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Assessing Farmers' Willingness to Participation in Land Consolidation Projects in Meymeh District, Isfahan

(Manuscript received: February 3, 2014, in final form: August 12, 2015)

Mahdeyeh Shahabinejad: MSc Graduate of Rural Development, Department of Rural Development, Faculty of Agriculture, Isfahan University of Technology, Isfahan, Iran.
Ali Yousefi[1]: PhD of Agricultural Economics, Assistant Professor, Department of Rural Development, Faculty of Agriculture, Isfahan University of Technology, Isfahan, Iran.
Amir Mozafar Amini: PhD of Rural Studies Associated Professor, Department of Rural Development, Faculty of Agriculture, Isfahan University of Technology, Isfahan, Iran.

Abstract

Agricultural sector has an important role in development of countries. One of the obstacles to development in this sector, especially in Iran is significant fragmentation of agricultural lands. The aim of this study is to assess the farmers' willingness to participate in land consolidation project using structural equation modeling. The population of this study consists of all farmers of Meymeh County and its surrounding cities and villages and Niloofar-Abi cooperative of Vazvan city. Data were collected on a sample of 156 farmers through face-to-face interviews based on a comprehensive structured questionnaire. Before the survey, the reliability and validity of questionnaire was initially evaluated on a pre-test study respectively by using Cronbach's alpha coefficient, expert's judgment and Kaiser-Meyer-Olkin (KMO) criteria. The results of this study show that the most important factors on farmers' willingness to participation are crop acreage and number of plots which respectively has the greatest positive and negative effect. The awareness of the farmers about benefit of consolidation project is another factor which has significant and positive impact on farmers' willingness. Furthermore, level of farmers schooling has no significant effect.

Keywords: Land consolidation, Farmers' participation, Awareness, Structural equation modeling, Communication, Isfahan.

[1]. Corresponding author: ayousefi@cc.iut.ac.ir

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Explanation of selected territory and space in ancient Iranian ideas and myths

(Manuscript received: September 1, 2014, in final form: December 18, 2014)

Morteza Tahami: Assistant professor Department of History, Humanities Faculty, Kharazmi University, Tehran, Iran.
Morad kavianirad[1]: Assistant professor, Department of Political Geography, Faculty of Geographical Sciences, Kharazmi University, Tehran, Iran.

Abstract

Geographical space is the result of combination of Physical and content structure elements which becomes apparent in the form of human structures. Outside the elements of the physical space and intellectual functioning, with the mindset and aspirations of people in space, is relatively straightforward. The external and Function of elements physical space and thoughts have Connected with Beliefs and ideals the inhabitants of the space. Selected space issues related to the allocation and layout of the elements of Physical Space so that space residents try to connect these elements with the divine and supernatural In order to be provided for their physical and spiritual needs. Traditionally build and develop such a space has Directed to actions and manners of people. Selected space has a manifestation in ancient Iranians myths and ideas where khonires is located in the center of the seven continents and Iranvij is its center. Centrality of the universe and the AhuraMazdas creatures are two characteristics of Iranvij. This space is a small picture of a universe that has divine and eternal attributes. The required data are gathered by library method and research method and methodology of texts are narrative and chronologically. The result showed that most of the thinking ways of this period is from the principle of Aša or Arta belief as a cosmic order. This case about Iranian Artashahr represents monotheism logic at least from a practical perspective. In ancient Persia ideas and myths, noble and valuable of selected territory and space is long lasting In connection with the supernatural and divine.

Key words: Selected space, Iranian mythology, Arteshar, seven continents, khonires and Iranvij

[1]. Corresponding author: Kaviani75@yahoo.com

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Synoptic analysis of heavy precipitations of Kurdistan province

(Manuscript received: June 15, 2013, in final form: January 1, 2015)

Mohammad Darand[1]: Assistant Professor, Department of Geography, Faculty of Natural Resources, Kurdistan University, Sanandaj, Iran.

Abstract

The aim of this study is synoptic analysis of heavy precipitations in Kurdistan Province during 1/1/1961 to 31/12/2010(18263days). By using two thresholds of extensively and intensity of precipitation, 107 days have been recognized. In temporal view, the selected days occurrences in wet seasons of year that start from October to June. By applying the principle component analysis on the sea level pressure during the 107 days, the results showed that 12 components explain about 93 percent of sea level pressure variation. The results of the applying cluster analysis on the component score showed that two circulation patterns result in occurrence of extreme and heavy precipitations in Kurdistan province. In order to recognize heavy precipitation in dry season (June to October), the area mean precipitation for the province have been calculated. According to the 99 percentile threshold and extensively of precipitation the heavy phenomena recognized. By two thresholds 32 days selected and same as to the wet season precipitation the sea level pressure data from NOAA extracted. The data analyzed by Principle Component Analysis and 11 components extracted that explain the 93 percent of variation sea level pressure in the frame study. By doing cluster analysis on the 11 components, one pattern recognized for the sea level pressure. The results showed that in lower atmospheric levels (1000, 925 and 850 hpa) occurred highest convergence on the study region during wet season. The source of humidity in the lower levels is Arabian, Red, Oman, Persian Gulf and Mediterranean Seas. In the high level atmosphere, the value of convergence is low. The sources of humidity in high levels atmosphere are Red and Mediterranean Seas. In the mid-level atmosphere (500 hpa) the presence of trough results in nutrition of the instability on the study region. Also during dry season, the highest moisture flux convergence occurred in the low levels but the resource of the moisture is Caspian Sea. In the upper levels (from 700 hpa to up) in addation to Caspian Sea, Mediterranean and Red sea are the resource of heavy precipitations.

Keywords: Heavy precipitation, Flood, Synoptic Analysis, Kurdistan, Moisture Convergence Flux

[1]. Corresponding author: darand_mohammad@yahoo.com

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An investigation on the feasibility of applying MODIS snow cover products in cloudy weather by the employment of its integration with microwave images

(Manuscript received: October 3, 2013, in final form: November 27, 2014)

Nima Fayaz: M.Sc. Student, Department of Irrigation & Reclamation Engineering, Faculty of Agricultural Engineering & Technology, College of Agriculture & Natural Resources, University of Tehran.
Majid Vazifedoust[1]: Assistant Professor, Water Engineering Group, University of Guilan.
Shahab Araghinejad: Assistant Professor, Department of Irrigation & Reclamation Engineering, Faculty of Agricultural Engineering & Technology, College of Agriculture & Natural Resources, University of Tehran.

Abstract

Variation of snow cover area (SCA) in small to large scale catchment can be studied using MODIS snow products on daily to monthly time step since the year 2000. However, one of the major problems in applying the MODIS snow products is cloud obscuration which limits the utilization of these products. In the current study, variation of SCA was investigated in Karoun basin, western part of Iran, using MODIS 8-day snow cover product (MOD10A2). More over in order to overcome the cloud barrier in application of snow cover products, a simultaneous employment of the images from both MODIS optical sensor and AMSR-E microwave sensor was recommended. Meeting our target, the combination of MODIS and AMSR-E daily images was exercised to accomplish snow cover area in daily interval and afterwards, a comparison was made between the result and those which had been obtained by the sole utilization of either of them while the weather had been either cloudy and not been overcast. Validation of snow cover gained by combined images was additionally compared with the discharge of one of the catchments existing in Karoun basin. The results demonstrate that regardless of the fact that microwave data, featuring a coarse spatial resolution, can penetrate the cloud cover, on average, AMSR-E images approximately show 16% more snow cover in comparison to MODIS images. The results also illustrate that the correlation existing between snow cover rate of AMSR-E and MODIS images during cloudless days, the difference of average snow cover area decreases from 16% to 5%. Moreover, the upshot of validation by the exercise of daily discharge data indicates that by possessing a correlation coefficient of 0.66, the correlation of snow cover and discharge in combined images features a higher accuracy in comparison to MODIS images with a correlation coefficient of 0.55.

Key words: MODIS, snow covered area, AMSR-E, microwave, Karoun, Iran

[1]. Corresponding author: Majid.vazifedoust@yahoo.com

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Spatial analysis of instability intensity of the villages with sustainable approach in Kaki district, Dashti Township

(Manuscript received: October 9, 2013, in final form: March 2, 2015)

Sadegh Asghari Lafmejani[1]: Assistant professor of geography and rural planning, University of Zabol.
Gharib Fazelniya: Associate professor of geography and rural planning, University of Zabol.
Morteza Tavakoli: Associate professor of geography and rural planning, University of Zabol.
Marzieh Shoghi: M.A. student of geography and rural planning, University of Zabol.

Abstract

Sustainable development is an environmental concept appropriate to our era that nowadays in all of economic, social, environmental and physical-spatial aspects is considered and focused by everyone. In these times, global organizations that are working around the issues of sustainable development, emphasis on rural sustainable development, which seeks to improve rural living standards and welfare of the inhabitants of the villages, because at present time, the procedure of socio–economic variations accompanied by increasing migration of human groups is led to evacuation of villages. With attention to the importance of the subject and the increasing instability of the villages, present study was done for determining the effective factors on rural instability and measuring the intensity of this instability in Kaki District of Dashti Township. The research method is descriptive - analytical in which whole inhabited villages of Kaki District of Dashti Township were surveyed. In this regard, according to the number of households living in villages and using the Cochran formula, 255 questionnaires were calculated for questioning and these questionnaires have been completed in the villages in proportion to the population of each village. In these questionnaires, 34 indicators related to the four dimensions of sustainable development (environmental, social, economic and physical-spatial) are considered. In order to determining instability intensity of the villages and their spatial analysis, is used AHP method in Expert Choice and ArcGIS software. Also SPSS software is used for statistical analysis. The results show that at the present time, all villages have various degrees of instability. In this regard, 65.8 percent of these villages have severe or very severe instability.

Keywords: Instability, Spatial analysis, Village, Dashti Township.

[1]. Corresponding author: Asghari2750@yahoo.com

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Reconstructing the temperature degree of the warm seasons through Quercus persica tree rings in Zagros forests Dena region

(Manuscript received: August 4, 2014, in final form: May 21, 2015)

Hossein Zarean[1]: PhD in climatology from University of Isfahan, Isfahan, Iran
Teacher at the ministry of Education

Abstract

Trees can record long-term effects of climate variables. Using dendroclimatology knowledge, we can reconstruct such variables especially for areas which have short-term climatic data. For this purpose, we reconstructed the temperature degree of the warm months (May-September) through annual rings width of Quercus persica and regression analysis of data obtained from stations on Dena region. With this goal in mind, three growth heights were selected in Dena Forests and 52 growth samples from 26 bases were extracted and their growth rings width were measured with LINTAB5 with an accuracy of 0.01 mm. After cross dating stage, to eliminate non-climate effects, May to September temperature average and tree rings time series were standardized. The Residual Chronology (RES) calculated by ARSTAN was calibrated with temperature degree of the period 1882-2011 and its positive and significant correlation with the width of growth rings was confirmed. Based on the relations between the calculated chronology and joint statistical temperature degree data, the reconstruction of temperature degree of the warm seasons for over a century was performed and it was found that in the last three decades, region's average temperature of May to September had an increase in comparison to the average of the previous century.

Key words: Dendroclimatology, Regression analysis, Chronology, Quercus Persica, Dena region.

[1]. Corresponding author: h.z.climate@gmail.com

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Analysis of quantitative and qualitative parameters influencing the housing planning of the country's Provinces

(Manuscript received: July 24, 2014, in final form: February 13, 2015)

Hamidreza vareci: Associate Professor of Geography Sciences and Urban Planning, University of Isfahan.
Malihe Izadi[1]: Ph.D. Candidate, University of Isfahan, Urban Planning.
Mahmoud Mahmoudzade: Ph.D. Candidate, University of Isfahan, Urban Planning.

Abstract

Attention to housing and planning in line with sustainable development in the framework for planning national and regional is to our use of the knowledge and techniques of programming, existing situation and issues related to it is made clear that. To the main goal this research study and the analysis of the most tiresome effective in planning housing classification level and province of the country based on. This is a descriptive method of research-analysis. Collecting data with the use of the results of the census and public housing in 1390 and resources library and documents and evidence have been done. The index of the study, 27 indicators inclusive of housing is a little bit you returned home Models based on regional planning (Multi-criteria decision analysis Vikor) has been analyzed. Using a factor analysis technique, these four factors were total 91/18 % of the variance explained Calculation of productivity. The provinces have indices using vikor. Based on this classification level, Esfahan(Zero coefficient),Golestan(Zero), Tehran(zero), East Azerbaijan (0/079 coefficient) in first to fourth levels are very Brkhordar And Semnan provinces(0/87),Ardabil(0/88), Sistan and Baluchistan(0/90) ,Bushehr(0/90), Lorestan(0/91), Hormozgan(0/91),Mahal Bakhtiari (0/92), Kohkiluyeh &Bourahmd(0/94),Qom(0/94),North Khorasan(0/96) and Elam(1), Respectively, and thelastlevelsvery brkhordar havetheleast.

Key words: planning housing, factor analysis, method Vikor, Provinces.

[1]. Corresponding author: Izadim90@yahoo.com

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Morphological analysis of Mahabad river channeland the impact of Dam construction

(Manuscript received: December 23, 2013, in final form: June 7, 2015)

Hadi nayyeri[1]: Assistant Professor, Department of Geomorphology, Faculty of Natural Resources, Kurdistan University, Sanandaj, Iran.

Abstract

The subject of the study is to analysis pattern of Mahabad River channel. This area is located on the south of Uromia Lake. Rapid changing of its channels pattern is an important characteristic which the evaluation of these characteristics is necessary to any implementation of development projects. For this purpose, the morphological changes of river channel were recognized by the areal photographices and satellite imageduring different times periods. The relationship between effective variables on the channel pattern such as, discharge, slope, stream power, stream bank clay content and width of bed, and observed pattern changes were analyses. The results showed that formation of braising channels could be the result of accumulation of bank coarse materials and increasing of width to depth ratio. The pattern of the river changed to sinuosity at the downside of braiding channel. The increased discharge and more river bank resistance due to high clay content caused to river pattern changed from breading to sinocity. In the distance between Mahabad dam at the upstream and diversion dam at the downstream, the river pattern was changed to Anabaranching. Assessment and comparison of Arial photographs before and after of Mahabad dam construction revealed that these types of channels were developed recently. Reduction of peak flows and sediment deposition in the channel as the result of dam construction, prepared the essenssial conditions to form Ajjjjfjjnabrancing

Keywords: Channel pattern, Geomorphologic River, Anabranching channel, Dam construction, Mahabad River

[1]. Corresponding author: nayyerihadi@yahoo.com

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Synoptic analysis of 500 hpa flow patterns in rainy Spring's Arasbaran region

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Karim Aminineya[1]: Assistant Professor of Climatology**,** Department of Geography, Ahar Branch**,** Islamic Azad University

Abstract

Arasbaran is one of most important regions in terms of agriculture, economics and tourism in northwest of Iran that it usually receives the most yearly spring precipitation. To recognize the synoptic patterns of the 500 hpa, geopotential height data were driven for coordinates 00-70 ˚ E and 15- 65˚N in rainy springs (1972-1976-1979-1981-1986).To select the most important component using principal components analysis, a matrix S mode with dimensions 386×610 was used. The results showed that more than 92% of the total variance can be explained by 13 components. After clustering procedure on the 13 components, six circulation patterns were obtained. In 5 cases of the extracted patterns, there's a really high center of east Mediterranean and south east Europe, the most important component was detected during the wet spring. Other major factors will be referred to the short-wave atmospheric middle level that at this time of year is usually active between the Caspian Sea and the Black Sea and cause wet periods in spring in this area. The systems accompanying low active centers of located in Central Asia and their short waves bring instability and precipitation in the spring to this area.

Keywords: Rainy spring, PCA, 500 hpa, Arasbaran, clustring

[1] . Corresponding author: araz183@yahoo.com

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Spatial Analysis of Physical Quality of Rural Housing in Iran

(Manuscript received: November 5, 2013, in final form: February 18, 2015)

Vahid Riyahi: Associate Professor, Department of Geography and Rural Planning, Faculty of Geographical Sciences, kharazmi University,Tehran, Iran.
Mohammad Haji pour[1]: PhD student, Department of Geography and Rural Planning, Faculty of Geographic Sciences, kharazmi University, Tehran, Iran.
Hadi Gharaguzlou: PhD student, Department of Geography and Rural Planning, Faculty of Geographic Sciences, kharazmi University,Tehran, Iran.

Abstract

Housing enjoys a multilateral functioning in the rural system. One of the aspects highlighted by planning system is the renewal and rehabilitation of housing. In our country, Iran, development of rural housing has experienced a growing trend, especially in the physical and structural aspects. However, a large part of the rural population in different areas of the country is living in non-resistant and less durable housing. This article attempts to analyze the spatial distribution and quality of rural housing in the country. In this article it is tried to address and analyze the spatial distribution of quality and construction of rural housing in various provinces in the country. The data was derived from document studies. The quality of rural housing in 9 indices has been measured for each province of the country. Data has been analyzed using VIKOR method for the multi-criteria decision analysis. Finally, the classification of provinces based on the construction and quality of rural housing was conducted using K cluster analysis in SPSS and output was drawn in GIS as a map. The results showed that there is a significant difference and distinction in the types of materials used in the rural settlements. Such that a significant percentage of the houses are made out of bricks, iron and stone that somehow confirms the durability and normal quality. In terms of spatial and local distribution it can also be said that the quality of rural housing in most of the provinces (i.e. 24 provinces) are in low-quality, medium and/or appropriate levels. Meanwhile, only three provinces of Mazandaran, Azerbaijan Sharghi and Kerman enjoy the excellent quality in rural housing construction.

Key words: Housing; Rural Settlement; Ṡtuff Quality.

[1]. Corresponding author: mhajipour24@yahoo.com

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The Analysis and modeling of widespread anomalies of rainfall in entire West of Iran in relation with the behaviors of Mediterranean Pressure centers

(Manuscript received: June 25, 2014, in final form: April 28, 2015)

Mohammad Amin Heidari[1]: PhD student of Climatology, Faculty of Geography, University of Tehran.

Faramarz Khoshaghlagh: assistant prof of Climatology, Faculty of Geography, University of Tehran.

Abstract

Climate control centers in each area are diverse and understanding how they relate to the atmospheric components of the Earth's surface contributes to prediction of climate fluctuations. In this study, by using Pearson's correlation and multivariate regression in a thirty-year period (1961-2010), the relationship between widespread rainfall anomalies in entire of Iran west with temperature and pressure of atmospheric centers in East and West of Mediterranean Sea in 5 atmospheric levels (SLP, 850, 500 and 300 Hpa) were analyzed and modeled. Based on the results, the correlation of atmospheric control centers in the East and West Mediterranean Sea with anomalies of rainfall in West of Iran is inverse and meaningful in 95% level. In this study, statistical indicators such as temperature differences and standardized pressure between West and East Mediterranean sea were identified as the most important indicators in relation to changes of rainfall in the study area. Based on the designed indicators, whenever indicators DT and DH is positive, this means higher temperature and higher atmospheric standardized pressure in the Western parts of Mediterranean sea in compare with its East and therefore the wet spells (Monthly) occur in the study area, and If the above mentioned index is negative, means that the occurrence of drought in West Iran. As for the indicators introduced for lower levels of the atmosphere, especially in the case of temperature, meaningful strong and direct correlation is seen with rainfall abnormalities in entire West of Iran. Modeling provided some indicator for Mediterranean region using multivariate regression that they showed a relatively strong correlation in this regard of the selected components that include the pressure difference in sea level, the temperature difference in 925 and 850 hPa levels in the West (Compared to its East) Mediterranean Sea. Also check the regression model using real data confirm the accuracy of the relative performance of the model.

Keywords: Atmospheric Control Centers, Mediterranean Sea, Widespread Rainfall Anomalies, Correlation and Regression, West of Iran.

[1]. Corresponding author: heydaryamin@ut.ac.ir

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Cycle analysis of time series of annual precipitation Heleh and Mond Basin

(Manuscript received: December 22, 2014, in final form: July 29, 2015)

Mohammad saligheh: Associate Professor, Department of Climatology, Faculty of Geographical Sciences, kharazmi University,Tehran, Iran.
Hossein Asakereh: Associate Professor, Department of Climatology, Faculty of Literature and Humanities, University of zanjan.
Mohammad hossein Nasserzadeh: Assistant Professor, Department of Climatology, Faculty of Geographical Sciences, kharazmi University,Tehran, Iran.
Yadollah balyani[1]: PhD student, Department of Climatology, Faculty of Geographical Sciences, kharazmi University,Tehran, Iran.

Abstract

Precipitation is one of the most intractable elements. Therefore, understanding its oscillatory behavior is the requirements of environmental planning (awareness of overt and covert behavior), this is the key variable. Spectrum and trend analysis techniques are the suitable methods to understand the visible and invisible behavior for the extraction and analysis of climate oscillations with different wave lengths. The size range of the distribution variance across all wave lengths may provide time series. In this study, data from 37 stations Heleh and Mond watershed (both rain and synoptic) from its inception until 2011, who had over 30 years of data, to analyze the cycle of annual rainfall, interest has been taken. Accordingly, in the first step the polynomial modeling was evaluated to identify trends in annual precipitation (linear or quadratic pattern) in the study area. Then, using by spectral analysis on this basis, the annual precipitation priodograms in 95 percent for each of stations were estimated and meaningful cycles of the time series were extracted. According to the results of this study, it was found that the annual rainfall in all stations in the basin, has decreased are, and among 11 stations according to the statistical significance, follow of the linear and quadratic pattern, which implies a reduction in annual rainfall of stations. It also was cleared that the significant 2-3, 3-10 and 10 years cycles were more common in the study area. So that the cycles of 2-3 years was most repeated in the annual rainfall time series.

Keywords: trend Modeling, annual rainfall, spectral analysis, the northern Persian Gulf, Heleh and Mond watershed.

[1]. Corresponding author: ybalyani۵۲@ yahoo.com

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