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<https://doi.org/10.26661/2414-0287-2020-2-46-25>**ANALYSIS OF THE USE OF LABOR RESOURCES IN THE INDUSTRIAL SECTOR OF THE ECONOMY****Somchenko V. V., Shmygol N. M., Gnidkova A. V.***Zaporizhzhia National University**Ukraine, 69600, Zaporizhzhia, Zhukovsky str., 66*

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**Key words:**

labor resources, labor potential, efficiency of labor potential use, agricultural enterprises.

The article examines the problematic aspects of efficient use of labor resources and theoretical principles, scientific and methodological approaches, practical recommendations for assessing the efficiency of labor resources. It is established that the efficiency of labor resources is the main component necessary for the continuity of social production, as well as the formation and development of man in labor. Based on this, scientific works on this issue were considered, which accumulate the best achievements of economic and managerial thought, which determine the suitability of existing concepts and models to modern conditions, explain new phenomena in the field of labor. During the writing of the article, an assessment of the efficiency of the use of labor resources in an agricultural enterprise was conducted. Examining the dynamics of the average annual number of employees, it was found that over the past decade there has been a significant reduction in the average annual number of employees both in Ukraine as a whole and at the studied enterprise. The existing system of incentives at the enterprise is analyzed and the main directions of solving the problems of incentives are revealed. Recommendations for improving the efficiency of labor resources and improving the system of incentives for employees at the studied enterprise have been developed. The stages of the incentive system are proposed, which will allow to obtain a reasonable incentive program, maximally aimed at the specifics of the enterprise. The main conditions for improving the material incentives for hired labor are also identified. The obtained results are the basis for further deepening of scientific understanding of: the process of use of labor resources at enterprises, increasing the efficiency of labor resources, their impact on the results of production and economic activities of enterprises.

**АНАЛІЗ ВИКОРИСТАННЯ ТРУДОВИХ РЕСУРСІВ У ПРОМИСЛОВОМУ СЕКТОРІ ЕКОНОМІКИ****Сьомченко В. В., Шмиголь Н. М., Гнідкова А. В.***Запорізький національний університет**Україна, 69600, м. Запоріжжя, вул. Жуковського, 66***Ключові слова:**

трудові ресурси, трудовий потенціал, ефективність використання трудового потенціалу, сільськогосподарські підприємства.

У статті досліджено проблемні аспекти ефективного використання трудових ресурсів та теоретичні засади, науково-методичні підходи, практичні рекомендації щодо оцінки ефективності використання трудових ресурсів. Установлено, що ефективність використання трудових ресурсів є основною складовою, необхідною для безперервності суспільного виробництва, а також становлення та розвитку людини в трудовій діяльності. Ґрунтуючися на цьому, розглянуто наукові праці, які акумулюють кращі досягнення економічної та управлінської думки, котрі визначають придатність існуючих концепцій і моделей до сучасних умов, пояснюють нові явища в сфері праці. Проведено оцінку ефективності використання трудових ресурсів на сільськогосподарському підприємстві. Досліджуючи динаміку середньорічної кількості працюючих, встановлено, що за останнє десятиріччя спостерігається значне скорочення середньорічної кількості працівників і загалом в Україні, і на досліджуваному підприємстві. Проаналізовано існуючу систему стимулювання на підприємстві та виявлено основні напрями вирішення проблем стимулювання. Розроблено рекомендації щодо покращення ефективності використання трудових ресурсів та удосконалення системи стимулювання працівників на досліджуваному підприємстві. Запропоновано етапи системи стимулювання, які дозволять отримати обґрунтовану програму стимулювання, максимально спрямовану на специфіку підприємства. Також визначено основні умови вдосконалення матеріального стимулювання найманої праці. Отримані результати є основою для подальшого поглибленого наукового осмислення процесу використання трудових ресурсів на підприємствах, підвищення ефективності використання трудових ресурсів, їхнього впливу на результати виробничо-господарської діяльності підприємств.

### Statement of the problem

Today, in the economic crisis, the problem of efficient use of labor is quite complex and relevant, because it depends on its solution not only the financial performance of enterprises, welfare and living standards of workers in this area, but also the security of the country as a whole. Incomplete use of the labor potential of society leads to underproduction, reduction of gross domestic product and national income, which reduces the material basis for the reproduction of labor. Personnel management in any enterprise is as effective as its employees make full use of their work potential, their mental, physical and entrepreneurial abilities in the implementation of the main economic and organizational goals facing enterprises and firms.

### Analysis of recent studies and publications

The issue of formation and use of labor resources has been widely considered in the scientific literature. In particular, it is covered in the works of: L. V. Bogomazova [1, p. 105], O. O. Boyko [2, pp. 15-16], S. V. Terekhin [6, p. 270], Wilhelm W. [8, p. 130]. In their works, they consider the labor potential of individual enterprises and our country as a whole. Particular attention is paid to the efficiency of labor potential and the problems that may face both the country and the company in the current situation. The works of the studied scientists describe their models of overcoming this situation, suggest ways to improve the current situation, as well as highlight the relationships between the structural elements of this problem.

Table 1 – Analysis of the number of employees at LLC «Rassvet LTD», pers.

Enterprise	2014	2015	2016	2017	2018	2018 in % to 2014
LLC «Rassvet LTD»	114	115	91	79	79	69,3

Table 1 show that the number of employees at LLC «Rassvet LTD» has decreased significantly compared to 2014, but over the past two years their number has not changed.

In addition to the quantitative provision of the enterprise with labor resources, we will also analyze the qualitative

Table 2 – Analysis of the quality of employees of LLC «Rassvet LTD», pers.

Indicators	LLC «Rassvet LTD»			Deviation, +/- 2018 from	
	2016	2017	2018	2016	2017
1. Number of part-time employees	2	-	-	-	-
2. Number of employees aged:					
- 15-34	30	31	30	-	-1
- 35-49	21	15	14	-7	-1
- 50-54	17	18	18	+1	-
- 55-59	13	10	10	-3	-
3. Number of employees with higher education by educational level:					
- incomplete and basic higher education	33	38	41	+8	+3
- higher education	15	19	20	+5	+1
4. Number of employees receiving a pension	8	5	7	-1	+2
5. Number of employees who took the courses:					
- retraining	9	12	20	+11	+8
- certification training	-	-	-	-	-

### Objectives of the article

Assess the efficiency of labor resources in the agricultural enterprise, analyze the existing system of incentives in the enterprise and identify the main areas of solving the problems of incentives, develop recommendations for improving the efficiency of labor resources by enterprises in the development of market relations.

### The main material of the research

The main social and labor indicators at agro-industrial enterprises in market conditions are ensuring full employment of labor resources and high productivity, creating normal working conditions for staff and raising wages, achieving proper economic growth and quality of life of workers. In the implementation of these economic goals the main role is played by labor resources.

In particular, the volume and timeliness of all works, efficiency of use of equipment, machines, mechanisms and as a result the volume of production, its cost, profit and a number of other economic indicators depend on the provision of labor resources and efficiency of their use [7, p. 520].

To study the efficiency of labor resources, we chose the LLC «Rassvet LTD», which is located in the Zaporizhzhia region and is engaged in agricultural production, manufacture of bakery products, production and repair of agricultural machinery [9]. The analysis of the number of employees at the researched enterprise of Zaporizhzhia region is given in table 1.

composition of workers, which is characterized by the general education and professional qualification level of employees.

Analysis of the quality of employees of the enterprise is given in Table 2.

Table data. 2 show that the quality of employees at LLC «Rassvet LTD» is almost the same. The largest number of employees is in the age group of 15-49 years. Most of these employees have incomplete and basic higher education. Retirees work for LLC «Rassvet LTD», the share of which in the total number of employees is 6,76-9,72%. This indicates that the company has a problem of aging staff. In our opinion, in the future it may have a negative impact on the efficiency of the enterprise, as 20-40 year old workers are people with a fairly high level of qualification and long experience. The increase in specialists with higher education indicates a change in the range of products in the direction of increasing more

technically complex and knowledge-intensive products. In 2018, LLC «Rassvet LTD» has employees who have undergone retraining courses. Thus, the quantitative and qualitative characteristics of labor resources at LLC «Rassvet LTD» affect the productivity of the enterprise.

Analyzing the current trends of incentives for employees at LLC «Rassvet LTD» we found that preference is given to the use of material forms of incentives in the form of: bonuses, surcharges for overtime or overtime work, surcharges for food and health. For comparison, we analyzed the structure of the annual wage fund at the study enterprise (Table 3, Fig. 1).

Table 3 – Analysis of the structure of the payroll, thousand UAH

Enterprise	Years	Remuneration fund, thousand UAH	basic salary fund		additional salary fund		other incentive and compensation payments	
			thousand UAH	%	thousand UAH	%	thousand UAH	%
LLC «Rassvet LTD»	2016	4641,0	3021,3	65,1	1322,7	28,5	297,0	6,4
	2017	4550,4	2976,0	65,4	1296,9	28,5	277,5	6,1
	2018	5261,4	3488,3	66,3	1462,7	27,8	310,4	5,9



Fig. 1. The structure of the payroll

Analyzing the changes in the structure of the payroll at LLC «Rassvet LTD», it is seen that the largest share in the total amount of wages is the basic salary (average 65,6%). The additional salary fund averages 28,3%. The lowest percentage is made up of other incentive and compensation payments (on average 6,1%). The causes and consequences of this trend are diverse.

The increase in the share of the basic salary is due to the reduction of the additional salary and other incentive and compensation payments. The most important indicator of labor efficiency is labor productivity. The level of labor productivity at the enterprise can be expressed as an indicator of sales per employee and an indicator of labor intensity per unit of output. The efficiency of labor use in enterprises of material production is characterized by the following indicators: the growth rate of labor productivity;

the share of product growth due to increased productivity; relative savings of living labor (employees per year) compared to the conditions of the base year; relative savings of the wage fund; the ratio of productivity growth to average wage growth [5, p. 383].

A system of generalizing, private and auxiliary indicators of labor productivity is used to assess the level of labor intensity. The generalized indicators include the average annual, average daily and average hourly output of one worker, as well as the average annual output of one employee in value terms. Auxiliary indicators characterize the time spent on performing a unit of a certain type of work or the amount of work performed per unit time [4, p. 31]. Labor productivity characterizes the efficiency of use of labor resources of the enterprise and is the main factor in the growth of production of the enterprise.

The efficiency of labor resources use at LLC «Rassvet LTD» is significantly influenced by: deepening specialization and strengthening concentration, improving the organization of production, improving labor standards, eliminating downtime for organizational and technical reasons, improving material and moral incentives for

employees, improving their skills, staff turnover, working conditions, life, recreation of employees, the availability of equipment and its quality. Using the performance indicators of LLC «Rassvet LTD» will analyze the efficiency of labor resources (Table 4).

Table 4 – Analysis of the efficiency of labor resources at LLC «Rassvet LTD»

Indicators	2017	2018	2018 in % to 2017
1. Cost of marketable products, thousand UAH	6956,5	7595	109,2
2. Cost of marketable products, thousand UAH	5534,1	6087,1	110,0
3. The cost of fixed assets - total, thousand UAH	9286,9	9950	107,2
4. The average number of employees, pers.	79	79	100
5. Worked by one worker per year, man-hours	1783	1713	96,1
6. Annual working time utilization rate	98,0	94,5	96,4

Initial data show that the average annual number of employees has not changed over the last two years. This allows us to conclude that the increase in marketable products was due to increased productivity. One of the important indicators that characterize the degree of use of labor resources is the utilization rate of the annual working time fund, which at LLC «Rassvet LTD» is lower than possible by almost 3%. This is mostly due to the specifics of the enterprise.

As for increasing labor productivity, it is a major factor in increasing production, reducing production costs, increasing profits and increasing profitability.

To provide a practical calculation of the quantitative impact of productivity growth, due to improved quality of labor resources, on the economic performance of the enterprise, we use the data of the financial statements of LLC «Rassvet LTD» for the period 2017-2018 (Table 5).

Table 5 – Calculation of the impact of increasing productivity on the economic performance of LLC «Rassvet LTD»

№ з/п	Indicators	2017	2018	2018 in % to 2017
1	2	3	4	5
1	Increase in marketable products, thousand UAH ( $\Delta Q_I = Q_I - Q_0$ ) including by increasing: a) labor productivity b) the number of employees	- -	638,5 -	9,2 -
2	Profit received as a result of sales of marketable products, thousand UAH ( $Pr = Q - C_{mark.pr.}$ )	1422, 4	1507,9	106,0
3	Profit growth in the reporting period, ( $\Delta Pr$ ), thousand UAH	-	85,5	-
4	Production per employee ( $Q/N_{workes.}$ ), thousand UAH	88,0	114,0	129,5
5	The average monthly salary of one employee ( $Monthly\ salary = Remuneration\ fund / N_{workes} / 12$ ), UAH	4800	5550	116,0
6	Correlation between productivity growth rates and average wages (lead ratio)	-	-	1,11
7	Conditional fixed costs of the base period, ( $C_{base\ period}$ ) thousand UAH	51,1	-	-
8	Wage costs per 1 hryvnia of marketable products, ( $W = Remuneration\ fund / Q$ )	0,690	0,731	105,9
9	Profitability of marketable products, % ( $P = Pr : C_{mark.pr.} \cdot 100\%$ )	25,7	24,8	96,5
10	Reduction of production costs due to outpacing the growth rate of labor productivity compared to wage growth, thousand UAH $\Delta C_1 = (W_0 - W_1) \cdot (Q_0 + \Delta Q_I)$	-	478,9	-
11	Savings on relatively fixed costs, thousand UAH $\Delta C_2 = (C_{base\ period} \cdot \Delta Q_I) / 100\%$	-	4,7	-
12	Total savings due to lower production costs as a result of productivity growth, thousand UAH $\Delta C = \Delta C_1 + \Delta C_2$	-	483,3	-
13	Percentage of reduction of production costs due to growth of labor productivity, % $(\Delta C / C_{mark.pr.}) \cdot 100\%$	-	7,9	-
14	Profit obtained as a result of growth in sales due to growth in productivity, thousand UAH $Pr = (\Delta Q_I \cdot P) / 100$	-	158,35	-
15	Total profit received by increasing labor productivity in the reporting period, thousand UAH $\sum Pr = \Delta C + Pr$	-	641,65	-

16	Increasing the overall profitability of production by increasing labor productivity in the reporting year, % ( $P_{prod.} = \sum Pr : \text{Average annual cost of fixed assets}$ )		6,45	
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The initial data of table. 5 show that in 2017-2018 the average number of employees did not change. This allows us to conclude that the increase in marketable products was due to increased productivity. The calculations show that the increase in productivity at LLC «Rassvet LTD» allows you to get in the reporting year 641,65 thousand UAH. profit, and increase the profitability of production by 6,45%.

Almost all enterprises of the agro-industrial complex face the need to develop or revise the existing system of personnel incentives. This is due to the fact that previously such a system was either absent at all, or was present nominally, but in fact «did not work», i.e. did not significantly affect the behavior of employees and even ignored them [3, p. 24]. Practice shows that this condition usually occurs for the following reasons (Fig. 2).

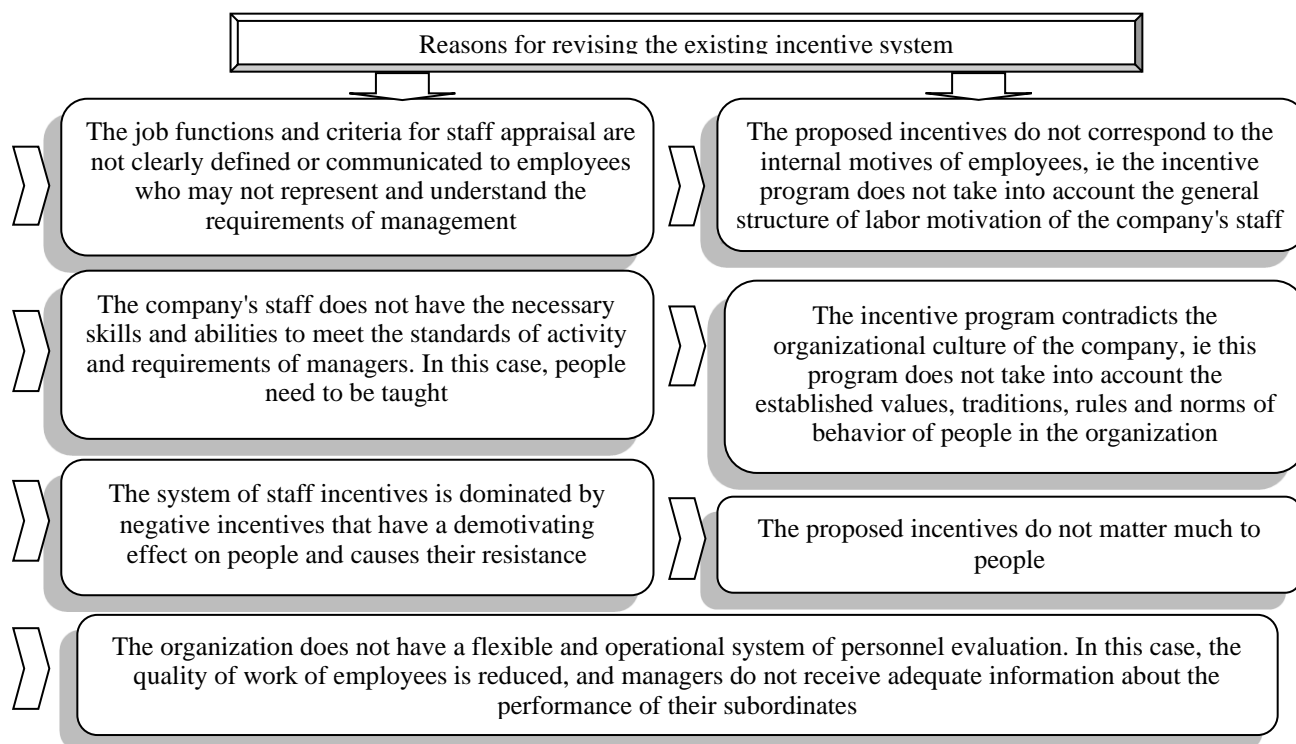


Fig. 2 Reasons for revising the existing incentive system

To avoid these and other mistakes, the process of developing an incentive system should not be voluntary and reflect the views of only one or two managers who are responsible for this work. The development of a system of staff incentives should be carried out using special methods and based on an objective analysis of the situation both within the organization and in the labor market.

To this end, the following sequence of actions is proposed (Fig. 3).

The stages of the incentive system proposed by us, provided that they are consistent, planned and methodical, will allow to obtain a reasonable incentive program, maximally aimed at the specifics of the enterprise. Such a program will have a very high chance of successful implementation in any enterprise.

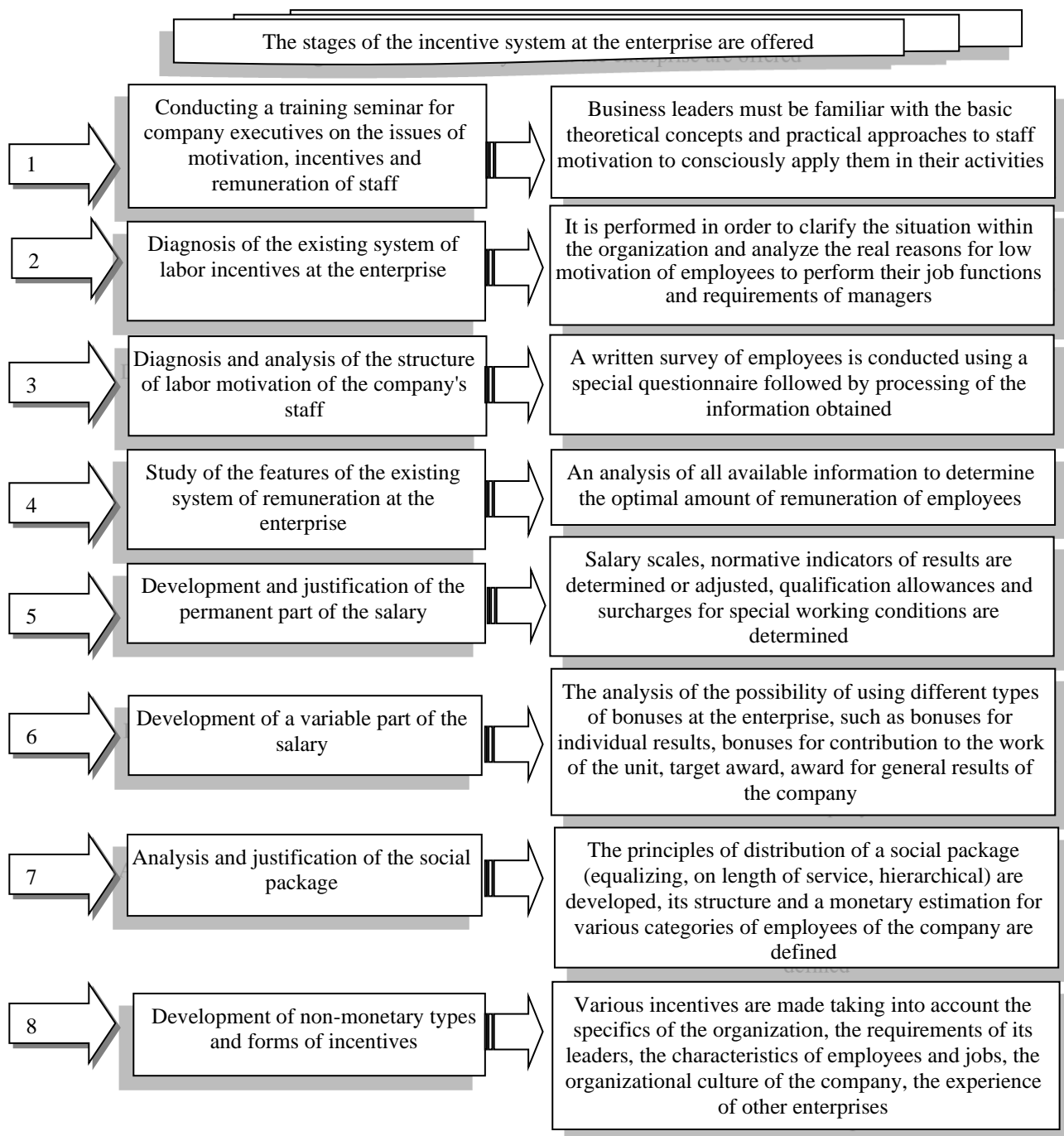


Fig. 3. The proposed stages of the incentive system in the enterprise

### Conclusions

The most important element of the productive forces are the country's labor resources. The quality of labor resources significantly affects the pace and quality of economic growth. The management of the country's labor resources is a central problem in the management of social reproduction, because the functioning of the main productive force is a decisive factor in the economic development of the country and social progress in general.

Examining the dynamics of the average annual number of employees, it was found that over the past decade there has been a significant reduction in the average annual number of employees both in Ukraine as a whole and at the studied enterprise. Analysis of the efficiency of labor

resources showed that in recent years the average number of employees has not increased, so the increase in marketable products was due to increased productivity.

Studying the issues of material incentives, we concluded that the existing system of material incentives does not meet the requirements of changed economic conditions and has a weak incentive effect on the performance of the employee. According to the results of the study, the author identified the main conditions for improving the material incentives for hired labor.

Thus, ways to increase the efficiency of labor resources and their impact on the results of production and economic activities of enterprises will be able to significantly increase the profitability of production and in the future will have a positive impact on the economy as a whole.

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