ABSTRACTS

Recognition of Iran Air Masses by Spatial Synoptic Classification

Ramin Beedel
Ph.D Student of Climatology
University of Isfahan

Dr. Seyed Abolfazl Masoodian
Professor of Climatology
University of Isfahan

This study deals with the spatial synoptic classification of Iran air masses through a new approach, so that up to the end of the process for weather typing calculations , the framework of SSC and SSCWE methods has been used, but the subject of recognizing the air masses and selecting the reference days have been indicated with the new approaches.

In this study, 9 (nine) factors including daily Cloudiness), Minimum and Maximum Temperature, Mean Sea Level Pressure (MSLP), Dew Point (12 GMT) deficit , Daily Temperature Range, Daily Dew Point Range, Maximum And Minimum temperature Saturation Deficit related to 63 synoptic stations in Iran were used for typing each station air or obtaining the spatial synoptic index. Subsequent to climate's seasonal division and defining seasonal windows, a matrix including stations' database (16071*15) in P mode was formed and then weather was classified by using Eigenvectors Techniques, Principal Components Analyzing (PCA) & Cluster Analysis (CA). Subsequently, through classification of various climate types at weather stations in different seasons, 13 types of seasonal air masses of distinct characteristics were identified using virtual potential temperature (VPT), a stable indicator from a meteorological point of view, as well as two new calculation methods of selecting reference days. The results indicated that different methods of selection of reference days are appropriately similar with the derived air masses having similar characteristics.

Given the average characteristics of the seasonal air masses of Iran, and comparing it with American and Bergeron classifications of air masses it was made clear that the MM and DP types of the American classification and the cA, cP and mE types of the Bergeron classification couldn’t be found among the air masses of Iran and therefore those classifications do not apply. In terms of similarity of seasonal air-mass frequency patterns, 4 types of patterns could be identified, which are based on frequency of air-mass presence in specific terrains, each of which include specific masses. These are: 1) Northern Coastal type, 2) Mid-Southern and Southeastern type, 3) Southern Coastal, Northeastern and Northwestern type, and 4) Southern Alborz and Iranian Western Half type.

Keywords: Air masses, Iran, Seed days, Spatial synoptic classification, Weather types.

Role of Saravan Thrust Fault on Formation and Development of Saravan Catchment Basin

Dr. Ali Asqar Moridi Farimani
Assistant Professor of Geology
University of Sistan & Baluchestan

Saeid Dehghani
M.Sc of Tectonic
University of Sistan & Baluchestan

Development of drainage basins has close relation with geomorphologic and geologic parameters. Therefore, study the relation between structural parameters like faults and development of drainage basins has greatly considered in hydrology and hydrogeology studies. Saravan drainage basin is a perfectly long basin that is extended along Saravan fault. In this survey, the method for studying morphometric and geology indices has been implemented for development of drainage basin. Clearly, present morphology is reflecting the erosion and geological processes particularly in Quaternary age. Saravan drainage basin is in the south-east part of Iran and has developed on flysch of this area. Drainage of Saravan basin joins to Mashkid river and finally leads to Pakistan. Different factors and parameters are important in formation and development of drainage basins including topographic, litho logy and structural factors. One of the important factors in development of this drainage basin is the evolution and activity of Saravan thrust fault.

Saravan fault with N135-145 trend has located on the north edge of Quaternary alluvial of the basin. The fault slope is approximately at same direction with flysch layering and slope direction's is 45-60 degree toward north-east. Saravan catchment basin is a long basin with 5.07 length to width ratio. Prepared maps and profile sections show a clear tilting and asymmetric basin. Morph metric index of tilting of basin (T) is maximum 0.72 and is maximum 0.83 in alluvial basin part . Asymmetric AF index is equal to 62/28 and it is equal 78/74 in the alluvial part. Clear asymmetric of basin and fault position on the north edge basin with average S_{mf} equal to 1.42 showes that Saravan fault has been relatively an active fault. This fault has affected on formation and morphogenesis of Saravan drainage basin during its evolution.Younger northern-southern faults with dextral strike-slip (as Gosht fault) has caused small bent on general trend of alluvial along the drainage basin.

Keywords: SE Iran, Saravan, Drainage basin, Flysch, Thrust fault.

Optimum Planning and Locating the Urban Tourism Facilities and Infrastructures by Using GIS, Case study: Semnan city

Dr. Issa Ebrahimzadeh
Associate Professor of Urban Planning Geography
University of Sistan & Baluchestan

Dr. Masoumeh Hafezrezazadeh
Assistant Professor of Urban Planning Geography
Islamic Azad University, Zahedan

Marzie Daraei
M.Sc Student of Urban Planning Geography
Islamic Azad University, Zahedan

This paper has studied and reviewed the spatial-location distribution of urban tourism accommodation-reception centers with an emphasis on historical cities and how to select its optimum based upon Ashworth, Tunbridge and Getz models. The findings of this descriptive-analytic research were obtained and analyzed by documentary studies and field research as well. The data were analyzed by using SPSS and T-test, and show that despite of the existence of great historical and cultural attractions of Semnan and its location on the famous path of Abrisham road and also new Tehran-Mashhad railway, it is not possible to have an optimum use of the existing functions and potentials due to inappropriate spatial-location distribution of tourism resources and facilities in the city.

The analysis also shows that, based on Ashworth and Tunbridge models, urban and commercial attractions cover the central and historical part of the city .while the locating of accommodation and reception centers have been established on the main streets of entry and exit of passengers.

while accommodations-catering centers are established in the main street axes of entry and exit of passengers, and thus does not provide convenient access to attractions for tourists. In this paper, we have investigated the optimal location of accommodations-reception centers in the city by using GIS, and necessary strategies and suggestions for improving Semnan tourism and attraction of more tourists to the city have been provided.

Keywords: Tourism development, Optimal locations, Accommodation and catering facilities,Semnan, GIS.

Evaluation of Neo Tectonic Activities in Meshkin Chai Catchment Area by Geomorphologic Indices

Dr. Mousa Abedini
Associate Professor of Natural Geography
University of Mohaghegh Ardabili

Sheno Shabrang
M.Sc of Geomorphology
University of Mohaghegh Ardabili

Meshkin Chai catchment area is a part of the northern slopes of Sabalan heights, Gosheh-dog and Meshkin-Ahar depression. Neo-tectonics activities in this region have caused the intensification of instability in slopes (landslide, Debris flow and etc). Therefore recognizing neo-tectonic situation is necessary for environmental planning and avoidance of any construction in the active fault region. The objective of this research is to evaluate the Neo-tectonics activities in the river basin of Meshkin-chai. For obtaining the results, we have used quantitative methods such as Drainage Basin shape Index (Bs), Drainage Basin Asymmetry Index (Af), Transverse topographic Symmetric Index (T), Mountain-front Sinuosity Index (J), Hypsometric Integral (Hi), Hypsometric Curve (Hc), Width of the valley bottom to its height (Vf), Stream Sinuosity Index (S), Stream Length Gradient Index (SL), Relative Active Tectonic Index (Iat).The analysis of the obtained results Shows that all of the study regions are active from the view point of tectonics activities. Tectonic activities in sub basin of Meshkin Chai are more than Bino-Chai and Kor-Kor chai sub basins.

Keywords: Neo-tectonics, Meshkin chai, Geomorphology indexes.

Measuring the Priority Level of Macro Goals of Ahvaz Central Worn Texture by Using Fuzzy Hierarchical Analysis Method (FAHP)

Dr. Masood Safaeepour
Associate Professor of Urban Planning Geography
University of Shahid Chamran, Ahvaz

Hadi Alizadeh
Ph.D Student of Urban Planning Geography
University of Shahid Chamran, Ahvaz

Safieh Damanbagh
M.Sc of Urban Planning Geography
University of Shahid Chamran, Ahvaz

The urban Worn texture is in fact the main core of how the birth of a city and also the manner of reflecting the culture of that city's people during the evolution and change of the city. After the prevalence of modern patterns and methods in the early of the present centaury and especially measuring its efficiency on the cities' physic , these textures, due to lack of consistency with the new techniques imported from the West, have been considered as inefficient and problematic textures.
To coordinate these textures with modern approaches, from the first Pahlavi period up to now, various laws and regulations in the form of different plans have been examined on the physic of the cities.
The central worn texture of Ahvaz city has not been excluded from the interferes and targeting as various major and minor plans for complying the texture physic with the new methods and prospecting for its future. In the current study, which is conducted by descriptive- analytical approach, the aim is to measure the priority level of fourth macro objectives indicated by the detailed plan of central worn texture of Ahvaz with the minor objectives of each one of them for this texture.
For achieving the study objectives and collecting the required data, an opinion polling was conducted from 15 experts and executive authorities of Municipality and eight districts of Housing and Urban Development of Ahvaz and then the obtained data were studied and analyzed in the form of FAHP to determine the priority level of the said main and minor objectives.
The results of the data analysis using fuzzy hierarchical analysis shows that among the major objectives considered in detailed design for Ahvaz Central worn texture, strengthening and development of local business has the most importance and strengthening and development of local tourism among the major objectives has had the least importance in the discussions made by the experts in the field of the said texture.

Keywords: Worn texture, Macro objectives, Priorities, Fuzzy hierarchical analysis, Ahvaz city.

A Synoptic Analysis of Cyclonic Activities at Different Levels of Iran Atmosphere
Case study: Year 1990

Dr. Mahmood Khosravi
Associate Professor of Climatology
University of Sistan & Baluchestan

Dr.Saeid Movahedi
Assistanse Professor of Climatology
University of Isfahan

Seyed keramat Hashemiana
Ph.D Student of Climate in Environmental Planning
University of Sistan & Baluchestan

Behrooz Heydari
M.Sc of Climatology
University of Isfahan

The present research has studied the synoptic of cyclonic activities at different levels of Iran's atmosphere. The cyclone-genesis zones and its movement paths can be identified by several algorithms. This research has performed to identify the temporal and spatial conditions of effective cyclones on Iran climate on seasonal and monthly scales. To identify the Cyclones, 6hours data of geo potential heights (HGT) for 1000,925, 850, 700, and 500 hPa levels were extracted from NCEP/NCAR database for coordinates of 30◦west up to 80◦ east and 0◦ - 80◦ north for year 1990. The statistical analysis of cyclones in several levels of atmosphere showed that in 1990, maximum number of cyclones occurred in 500 hPa level and the least frequencies occurred in 850 hPa that have only 990 cyclones. Generally in 500 and 700 hPa, the peak of Mediterranean cyclones activities occurred in December to February. In cold period, a cyclone- genesis center has been located in Italy. The second cyclone- genesis center is extended from Greece up to Cypress. In winter, Italian cyclone- genesis centers are transferred to eastern half of Mediterranean Sea, on Cypress, Syria and Turkey. These locations comprise the main cyclone- genesis centers in winter. Generally it seems that the expanding limit of dynamic cyclones are from 500 to 700 hp level. Only if the cyclone is very strong it can be seen at levels lower than 700 hPa.

Keywords: Cyclone, Geo potential height, Synoptic, Mediterranean sea, Iran.

Climatic Feasibility of Rapeseed Cultivation in Kermanshah Province

Dr.Kamal Omidvar
Associate Professor of Climatology
University of Yazd

Dr. Ahmad Mazidi
Assistant Professor of Climatology
University of Yazd

Sudabe Doostmoradi
M.Sc of Climatology
University of Yazd

Rapeseed is one of the most important oily seeds which is cultivated in different parts of country in the recent years. Climatic feasibility and extension of Rapeseed cultivation are very useful in this region due to widely governmental supports for cultivating oily seeds, in particular, Rapeseed in order to reduce dependency on imports of this product and proximity to Mahidasht industry and cultivation complex as a guaranteed purchase market for this product in this province. In this research, temperature and precipitation features were studied during Rapeseed growth period and each stage of growth and passing time of limit temperatures -7, -15 and 40^0C at the level of studied stations were studied during 19-years (1992-2010) statistical period and then, by using GIS completely appropriate, appropriate, weak and inappropriate zones of Rapeseed cultivation were specified at provincial level. The results of this research show that completely appropriate and appropriate regions corresponded to central and plain regions on this province cover about 70 percent of the studied region. Inappropriate zone corresponded to mountainous and high regions cover the lowest area (2302 km^2) of the studied region and zones with weak capabilities for Rapeseed growth allocates 7801 km^2 of this province to themselves.

Keywords: Feasibility, Agro climatology, Temperature, Precipitation, Rapeseed, Kermanshah**.**

Probability of Days with Accumulation of Cold Air in the Gavkhooni Etang, by Using MarkovChain Model

Dr. Taghi Tavousi
Associate Professor of Climatology
University of Sistan & Baluchestan

Akbar Zahraei
M.Sc Student of Climatology
University of Sistan & Baluchestan

Ghadir Delara
M.Sc Student of Climatology
University of Sistan & Baluchestan

Topographic conditions of the ground surface are intensively effective on the climatic moderate phenomena. Etangs are considered more or less the focal point of accumulation of cold air during the night and may cause the appearance of air temperature collapse. Normal of the air temperature in synoptic and climatological stations shows such conditions for Gavkhoni etang. In this research, Markov Chain model was used for determining the probability of occurrence of days with settlement of cold air in Gavkhoni etang in different seasons of the year.

Therefore, the minimum difference of daily air temperature at the two climatic stations of Varzaneh and Isfahan in statistical period (2005-1986), was obtained And with respect to its sign (negative or positive) , the days of the year were divided in two categories of ordinary days with code (zero) and the days with accumulation of cold air in etang with code (1).

The results showed that %71.5 of the days of the year had the settlement of cold air in Gavkhooni etang.

The number of the days with accumulation of cold air in the autumn, winter , spring , and Summer were %79.5, %73.8, %71.9 and %61.1respectively. In cases of conditional transition of temperature, the probability of p11occurance is more than other conditions (p_{00} ، p_{01} ، p_{10}). Regression relation between the observed and estimated values of n periods of cold air settlement shows that the considered accuracy and reliability for all seasons is more than 99%.

Keywords: Accumulation of cold air, Markov chains, Gavkhoony, Isfahan, Varzaneh.

Sub Zoning of Earthquake Risk in Sabzevar City by Using GIS

Dr. Abolqasem Amirahamdi
Associate Professor of Geomorphology
University of Hakime Sabzevari

Zakiye Abbariki
M.Sc Student of Ecotourism
University of Mazandaran

Sabzevar is one of the ancient cities of Khorasan Razavi province that now is the second most populous city of province, after Mashhad city. During previous decades, Sabzevar city has had a rapid physical growth that has resulted in significant constructions without safety in terms of natural disasters such as earthquake. Construction is performed just for responses to short term accommodation demands. Developing the town towards north has occupied the hazardous geological and geo-morphological features such as faults Neogene hills, earthquake centers, steep slopes, new alluvial fans and sediments of Quaternary. In this study, the most important factors which accelerate the risk in case of earthquake occurrences were identified. Then some data layers such as distance from fault, topographic slope, structural slope, lithology, land use, population and building density, oldness of building and distance from historic earthquake centers were constructed in GIS.

Weighting of effective factors was determined based on AHP method and subsequently the map of earthquake hazard zonation was prepared in 5 classes of very high, high, intermediate, low and very low risk. The map of earthquake hazard zonation reveals that in case of earthquake , 11 km2 of the town will be in very high risk zone, 37 km2 will be in high risk zone, 49 km2 will be in intermediate risk zone, 60 km2 will be in low risk zone 59 km2 will in very low risk zone.

Keywords: Sabzevar, Earthquake hazard zonation, GIS, AHP.

Locating the Fire Stations of Urmia City Using GIS and AHP

Dr. Mohamadrahim Rahnama
Associate Professor of Geography
University of Mashad

Ahmad Aftab
Ph.D Student of Rural Planning Geography
University of Mohaghegh Ardabili

Generating new civil facilities requires a careful study to find a convenient location for these facilities in different parts of a city. The first and main point in correct and appropriate allocation of civil facilities is selecting the optimum with respect to the different and sometimes opponent circumstances. This issue becomes significant when very important factors such as saving human Beings' lives are to be considered. Therefore, optimum locating of fire station centers, considering the importance of the lives of the endangered people, is a fundamental issue. This matter becomes more outstanding when we regard the 56% increase of incidents occurred in Urmia in 2010. In this article the Network Analysis method and AHP model in GIS have been used to locate the fire stations. The results of Network Analysis according to the standard time (1 to 5 minutes) indicate that 49.2% of Urmia is not covered by fire stations at the moment. In order to compensate this shortcoming, according to the locating criteria of fire stations in the form of AHP model and the results of Network Analysis in GIS, four new stations were located and suggested. Moreover, the functional radius of the suggested stations together with the existing stations on the basis of the standard time of arriving the fire vehicles at the fire places, has been depicted in order to determine the coverage area of Urmia by these centers on the basis of Network Analysis, which, as a guideline for providing services, can be used by policy makers and civil managers of Urmia.

Keywords: Locating, Network analysis, Hierarchical analysis process, Geographical information system, Fire stations, Urmia.

Recognition and Spatial-Temporal Analysis of Heat Waves in Iran

Dr. Mohamad Darand
Assistant Professor of Climatology
University of Kordestan

The aim of this study is to recognize the heat waves and their spatial-temporal reanalysis on Iran. In order to perform this study, the daily maximum and minimum data of the interpolated Asfazari Data Base during 1/1/1962 up to 31/12/2004 were used . The data spatial separation is 15*15 kilometers.
For heat waves recognition, the six indices based on 90, 95 and 99 percentiles have been used which show the intensity, duration and frequency of heat waves' occurrence. The recognition of indices' trend during the study period was examined by nonparametric test of Mann Kendal and then slope and the trend rate was estimated by linear regression. The results showed that the occurrence frequency of heat waves has an increasing trend in Iran. Also, duration and intensity of heat waves has been increased. From spatial distribution view, the type and rate of trend over different regions is not equal.
The duration, frequency and intensity of heat waves over flat and low height plains are increasing. Among these regions the highest slope and changing rate were observed in Lout desert (northeastern of Kerman), flat regions at northeast of Bandar Abbas, Kavir desert and khozestan. On the height and high elevations of Zagros and Alborz chains and dispread heights over Iran's extent, the rate of heat wave has a decreasing trend.
The intensity of heat waves frequency reduction and intensity and duration of heat waves over these regions is more than their increasing trend on the low lands and plains. On the western heights of Shahrekord, the reduction trend rate of indices will reach to its maximum rate. There is no different between types of the indices trend and their spatial dispersion based on 95 and 99^{th} but the trend rate of indices based on 95^{th} percentile is greater.

Keywords: Heat waves, Trend, Percentile thresholds, Iran.

Monitoring the Changes of Snow Cover by Using MODIS Sensing Images at North West of Iran

Dr. Seyed hossein Mirmousavi
Assistant Professor of Geography
University of Zanjan

Leyla Saboor
M.Sc Student of Climate in Environmental Planning
University of Zanjan

The study and measure of snow level changes as one of the main sources of water supply, is so important. Due to the harsh physical conditions of mountainous environment, it is not possible to conduct the earth measuring continuously to estimate the snow water resources and forming the database. So, using satellite images to identify snowy areas and assess its changes has a great importance.

The data used in this study are TERRA/ MODIS sensing satellite images of Iran's North West region related to years 2000 up to 2009. The method used in this study is NDSI index, and Supervised and Unsupervised classifications, after comparing between the methods, the Supervised classification was selected as the appropriate method. Review of the maps related to changes of snow cover in April showed that during the study period , the lowest amount of snow is related to year 2008 with an area of about 1040.01square kilometer and the highest area is for year 2007 with about 10471.78 square kilometer.

This represents a 1000 percent changes in snow cover during one decade at the north west of Iran and shows vulnerable of water resources depending on melting snow. Also the results showed that in the years which the average of cold season temperature is lower, the area covered by snow is more than the other years, so that in year 2007, it had the lowest amount of snow coverage during the last 10 years (2.6 c◦) while the highest amount of snow cover during the last ten years is related to this year.(10471.78 km2)

Keywords: Snow Terra/ MODIS ERRA/ MODIS sensing index, NDSI index, Supervised classification, Northwest of Iran.

Accuracy Assessment of Weather Assimilators of CLIMGEN, LARS-WG and Weather Man in Assimilation of three Different Climatic Parameters of three Different Climate (Gorgan, Gonbad and Mashhad)

Amir Hajarpoor
Ph.D Student of Ecology
Gorgan Agriculture and Natural Resources University

Marziyeh Yousefi
M.Sc of Agroecology
Gorgan Agriculture and Natural Resources University

Dr. Behnam Kamkar
Associate Professor of Agriculture
Gorgan Agriculture and Natural Resources University

In recent years, artificial models of weather generator parameters have extensively been applied in hydrological and ecological systems and also in the studies of climatic impact potential on agricultural ecosystems throughout the world. These models have been developed as a statistical technique for generating daily weather data when long-term data are not available.

The purpose of this investigation was to evaluate the performance of three models of CLIMGEN, LARS-WG and Weather Man to predict at fine-scale and at meteorological stations' scale for climatic variables including maximum temperature, minimum temperature, precipitation and solar radiation for the years of 2000-20009 in three regions of Gorgan, Gonbad and Mashhad.

Firstly, daily weather data of each station from 1975-1999 for Gorgan and Gonbad and 1961-1999 for Mashhad were implemented in the models and the daily data for years 2000-2009 were obtained. For assessment of the mentioned models, the comparison of statistical indicators such as Root Mean Squared Error (RMSE), Model Efficiency (EF) and Determination Coefficient (R^2) were used. The results obtained from comparing the monthly average of produced data during a ten-years period by models showed that temperature variable has been predicted better than other parameters by the three models.

LARS-WG in Gorgan and Mashhad and CLIMGEN in Gonbad performed better to simulate the minimum temperature. CLIMGEN in Mediterranean climate of Gorgan and semi-arid climate of Gonbad and Weather Man in dry climate of Mashhad have simulated the maximum temperature better than the other models.

Solar radiation variable by LARS-WG model in Mashad and Gonbad regions and by CLIMGEN model in Gorgan has been predicted by a more effective performance.

Despite the differences among the outputs of the models, it seems that they can be applied in crop modeling and in the issues of climatic changes.

Keywords: Artificial weather generators, Climatic variables, Climatic parameters, Statistical Index, Weather data.

Social and Economic Consequences of Changing Cultivation Pattern and its Role on Rural Development Case study: Changing Cultivation Pattern of Rice to Citrus in Balatajan County of Mazandaran Province

Dr. Mahdi Pourtaheri
Assistant Professor of Geography
University of Tarbiyat Modares

Dr. Abdolreza Roknodineftekhari
Associate Professor of Geography
University of Tarbiyat Modares

Aliasqar Savadimalidare
Ph.D Student of Rural Planning Geography
University of Tarbiyat Modares

Cultivation pattern as one part of agricultural system can have an effective role in obtaining the agricultural and rural development goals which, in fact is the improvement of farmers' life and their welfare.

Cultivation pattern indicates the type or a combination of cultivation that farmer chooses for optimum use of lands. Choosing any cultivation pattern, due to its multidimensional nature can have important consequences on farmers' life and rural community .

Now, which section of rural community life will be affected and the direction and depth of this influence is the substantial question that we will investigate in this study. In order to answer this question, library and field studies were conducted. The field studies were related to the Balatajan village in Mazandaran Province and agriculture year 2010. For this purpose, we selected 250 farmers who replaced production of citrus instead of rice and asked them about social and economical effects of these changes.

Our research findings showed that in these two parts, there had been a significant difference before and after changing the cultivation pattern and at Alpha 0.01.In social indices, except of participation, in two aspects of durability and farmer awareness, the results showed the index growth and in economical index, this growth is more sensible in the quality of employment, welfare and economical safety. Therefore, on this basis, it can be said that citrus cultivation pattern has made effective role on development of Balatajan county .

Keywords: Cultivation pattern, Social and economic consequences, Rural development, Balatajan county.

Review the Effects of Micro-Credit on Economic Empowerment of the Rural Poor

Case study: Ghani Begloo Village, Zanjan City

Dr. Behrooz Mohammadiyeganeh
Assistant Professor of Geography
University of Zanjan

Mehdi Cheraghi
Ph.D Student of Geography & Rural Planning
University of Tehran

Kobra Ahmadi
M.Sc of Urban Planning Geography

Different schools of development considers investment as their fundamental principle. The existence of investment enables the operation and efficiency of the surrounding area, especially in rural areas which can lead to sustainable development.

Today for achieving the paradigm of rural sustainable development, rural planners has emphasized more on empowerment of target groups (the poor, widowed women, landless laborers and small farmers) and believed that at the present, poverty is the most threatening factor of the environment. Over the last three decades, microcredit approach with the aim of accessing rural poor to financial resources in a lot of developing countries was conducted and has had successful results.

This paper seeks to answer this question that to what extent, granting such credits can affect on the economic empowerment of rural poor. Identifying the extent of this strategy effects on the economic empowerment of the rural poor is the purpose of this paper. The research method is descriptive – analytical method and the method for collecting data is field and library method (questionnaire and interview). The statistical society of the present study includes Ganiabad Bigloo village. Among 33 villages of this area, 4 villages were selected and classified by using probable sampling method and questionnaires were prepared from all the families received the credits.

To analyze the data, descriptive statistics (mean, standard deviation) and inferential statistics (one-sample t test, Pearson correlation and multivariable regression) were used. The results showed that such credits has not lead to economic empowerment of the rural poor but there is an outstanding relation between the increase of credit amount and improvement of economic empowerment indices.

Keywords: Poverty, Microcredit, Economic empowerment, Ganiabad bigloo village, Zanjan city.