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Measurement the Effect of Economic Factors in the Production of Milk Buffalo In The Nineveh Governorate

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Abstract: *This research aims to showing the effect of the economic factors which in buffalo milk production in area of Badoosh in Nineveh governorate for season 2017, and scope of realizing the optimality in using these factors through estimating or deficit in size of using quantities from these factors, and the limiting optimality ratios from them, and by using the multiple regression falling and style of Data Envelopment Analysis (DEA), and the statistical program (Deap) for estimating the economic efficiency, including estimating the optimality ratios in using the economic resources for sample of (40) fields, The results showing that there is a various effect for these factors in production of buffalo milk in sample of research,the variable size of the herd had the bigger effect during the relationship analysis between inputs and outputs depending on the double logarithm production function, where the of labor variable had a negative effect in the milk production in the study sample, results of the research showing that there is a surplus in the using resources size in different ratios, its highest 34.44% and lowest is 4.04% , except the green forage resource and workers number achieved a deficit ratios, and explain the all fields didn't achieve optimization in using the economic resources, except one field only, it is form rate of 2.5% from sample fields.*

Key words: *production functions, economical efficiency, optimality, data envelopment analysis.*

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I. Introduction

The agricultural sector in Iraq regard one of the most important sectors of the national economic, the faunal wealth contribute within in an important role in economic of our country, people life, and regard one of forms of society surety for poor people in the rural regions, and resource of their main income, it is contribute in saving the most important essential needs for population, in its front the food which including milk production , the buffalo is second most important kinds in the world from milk production side after the milch cows (7) , farm of buffalo breeding have big role in saving the yogurts productions and its derivatives in Iraq, whereas this action contribute in about 8% of total Iraq production(2) , the buffalo breeding in farms of the research sample within small single units, and in primitive ways, Badoosh characterize in its location on edge of Tigers river which regard the unique limits for buffalo breeding , numbers of the buffalo in the research sample form 50% from gross buffalo numbers in Nineveh governorate, where amount 9540 from 19202 during the study season (17). We must mentioned that the buffalo breed essentially for milk production, length of the milk production season about 250-300 days (14), through the seventieth and eightieth decades from the past century, Iraq realized surplus in production of buffalo milk, because of abnormal conditions which Iraq lived which led to decrease numbers of buffalo, accompany with that decreasing the production quantities from buffalo milk, and this reflect its negative effect in price and quantities inputs of production factors which contribute in breeding this kind of animals. Where price of forage, inoculators, and veterinary drug increased, and the natural pasturage areas decreased, and decreased water of rivers, marshes, ground water, and contribute beside that the unsuitable environmental conditions, the organizations which care with breeding and development the animal wealth had decay generally ,the reality of buffalo milk production and consumption refer to big gap between both variable, lead to study and analysis the economical factors which affect on buffalo milk production, in addition to limited the quintessential using for these factors which achieved the economic efficiency, thus ability of optimality reputing in quantities using from factors, including estimating surplus or deficit ratio in the quantity of studying economic factors and this what the research aimed to. The research problem represented that provision food including buffalo milk production became a challenge which face the economy in the present stage because of expansion of the food gap between the production and consumption, although from the present direction explain the interesting in animal production action, including buffalo breeding, and the economic development plans based on it as a means to realizing productivity development, but the buffalo fields facing many limits and economic, social, and environment problems which reflect in its economic. As a result, maybe effect on the production performance for these fields because of bad using for the factors in milk production, which lead to decreasing the productivity or increasing the production costs of this product.The research based on hypothesis that there is a different effect of the economical factors which contributing in production of buffalo milk, which represented in (size of the herd, quantities of green, dry, and concentrate forage, numbers of workers, veterinary services), accompany with existence of yelling or deficit in the real quantities which using in the production comparing with quantities which realize the efficiency in fields of buffalo breeding. Importance of the research represented in real of buffalo breeding fields which pointed out that it is used inputs in traditional way, unscientific and not practicing, not contribute in realizing the perfect using for the using factors in the production, thus, be far from realizing the economic efficiency, perfect size for production, therefore, followed that rate of using quantities lost from these factors following that increasing in production costs reflects in the realizing net income, and on the productive performance for the breeders.

II. Material and Working Methods

For realizing the research aims representing in recognizing most important effect economical factors in the water buffalo milk production in Nineveh governorate, and realizing the optimality in using the economical resources, choose a random sample from breeders in Badoosh area which represent about 50% from all breeders in Nineveh governorate during season of 2017, get the data from inventory for 40 breeders, and gathering data by personal meeting with the breeders in sample of research, and by using econometrical analysis, and method depenbing on multiple ressgrssion, and estimating production function by ordinary least square (OLS), method and for estimating the resources size which realizing the economical efficiency for fields of research sample and realizing the optimality in using these factors required measuring the economical efficiency and its components depending on average of inputs prices in the mentioned productive season. And by using the statistical program (Deap) depending on method of data envelopment analysis (DEA), we able to calculate the perfect using for the economical resources through getting on the lower quantities from the resources realizing the economical efficiency on minimum average of total costs on level of farm, which allow calculate amount of surplus and deficit comparing with quantities of using real resources, (DEA) regard one of ways used in rationalization of administrative decisions on level of decision making units where use liner programming for measuring the efficiency, build envelopment or space include data where we can estimate the efficiency for different units (5), according to using resources group in this area, and this is a pattern for resolve case of magnifying output or decrease the costs, thus we can estimate the efficiency for different productive units according to group of using resources in this area (18), the administrative efficiency units be in front, and inefficiency units be envelopment, so analyze the data which envelop by fore (11), and economic efficiency and its components, the technical and allocative efficiency are choice of inputs mixing where the total costs for a certain level from production be low, thus it is reflects ability of productive units on using the perfect mixing of the inputs on light of inputs quantities and prices(6)..In addition to that economic efficiency refer to mobilizing elements of production in best ratios, in other words, realizing the optimality in the using to realizing biggest amount from the agricultural output in certain amount from inputs, as result realizing biggest number of agricultural input net (19), so the efficiency farm define economically that it is farm which has able to decrease the inputs with getting on specifying production aim, most important condition which must be provision to realizing the economical efficiency and full using for economical resources which means that full appointing for the economical resources, and full using after appointing them (13). That not means necessity of using or entering all quantities of inputs in the productive operation, but using the quantities which realizing for the perfect appointing and realizing the full economical efficiency and avoiding the yell and deficit in the using quantities, this refers to not existence of nondependent or defect productive resources on level of all inputs which ensure realizing (Pareto Optimality) which mentioned that any unit of decision taking be inefficiency if another unit or another mixing of units able to product the same quantity from outputs in low quantity or inputs, the productive unit has Pareto Optimality if realizing reverse (10). Through efficiency concepts show that operation of realizing certain output by using lower possible quantities, express about it in specialization norm or indicator in inputs, and realizing that by comparing perfect actual group for inputs and outputs, the actual required inputs/ the actual inputs, the efficiency unit equal the required inputs with the using inputs, thus the full efficiency equal one (14).

To realizing aims of the research we taking the quantity and description styles and many production function forms, we choose the best functions which represented the relationship between the influent factors and production quantity from milk depending on scope of passing this function the econometrical.In the light of getting data we can description the production function as follows:\

$$Y = \omega + B1X1 + B2X2 + B3X3 + B4X4 + B5X5 + B6X6$$

Where:

Y= total quantities of the production milk annually from each field/ letter/year.

X1= size of herd expressing about it by animal number from each field.

X2= quantity of using dry forage from each field, ton/ year.

X3= quantity of using green forage from each field, ton/ year.

X4= quantity of the using concentrating forage from each field, ton/ year.

X5= using employment for herd breeding for each field, worker/ year

X6= quantity of the presenting veteran services for each field, ml/year.

For specify the optimality in quantities using from the using resources in milk production, must estimate the allocative efficiency depending on the costs function, in light of inputs quantities and prices, thus possibility of estimating low quantities from the realizing resources of the using quantities comparing with the quantities that realizing for efficiency, estimated the economical efficiency and specifying the optimality from using the resources depending on the statistical program (Deap).This research regard continuing for previous studies that took interesting of many researchers for different animal products, including yoghurt products like measure some effected factors in ,milk production in yoghurt projects in the Kingdom of Saudi Arabia aiming to know importance of factors related and its effect in production of milk, explain the variable effect (the milk cows, cost of working and administrative, forage value) on two variable of raw milk value and milk quantity, for a sample include (25) projects using log model to describe the relationship between variables which pointed out, the results refers to that milk quantity and value effected significantly and positively by costs of working and administration, variable of forage has the big effect on change of product milk quantity and value, all changes explain 93% from total change in product milk quantity, all variable explain 90% from the changing in total milk value, as well as study to show effect the main factors on product of buffalo milk in Pakistan, aiming to limiting and estimating size of the effected variables on the milk production, in addition to measuring flexibility of these changes with referring to show that each variable from the affected variable included (green, dry, concentrated forage, working hours, number of suckles) for sample including 5 farms contain on (60) buffalos, for many seasons by using multiple regression and by ordinary least squares (OLS) to the estimating. The study reaches to log form was more suitable in representing the relationship between milk value and values of the independent variable, the green forage attain the first rank in the effect, where elasticity was 0.264 while the employment elasticity value was 0.215, but the variable of suckles number negatively in the effecting on the production quantity. The study conclude that the forage and workers are important limits in milk

production (15). As well as study of analyzing the economical and social factors which affected on milk production in farm of buffalo farms in Antalia district in Turkey for sample including eight villages, size of the sample was (161) animals depending on the description style to study the functional relationship between production milk quantities from one animal and social variables (farmer membership, farmer age, the educational level, experience, and family size), and the economical changes (employment size, forage quantities, herd size, total vegetated area, total of the irrigated area which specify for agricultural), the study reaches to that the economical factors generally have big effect in creasing the milk production, the variable of working family size and the forage in first degree from changing on milk quantity, while there is no any positive relationship between production milk quantity and the social changes except two variable the educational level and experience (16), also study yoghurt economy in Al- Nahdha area in Alexandria to explain effect of some economical and social factors on output quantity and output value from milk by using double log form depending on the primary data for random sample of buffalo and cows breeders for the season of 2012, including studied economic variable (barn area, area of possessing, number of animals, agricultural employment value, value of the veterinary care, food), where the social variables includes (experience years, educational level, the breeder age), the results show that value of the agricultural employment has the biggest effect in increasing the productive quantity of the cows milk, followed by the veterinary care, while the biggest effect of the barn area and value of the employment on the productive quantity from yoghurt of buffalo. The study recommend that necessity of guiding in developing food levels agricultural services, and veterinary care(1).Also study of buffalo milk production function, efficiency of resources using in Ragastan to aim analyses of relationship between input and output and value of resources used in the production of milk Buffalo , the study covered 75 products for milk for one productive season, the study covered the interpreting variables (value of green, dry, and concentrated forage, employment, and veterinary care), in addition to some random variables as variable of winter season raining season, summer season, and the non raining season, and its effect on variable of the milk value, by using (Colob- Douglas) function, and productivity value for inputs and its prices to explain efficiency of using inputs, the results explain that the green forage is the most important limit in its effect on milk returns followed by the dry forage, the statistical incorporeal didn't stay for veterinary services, the study prove there is extreme in using the forage green and dry although they are two important limits in production of buffalo milk, must taking them care by interests, politics, resolutions makers for sector of the animal wealth (9). From the local studies, study of cows fields efficiency by using quality responsibility patterns for sample including (19) fields from Abu Ghareeb locality aimed estimating the production function to show effect of working and capital variable on milk revenue by using the equal log function and according to styles of random Frontier Analysis (SFA), in addition to using quality responsibility patterns to knowing effect of social independent variables (births number, experience year, herd size, age of breeder, educational level) on efficiency of cows fields. The most important results in this study are explain necessity of working elements and its effect power in revenue of cows fields where its value parameter in the sublimed function 0.8, emphasizing necessity of this element comparing with capital element which its role and effect decrease because of stooping its using level of simplicity of the using technology in the productivity operation. The study reaches to that more factors effect on efficiency of cows fields the cows number and the educational level, the study recommend that necessity of the perfect profiteering for the productivity resources, especially the working element and improving the productivity practices and followed the scientific styles in administration to ensuring efficiency realizing in the cows fields (8). also study the marketing efficiency for cow milk which produce locally in Baghdad during productive season of 2014, for sample including (127) dividing the sample into three size (small, medial, big), measuring of indicator of marketing efficiency aims through estimating the productivity and marketing costs by using the statistical quantity analysis, and from the implicitly results for this study show that the most important which affected in production of the cows milk for the research sample on studying items of fixed and variable costs which necessary for produce 1 kg from cows milk is variable of concentrated forage, where take the first rank from the relativity necessity with ratios between 42.30- 51.88%, and the green forage variable came in ratio between 13.08- 16.14%, the family working in ratio between 10.78- 12.29%, the study explain that necessity of state caring in producers and present the support, especially, cows, forage, and other tools prices (12).

III. Results and Discussion

First: estimating function of buffalo milk production in the research sample:

For explain the affect of variables which mentioned previously in the production milk quantities fields of the research sample estimated the production for buffalo breeding fields by using the multiple regression model, and estimated by ordinary least squares method to show scope of affect the incorporeal each variable in the milk quantity through estimating the variable parameter and to explain the interpreting power of these variables depend on R^2 as well as the statistical tests (F. T), showed that the double log function give best results to explain the relationship between the interpreting variables and the produced quantities of the milk from its fitting with economical, statistical, and standard norms, as shown in table (1).

Table (1) the result of quantitative analysis the impact of economic vectors in the production of milk Boffalo in the fields sample during the season productive 2017

Variable	Coef	T-Test	
C	3.77	30.63	
LgX_1	4.69	7.5	$\overline{R}$ = 0.93
LgX_2	0.073	1.20	
LgX_3	0.150	2.26	F = 132.02
LgX_4	0.203	3.63	
LgX_5	-0.157	2.42	D-W = 1.97
LgX_6	0.007	0.2	

Source: from preparation of the researcher depending on the result of quantitative analysis the impact of economic vectors in the production of milk Boffalo in the fields sample during the season productive 2017

In light of the given results in table (1) show that 93% from changes which happened in milk produced quantities caused by the explanatory variables which include in the functional model, and the statistical incorporeal for function fixed , because of exceed calculated (F) value its counterpart the schedule, and explain incorporeal all factors from statistical side except variable of the dry forage X_2 and the veterinary services X_6 through compare calculated T with its tabulated values, through see results of table (1) show there is imparity effect for the affected factors in milk production through value of each variable which represent the productivity elasticity in the double log function, explained that herd size variable X_1 has the biggest effect in product milk quantity where its elasticity came (0.469%), this is refers that increasing quantities of this variable in (10%) leads to increasing the productive milk quantities about (4.69%), the forage variable came in the second rank in its effect in the productive milk quantities, where its sense came (0.203). While the veterinary services variable has the less positive effect because of breeder stopped from animals to milk during giving the inoculators, treatment doses and veterinary medicine, the results in the table (1) show that employment variable X_5 has the negative effect on milk production because these fields depend on the family working and all individuals in each family work in field administration which affect in costs of milk production and absence the planning in the field administration and absence of chasing in works doing which lead to falling in actual working hours. By observation the single of barometers of these factors explained that each variable has extrusive relationship with the produced quantities of milk and fitting together with the economical theory concepts except the employment variable which has invasive relationship with the produced quantities of milk, this is controvert with concepts of the economical theory, the reason is family working density, so existence of over numbers on the actual need, and absence of administration and organizing, as results of the table (1) refer to absence of auto correlating problem among the values of random variable because access calculated value of (D- W) the high (D-W) value.

Second: estimating factors size which realizing the economical efficiency in fields of the research sample:

Estimated the factors size which realizing the economical efficiency in fields of buffalo breeding for agricultural season 2017 depending on model of data envelopment analysis (DEA) and in light of these factors quantities and its prices. Estimate the factor quantity on less mediate cost, from it calculate the optimality, which make calculate the surplus and deficit in the using quantities easy comparing with the realizing resources of the efficiency as it show in the table (2, 3). The field 38 realized the optimality in the resources using, which used through realizing full economic efficiency, while the field 1 realized the optimality in using herd size resource X_1, the field 20 realized the optimality in using herd size resource X_1 and the green forage X_3. for other fields, they are not realized the full using for the using resources which cause existence of falling and deficit in the actual resources using, results of table (2) that medial of the quantities which realized for the economical efficiency for the herd size resources X_1 came 14.79 animals, while the actual using quantities average is 22.47 animals, which cause surplus 7.75 animals, so the surplus ratio of the herd size resource estimate in 34.49%, this means that there is a falling in using of herd size resource, and the produced quantities in these fields can realizing them in less numbers from the using number, so there is an increasing in the costs of using this resource estimate in surplus ratio which mentioned above. As we can realizing increase in milk production by using average actual size for herd, which cause increase in breeder's profits in these fields, it means that realizing concept of economical efficiency , so realizing the perfect using for the economical resources, and can generalize the above analysis on all other resources which realized surplus or increase ratio in using the resources, but for size of dry forage resource X_2 which realized the economical efficiency the table (2) show that medial of the quantities which realized the full efficiency came 47.27 ton/ years, they are nearby medial of using actual quantities came 49,.49 ton/ years, with existence of surplus came 2.32 ton/ years which caused falling in using this resource in ratio 4.69%, but for size of green forage resource which realizing the economical efficiency, results of table (2) show that average realizing quantities for full economic efficiency in this resource came 65.26 ton/ years, higher than average of actual using quantities from this resource which came 52.12 ton/ years, which refer to existence deficit or lacking in using this resource about 13.13 ton/ years. Thus ratio of deficit came 25.21%, this means that fields can not realizing the full economical efficiency, and realizing the perfect production because deficit in using quantities this resources, the reason maybe return to decrease in green forage production in the governorate, especially grass, and the breeders depend on the natural pasture and cannabis which grow in Spring only, while the breeders can not obtain on the necessary quantities from this resources in other seasons, but for size of the concentrated forage resource X_4 which realizing the economic efficiency came average of quantities which realizing the full economical efficiency came 32.68 ton/ years, less than average of actual using quantities from this resource came 4.34 ton/ years, and with surplus ration came 11.74%, that ensure existence of falling in using the used quantities from this resource, as shown in table (3), but for resource of workers number X_2 which realizing the full economical efficiency came 355.23 worker/years, is more than average of workers number which actually using came 336.37 worker/years. thus there is a deficit in using this resource came 5.60%, for size of the veterinary services resourceX_6 average of quantities realizing the full economic efficiency about 192.49 mm/ years, and it is less than average of quantities of this resource which used actually came 240.35 mm/ years, and thus there is a surplus in average of this resource quantities came 47.36 ml/years, and deficit ratio 19.7%, which refer that the breeders in the research sample didn't use the perfect quantities to realizing full economical efficiency.

Table 2 The actual quantities and the quantities that achieve economic efficiency and the ratio of surplus and disability in the resources used in breeding the Buffalo field

Source of forage green (ton/years)				Source of forage dry (ton/years)				The size of the herd (animal)				field
ratio of surplus and disability	quantities of surplus and disability	quantities achieve economic efficiency	quantities using	ratio of surplus and disability	quantities of surplus and disability	quantities achieve economic efficiency	quantities using	ratio of surplus and disability	Number of surplus and disability	Number achieve economic efficiency	Actual No.	
21.64	4.96	17.95	22.91	5.51	1.01	17.32	18.33	0	0	10	10	1
18.58-	8.74-	55.76	47.02	51.89	39.25	36.39	75.64	24.86	5.72	17.28	23	2
3.52-	1.76-	51.76	50	51.73	36.45	34	70.54	12.5	2.5	17.5	20	3
46.72-	55.48-	174.23	118.75	27.88	56.63	146.49	203.12	47.56	23.78	26.22	50	4
3.03	0.51	16.92	16.8	60.45-	4.51-	11.97	7.46	24.14	1.69	5.31	7	5
198.4-	119.0-	179.06	60	63.52-	56.38-	145.13	88.75	51.52	25.76	24.24	50	6
146.2-	93.81-	157.97	64.16	5.75-	5.3-	97.46	92.16	67.22	23.53	11.47	35	7
203.6-	57.36-	85.53	28.17	42.18	39.62	54.29	93.91	35.12	8.43	15.57	24	8
35.11-	4.86-	18.7	13.84	48.53	16.05	17.02	33.07	34.6	3.46	6.54	10	9
76.02	32.5	10.25	42.75	83.38	45.78	9.12	54.9	10.38-	1.87-	19.87	18	10
485.7-	179.7-	216.73	37	92.2-	64.54-	134.54	70	74.88	26.21	8.79	35	11
7.15	1.31	16.99	18.3	22.09-	2.43-	13.43	11	29.12	2.33	5.67	8	12
146.6-	9.65-	16.23	6.58	20.02	2.97	11.86	14.83	24.42	1.71	5.29	7	13
82.26-	70.79-	156.84	68.05	32.46-	37.1-	151.38	114.28	16.62	6.65	33.35	40	14
99.69-	86.02-	172.3	86.28	28.67-	32.77-	147.05	114.28	32.47	12.99	27.01	40	15
66.35	34.45	17.47	51.92	67.54	35.07	16.85	51.92	37.4	5.61	9.39	1	16
83.29-	85.03-	187.11	102.08	59.48-	53.29-	142.87	89.58	58.12	29.06	20.94	50	17
55.04	23.85	19.48	43.33	43.36	14.28	18.65	32.93	46.61	6.06	6.94	13	18
72.76-	22.49-	103.49	81	159.23-	39.92-	64.99	25.07	46.07	12.44	14.56	27	19
0	0	15.66	15.66	4.92-	0.5-	10.66	10.16	0	0	5	5	20
66.10	31.87	16.34	48.21	35.63	8.78	15.86	24.64	29.66	4.45	10.55	15	21
47.63-	5.24-	16.24	11	30.11	5.12	11.88	17	11.83	0.71	5.29	6	22
86.55	51.68	8.03	59.71	30.17	8.08	18.7	26.78	9.09	2	20	22	23
41.63	13.74	19.26	33	6.97-	1.21-	18.57	17.36	33	3.63	7.37	11	24
36.96	9.77	16.66	26.43	51.72	13.67	12.76	26.43	38.88	3.5	5.5	9	25
23.53-	22.06-	115.81	93.75	13.52-	8.62-	72.37	63.75	53.8	16.14	13.86	30	26
86.92	73.89	11.11	85	29.85	8.36	19.64	28	0.9	0.18	19.82	20	27
73.02	45.64	16.86	62.5	47.516 1	14.73	16.27	31	32.86	4.93	10.07	15	28
28	1.94-	103.37	101.43	6.86-	4.17-	64.92	60.75	48	13.44	14.56	28	29
40	59.01-	171.01	112	19.64-	24.2-	147.4	123.2	31.15	12.46	27.54	40	30
8	12.62	18.14	30.76	32.20	7.53	15.85	23.38	21.73	1.74	6.26	8	31
6	4.74	15.66	20.4	38.73	6.74	10.66	17.4	16.66	1	5	6	32
10	23.32	17.4	40.72	46.46	14.57	16.79	31.36	5.4	0.54	9.46	10	33
9	7.57	17.18	24.75	37.23	8.21	13.84	22.05	35.88	3.23	5.77	9	34
8	2.93-	18.93	16	8.90	1.71	19.49	19.2	15.5	1.24	6.76	8	35
22	81.99	9.86	91.85	85.28	55.35	9.55	64.9	18.45	4.06	17.94	22	36
23	75.1	10.32	85.42	59.05	14.41	9.99	24.4	24.21	5.57	17.43	23	37
0	0	8.03	8.03	0	0	7.8	7.8	0	0	20	20	38
50	126.2-	183.89	57.6	25.77-	8.97-	43.77	34.8	55.48	27.74	22.26	50	39
60	42.53-	126.53	84	36.06-	17.31-	65.31	48	12.41	7.45	52.55	60	40
25.21-	13.13-	65.26	52.12	4.69	2.32	47.27	49.59	34.49	7.75	14.79	22.47	average

Source: from the researcher depending on the result of economic efficiency

Table 3 The actual quantities and the quantities that achieve economic efficiency and the ratio of surplus and disability in the resources used in breeding the Buffalo field

Sources of veterinary service (ml/years)				Sources of workers (worker/years)				Sources of concentration forage(ton/years)				Felid
ratio of surplus and disability	quantities of surplus and disability	quantities achieve economic efficiency	quantities using	ratio of surplus and disability	quantities of surplus and disability	quantities achieve economic efficiency	quantities using	ratio of surplus and disability	quantities of surplus and disability	quantities achieve economic efficiency	quantities using	
80.24-	83.59-	187.76	104.17	59.48	287.51	195.82	483.33	49.12	12.28	12.72	25	1
82.06	880.86	192.47	1073.33	34.55	222.56	421.44	644	19.31	7.7	32.16	39.86	2
80.81-	80.81-	180.81	100	31.90	182.71	390.02	572.73	22.62	8.74	29.89	38.63	3

Sources of veterinary service (ml/years)				Sources of workers (worker/years)				Sources of concentration forage(ton/years)				
ratio of surplus and disability	quantities of surplus and disability	quantities achieve economic efficiency	quantities using	ratio of surplus and disability	quantities of surplus and disability	quantities achieve economic efficiency	quantities using	ratio of surplus and disability	quantities of surplus and disability	quantities achieve economic efficiency	quantities using	Felid
103.4-	339.38	667.51	328.13	3.98-	49.87-	1302.87	1253	9.78-	9.66-	108.41	98.75	4
4.13	3.86	89.47	93.33	37.00	124.33	211.67	366	13.80	1.03	6.43	7.46	5
100.2-	334.09-	667.42	333.33	3.88	50	1236	1286	4.51-	4.76-	110.17	105.41	6
16.14	94.15	489.18	583.33	45.40-	381.4-	1221.44	840	28.62-	20.04-	90.04	70	7
23.49	85.8	279.42	365.22	38.08-	180.8-	655.88	475	27.57	18.7	49.12	67.82	8
61.55	284.11	177.43	461.54	21.23	58.81	218.11	276.92	91-52	13.43	11.95	25.38	9
91.11	615.03	59.97	675	89.43	543.29	64.21	607.5	86.11	39.14	6.31	45.45	10
86.23-	308.71-	666.71	358	3334-	1633-	1682.73	49	23.96-	23.96-	123.96	100	11
14.88-	14.88-	114.88	100	52.54	236.47	213.53	450	49.875	7.98	8.02	16	12
6.27-	5.17-	87.52	82.35	12.95	31.47	211.53	243	55	7.7	6.3	14	13
1.78	12.16	667.84	680	29.97-	264.6-	1147.47	882.86	25.58	35.09	102.05	137.14	14
39.07-	187.54	667.54	480	52.88-	435.2-	1258.16	822.96	14.32	18.01	107.7	125.71	15
55.13	222.67	181.18	403.85	48.13	174.96	188.5	363.46	14.35	2.07	12.35	14.42	16
53.98	782.74	667.26	1450	17.09-	206.9-	1417.98	1211	185.8-	73.54-	113.12	39.58	17
5.03	10.91	205.76	216.67	66.78	442.81	220.19	663	53.39	15.73	13.73	29.46	18
14.07	54.3	331.41	385.71	29.23-	180.0-	796.06	616	43.59-	17.99-	59.26	41.27	19
49.99	66.66	66.67	133.33	12.5	30	210	240	31.78	2.33	5	7.33	20
4.01-	6.46-	167.17	106.71	48.75	164.54	172.96	337.5	67.81	24.43	11.55	35.89	21
47.63-	5.24-	16.24	11	30.11	5.12	11.88	17	11.83	0.71	5.29	6	22
86.55	51.68	8.03	59.71	86.21	48.77	7.8	56.57	9.09	2	20	22	23
41.63	13.74	19.26	33	6.97-	1.21-	18.57	17.36	33	3.63	7.37	11	24
36.96	9.77	16.66	26.43	51.72	13.67	12.76	26.43	38.88	3.5	5.5	9	25
23.53-	22.06-	115.81	93.75	18.68	16.63	72.37	89	53.8	16.14	13.86	30	26
86.92	73.89	11.11	85	85.16	55.36	9.64	65	0.9	0.18	19.82	20	27
73.02	54.64	16.86	62.5	47.51	14.73	16.27	31	32.86	4.93	10.07	15	28
1.91-	1.94-	103.37	101.43	6.86-	4.17-	64.92	60.75	48	13.44	14.56	28	29
52.68-	59.01-	171.01	112	19.64-	24.2-	147.4	123.2	31.15	12.46	27.54	40	30
41.02	12.62	18.14	30.76	32.20	7.53	15.85	23.38	21.75	1.74	6.26	8	31
23.23	4.74	15.66	20.4	38.73	6.74	10.66	17.4	16.66	1	5	6	32
59.26	25.32	17.4	42.72	25.67-	3.43-	16.79	13.36	5.4	0.54	9.46	10	33
30.58	7.57	17.18	24.75	23-37	8.21	13.84	22.05	35.88	3.23	5.77	9	34
18.31-	2.93-	18.93	16	8.90	1.71	17.49	19.2	16.87	1.35	6.65	8	35
89.26	81.99	9.86	91.85	85.28	55.35	9.55	64.9	18.45	4.06	17.94	22	36
87.91	75.1	10.32	85.42	84.48	54.41	9.99	64.4	24.21	5.57	17.43	23	37
0	0	8.03	8.03	0	0	7.8	7.8	0	0	20	20	38
219.2-	126.29-	183.89	57.6	313.1-	108.9-	143.77	34.8	55.48	27.74	22.26	50	39
50.63-	42.53-	126.53	84	244.3-	117.3-	165.31	48	12.41	7.45	52.55	60	40
19.70	47.36	192.99	240.35	5.60-	18.85-	355.23	336.37	11.74	4.34	32.68	37.03	**average**

Source: from the researcher depending on the result of economic efficiency

In the light of the previous results show that size of the herd the biggest effect in increasing milk production, but variable of the veterinary services has less effect, while variable of working power has negative effect in milk production, the scientific results explain that existence of 1 field realized the optimality in using all economical resources, but other fields has surplus in using the mentioned resources except two resources, green forage and veterinary services. So we recommend that depend the correct scientific ways in using the economic resources which aim to increasing in the milk production, and reduce the falling ratio, an expanding in give the buffalo breeders agricultural loans according to basis and norms ensure developing this wealth, and benefit from international researches results.

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