

The contradictory nature of Spatial identify of Iran

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ABSTRACT

Soil erosion not only weakened soil, makes discouraging farms and a lot of hurt, but also causes destruction by sedimentation solid of materials in streams. Sources, dams, ports and decreases the amount of their capacity. One of the most central purposes in local studying and land use evaluation the hazard of erosion variation areas and determine its quantity.

For evaluating erosion, there are many methods. In these methods, there are different factors such as rain erosion, value of erosion soil and plant coverage. In this study, we are studying soil erosion in Romeshgan basin between geographical length of 47° - 47°,38' and geographical width of 33 °,13' – 33 °,36' in Kohdasht in the northwest Lorestan province with SLEMSA method and using Arc GIS 9.3. SLEMSA is a model for estimation of soil erosion in southern Africa and developed and validated by Ewell(1978) and Stoking(1981,1988). For evaluating soil with this model, we obtained information maps contain topography, rainfall, slope and plant coverage. Then with composing this layers, basin is separated to 100 units and the value of erosion soil is measured and giving value is as unit of erosive hazard in basin.

The results showed that the main erosion factor at the risk focuses was at first slope and the second factor was soil fatigue capability. The research finding showed erosion rate of average 667 ton per hectare.

In According to the specific criteria Iran could be called an exceptional territory. The term exceptional is not an exaggeration and is justified due to the fact that Iran has the difference of elevation from mean sea level from -28 to 5678 meters climatic differences in the range of equatorial to polar and a vast variety in flora. Here the growth and evolution of civilizations should be added to the above mentioned list of factors. The aspects of the civilizations' evolutionary chronology during which population generation courses have shaped are subject to a specific natural rule worldwide. According to WilDorant's findings the prevailing cold eras on the planet earth introduced the contraction and the prevailing hot eras on the planet earth introduced expansion eras with respect to civilizations. Somehow this principle has had an inverse effect on Iran; hence ,the contradictory nature of Iran. The attempt is made here to analyze the ancient geomorphology the prevailing principles on the civilization of Iran in geologic aspects of earth sciences format. The outcome of this study indicates:

- Iran did not face interruption of civilization growth era like what occurred in the continents of Europe and America (North America),in a sense that the contraction and expansion eras were reversed
- The effect of prevailing Anaglacial periods in Iran formed the cold civilization era and the effect of prevailing Kataglacial periods in Iran formed the hot civilization era. These phenomena did not happen alternatively and the manifestation of their simultaneous occurrence is considered as the contradictory nature of civilization evolution in Iran.

KEYWORDS: Kataglacial, Anaglacial, climatic changes, civilization, the fourth era

1-INTRODUCTION

Soil is basic to all life forms. It is the primary means of food production, directly supporting the livelihood of most rural people and indirectly everyone; it is an essential component of terrestrial ecosystems, sustaining their primary producers(micro-organisms, herbivores, carnivores) while providing major sinks for heat energy, nutrients, water and gasses. Weathering, the water balance, organic matter accumulation, erosion and sedimentation, and human actions all control soil development and degradation; thus, soils reflect both natural processes and human impacts (Renschler & Harbor, 2002). Soil erosion, as one of the main processes in land degradation, is the single most immediate threat to the world's food security (Stocking, 1994). It can roughly be divided into a two phase process:

1. The detachment of individual particles from soil aggregates
2. The transportation of particles by erosive agents - wind or water.

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These transported particles are eventually deposited to form either new soils; to fill lakes and reservoirs or get carried to the ocean. In Iran, it is estimated that 20 to 30 billion tonnes of sediment are carried to the ocean every year. As a result of the diverse nature of soil erosion the rates of national and continental soil erosion are virtually impossible to measure accurately.

2- LITERATURE REVIEW

There exist many valuable studies by the archeologist on the past of Iran but very few have touched the issue of spatial identity with respect to climatic change. In the field of environmental conditions recognition and analyzing their effect on the societies' culture Velikovsky's two books: *Worlds in collisions* (1950) and *Earth in Pheaval* (1965) are the most innovative in this field. He presented a new method in analyzing and recognizing the environment and the occurrences thereof. Saied Sajadi, (2005) has studied the environmental effect on the human settlement in Iran plateau and has discussed the issue on two geographic and archeological perspectives. Sadeghi, (2004) has studied the climatic fluctuations of fourth era and the formative process of different eras by pointing out the Bioms and animal behavior in the fourth era and the civilization established by human. The studies related to the stone ages belong to De Morgan, (1906) who found some tools, utensils made of stone in the Plyostosen sediments in the Khazar region, which indicate that Iran was covered by mountainous glaciers and lakes. Coon (1975) in his book *The Seven Cave* published the information obtained from the excavation on middle stone ages and titled it the Bardosistan. Wright, (1963), Vita, (1980), Van Ziest, (1977), Prof. Ariai and Thibault, (1977), have presented valuable works regarding the most ancient traces of human life in Iran and the climatic changes in the fourth era.

Ramesht, (2001), by explaining the correlation between geomorphology and civilization evolution in Iran-being the civilization foci-regards the fourth era's lakes as the cradles of civilization in Iran and considers the rivers and coasts as the influencing factors in the creation of civilization centers in general. Horton (2004) points to the "Responses to Holocene sea level change in the Persian Gulf" and the effects of the Gulf water level fluctuation on human domiciles between the third to sixth millenniums B.C that had its impact on the manner by which the initial civilizations were formed in the world. Calina Moro, (2004), has reviewed the displacement of Tigris and Euprates Rivers and the effect on the civilization thereof in the lower part of this plain. He has discussed about the importance of this issue with respect to the domiciles in Mezopotania plain that was emphasized on the belt created by the displacement of these two rivers that had attracted human to settle, based on the river displacement and sedimentary patterns and channels' model. The objective in this article is to simulate and remodel the spatial identity of civilization difference in Iran and other regions. This would be based on the studies conducted on settlements and climatic changes and geologic displacements which have affected human prosperity or disappearance in Iran and any given region.

3. MATERIAL AND PROCEDURES

Topic of this study is extracted from a research project introduced by the Isfahan University. Here the cinematic environmental geomorphic documents are analyzed and compared to the documentation of social sciences and archeological findings in addition to the field studies conducted in different regions of Iran. The essential finding of this multi-disciplinary study is the effect of space and place on the identity and civil structure of Iran.

4. Spatial distribution of civilization cradles of the world

The civilization foci and their time and spatial distribution manner constitute the major issue discussed in social sciences and anthropology among the geomorphologists and geologists with a concentration on the environmental and climatic changes and the effects thereof. The climatic changes, according to hot and cold prevailing eras define specific planetary models for the civilizations: the orbital model and the height displacement model.

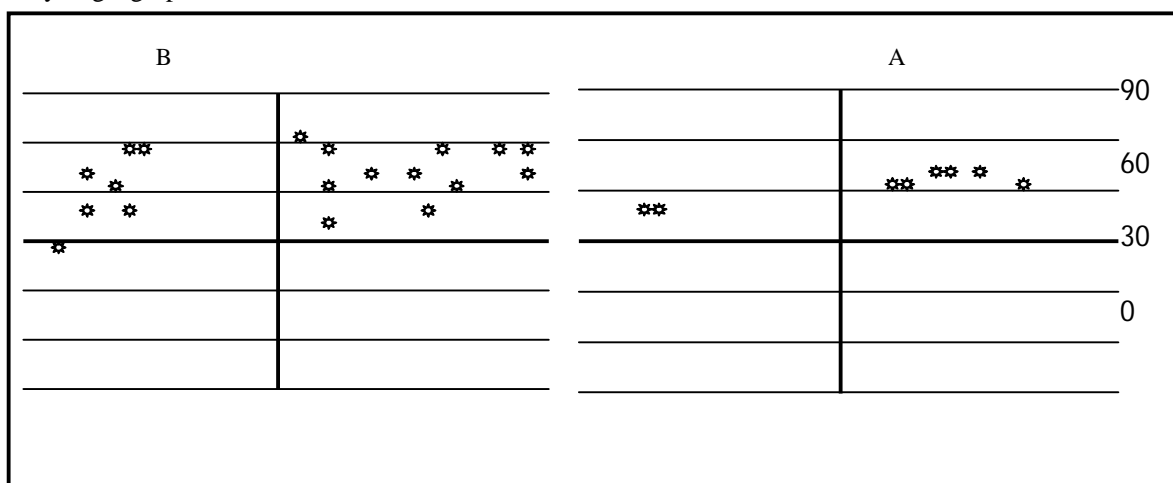
4.1 The orbital model

During the cold eras the prevalence of freezing and ice accumulation at the higher latitudes has forced the civilizations to recede towards the equator and become congested there. These eras could be called convergent eras. Following the proportionate global temperature increase the ice proceedings slowed or stopped and their melting created the desirable conditions for civilization cradles to move along. Their congestion in the middle and lower orbits was reduced and directions indicate the movement towards higher orbits. This era could be called the divergent era of civilization cradles (Fig.1).

4.2 Height displacement model

Another movement that took place following the same era as the above in the plain, mountainous and central latitude territories indicates the vertical movements of civilization cradles by engulfing the elevations from 2500 to

3000m especially at central latitudes that are subject to this model. Some studies and historic observations (i.e. Wildornat, 1975 and Philip Adler, 2005) indicate that the civilizations' evaluation patterns on earth follow such model at planet scale. But what occurred in Iran in this respect is completely opposite the above mentioned model, in a sense that the cold era in Iran coincides with the many big civilizations' development and in hot era it coincides with civilization obliteration. Defined generally, when civilizations were flourishing and prospering in Europe and North America, Iran was experiencing civil degradation and vice-versa, which is the civilizations' contraction and expansion in these group of territories. It is interesting to note that in the territory of Iran expansion phase was not overall and the controversial phenomenon expressed above regarding the civilizations' development or retrogression in the continents was happening in Iran on a smaller scale. Another point is that in no era Iran has experienced civil dissolution while in Europe and North America ice coverage from 1 to 2000 meters thick over disturbed or even prevented any kind of human activity (Curt Suplee, 1998). These differences contribute to the spatial and formative identity of geographic territories.



A-The orbital convergence of civilization in cold era

B-The orbital divergence of civilization in hot era

Fig1-The convergence and divergence models of the civilization foci in (A) hot and (B) cold eras

5. Climatic and population foci changes in Iran

If according to the recent geological theories we consider the duration of the forth era to have begun six thousand years ago (Pedram, 1988), the climatic changes must be considered as the major characteristics of this era since according to Radioisotopic methods the globe has faced more than ninety climatic change cycles, i.e. once every 6-7 thousand years.

The cause of these climatic changes that directly influence the human settlement, their chronology should be given serious consideration. It is rational and accepted that such formative systems-the population settlements patterns-to have a respond to processes mentioned above; otherwise, if the systems' stability is not guaranteed they would be restricted to displacement or eventually annihilation. The influence of climatic change on Iran with respect to population foci defers from that of the Europe and North America.

In general, influence of the cold era increased the regional cold and humidity that lead to atmospheric precipitation in the high geographic latitudes and at the Polar Regions these precipitations become solid. The accumulation of glaciers reduced the sea water level. According to the available geomorphic evidence the sea water level measured one hundred meters lower than what is now (Servati, 1999). This phenomenon is credited to the cold era on earth; the mega glacier bodies covered the whole Europe and North America, hence a displacement to warmer climates or annihilation of human life (fig 2).

In parallel to this period and phenomenon Iran was facing a different climatic process. Due to an increase in cold and humidity the heights over 2.500m in Iran were covered with mountainous glaciers with great water reservoirs that could move towards lower elevations. These great glaciers dissolved on their way down and feed the river and basins. Here the jungles and pastures evolved and life flourished and civilization grew especially in the plateau of Iran on the regions where the big cities like, Ray, Qum, Yazd, Kerman, Meybod, Kashan, Isfahan, Marvdasht, Zabol, Mashhad, Tabriz, Ormieh, Birjand, Damghan, Sabzevar etc. evolved. Of course the named cities are developed on many layers of civilization foci within eras concerned in short distances. This statement is based on the archeological and geomorphic studies conducted in the vicinity of the existing named cities (Fig 2). In the same period the free seas' the Sea of Omman and the Gulf of Persia coastal regions were going through a regressive evolution and all civilizations were experiencing their decline due to water level reduction. Parser's geomorphologic

evidences show the Persian Gulf coastline receding up to what is the Straits of Hormoz of today, to a point that the Persian Gulf dried out for three times during glacier eras and coastlines were restricted to the strait of Hormoz and many island joined the land (Parser, 1973). Accordingly in the global civilization contraction era the central parts of Iran were going through flourishing and the southern coastal regions were facing a decline in civilization. It is important to note that the opposite was through for the northern coastal regions of Iran since the Mazandaran Sea was a closed great lake and during the cold era its water level had increased by 75m higher than that of today (Mohammadi, 1987). This indicates that the population had to resort to higher grounds.

It could be said that during this era which is referred to as the civilization contraction era in Europe and North American, civilization expanded in Iran. Evidences indicate the seasonal migrations of inhabitants in Iran. This period is referred to as the cold civilization flourishing ear of Iran.

There existed a hot era hotter than what we experience today. This era coincided with the melting of glaciers and is considered as the civilization flourishing era of Europe and North America. The population foci, which is outstripped from the equator up to latitude of 70° is illustrated in Fig.3. In Iran just the opposite was going on. In this juncture due to an increase in environmental temperature and the reduction in humidity, drought dominated the central parts of Iran. This led to water resource and vegetation coverage scarcity that ended in erosive winds that destroyed settlements and buried them under sand dunes. The archeological findings verify this fact; the samples are the cities of TangehGolama, ShahreSookhteh, Arissman and Hoonof Nain today that are set on these buried civilizations. Said otherwise the prevailing hot era in Iran coincided with the civilization contraction. Meanwhile, by the melting of the polar glaciers the sea level began to increase to a point that the Sea of Omman and the Gulf of Persia, according to geomorphic findings raised up to 70m higher than what is now (Ramesht, 2001).

This water evaluation in Persia Gulf indicates that the coastline was in the vicinity of the cities of Borazjan, Bhebahan, Rahmormoz, Shooshtar, Dezfool, Mehran, Dehloran in Iran and Badrah and Tigris in Iraq of today. The coastal civilizations were the result of the hot era and the settlements evolved in this era are called the hot civilizations (Fig.3-4). Considering the flourishing or downgrade of the population foci in different parts of Iran it could be found that lack of disturbance in civilization growth is an indisputable element under different conditions in comparison with other parts of the world. This process in Iran indicate, that in all studies regarding civilization-culture territories the population foci is of concern as a vital indicator that would supports the non-disturbance nature of survival in human in the above mentioned regions.

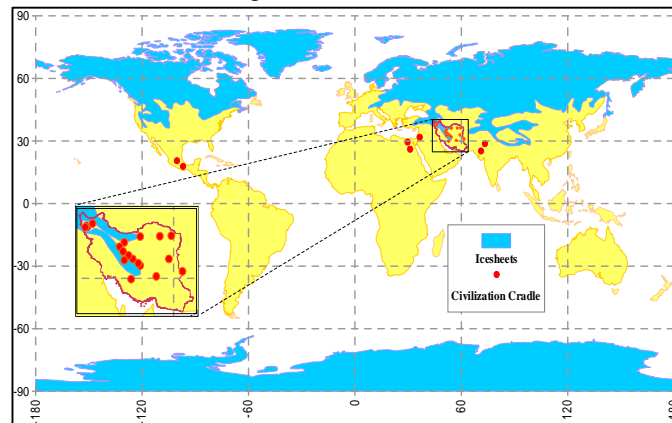


Fig 2- The glacier era, convergence state of civilization in central latitude (civilization contract)

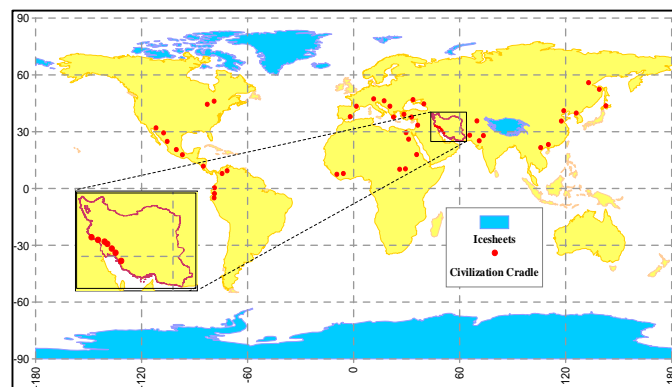


Fig 3- Hot era domination, glacier melting and civilization foci expansion (civilization expansion)

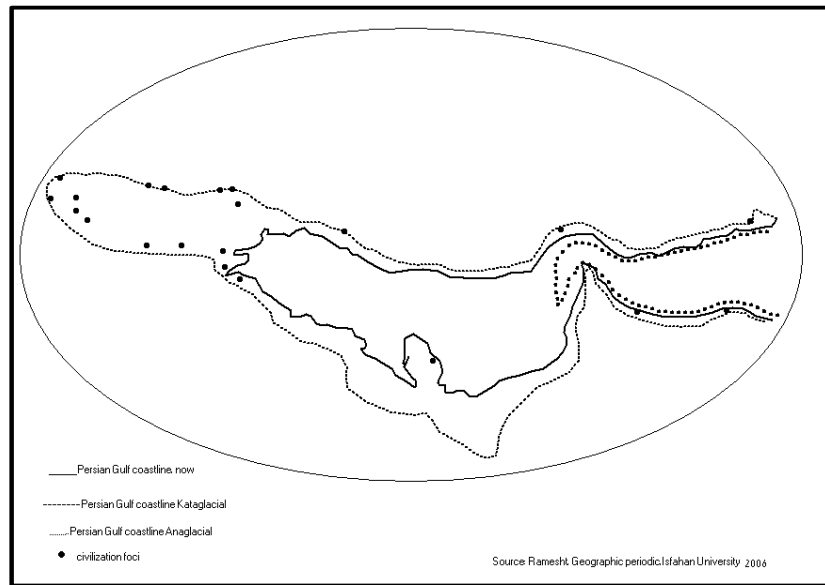


Fig4.The Persian Gulf and the Sea of Omman coastal line changes due to climatic changes (Hot and Cold)

Although the chronology of civilization has become a lost ring in the chain of cultural studies, its contribution in determining the individual and social structure based on sense of belonging to a certain place for identity is manifested in the nature of human.

To which nationality, dynasty, tribe or social stratum etc. and to which part of the world do we belong determines our individual identity, an inseparable part of us. The same is true on national scale which makes that social entity richer when the roots and background is known.

6. Conclusion

According to the field studies conducted it could be deduced that most characteristics of spatial identity are influenced by climatic cycles that have shaped civilizations and have their roots in high magnitude climatic changes. The identity of the cities in Iran were subject to hot and cold climatic factors in a sense that in the cold eras the population foci in Iran flourished in some parts while the same was going on in the hot eras in Iran. The opposite pattern was true in Europe and North America. The civilization foci that evolved and flourished in the cold eras are called cold civilizations and the same of hot eras are called hot civilizations. Another distinguishing factor is the non-interruptive pattern of civilizations foci in this region unlike that of Europe and North America. Of course flourishing and regressive periods varied in Iran without complete interruption. Although many disparities are evident between the hot and cold civilizations foci regarding different cultural, social and substance parameters, the non-interruptive, regional convergent and sustainability of spatial identity established the complicated nature of the settlers in Iran.

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