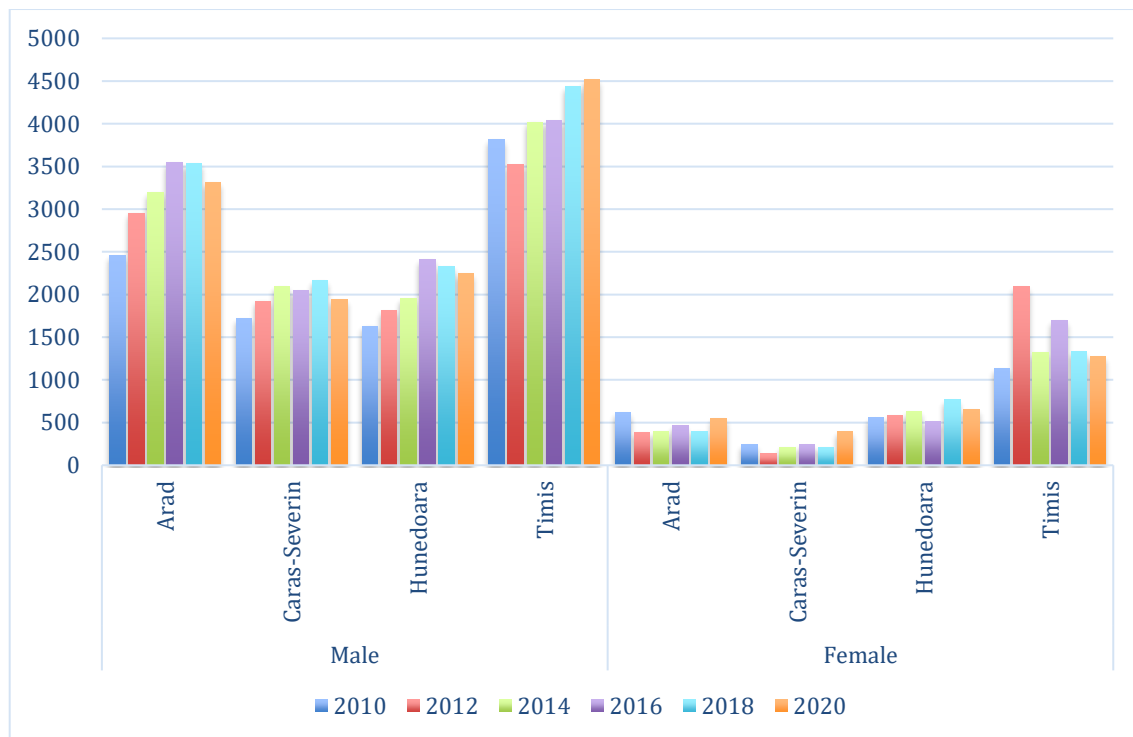


Figure 4. The number of employees in the West Region by gender and county at the end of the year in agriculture, fisheries and forestry in the Western Region
 Source: Built on [14,15]

The analysis of employees in the Western Region by gender and by the counties of the region highlighted the different developments in this segment, included in figure 5.

In the last years of the analyzed interval, in Timiș county (first place in the West Region)) a slight increase in the number of male employees is recorded, while in the other three counties of the region small fluctuations are recorded, in the sense of reduction. Arad

county is in second place in terms of the number of male employees, but at the level of this county, starting from 2016, there is a downward trend in the number of males working in agriculture, forestry and fishing.

Among the female employees working in this branch of the economy, an opposite evolution compared to that of the male staff was noted. In other words, the number of female employees in Timiș County recorded the highest value in 2012, while in the years 2018-2020 there were decreases in the female population. The year 2012 also marked the moment with the lowest number of female employees in the Caraș-Severin county, only 133 people, while there were 1923 male employees.

The West Region had the highest number of employees at the end of the year recorded in AHRS, the values being clearly higher than the number of employees in SEFPA (Figure 5) - in the course of a decade, the number of employees in AHRS increased from 8242 to 10346 people.

Caraș-Severin County, due to the relief and the economic implications it has on people's activities, has the lowest number of employees in AHRS, 1026 people in 2020, while in 2012 there were only 701.

In 2016, within this county, the most employees in SFEFA were accounted for, 1759 people, but after that the number of employees in SFEFA started to decrease, reaching 1446 people in 2020.

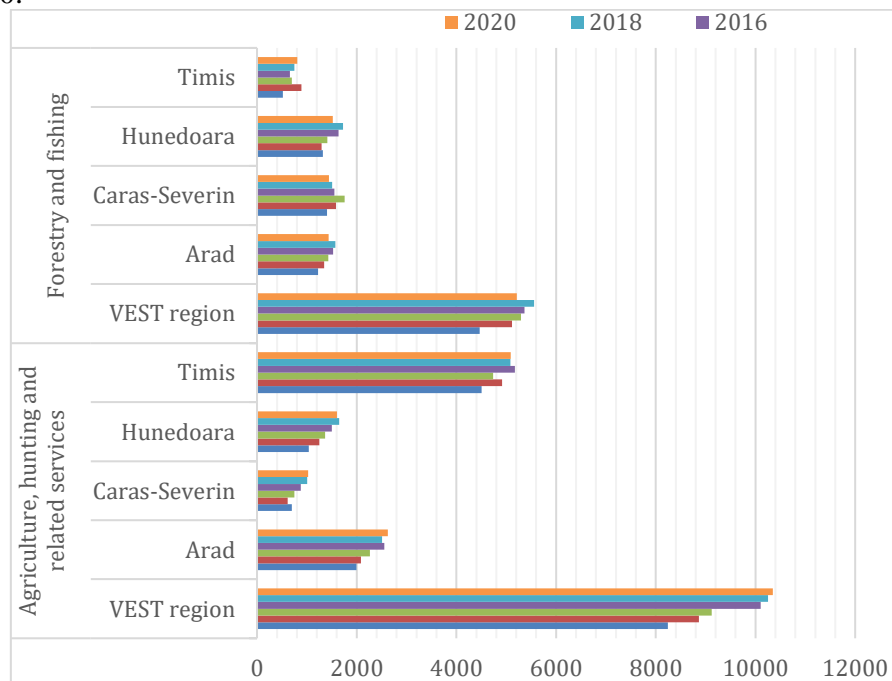


Figure 5. The number of employees in the West Region by county at the end of the year from AHRS and SFEFA(persons)

Source: Built on [14,15]

Hunedoara county represents the county in the region with the smallest differences between the two categories of agricultural activities. In the 2012-2018 interval, the activities included in AHRS were the activities with the largest number of employees at the end of the year, in 2020, the activities included in SFEFA took first place in terms of the largest number of employees (figure 6).

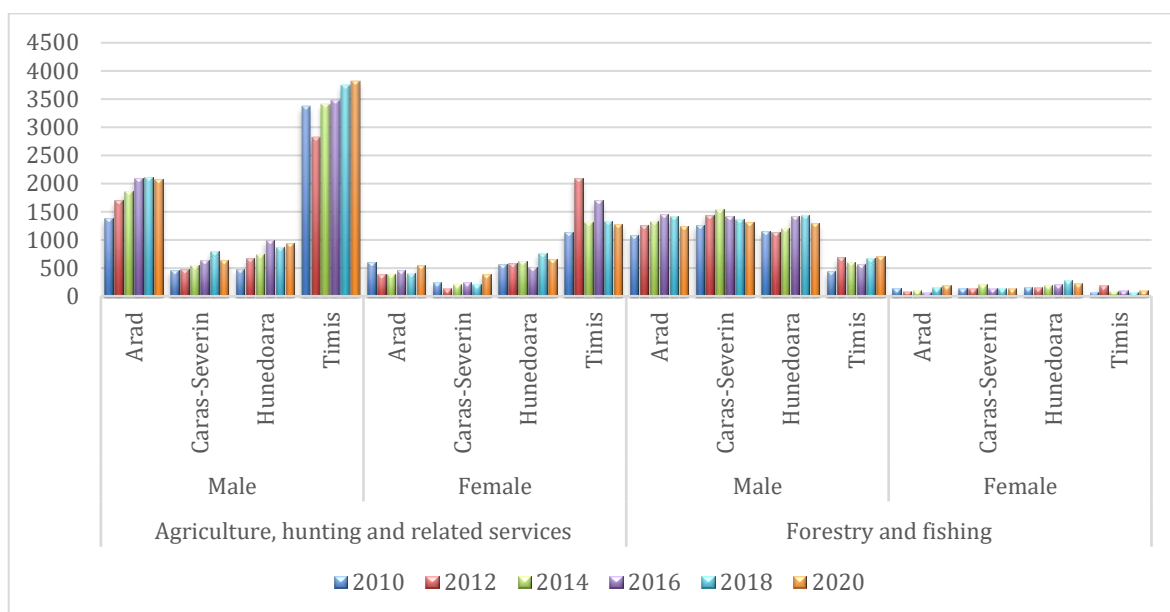


Figure 6. The number of employees in the Western Region by gender and county at the end of the year from AHRs and SFEFA, persons

Source: Built on [14,15]

Timiș County has the highest number of male employees in AHRs and the lowest number of employees in SFEFA. The same situation applies to female employees in Arad County. Within Hunedoara County, SFEFA units recorded the highest number of female employees in the region, while Caraș Severin County had the lowest number of female employees within AHRs activities.

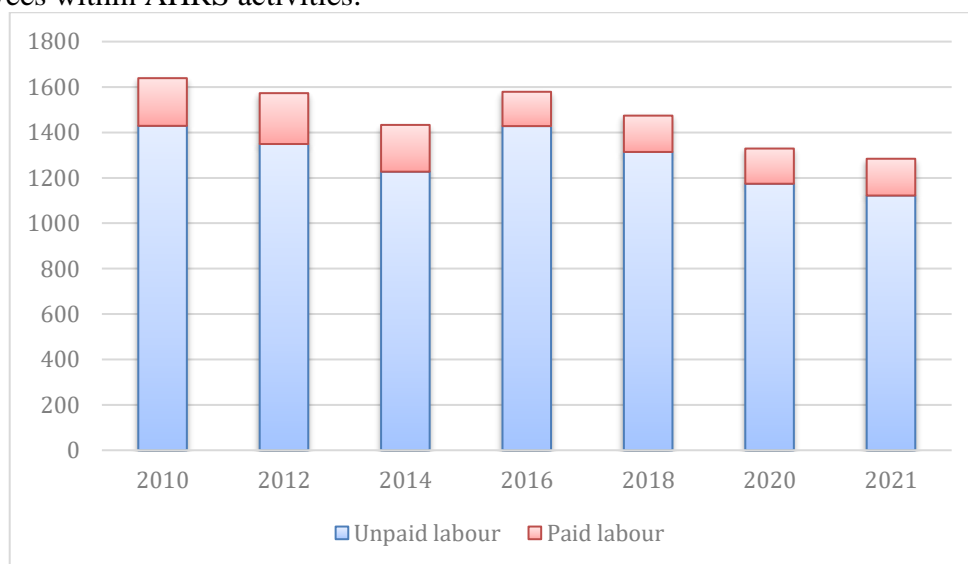


Figure 7. Volume of the labor force in agriculture, 1000 annual work units

Source: Built on [14,15]

If we have analyzed in detail the evolution of the salaried labor force in agriculture, it is necessary to mention that unpaid labor is also active in agricultural activities and that the share of this labor force category is much higher than that of the salaried labor force. During the analyzed interval (figure7),the unpaid labor force in agriculture had an irregular evolution, until 2014 it was on a downward trend, the year 2014 represented the year with the second value of the volume of the unpaid labor force, after which it again entered a descending trend.

2014 represented the year with the highest volume of salaried labor in agriculture, 224.000 annual units of salaried work, while 2010 was the year with the highest volume of unpaid labor in agriculture, 1.429.000 annual units of the work.

CONCLUSIONS

In the Romanian countryside, agriculture is still the basic activity and the last three decades have brought many changes in the activities related to this branch.

The changes are related to the workforce employed in agriculture, whether we are talking about the salaried or unpaid workforce, in all segments (field, sex, county). There is a close link between the wage labor force in agriculture and the agricultural potential of the respective area. Analysis of the labor force in agriculture - from the national level to the level of the counties within the West Region, shows us that most of the labor force active in agriculture is unpaid labor.

Compared to other sectors of the economy, work in agriculture has certain particularities regarding seasonality and the physical effort required, which makes the access of women somewhat limited, through the choices that women make (there is no restriction on national level).

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