

Geomorphological Disparity of Kavir Landscaps: (Case study: Yazd Province)

M.R. Nowjavan, M. Hashemi

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Extended Abstract

1- Introduction

Desert is one of the formic landscapes in the geomorphology of Iran. In spite of some ideas that consider this landscape unit as a type of wild land landscape, it is a geomorphic landscape itself. About 46.5 percent of the surface of Yazd province is made up of deserts and wild lands. The existence of such an extent of dry areas makes it necessary to pay attention to the potentials of the mentioned regions in the areas of land use planning. Therefore recognition and identification of this landscape and preparation of the development plans for utilizing them is inevitable.

Yazd province has 15 desert holes including Abarkooh, Siahkooh, Marvast, Tarigh o Reza, Taghestan, Bahadoran, Daranjir, Lootak, Porodeh, SiahTagh, Talle Hamid, Abgir, Allah Abad, Goorabkhor, Saghand. In spite

of their similarities in the concept of desert, they have different disparities and act as an effective component in their utilization or space organizing.

The purpose of this article, which is taken from a research design in Azad University of Meybod in Yazd, is to express the disparity of the deserts of Yazd province and modeling their effects on their methods of preparation and utilization which can be summarized as the following:

- Classifying the deserts of Yazd province according to the criteria of earth morphology and their specific spatial characteristics
- Determining the preparation priorities of the deserts of Yazd province according to indicators and spatial patterns

2- Methodology

To achieve the research purposes, two different methods are used in this research:

- 1) Form profile analysis
- 2) Lound method in Nych space

In the first method, at first the deserts of Yazd province were divided

Author(s)

M.R. Nowjavan (✉)
Assistant Professor of Geomorphology, University of Meybod,
Meybod, Iran
email: mrnwjavan@yahoo.com
M. Hashemi
M.A of Geomorphology, University of Isfahan, Isfahan, Iran

into 15 regions. The division method was based on the ridge drainage networks that flew through desert holes. Then all the form and geo units that existed in the deserts of the province were separated by using topographic maps, satellite pictures, field visit and the DEM of the area. Then we made some models of the deserts. These models were merely based on the forms. In the second method, Lund model in Nych space was used in order to document numerically the desert disparities in the province. To calculate the variables of Lund model, nine parameters of the desert characteristics were identified and their measurability and their numerical evaluation were made possible.

The obtained data were arranged in the Nych space matrix. Then the space distance was calculated for each of the above components to show the disparity or the extent of the similarities of these characteristics in the 15 mentioned deserts. So, in this way the necessary conditions for comparing and classifying the deserts were prepared.

3- Discussion

In order to determine the disparity of the deserts of Yazd province, at first the deserts were separated based on the satellite pictures. Then by means of two different methods, arrangements were identified and the classification of the deserts of Yazd province was prepared. In the first method, which is a form of analytic method, a profile of each desert was prepared by documenting indexes of form and form units with the components and desert units of 15 deserts in Yazd province. These models, which were obtained based on numerical data of the DEM of Iran and topographic maps and field

visiting, showed that 3 main groups, quite different in forms, were distinguishable in the deserts of Yazd. To document these disparities numerically, Lund model in Nych space was used. At the end of the calculations of Lund model, 3 different groups were obtained in such a way that the obtained data indicated their disparities.

Disparity of the deserts of Yazd province using form analytic model

Although every one considers all the deserts just as the deserts, during a journey and a scientific visit to 15 deserts in Yazd province and using longitudinal profile and observing desert landscapes of Yazd, this theory was developed that all desert holes do not have the same and equal circumstances but they follow specific form patterns. So the desert holes are classified based on their forms and their processes. The processes of desert holes in these regions determine their forms. Each process leads to a special form and depending on the kind of process that has happened in the desert hole, a special form will be formed and its form pattern is formed by following that form. Therefore it can be expressed that all deserts of Yazd province follow three form models:

- 1) Evolution Erosion Tectonics like the deserts of Abarkooh, Daranjir, Taghestan and Siahkooh
- 2) Abortive Erosion like the deserts of Marvast and Bahadoran
- 3) King Set Geomorphology like the deserts of Allah Abad, Goorabkhor, Siahtagh, Lootak and Talle Hamid.

Geomorphic segregation of the deserts of Yazd province using Lund model

Lund model is a space model that can measure spatial distances between deserts. In fact we can use Lund model to find spatial distances between the deserts. Yazd province has several deserts and the disparity indexes of these deserts include a collection of climate and geomorphic differences that are considered as the nine following indexes in the areas under the study: temperature, raining, evaporation, height, Neotectonics, space, lake level, vegetation and sand zone. In order to increase the accuracy

of the spatial distances between the deserts, we can consider other indexes.

Stages of performing Lund model

- Step1: forming matrix of data based on M index and N choice
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- Step2: standardizing the data and forming standard matrix using Z relation
- Step3: determining the extent of the disparity of each desert in relation to other deserts and forming disparity matrix

The matrix of the differences between groups using Lund model

3	2	1	
5.72	5.11	0	1
6.36	0	5.11	2
0	6.36	5.72	3

3- Conclusion

Deserts are one of the landscapes of Yazd province. In patterns of regional development we can't ignore the above landscapes. In this research the classification of the deserts of Yazd province was done by using both form model and Lund model. At the end of the calculations of Lund model 3 different groups were obtained in such a way that the obtained data indicated their disparity. In the first group of Lund model the similarity and congruency of classifications consistent with form method. In the other two groups although there is disparity in some cases, we can still see group similarities between them. In spite of having the same concept in these 15 deserts in Yazd, we should consider first that all of them do not have the same and equal potentials and second that few of them has tourist preparation priority and in some cases although desert preparation is possible,

it doesn't have priority in tourist activities. So it can be concluded that Yazd deserts have definitely some substantial differences of place and identity. Given the importance of the raised problem, the most important place and identity disparities of Yazd deserts are summarized as the following:

- 1)The number of formic landscapes
- 2)The existence of enduring civic centers
- 3)The existence of Neotectonic activities
- 4)The existence of wind base level and formation of sand masses

Therefore by studying the region forms, editing the formic models and Lund method, the spatial and identity disparity of Yazd province will become evident and will be confirmed. Keywords: desert, Yazd, preparation, landscape

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