Mesopotamia Journal of Agriculture

ESTIMATION OF THE ADDED VALUE OF WHEAT CROP PRODUCTION IN NINEVEH GOVERNORATE FOR THE AGRICULTURAL SEASON 2019-2020

Eman F.M. Alzubaidi[*], **Alaa M. A. Almullah**

Department of Agricultural Economics, College of Agriculture & Forestry, University of Mosul, Iraq

ABSTRACT

This study examines the typical value of wheat crop production in Nineveh Governorate for the production season 2020, and calculates costs, the United States and profits and diagnoses the challenges and problems of crop production. (134) questionnaire forms were distributed to a random sample of wheat crop farmers in Nineveh Governorate for the agricultural season 2019-2020. showing that the average revenue per ton of wheat crop amounted to (497, 578,832) dinars/ton, and that the average total value added per ton was estimated at (384,200,121) dinars/ton, and the average total costs (production and marketing) per ton amounted to (223.621.841) dinars/ton. The results of the research indicated that there are problems and obstacles with regard to the process of preparing the state for production requirements for farmers in terms of inappropriate timings for cultivation and low quantities distributed, This leads to higher variable costs than production costs. and the presence of delays in the process of marketing and receiving the yield from the silos, The study recommends early development of the agricultural plan, opening centers to collect the crop in the harvest season, close to the farms in order to reduce costs and facilitate the marketing process, and work to develop a marketing mechanism and the receipt of the crop by the silos, and expedite the process of disbursing the financial dues to farmers.

INTRODUCTION

Working to increase the production of the wheat crop facilitates achieving food and economic security for the country, and then achieving the state's strategy in increasing its production and reducing imports, which burdens the state budget, in addition to being a source of income for farmers. And that its production in Iraq is subject to a policy of subsidizing production requirements and supporting production prices. And the importance of research comes from the importance of the wheat crop, which is an important strategic crop, and that working to increase its production contributes to covering one of the requirements of the ration card vocabulary from local production, as the state distributes flour to Citizens at a subsidized price. The aim of the research is to estimate, production and marketing costs, revenues, profits and the added value of the crop, identifying strengths and opportunities, strengthening and consolidating them, and reducing weaknesses and threats. A questionnaire was designed for this purpose, and (134) forms were randomly distributed to farmers The wheat crop in Nineveh Governorate for the productive season 2020, and the sample represented (1.251%) of the total community of (13028) farmers for the wheat crop

throughout the governorate, and (3.165%) of the total farmers in the people to which the questionnaires were distributed, which numbered (5150) a farmer. The research is based on the hypothesis that the production of wheat in Iraq (Nineveh Governorate) does not have an efficient use of the available resources and their uses in a way that achieves added value and rewarding and competitive profits at the global level, in addition to that the crop production suffers from problems and obstacles. The research problem is that the efficiency of the performance of the wheat crop production cycle is weak, due to the presence of problems and obstacles in the process of processing production, production and marketing requirements.

MATERIALS AND METHODS

The research relied on the descriptive analysis of the theoretical aspect of the value chain and added value, and quantitative analysis to calculate costs, revenues and profits, and to calculate the most important value-added criteria for wheat production.

METHOD OF ANALYSIS

The analysis method included descriptive, quantitative and analytical steps, and this methodology was based on the following mathematical formula: (AL-Falluji, 2018)

(Value added = value of production - value of production inputs)

And the value-added criterion is one of the criteria that measures the amount of addition realized from the project or its contribution to achieving an addition to farm income, through which the total and net added value generated by the project is calculated, and it can be found as in the following equations (Araf and Hammam, 2015):

Total value added = value of production at market price - value of production inputs.

Net value added = total value added – depreciation (AL-Falluji et. al, 2016).

The study also relied on a set of economic criteria, including the calculation of each of the following:

1- The average variable costs are calculated as in the following formula (Debertin, 2012):

Average Variable Costs = (Variable Costs) / (Produced Number of Units).

2-The average fixed costs are calculated as in the following formula:

Average fixed costs = (fixed costs) / (produced units number).

3- The average total costs are calculated as in the following formula:

Average total costs = (total costs)/(produced units number)

or (variable costs + fixed costs)/(produced units number).

4-The average revenue is found using the following formula

Average Revenue = (Total Revenue)/(Quantity Sold).

5- The profit is found through the following formula (AL-Bardisi and Baker, 2019):

Profit = total revenue - total costs.

6- The average total value added, this criterion can be found according to the following equation (McFadden J. et al., 2012):

Average Gross Value Added = Average Net Profit + Average Labor Costs.

- Average net profit = profits / (production quantity).

- Average labor costs = (labor costs) / (production quantity).

7- Profit to value added ratio as in the following formula:

Profit to value added ratio = Profits/(value added).

8-The ratio of value added to production value, which can be found according to the following formula:

The ratio of value added to production value = (value added) / (production value).

THE CONCEPT AND METHODOLOGY OF VALUE CHAIN ANALYSIS

(Porter, 1985) is the first to define the value chain as a related group of activities that are necessary to create goods and services from the beginning of the use of raw materials until the delivery of the product to the final consumer, and in the agricultural field it is defined as a group of activities that enter into the manufacture and transportation of farm-to-table produce (Miller and Silva, 2007). The analysis took on a wide meaning, due to its flexibility and applicability in many different projects, and in many stages of a single project. It is defined as a method that requires a study of all the internal and external activities of the organization so that these activities are carried out on the basis of an organizational structure and the selection of efficient human resources capable of making optimal use of the available resources to achieve a better return for the institution . Economists emphasized that the increase in value added is a means of economic growth, and they noted that there is a direct relationship between economic value and its added value, and that the value of the economic unit increases in its productivity and value (Karpik and Belkaoui, 1990), The term value added includes any good or agricultural product that has undergone a change in physical condition, has been produced, marketed, or segregated (i.e. identity preservation and eco-labelling) in a way that enhances its value, expands the product's customer base, or is aggregated and marketed as locally produced food (NSAC , 2013), and the added value is defined as all that is added of values at each stage of commodity production and circulation or when services are performed. And the added value is the value added by producers of goods and services to the value of raw materials and purchases of other physical necessities. It represents the difference between the value of sold production (valued at market price) and the value of intermediate consumption. The added value represents a measure of the performance of the generated wealth added by the economic unit during a specific period of time .The value chain concept is used to express the chain of operations and activities that contribute to maintaining product quality and maximizing its value at the lowest possible cost (Mansour, 2022), The concept of added value also suggests that each component in the process should be examined in terms of the value the components add to the final product. If the activity, process, or link does not add any value, it is possible that removing it may improve productivity, and the value is added Processes by which raw materials are changed into semi-finished and then into finished materials, and then through assembly into a marketable product that is packaged and shipped to the customer or distribution center. Among the previous studies in this field was a study on (wheat value chain analysis in Sinana County / Ethiopia), the study aimed to analyze the market structure and determine the determinants of wheat supply to the market. The study recommended increasing farmers' awareness of the importance of integrated crop management packages to increase productivity and sustainable production, and to develop varieties High productivity, the need to provide credit to farmers to purchase the inputs required for production, and solving the problem of seed shortages for improved varieties (Mohammed, 2016). In another study on (Exploring the value chain of wheat with a focus on market performance

and supply chain management in Ethiopia), the study aimed to analyze the value chain and calculate profit margins. The study concluded that the highest loss was in the producers' circle due to low yields for wheat production, poor storage places and weather conditions, and that wheat markets near the producers were more competitive than the central markets. The study recommended working towards managing and improving the wheat processing chain, working to support the actors in the value chain and moving towards a comprehensive business rather than a single effort to make a profit (Amentae et al, 2017). In a study on (the value chain of the wheat crop in Iraq - Baghdad Governorate, an applied case for the year 2017), the research came according to the value chain analysis methodology to discuss and track the most important determinants and problems facing the chain of value chains of the crop, as well as analyzing and knowing costs, revenues, profits and value added. The study found a high percentage of the variable cost out of the total total costs. The research recommends the establishment of a specialized center for the wheat crop database to study production costs and returns and the establishment of production collection centers in the areas near the fields to reduce the number of marketing circles and work to facilitate the process of marketing the crop to the state (AL-Falluji, 2018). In another study on (Wheat Value Chain Analysis in Oromia - Ethiopia), the study aimed to analyze the value chain and identify opportunities, threats, strengths and weaknesses. The study concluded that the wheat value chain achieves an added value for each link and works to provide many job opportunities, and there are restrictions, including the lack of production requirements, and the low price of wheat during the harvest season, which reduces profits and added value, and that the bargaining power of farmers in marketing the yield is very weak compared to With traders, the study recommended helping farmers who do not have large capital by providing them with loans in order to enter the production process (Ulisido and Abebe, 2020). The Food and Agriculture Organization of the United Nations (FAO) conducted a study on the value chain in Iraq for a group of crops, namely dates, tomatoes, grapes and wheat. The value chain with respect to wheat is characterized by a distinct participation of agriculture and trade in the production and marketing of the crop. The study proved the existence of a subsidy for producers by providing production inputs from seeds Fertilizers and pesticides at a subsidized price. The state says, through its policy, to buy the crop from farmers at a subsidized price higher than the international price. The study concluded that despite the fact that the crop is subsidized by its production and marketing by the government, flour is still the second highest import in Iraq the study recommended increasing the subsidy of the crop to encourage farmers to produce it, thus achieving self-sufficiency in this strategic crop and achieving food security (FAO, 2021).

RESULTS AND DISCUSSION
FIRST: ESTIMATING THE ITEMS OF PRODUCTION COSTS FO THE WHEAT CROP:

The cost items for the production cycle include both production costs (variable and fixed) and marketing costs for the wheat crop, as in Tables (1) and (2).

1-VARIABLE PRODUCTION COSTS:

These are the costs that change with the change in the volume of production. Table (1) shows that the average cost of automated work per ton of wheat crop was

36,249,241 dinars/ton, and the average cost of rented labor per ton was (12,378,246) dinars/ton, and the average cost of purchasing seeds per ton One amounted to (18746.893) dinars/ton, and the average cost of purchasing fertilizers per ton amounted to (33395.018) dinars/ton, and the average costs of purchasing pesticides per ton amounted to (1846.787) dinars/ton, and the average cost of fuel, oils and oils per ton amounted to (4513.687) dinars/ ton, and the average cost of water and electricity per ton was (1163.815) dinars/ton, and the average maintenance and repair costs per ton were (5,085.025) dinars/ton, and the average variable cost per ton of wheat crop was (113378.711) dinars/ton.

Table (1): The variable, fixed and total (productivity) costs of the wheat crop in Nineveh Governorate for the productive season 2020

	Items of production costs for wheat crop	Sample costs (in dinars)	Cost per ton produced (in dinars)	Cost per acre (in dinars)	Relative importance of costs (%)
1-	Automation costs	1087151000	36249.241	27545.823	31.971
2-	Hired labor costs	371236000	12378.246	9406.238	10.917
3-	Seed purchase costs	562238050	18746.893	14245.776	16.534
4-	Fertilizer purchase costs	1001550000	33395.018	25376.897	29.454
5-	Pesticide purchase costs	55387000	1846.787	1403.374	1.628
6-	Water and electricity costs	34904000	1163.815	884.384	1.026
7-	Fuel and oil costs	135370000	4513.687	3429.954	3.981
8-	Maintenance and repair costs	152505000	5085.025	3864.114	4.484
	Total variable costs	3400341050	113378.711	86156.562	100%
1-	family business costs	451690000	15060.851	11444.751	31.746
2-	Depreciation costs	145436750	4849.346	3685.021	10.221
3-	rental costs	374574500	12489.563	9490.828	26.326
4-	Opportunity costs	451108450	15041.460	11430.016	31.705
	Total fixed costs	1422809700	47441.220	36050.616	100%
	Total production costs	4823150750	160819.931	122207.179	–

Source: Prepared by the researcher based on the questionnaire.

2- FIXED PRODUCTION COSTS:

These are the costs borne by the producer, whether produced or not. Table (1) shows that the average cost of family work per ton of wheat crop amounted to (15060.851) dinars/ton, and the average cost of rent per ton was (12489.563) dinars/ton. The depreciation per ton amounted to (4849.346) dinars/ton, (the extinction is the continuous gradual decrease in the value of farm assets or the value of fixed assets as a result of erosion and erosion factors and the passage of time) (Al-Samarrai, 1980), and the cost of alternative opportunities was calculated and its

average cost per ton was (15041.460).) dinars/ton. And the average fixed cost per ton amounted to (47441.220) dinars/ton.

3- MARKETING COSTS:

Marketing costs are one of the important indicators to know the efficiency of the performance of the marketing system. The process of marketing the wheat crop is carried out in two ways: Either direct marketing from the farms to the silos and official squares, and here the marketing costs rise because the marketing operations are many and include (transportation, loading and packing, unloading, cleaning and purification, the fees paid by the farmer to the silo or the yard when marketing the crop, the costs of delaying the receipt of the crop by the silo) , but in this case the profits and the added value are also high, The state implements a price support policy for the wheat crop in Iraq, which is a price higher than the border price of wheat, which amounted to (265,160) dinars/ton for the season 2020, and that the local price per ton of the wheat crop is (560,000, 480,000, 420,000) dinars/ton, for the first degree, second, and third) respectively for the 2020 season. Also, some farmers, especially those who own small holdings and have little production, and because of the problems and obstacles to the marketing process that farmers suffer from, sell the crop to local traders, who are local traders who collect the crop from a group of farmers and conduct marketing operations on it and then sell it to Silos and yards, and here the marketing costs on the farms are reduced due to the lack of marketing operations, and they are (transportation, loading, packing, and unloading), but in this case profits and added value are also reduced, Table (2) shows the marketing costs of the wheat crop in Nineveh Governorate for the productive season 2020.

Table (2): Marketing costs of wheat production in Nineveh Governorate for the productive season 2020

	Marketing cost items wheat crop production	sample cost (in dinars)	Cost per ton (in dinars)	Cost per acre (in dinars)	Relative importance of costs (%)
Marketing costs in the case of marketing to silos and official arenas					
1-	Cleaning and purification costs	479767000	17643.325	12911.539	26.408
2-	Fee costs	543851000	20000	14636.175	29.936
3-	Costs of delayed receipt of the crop by the silo	143628000	5281.887	3865.331	7.906
4-	transportation fees	538511716	19803.649	15048.806	29.642
5-	Loading and packing costs	59013680	2170.215	1649.148	3.248
6-	unloading costs	51909490	1908.960	1450.620	2.857
	Total marketing costs to silos	1816680886	66808.036	49661.619	100%
Marketing costs in the case of marketing to local merchants					
1-	transportation fees	55399718	19803.649	15048.806	82.920
2-	Loading and packing costs	6071068	2170.215	1649.148	9.086
3-	unloading costs	5340220	1908.960	1450.620	7.247
	Total marketing costs to local merchants	66811006	23882.824	18148.574	100%

Source: Prepared by the researcher based on the questionnaire.

The average cost of loading and packing per ton of wheat crop was (2170.215) dinars/ton, and the average transportation cost per ton was (19803.649) dinars/ton. Unloading per ton (1908.960) dinars/ton, while the average cost of cleaning and purification per ton was (17643.325) dinars/ton, and the average cost of delaying the receipt of the crop by silos and yards per ton was (5281.887) dinars/ton.

SECOND: TOTAL PRODUCTIN AND MARKTING COSTS OF WHEAT PRODUCTIN

The production costs (variable and fixed) and marketing costs were calculated and the relative importance of each of them. Table (3) shows that the total production quantity of the studied sample amounted to (29991) tons, and that the amount of production marketed to silos and yards, and marketed to local traders, amounted to 27,193,550, 2797.450) tons, respectively. The average variable, fixed, and marketing costs per ton amounted to (113378.711, 47441.220, 62801.903) dinars/ton, respectively.

Table (3): Production costs (variable and fixed) and marketing and the relative importance of the total costs of the production for wheat crop in Nineveh Governorate for the productive season 2020

	production costs for wheat crop	Sample costs (in dinars)	Cost per ton (in dinars)	Cost per acre (in dinars)	Relative importance of costs (%)
	Production costs (variable + fixed) and marketing for the study sample				
1-	variable production costs	3400341050	113378.711	86156.562	50.700
2-	fixed production costs	1422809700	47441.220	36050.616	21.214
3-	marketing costs	1883491892	62801.903	47723.209	28.084
	Total total production and marketing costs	6706642642	223621.841	169930.387	%100
	Production Quantity (tons)	29991	------	------	------
	Cultivated area (dunums)	39467	------	------	------
	Production costs (variable + fixed) and marketing in the case of marketing to silos and official yards				
1-	variable production costs	3083056266	113378.711	82971.534	%49.808
2-	fixed production costs	1290047748	47441.220	34717.900	%20.841
3-	marketing costs	1816680884	66805.580	48890.706	%29.349
	Total total production and marketing costs	6189784897	227627.511	166580.140	%100
	Production Quantity (tons)	27193.550	--------	-------	-------
	Cultivated area (dunums)	37158	--------	-------	-------
	Production costs (variable + fixed) and marketing in the case of marketing to local traders				
1-	variable production costs	317171277	113378.711	172144.888	%61.384
2-	fixed production costs	132714442	47441.220	72030.838	%25.685
3-	marketing costs	66811006	23882.824	36261.711	%12.930
	Total total production and marketing costs	516696725	184702.756	280437.437	%100
	Production Quantity (tons)	2797.450	------	------	------
	Cultivated area (dunums)	2309	------	------	------

Source: Prepared by the researcher based on the questionnaire.

The average total costs (production and marketing) per ton of wheat crop was (223621.841) dinars/ton, and Table (3) indicates the high marketing costs in the case of marketing to silos and yards, compared to marketing to local traders, and this is due to the additional marketing costs borne by The farmer in the case of direct marketing to the silos, represented by fee costs in the first place, transportation costs in the second place, and cleaning and purification costs in the third place of marketing costs.

THIRD: REVENUES AND PROFITS FOR WHEAT PRODUCTION:

Revenue is defined as the financial flows resulting from selling a commodity at the market price. When revenues exceed costs, they are profits. Table (4) shows that the average revenue per ton of wheat crop amounted to (497,578.832) dinars/ton, while the price per ton of wheat of the (first, second, and third) grade for the quantity marketed to silos and yards (560000, 480000, 420000) dinars/ tons, respectively. It is inferred from Table (4) that the average profit per ton at the sample level was (273956.990) dinars/ton, while the average profit per ton of wheat for the (first, second, and third) degree of the quantity marketed to silos and yards was (332373.795, 252372,081)., 192372.034) dinars/ton, respectively. The average profit per ton of wheat for the first, second, and third grades of the quantity marketed to local traders amounted to (113858.550, 58714.879, 54,788.688) dinars/ton, respectively. It is clear from Table (4) that the realized revenues were greater than the total costs, and farmers achieved varying profits, and this profit depends on several factors, the most important of which are the method of marketing and the degree of the crop. , in addition to the cultivated area, production per acre, the efficiency of the farmer in managing his farm, reducing his costs so as not to affect productivity or quality, and his ability to sell his crop at a higher degree and price. With the rest of the grades and the sample marketed to local traders

Table (4): Costs, Revenues and Profits of Wheat Crop Production in Nineveh Governorate Productive season 2020

	Items for the production of wheat crop	Sample value (in dinars)	average per ton (in dinars)	Average per acre (in dinars)	
	Costs, revenue, and profits at the sample level				
1-	variable production costs	3400341050	113378.711	86156.562	
2-	fixed production costs	1422809700	47441.220	36050.616	
3-	Production costs (variable + fixed)	4823150750	160819.931	122110.176	
4-	marketing costs	1883491892	62801.903	47723.209	
5-	Total costs (production + marketing)	6706642642	223621.841	169930.338	
6-	Revenues	14922886750	497578.832	378110.491	
7-	Profits	8216244108	273956.990	208180.153	
	Costs, revenues and profits at the level of the sample marketed to silos and official arenas				
	Items for the production of wheat crop Marketed to silos and official arenas	The value of the sample marketed to silos (in dinars)	The value of the degree first (in dinars)	The value of the second degree (in dinars)	The value of the third degree (in dinars)
1-	variable production costs	3083056266	1737052567	1062103424	283900291

2-	fixed production costs	1290047748	726837444	444417489	118792815
3-	Production costs (variable + fixed)	4373104014	2463863009	1506520913	402693106
4-	marketing costs	1816680884	1023552555	625840976	167287322
5-	Total costs (production + marketing)	6189784897	3487415564	2132361435	569980428
6-	Revenues	14127848000	8579648000	4496520000	1051680000
7-	Profits	7938063103	5092232436	2364158565	481699572
Costs, revenues and profits at the level of the sample marketed to local merchants					
	Items for the production of wheat crop Marketed to local merchants	Value of the sample marketed to local merchants (in dinars)	The value of the degree first (in dinars)	The value of the second degree (in dinars)	The value of the third degree (in dinars)
1-	variable production costs	317171277	236814117	48866224	31490938
2-	fixed production costs	132714442	99090476	20447167	13176800
3-	Production costs (variable + fixed)	449885719	335904593	69313391	44667738
4-	marketing costs	66811006	49884055	10293497	6633455
5-	Total costs (production + marketing)	516696725	385788646	79608887	51301192
6-	Revenues	795038750	623605000	104915000	66518750
7-	Profits	278342025	237816354	25306113	15217558

Source: Prepared by the researcher based on the questionnaire.

FOURTH: THE TOTAL AND NET ADDED VALUE OF WHEAT PRODUCTION:

This criterion is one of the most important criteria used in evaluating projects, as the achieved added value represents the increase in national income, and the greater the value added to the project, the greater the project's contribution to generating national income. It is clear from Table (5) that the average total value added per ton was estimated at (384200.121) dinars/ton, and the average net value added per ton was estimated at (379350.775) dinars/ton, and the criterion of the profit-to-value-added ratio of the wheat crop was calculated, and this indicates.

Table (5): The total, net and average added value of the total production of the wheat crop in Nineveh Governorate for the productive season 2020

Economic criteria at the sample level for the production cycle			
	Economic Standards	Sample value (in dinars)	average per ton (in dinars)	Average per acre (in dinars)
1-	Gross added value	11522545700	384200.121	291953.929
2-	Net added value	11377108950	379350.775	288268.908
3-	Average Gross Value Added	-----	357720.741	-----
4-	Average net profit	-----	273956.192	-----
5-	Profit-to-value-added ratio	0.713	0.713	0.713

6-	Ratio of value added to production value	0.772	0.772	0.772	
	Economic criteria at the level of the sample marketed to silos and official squares				
	Economic Standards	The value of the sample marketed to silos (in dinars)	The value of the degree first (in dinars)	The value of the second degree (in dinars)	The value of the third degree (in dinars)
1-	Gross added value	11044791730	6842595433	3434416576	767779709
2-	Net added value	10912925650	6768299573	3388989115	755636944
3-	Average Gross Value Added	-------	417784.461 *	* 337782.919	27778.872 *
4-	Average net profit	-------	332373.795 *	* 252372.081	192372.034 *
5-	Profit-to-value-added ratio	0.719	0.744	0.688	0.627
6-	Ratio of value added to production value	0.782	0.798	0.764	0.730
	Economic criteria at the level of the sample marketed to local traders				
	Economic Standards	Value of the sample marketed to local merchants (in dinars)	The value of the degree first (in dinars)	The value of the second degree (in dinars)	The value of the third degree (in dinars)
1-	Gross added value	477867473	386790883	56048776	35027812
2-	Net added value	464301670	376662054	53958707	33680906
3-	Average Gross Value Added	------	199626.063 *	* 126482.392	122556.201 *
4-	Average net profit	------	131858.550 *	58714.879 *	54788.688 *
5-	Profit-to-value-added ratio	0.582	0.615	0.452	0.434
6-	Ratio of value added to production value	0.601	0.620	0.534	0.527

Source: Prepared by the researcher based on the questionnaire. * means (Dinars/ton).

The criterion is based on the importance of profits as one of the value added elements of the total value added achieved by the farm, and it reached (0.713) for each of the total sample, one ton and one dunum of the crop. The criterion of the value-added ratio to the value of production was also calculated, and this criterion shows the importance of the value added from the value of production, and it reached at the level of the total sample, one ton and one dunum of the crop (0.772), and it is inferred from Table (5) that the rate of what the unit obtains One of the production of added value and profits was high for the first degree of the crop marketed to the yards and yards directly compared to the other grades, and the production marketed to local traders because the revenue for the first degree of the crop marketed to the yards and yards is high.

FIFTH: STRENGTHS, WEAKNESSES, OPPORTUNITIES AND THREATS TO WHEAT CROP PRODUCTION (SWOT):

The SWOT analysis is a supportive analysis of the value chain analysis, which is a summary of the factors of strength, weakness, opportunities and threats that appear in each episode and are used to evaluate the performance and ability of the organization to expand and compete (Austin, 2007), and it includes:

1-Internal factors, including strengths and weaknesses, represented in financial, material and human resources :

a-Strengths: It means the resources and capabilities available to the organization that can contribute positively to the work.

b-Weaknesses: As for weaknesses, they are some things or characteristics that indicate a lack or weakness in the capabilities of the organization so that it is unable to compete.

2- External factors, including opportunities and threats, which are outside the control of the institution, represented by economic changes, market changes, financing and demographics (FAO, 2022):

a-Opportunities: Opportunities mean those spatial and temporal conditions that can be exploited to achieve the goals of the institution, and that many opportunities are not repeated by virtue of their connection to the temporal or spatial factor.

b -Threats: These are likely future events that, if they occur, will negatively affect the performance of the organization.

Through the interviews that the researcher conducted with wheat growers, and the questionnaire information for the 2020 productive season in Nineveh Governorate, the most important SWOT points were reached, as shown in Table (6).

Table (6): Strengths, Weaknesses, Opportunities and Threats (SWOT) for wheat crop production in Nineveh Governorate for the "productive season 2020"

Strengths	Weaknesses
1- The Directorate of Agriculture and its subsidiaries supply farmers (with wheat seeds, compound fertilizers, urea fertilizer, and pesticides), with a subsidy of (50%, 35%, 50%, 100%) according to the agricultural plan. 2- The introduction of new varieties that are resistant to inappropriate weather conditions and fungal and insect infestations, which are characterized by their high productivity, by the private sector. 3- The official authorities, represented by the Grain Trade Company, buy the wheat crop at a subsidized price, higher than the border price of the wheat crop, in order to raise the standard of living for the farmer. 4- Availability of skilled and experienced labor in wheat cultivation. 5- The possibility of increasing the areas planted with wheat by working on land reclamation and providing production requirements.	1- The process of providing farmers with production requirements suffers from some problems, including the delay in providing farmers with supplies, and the lack of distributed quantities of seeds and fertilizers compared to the actual need for a dunum. Fertilizers and pesticides are of poor quality. The equipment, machinery, machinery and fuel supplied to the farmers are expensive and at unsubsidized prices. 2- The increase in the prices of production supplies supplied by the private sector, and consequently a rise in the production costs of the wheat crop. 3- The process of marketing the wheat crop is exposed to many problems and obstacles in Nineveh Governorate: * Following a complex routine, and lack of streamlining in the marketing process. * Lamb cars are parked in long queues, for several days that may reach a month or more, at the doors of silos and yards, which raises marketing costs.

	* The most important problem that farmers suffer from is the delay in disbursing financial dues to them, which may reach six months or more.
Opportunities	Threats
1-The possibility of making the agricultural plan early, and distributing production requirements at the appropriate time and the recommended quantities, which enables the farmer to benefit from them at the specified times, thus reducing production costs, and effectively benefiting from the great efforts made and the huge sums that the state spends in the processing process. 2- Work on the reconstruction and rehabilitation of destroyed silos and yards in Nineveh Governorate, increasing their storage capacities, increasing the number of laboratories operating in them, and opening new receiving centers close to the lands where the wheat crop is increasing. 3-Increasing the number of permanent employees in silos and yards, and providing hired labor in times of marketing. And make work in it during the harvest season continuous for a period of (24 hours), in order to complete the marketing process easily and smoothly and make it successful. 4- Working on not rejecting the crop in case the percentage of impurities and moisture exceeds the prescribed percentage, and the possibility of classifying the crop and receiving it within degrees less than the third degree as the fourth and fifth degree, and using it as animal feed.	1- Inefficient use of agricultural land and production inputs such as seeds, fertilizers and pesticides. 2- Wheat production has been greatly affected by climatic conditions and weather fluctuations, especially in the lands that depend on permaculture and where there is no supplementary irrigation. 3-Sometimes the crop is rejected and not received by the silo after the farmer waits for a long time in the queue and increases marketing costs, or is forced to sell it, to merchants located near the silos, at low prices, while the merchant markets the same product primarily through bargaining power and relationships and the experiences that it possesses in the marketing process, and here a large proportion of the support provided by the state to farmers goes to the merchants. 4- Working on not rejecting the crop in case the percentage of impurities and moisture exceeds the prescribed percentage, and the possibility of classifying the crop and receiving it within degrees less than the third degree as the fourth and fifth degree, and using it as animal feed.

Source: Prepared by the researcher based on personal interviews and a questionnaire.

CONCLUSIONS

One of the conclusions reached by the research is the high percentage of variable costs from the total production costs. The costs of automated work came, followed by the cost of purchasing fertilizers, and the cost of purchasing seeds in the first three ranks of the total variable costs, due to the high prices of fertilizers and imported seeds. And the high marketing costs because farmers suffer from difficulties and a complicated routine in the case of direct marketing to silos and official yards, and waiting for many days that may reach a month or more, and the presence of functional corruption from some workers in silos and yards and laboratories for purification and classification of the crop. And the negative impact on the living standards of farmers due to a delay in the payment of financial dues to farmers, which affects their productivity in the coming year because they are unable to provide requirements.

ACKNOWLEDGEMENTS

CONFLICT OF INTEREST

Conflict to interest: author declare no conflicts of interest regarding the publish this article**.**

تقدير القيمة المضافة لإنتاج محصول القمح في محافظة نينوى للموسم الزراعي 2019 – 2020

الخلاصة

إيمان فيصل محمد الزبيدي   الاء محمد عبدالله المولى

قسم الإقتصاد الزراعي /كلية الزراعة والغابات / جامعة الموصل/ العراق

الخلاصة

تهدف هذه الدراسة إلى إيجاد القيمة المضافة لانتاج محصول القمح في محافظة نينوى للموسم الانتاجي 2020، وحساب التكاليف والإيرادات والأرباح وتشخيص التحديات والمشاكل لإنتاج المحصول، إعتمدت الدراسة على البيانات الأولية التي تم جمعها من خلال إستمارة استبانة وزعت على عينة عشوائية من المزارعين وتم ملىء (134) إستمارة وزعت على مزارعي محصول القمح في محافظة نينوى للموسم الإنتاجي 2020، بينت نتائج الدراسة بأن متوسط الإيراد للطن الواحد من محصول القمح بلغ (497.578.832) دينار/طن، وأن متوسط القيمة المُضافة الإجمالية للطن الواحد قُدِرتَ بـــــ (384.200.122) دينار/طن، ومتوسط التكاليف الكلية (الانتاجية والتسويقية) للطن الواحد بلغ (223.621.841) دينار/طن. واشارت نتائج البحث الى وجود مشاكل ومعوقات فيما يتعلق بعملية تجهيز الدولة لمستلزمات الانتاج للمزارعين من ناحية التوقيتات غير الملائمة للزراعة وانخفاض الكميات الموزعة، ووجود تأخير في عملية تسويق واستلام الحاصل من قبل السايلوات، توصي الدراسة بالتبكير في وضع الخطة الزراعية، وفتح مراكز لتجميع المحصول في موسم الحصاد يكون قريب من المَزارع من أجل تخفيض التكاليف وتسهيل عملية التسويق، والعمل على تطوير آلية تسويق وإستلام المحصول من قبل السايلوات، والاسراع في عملية صرف المستحقات المالية للمزارعين.

REFERENCES

AL-Bardissi, H. A., & Bakr, M. N., (2019) Value Chain Analysis of The Units of Molasses Production from Sugar Cane (Minya Governorate - Egypt), *Syrian Journal of Agricultural Research*. *6* (4), 74-86. http://agri-research-journal.net

Al-Falluji, S. J. (2018), Value Chain of Wheat Crop in Baghdad Province / Iraq an Applied (Study for Year 2017). *Iraqi Journal of Agricultural Sciences*, *49* (5), 763-774. https://jcoagri.uobaghdad.edu.iq/index.php/intro/article/view/36

Al-Falluji, S. J. & Mudhahi, A. A. & Mohammed, S. H. (2016), The value Chain of Fish with The Technique of Earthen Ponds and Floating Cages for The Province of Baghdad, *Iraqi Journal of Agricultural Sciences*, *47* (5), 1264-1275. https://doi.org/10.36103/ijas.v47i5.504

Amentae, T. K. Hamo,T. K. Gebresenbet, G. and Ljungberg, D. (2017). Exploring wheat Value Chain Focusing on Market Performance, Post-Harvest Loss, and Supply Chain Management in Ethiopia: The Case of Arsi to Finfinnee Market Chain. *Journal of Agricultural Science*, *9* (8), 22-42. https://doi.org/10.5539/jas.v9n8p22

Arafa, S. M., & Hammam, N. M. (2015) Economic Analysis of The Value Chain of Fish Farming in Fayoum Governorate, *The Egyptian Journal of Agricultural Economics, 25* (2), 745-768. https://bit.ly/3UahoSr

Austin, J., (2007). Using Value Chain Approaches in Agribusiness and Agriculture in Sub – Saharan Africa. A Methodological Guide Tools That Make Value Chains Work: Discussion and Cases, *Word Bank*, 1-205. https://www.fao.org/sustainable-food-value-chains

Debertin, D., L. (2012) Agricultural Production Economics, Second Edition, University of Kentucky, 1-413. https://www.uky.edu/~deberti/agprod5.pdf

FAO (2021), Agricultural Value Chain Study in Iraq- Dates, Grapes, Tomatoes and Wheat, Bagdad, 1-83.https://www.fao.org/documents/card/en/c/cb2132en.

FAO (2022) The Value Chain and Reducing Loss and Waste of Tomatoes in Egypt, Guidelines, Cairo, Egypt,1-80. https://www.fao.org/3/ca5355ar/ca5355ar.pdf

Karpik, P., & Belkaoui, A. (1990). The Relative Relationship Between Systematic Risk and value Added variables. *Journal of International Financial Management & Accounting*, *1*(3), 259-276. https://bit.ly/3BftiUJ

Mansour, S. F., (2022) An Economic Study for The Development of The value-Added Chain of The Date Palm Crop in Egypt, *Alexandria Journal of Scientific Exchange*, *43* (1), 71-92. https://dx.doi.org/10.21608/asejaiqjsae.2022.216724

Mohammed, S. U. (2016), Analysis of Wheat Value Chain: The Case of Sinana District, Bale Zone Oromia Region, Ethiopia, Master of Science in Agriculture Economics, Haramaya University.1-111. https://core.ac.uk/download/pdf/132686827.pdf

Mcfadden, J. et al. (2012) Value Chain Analysis of Egyptian Fish Farms - Project Report 45 International Fish Center, 1-93. https://kenanaonline.com/users/gafrdlibrary/posts/571058

Miller, C., & Da. Silva,. (2007). Value Chain Financing in Agriculture, *Enterprise Development and Microfinance*, *18* (2), 95-108. http://dx.doi.org/10.3362/1755-1986.2007.013

National Sustainable Agriculture Coalition (NSAC) (2013), Farmers Guide Apply for Value Added Product Grant, 1-7 . https://bit.ly/3oBra1K

Porter, M. E., (1985). Competitive Advantage: Creating and Sustaining Superior Performance, (1-557). https://bit.ly/3S2RejZ

Ulisido, A. & Abebe, A. (2020). Analysis of Wheat Value Chain in Denaba Kebele, Dodola Districts West Arsi Zone, Oromia Region, Ethiopia. *International Journal of Food Engineering and Technology*. *4* (2), 36-45. https://www.sciencepublishinggroup.com/journal