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Assessment of the degree of development in Sistan and Baluchestan Province: Application of multi-criteria decision-making methods

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Abstract

The purpose of this study was to investigate the degree of development of cities in Sistan and Baluchestan province by using multi-criteria methods and presenting appropriate and effective strategies in this regard. In this study, in view of the diversity of existing criteria, the combination of three multi-criteria approach FAHP, TOPSIS and ENTROPY was used In evaluating the degree of development of the cities of Sistan and Baluchestan Province. For this purpose 65 sub-criteria in the form of education, Sanitary-therapeutic, agricultural, religious-cultural and infrastructural-welfare criteria were selected. Also, among all sub-criteria, public parks area has greatest importance with weights of 0.048. The results indicate that infrastructure-welfare criteria with relative weight of 0.335 paramount importance in the evaluation the degree of development. Based on the results of the different aspects of health care, cultural-religious-welfare infrastructure Zahedan city was recognized as the most advanced city. According to the agricultural and educational sub criteria respectively Zehak and Zabul is the most developed city in Sistan and Baluchestan with a score of 0.526 and 0.691. Final ranking also showed that Zahedan on all criteria with a score of Ci=0.728 by far the most developed city compared to other cities in Sistan and Baluchestan.Zabol city ranked second with and hirmand city with in the most deprived cities in sistan and balouchestan province. The findings indicate that the need for decentralized planning based on resources and constraints is essential and inevitable in order to regional development.

***JEL Classification*:** R13, R12, O18, O21

Keywords: Degree of development, Sistan and Baluchestan Province, Fuzzy analytical hierarchy process, Topsis process, Entro

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Economic valuation of water resources ecosystem services (Case study: Zayandehrud River)

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Abstract

Water is the most precious treasure available to mankind very much felt in arid areas covering a wide area of Iran. The main aim of the present study was to estimate the economic value of Zayandrood water for use and non-use services as well as estimating water value in agriculture for wheat and barley products in eastern Isfahan using contingent and residual valuation methods. In addition, in the present study, the value of water in the industrial sector was estimated for the steel and Mobarakeh industries in Isfahan using the residual method and gross margin. The results showed that the average willingness to pay of each household in 2016 for the monthly use was 29,943 Rials and for monthly non-use was 41216 Rials. Also, the value of each cubic meter of water in the agricultural sector in 2015 was 1191 Rials for wheat production in the Abshar network and 2033 Rials for Ruddasht network. Regarding barley production in the Abshar network, it was 308 Rials and for Ruddasht network it was 210 Rials. In addition, the value obtained for each cubic meter of water for the Steel and Mobarakeh industries of Isfahan was estimated at 764,000 Rials. Finally, it is suggested that the gradual correction of the price of water over time will help to better allocate it between different products, which will improve the productivity of water in agricultural production and save water consumption.

JEL Classification: O26,Q51,H41,Q57

Keywords: Zayanderud river, Willingness to pay, Environmental economics, Contingent valuation, Water resource functions, Residual Method.

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Consumers' Willingness to Pay for Health-Oriented Chicken Meat in Shiraz

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Abstract

In this study, health-oriented chicken meat was introduced to consumers in Shiraz by creating a constructed market based on three characteristics including the lack of antibiotics in the production process, standard chicken size and chicken health. Contingent valuation method with open-ended questionnaire was utilized to assess the consumers' willingness to pay for this product. Data were collected by completing the questionnaire from 440 citizens in summer 2017. A two-stage Heckman model was applied to identify the factors affecting the selection and estimation of the extra amount they would be willing to pay for health-oriented chicken poultry compared to that for conventional chicken. Data analysis showed that about 78% of the people are willing to pay 19650 Rial on average as additional amount to buy health-oriented chicken. The probability of choosing health-oriented chicken by average-income households is calculated to be 11% higher than that for the low-income ones. Moreover, age and household dimension have negative and significant effects on the households' willingness to pay for health-oriented chicken. Educational level, income and marital status positively and significantly affect the amount of willingness to pay.

JEL Classification: Q13, D04, D12

Keywords: Health-oriented chicken, contingent valuation method, two-stage Heckman model, Shiraz

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Households' Perception and Livelihood Vulnerability to Climate Change: Nomads in Fars Province

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Abstract

The current study examined households' perception and evaluated livelihood vulnerability to climate change of nomads in Fars provience. Using a multiple stage cluster sampling, a total of 393 nomadic households was selected from the clans of Amale, Farsimadan, Kashkooli Bozorg and Kashkooli Koochak and the initial information was obtained through a verbal interview by the structured questionnaires. This paper contains two parts. In the first section, households' perception was examined to climate change and in the second part, livelihood vulnerability indices were assessed to climate change. The result indicates that households in the study have an adequate understanding of climate change. According to the results, Amale and Farsimadan clans that are more exposed to climate change have a high adaptive capacity, but against clans of Kashkooli Bozorg and Kashkooli Koochak that are less exposed to climate change, have a livelihood based on traditional livestock and a low adaptive capacity to conditions. Also, the nomadic households of Farsimadan due to their high degradation of rangelands have the highest livelihood vulnerability index (5.32) and nomads of Amale clan duo to their high adaptability to climate change have the least livelihood vulnerability index to climat change (4.44).

JEL Classification: D01 ،Q54 ،Q57

Keywords: Climate Change, Households' Perception, Livelihoods, Vulnerability

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Evaluating the Impact of Guaranteed Price Policy in the Barley: Using Propensity Score Matching Method (PSM)

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Abstract

The law of guaranteed purchase of essential agricultural products as a protection policy has become into force with the aim of balancing production system, to avoid production waste and farmers' losses for a number of agricultural products. However, this policy was costly, but it follows every year. Thus, in the context of the article-33 of productivity increasing suggested guaranteed purchase policy instead of guaranteed price policy. In this regard, this policy has executed as sample in Kermanshah province. The purpose of this study is comparing barely price due to the implementation of this policy. One of the important challenges in assessing policy is that if the program does not implement to what level barely price will increase. To answer these questions, and pair of matching method was used. Kermanshah province observations (province executor) compared with the six major producing provinces of barley (Khorasan, Fars, Hamedan, Isfahan, Lorestan and Central) using 1394 data. The results of PSM method indicates that implementing this policy has caused barley producers in Kermanshah province could sell each kg of barely 847 Rls higher than before the implementation of price guarantee. According to the results, firstly continue the implementation of this policy and It is would suggest that this strategic action will be implemented on other agricultural products which is an incentive to increase productivity of factors of agricultural productions.

JEL Classification: H40, E64, E64, C21

Keywords*:* Barely, Guaranteed Price, Guaranteed Purchase, Propensity Score Matching Method

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Analyzing the Consequences of reducing consumption of inputs in accordance with the Fifth Development Plan on Cropping Pattern in Amol Township

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Abstract

In fifth development plan, some suitable scientific and managerial policies have been expressed in order to optimizing the use of inputs and producing compatible crops with the conditions of each area. In this study with applying positive mathematical programming method, we evaluated the impacts of possible changes in consumption of inputs on cropping pattern of agricultural crops in Amol Township. These possible changes are propounded in the form of some scenarios like 1% reduction in water usage (PMP1), 7% reduction in fertilizers usage (PMP2), 1% reduction in pesticides usage (PMP3), 0.64% increase in employment (PMP4) and simultaneously mix these scenarios (PMP5). So that in 1392-1393, 124 farmers of this Township were interviewed through simple random sampling method. The results show that with running scenarios 1, 3 & 4 separately, any changes don't occur in cultivated area of crops; so the least reduction that models reaction to it was calculated by sensitivity analysis. Also the results show that with running scenario 5 (PMP5), observe respectively 5 and 0.2 percent decrease in cultivated area of crops and current gross margin of this Township in compare with current model. So that the greatest reduction in cultivated area, respectively with 40 and 30 percent are related to irrigated barley and Rainfed soybean. Also, all of these scenarios lead to reduction in gross margin, which will reduce the welfare of the farmers in this area; therefore, it is suggested to take the necessary actions for improving their livelihoods.

JEL Classification: C61, O21

Keywords: Cropping pattern, Fifth development plan, Positive mathematical programming, Consuption of agricultural inputs.

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ABSTRACTS

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