Study Of Overgrazing Effects In Koohnamakgrasslands Of Darab

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Abstract: The present research was conducted with the objective of evaluating the present situation, capacity and abhearnce of koohnamak pastures, effects of overgrazing, identifying type and pasture plants density in the region, to estimate effects of overgrazing a random sample of 71 ranchers were selected and interviewed by suing questionnaires based on collected data, cobb – duglas and transcendental functions were estimated. The results of linear logarithmic function revealed that number of goats, ewes and hygienic expenditures had positive effects while grass and hired labor had negative effects on meat production, the transcendental function was applied to determine elasticities of variables. The results revealed that forage grass and hired labor have been overused and had negative elasticity. The number of goats, ewes and hygienic costs had positive effects on meat production. The factors affected overgrazing, were estimated by using linear function. The results showed that number of goats and ewes, drinkable water had significant effect on overgrazing. Benefit cost ratio of herds in the region was equal 1.2 and optimum size of herd was 108. finally, some recommendation are made to overcome overgrazing problem.
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1. Introduction

Natural resources of every society are the national property of that country and play significant role in geographical, economical, political independence, in particular independence and life sustainability of the society.

Pastures are the major source of livestock food. In Koh-E-Namakpasture the 12 thousand acre field used by 16728 livestock annually. Thus, livestock pressure on pasture fields are 12/5 times more than its capacity and results in destruction and infinite regress of this pasture. Unending expansion of population and development of urban living and rural life are among the factors result in increases demand in order to product meat and other livestock by-products. In Iran, sheep and goat are the main sources of meat supply, but, livestock breeding and husbandry faced many problems in the way of meat supply, and failed in case of Iran food demand. The main problem in livestock breeding and husbandry is lack of feeding resources and low productivity of husbandry current approaches. In this husbandry approach, pasture is the main grazing source. Factors like increase livestock number, unlimited graze exceed pasture capacity in husbandry spaces and appropriate management of reversible natural resources raised as a serious problem and discussion. Thus, lack of balance and proportion among livestock within Koh-E-Namakpasture and in the other hand, lack of vegetation resulted from excess grazing result in current crisis. In addition to study effects of imbalance between livestock and pasture, this research aims to propose some solutions in order to alleviate the current problems.

2.Research theoretical basis

Research classification

In hot seasons, livestock graze freely at pastures, in rainy seasons they were feed with silage manually. This research showed that this kind of management have insufficient outcome and data related to herd population, livestock sale and meat production and pasture silage rate is diverse and result in pasture destruction.	Molien. et al, 1995
Ranchers tend to find a job other than husbandry and by doing so, they attempt to live in adjacent cities and rural and prefer this kind of life to husbandry.	Keshtari, 1995
Ranchers severely need livestock. Fluctuation of live stock price in market due to low production in institutes are social and economical issues that recently many of advanced suppliers accepted and preferred new semi open and closed methods to their open method in their activities.	Tooker et al, 1995
A report of husbandry methods in Mali country showed that improvement of pasture status, and increase production by change of traditional trends to new ones accompanied by new technologies and combination of farming and grazing management is possible.	Bathma. et al, 1996

3.Research hypothesis

1. Due to increase human and livestock population in Koh-E-Namakpasture and unlimited graze of pasture, pasture become poor and directed in negative way.
2. Silage production rate in Koh-E-Namakpasture is not aligned with current livestock population.
3. Types of current livestock and livestock fresh water resource are the main causes of imbalance between pasture and livestock.
4. Increase livestock population and decrease pasture silage result in imbalance effects of livestock on pasture.

4.Data collection

In this research, most required statistics, data and information obtained through interview and filling questionnaire. Due to high rate population of current ranchers in this studied field (858 ranchers) and impossibility of interview with all of them through random two stage cluster sampling method using following equation, the sample volume was determined and followed by interview and filling questionnaire with rancher.

$$n = \frac{N\delta^2}{(N-1)D + \delta^2}$$

5.Appliedproduction functions models

In order to attain study goals, it was used production function estimation method. In this estimation, least square general method (OLS) and backward method were used. Applied production functions form of this study included linear logarithm and transcendental logarithm, in following they will be describe their related results.

Table1. The results obtained from Linear logarithmic production functions estimation of livestock meat production in Darab county Koh-E-Namakarea husbandries based on this case study.

Significance level	T computational value	Standard deviation (SE)	Coefficient quantity	variable
143/0	482/1-	482/0-	715/0-	constant
0/000	054/8	120/0	964/0	LnX_1
0/000	840/3	007/0	026/0	LnX_2
0/009	694/2-	025/0	066/0-	LnX_4
0/016	468/2	101/0	249/0	LnX_7
0/013	554/2-	101/0	267/0-	LnX_9
R^2=0/743		652/37=F	000/0Sig.F	

X significance lower than 5%.Xxsignificance higher than 1%

Table 2 results related to subjects level determination of case study in Darab county Koh-E-Namakarea.

Subject economical consumption rate	Subject extension rate	subject
Rational production rate	964/0	goats
Rational production rate	026/0	sheeps
Excess rational rate	066/0-	Wage based human force
Rational rate production	249/0	Sanitary expense
Excess rational rate	267/0	Pasture silage rate

Table3.Results obtained from Transcendental production functions estimation livestock meat production in Darab county Koh-E-Namak area husbandries.

Significance level	T computational value	Standard deviation (SE)	Coefficient quantity	variable
481/0	709/0	762/0	540/0	constant
0/005	889/2	199/0	575/0	LnX_1
0/016	473/2-	023/0	057/0-	LnX_4
0/0050/033	176/2	206/0	449/0	LnX_6
0/010	660/2	108/0	287/0	LnX_7
0/001	633/3-	115/0	417/0-	LnX_9
0/011	618/2	002/0	006/0	X_1
0/000	851/4	002/0	009/0	X_2
0/023	339/2-	029/0	067/0-	X_6
R^2=0/794		871/29=F	000/0=Sig.F	

X significance lower than 5%. Xx significance higher than 1%

6.Linear logarithmic production functions estimation results

Table 1 shows the results obtained from Linear logarithmic production functions estimation of livestock meat production in Darab county Koh-E-Namakarea husbandries based on this case study.

7.Transcendental production functions estimation results

Table 3 shows the results obtained from Transcendental production functions estimation livestock meat production in Darab county Koh-E-Namakarea husbandries.

8.Conclusion

Obtained results showed that sheep and goat population in short time influenced on livestock meat production positively and sanitary actions like prevention and treatment decrease livestock loss and increase livestock population and show positive effects on meat production. In the other hand, amount of current consumable silage in pasture shows negative trend. That is, consumable silage harvested more than the capacity. Wage based human workforce population also have negative effect indicate that because of high work force population and sometimes they become unemployed and by force attempts people had to add number of current pasture in order to supply their living, therefore, in long term have negative effects on livestock meat production rate.

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