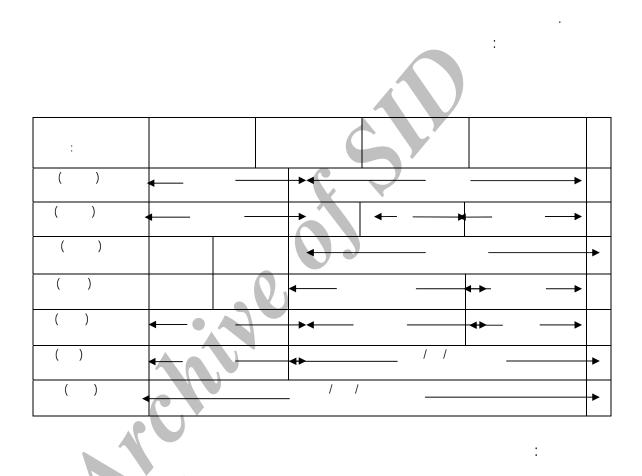
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- 26-Baily D. W. J. E. Gross, A. Laca, L. R. Rittenhouse, M.B. Coughnour, D.M. Swift and PH. L. Sims, 1996. Mechanisms that result in large herbivore grazing distribution patterns, Journal of Range Management, 49(5): 380-400.
- 27- Christinsen N. L. 1997. Implementing ecosystem management: where do go from here? *in* ecosystem management application for sustainable forest and wildlife resources, Edited by Mark S. Boyce and Alan Haney, Yale University Press, USA.
- 28-Coughnour Michael B., 1991. Spatial companents of plant-herbivore interactions in pastoral, ranching and native ecosystems, Journal of Range Management, 44(6). 530-542.
- 29- Friedel M.H., 1994. How spatial and temporal scale affect the perception of change in rangelands, rangeland Journal, 16(1):16-25.
- 30- Heitschmidt R. K. and Stuth J. W., 2002. Grazing management, an ecological prespective *in* http://cnrit.tamu.edu/rlem/textbook/chapter3.htm.
- 31-Holechek J. L., R. D. Pieper and C. H. Herbel, 1994. Range management principles & practices, second edition, Prentice-Hall, New Jersey, USA.
- 32- Moreley F. H. W., 1981. Management of grazing systems *in* Grazing Animals, Edited by F. H. W. Moreley, Elsevier Scientific Publicationing Company, Amsterdam, the Netherlands.
- 33-Niamir M., 1990. Community Forestry: Herders decision making in semi arid Africa. Food & Agriculture Organization of the United Nations Rome, Italy.
- 34-Nyerges E., 1980. Traditional pastoralism, an evolutionary prespective Expedition , Vol 2 No 4, 36-41.
- 35-Olsson P. and C. Folke, 2001. Local ecological Knowledge and Insituational Dynamics for Ecosystem Management: A study of Lake Rackon watershed, Ecosystems No 4, 85-104.
- 36- Royal K., 2000. Decision support systems for precision ranching, In: http://www.microimages.com.
- 37-Scarnecchia D. L., 1995. Viewpoint: the rangeland condition concept and range services search for identify; a systems viewpoint, Journal of Range Management, No 48, 181-186.
- 38-Squires V., 1981. Livestock Management in the Arid Zone, Inkata press, Melborne, Australia.
- 39- Stoddart L. A., A. D. Smith and T. W. Box, 1975. Range Management, Mc Graw Hill book Company, New York, USA.

## **Temporal and Spatial Grazing Patterns in Eastern Alborz**

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## **Abstract**

An efficient management system is necessary to facing various environmental challenges. Systematic and ecosystematic approaches in natural resource management demand understanding all parts of ecosystem and their relationships, a necessity for various planing and decision making. Grazing is one of the most important processes in rangelands ecosystem. In range exploitation style, which exists in Iran, human impacts on this process and on (to graze) has special importance to research. This study focused on the role of human on grazing process that was carried out among herders of eastern Alborz through participatory research. During the research period, a total of 179 persons were interviewed among which 70 cases were interviewed during participation and passing the one night to several nights at the residence of herds. Interview notes were analysed via content analysis approach.

From the results of this study, a model was presented which relays on human role in spatio-temporal regulation and focouses on grazier instead of grazer. This model has four spatio-temporal levels: first level called (CHARAGAH) is an area which is allocated to grazing during a period of a year. Second level is (RUGAH), a supposed division of CHARAGAH determined for grazing during one or several days. Third level is (TOWGAH), a part of ground allocated for grazing during several minutes to hours. Last level is (KALAFGAH) that means small area of stopping and bitting. Finally, from this study, rethinking on theory and practices as well as considering human role as grazier in grazing plan is recommended.

Keywords: Grazing, Sheepherd, Herder, Grazing distribution, Spatio-temporal Grazing Patterns.

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