

## **Modeling the livelihood capital of rural households in drought conditions (Case study: South Suburbs, West Islamabad city)**

- Ahmad Hajarian

PhD in Geography and Rural Planning, University of Isfahan, Isfahan, Iran

### **Introduction**

Sustainable livelihood is one of the most important approaches in the field of climate management, especially drought. Sustainable livelihood is defined as the ability of a social unit to upgrade its assets and capacities in the face of pressures over time. The goal of the sustainable livelihood approach is to increase the ability to face change and unpredictable problems, improve justice and increase sustainability by reducing tensions by providing secure networks. Achieving sustainable rural livelihoods is not possible without considering the livelihood capital in rural areas. Given that today, especially in developing societies, the study of household livelihood in terms of rural development is of particular importance, to conduct studies that analyze the livelihoods of rural residents, especially in terms of sustainability and in the face of vulnerable factors such as drought, it is essential. Therefore, the present study was conducted with the aim of measuring the level of livelihood stability of rural households in Hoome Jonobi city in drought conditions in order to understand the sustainability of their livelihood status.

### **Data and Method**

This research is a survey in terms of practical purpose and in terms of how to collect data. The statistical population of the study was the heads of rural households in Selseleh city (N = 2894) that using Krejcie-Morgan table, the statistical sample size of 339 people was calculated. In order to obtain samples in this study, multi-stage sampling method was used. The analytical framework used in this study was a sustainable livelihood framework. Stability radar method was used to calculate the level of stability. The results showed that among the five livelihood capitals, four human, natural, social and financial capitals are in terms of stability in terms of stability and physical capital is in a position of potential stability. The questionnaire was the main research tool whose content validity was approved by experts and professors. In order to evaluate the reliability of the research tool, 30 out-of-sample questionnaires were completed and the alpha-Cronbach value for its different sections was obtained from 0.762 to 0.862.

### **Results and Discussion**

The strength of the relationship between the factor (hidden variable) and the observable variable is shown by factor loading. Factor load is a value between zero and one. If the factor load is less than 0.3, the relationship is considered weak and it is ignored. A factor load between 0.3 and 0.6 is acceptable, and if it is greater than 0.6, it is very desirable. It can be seen that all observed variables had positive and significant regression effect coefficients with their scales and the magnitude of these coefficients is relatively high for all cases, all factor loadings at the 0.01 level. They are meaningful. As can be seen, in this table, the significance level for factor loadings or standard regression coefficients of the four observed variables is not reported. This is due to the fact that these variables are respectively considered as reference variables or representative

variables for four human, physical, social and financial variables, so that these hidden variables are without scale and, in other words, without their root and unit of measurement. be resolved That is why the initial path diagrams on the arrows corresponding to the paths between these observed variables with the corresponding hidden variable are considered as values of 1. The AVE measure represents the average variance shared between each construct with its indicators. In simpler terms, AVE (Average Variance Extracted) is used for convergence validity and shows the high correlation of indicators of one structure compared to the correlation of indicators of other structures. The value of this coefficient varies from zero to one, and values higher than 0.5 are accepted. Convergent validity or average extracted variance (AVE) for the human capital index is 766% , the natural capital index was 0.711, the social capital index was 0.799 and the financial capital index was 0.526. Also, the value of the structural reliability coefficient or composite reliability (CR) is variable from zero to one, and values higher than 0.7 are accepted. , which for the human capital index is 755% , the natural capital index was 0.737, the social capital index was 0.802, and the financial capital index was 0.514, which shows the appropriateness of these subscales.

## Conclusion

In order to analyze a sustainable livelihood in a geographical area, we need to examine the livelihood resources available to the residents of the settlements in that area. The present study was conducted with the aim of modeling the livelihood capital of rural households in drought conditions in the rural areas of the southern suburbs and reached the following results. The stability of livelihood capitals of rural households in the study area showed that human capital explains 0.64% of the variance. Also, for natural capitals with a score of 0.45, social capitals with a sustainability score of 0.23 and finally financial capitals with a score of 0.37, this shows the intensity of the relationship between the variable of livelihood capitals and the following It has its own indicators.

## Key Words:

Living capital

drought

structural equations

southern suburbs

## References:

- اسدالهی، محمد، 1395، راهبردهای معیشتی خانوارهای روستایی شهرستان الشتر هنگام خشکسالی، پایان‌نامه کارشناسی ارشد، دانشکده کشاورزی، دانشگاه رازی کرمانشاه.
- اسدالهی، محمد، آگهی، حسین و اطهری، زهرا، 1397، بررسی عوامل تاثیرگذار بر مقاومت خانوارهای روستایی شهرستان الشتر در هنگام خشکسالی با استفاده از چارچوب معیشت پایدار، فصلنامه راهبردهای توسعه روستایی، سال 5، شماره 3، صص 397-406.
- اصغری سراسکانرود، صالح، 1395، تبیین معیشت پایدار در مواجهه با خشکسالی (مطالعه موردی روستاهای بخش مرکزی شهرستان هشترود)، رساله دکتری، دانشکده علوم جغرافیایی، دانشگاه خوارزمی

- بریمانی، فرامرز، راستی، هادی، رئیسی، اسلام و محمدزاده، مسعود، 1395، تحلیل عوامل جغرافیایی مؤثر بر معیشت خانوار در سکونتگاه‌های روستایی مورد شناسی: شهرستان قصرقند، مجله جغرافیا و آمایش شهری- منطقه‌ای، دوره 6، شماره 18، صص 85-96.
- جمعیپور، محمود و کیومرث، نرجس، 1391، بررسی اثرات گردشگری بر داری‌ها و فعالیت‌های معیشتی مردم در چارچوب معیشت پایدار گردشگری (مطالعه موردی روستای زیارت)، مطالعات مدیریت گردشگری، سال هفتم، شماره 17، صص 87-119.
- خالقی، سعیده، بزازان، فاطمه و مدنی، شیما، 1394، اثر تغییر اقلیم بر تولید بخش کشاورزی و بر اقتصاد ایران (رویکرد ماتریس حسابداری اجتماعی)، پژوهش‌های اقتصاد کشاورزی، دوره 7، شماره 25، صص 113-135.
- رحیمی، زینب و کریمی دهکردی، مهدی، 1399، ارزیابی دینامیک وضعیت معیشت جوامع روستایی با استفاده از رهیافت SLF و بهره‌مندی از الگوی CIPP مطالعه موردی روستاهای شهرستان دره‌شهر، (نشریه توسعه محلی، سال 12، شماره 1، صص 271-303).
- سجاسی قیداری، حمداله، صادقلو، طاهره و شکوری فرد، اسماعیل، 1395، سنجش سطح داری‌های معیشت در مناطق روستایی با رویکرد معیشت پایدار (مطالعه‌ی موردی: روستاهای شهرستان تایباد)، مجله پژوهش و برنامه‌ریزی روستایی، دوره 5، شماره 1، صص 197-216.
- سواری، مسلم و شوکتی آملانی، محمد، 1398، شناسایی راهکارهای سازگاری کشاورزان کوچک مقیاس در مقابله با خشکسالی در استان آذربایجان غربی، فصلنامه برنامه‌ریزی فضایی، سال 9، شماره 4، صص 141-166.
- شریفی، زینب، نوری‌پور، مهدی و شریف‌زاده، مریم، 1396، تحلیل آسیب‌پذیری خانوارهای روستایی بخش مرکزی شهرستان دنا (کاربرد چارچوب معیشت پایدار)، نشریه تحلیلی فضایی مخاطرات محیطی، سال چهارم، شماره 2: 19-36.
- شهرکی، محبوبه، 1393، بررسی جایگاه کشاورزی چندکارکردی در معیشت پایدار روستایی (مطالعه‌ی موردی آیزی پروان شهرستان زاهدان)، پایان‌نامه کارشناسی ارشد، دانشکده کشاورزی، دانشگاه یاسوج.
- صادق‌زاده، مینا، الهیاری، محمد صادق و انصاری، محمد حسین، 1393، تحلیل سطوح داری‌های پایدار نظام شالیکاری شهرستان رشت، مجله راهبردهای توسعه روستایی، دوره 1، شماره 2، صص 85-97.
- عبدالله‌زاده، غلامحسین، صالحی، خدیجه، شریف‌زاده، محمد شریف و خواجه شاهکوهی، علیرضا، 1394، بررسی تأثیر گردشگری بر معیشت پایدار روستایی در استان گلستان، مجله برنامه‌ریزی و توسعه گردشگری، دوره 4، شماره 15، صص 148-169.
- نوروزی، مرضیه و حیاتی، داریوش، 1394، سازه‌های مؤثر بر معیشت پایدار روستایی از دیدگاه کشاورزان استان کرمانشاه، مجله علوم ترویج و آموزش کشاورزی ایران، دوره 11، شماره 1، صص 144-127.
- هوشمندان مقدم فرد، زهرا، 1399، ادراک و رفتار سازگاری کشاورزان در ارتباط با تغییرات اقلیمی و ارایه الگویی برای آموزش و توانمندسازی آنها در استان زنجان، رساله دکتری، دانشکده کشاورزی، دانشگاه زنجان.
- ودادی، الهام، 1390، تحلیل آسیب‌پذیری کشاورزان سیزی و صیفی‌کار با استفاده از چارچوب معیشت‌های روستایی پایدار (مطالعه‌ی موردی شهرستان اسدآباد)، پایان‌نامه کارشناسی ارشد، دانشکده کشاورزی، دانشگاه زنجان.
- ویسی فرزاد؛ نیکخواه چنور. (1397). واکاوی نقش گردشگری در معیشت و پایداری معیشت خانوارهای روستایی، جغرافیا و برنامه‌ریزی، 22(66): 329-348.

- Abdullah Zadeh, Gholam Hossein, Salehi, Khadijeh, Sharifzadeh, Mohammad Sharif and Khajeh Shahkoochi, Alireza, 2015, Investigating the effect of tourism on sustainable livelihood A village in Golestan province. Journal of Tourism Planning and Development, Fourth Year, No 15, PP. 148-169.
- Asadolahi, Mohammad, 2016, Rural Households Livelihood Strategies in Drought Prone Area case study of Aleshtar city, MSc, Faculty of Agriculture, Razi University, Kermanshah.
- Asadolahi, Mohammad, Agahi, Hossein and Athari, Zahra, 2018, Investigating the Factors Affecting the Resistance of Alshart Village Households in Drought by Using the Sustainable Livelihood Framework, Rural Development Strategies, Fifth year, No3, PP. 397-406.

- Asghari Saraskanroud, Saleh, 2016, Explanation of Sustainable Livelihoods in the face of Drought (Case study rural settlements in the central district of Hashtrud county). PhD Thesis, Faculty of Geographical Science, Kharazmi University.
- Berchoux, Tristan. Watmoughb, Gary. R. Huttonc, C.W. and Atkinsond, Peter. M. 2019, Agricultural shocks and drivers of livelihood precariousness across Indian rural communities. *Landscape and Urban Planning*.189 :307-319.
- Berimani, Faramarz, Rasti, Hadi, Raisi, Islam, and Mohammadzadeh, Massoud, 2016, Analysis of geographical factors affecting household livelihood in rural settlements Case study: Qasr Ghand city, *Journal of Geography and Urban-Regional Planning*, sixth year, No18, PP. 85-96.
- Bhandari, Prem, B, 2013, Rural livelihood change Household capital, community resources and livelihood transition. *Journal of Rural Studies*, 32, 126-136.
- Fang, Yi. Fan, Jie. Shen, Mao and Song, Meng qiang, 2014, Sensitivity of livelihood strategy to livelihood capital in mountainareas: Empirical analysis based on different settlements in the upperreaches of the Minjiang River, China. *Ecological Indicators*, 38, 225-235.
- Hooshmandan Moghaddam Fard, Zahra, 2020, Perception and Adaptation Behavior of Farmers Regarding Climate Change and Designing a Model to their Empowerment and Education in Zanjan Province, PhD Thesis, Faculty of Agriculture, University of Zanjan.
- Hua, Xiaobo, Yan, Jianzhong and Zhang, Yili, 2017, Evaluating the role of livelihood assets in suitable livelihood strategies: Protocol for anti-poverty policy in the Eastern Tibetan Plateau, China. *Ecological Indicators*, 78, 62-74.
- Jome Poor, Mahmood and Kioomars, Narjis, 2012, Effects of tourism assets and activities on the livelihoods of people living within tourism: A case study of Ziarat village. *Journal of Tourism Management Studies*, Seventh year, No 17, PP.87-119.
- Khalegi, Saeedeh, Bazazan Fatemeh and Madani, Shima, 2015, The Effects of Climate Change on Agricultural Production and Iranian Economy. *Agricultural Economics Research*, Seventh year, No 25, PP. 113-135.
- Mariano, D. A. Dos Santos, C. A. C. Wardlow, B. D. Anderson, M. Schiltmeyer, A. V. Tadesse, T. and Svoboda, M. D, 2018, Use of remote sensing indicators to assess effects of drought and human-induced land degradation on ecosystem health in Northeastern Brazil, *Remote Sensing of Environment*, 213 1): 129-143.
- Mohammed, Alnail, Li, Jianhua, Elaru Joshua. Elbashier, Mohammed. M. A. Keesstra, Saskia. Artemi, Cerda. Martin, Kabenge. Reuben, Makomere. and Teffera, Zebe. 2018, Assessing drought vulnerability and adaptation among farmers in Gadaref region, Eastern Sudan, *Land Use Policy*, Volume 70, January 2018, Pages 402-413.
- Mukherjee, Mishra, Ashok and Trenberth, Kevin E, 2018, Climate Change and Drought: Perspective on Drought Indices, *Current Climate Change Reports*, 4(2): 145-163.
- Nikuze, Alice. Sliuzas, Richard. Flacke, Johnnes. Maarseveen, M.F.A.M. 2019, Livelihood impacts of displacement and resettlement on informal households. A case study from Kigali, Rwanda. *Habitat International*. Institute of Geographic Sciences and Natural Resources Research, Chinese Academy of Sciences, Beijing. 86 :38-47.
- Nowruzzi, Marzieh, and Hayati, Dariush, 2015, Structures affecting sustainable rural livelihood from the perspective of farmers in Kermanshah province. *Iranian Journal of Agricultural Extension and Education*, Eleventh year, No 1,PP. 127-144.

- Pei, Wei. Fu, Qiang, Liu, Dong, Tian, Xiao Li and Kun, Cheng, 2016, Assessing agricultural drought vulnerability in the Sanjiang Plain based on an improved projection pursuit model, *Natural Hazards*, Volume 82, Issue 1, pp 683–701.
- Rahimi, Zainab, and karami dehkordi, Mehdi, 2020, Dynamics Assessment of Living Conditions in rural Communities, Using the SLF Approach and Benefiting from the CIPP pattern (Case Study: Darrehshahr County), *Journal of Community Development*, Twelfth year, No 1, PP. 271-303.
- Sadeghzadeh, Mina. AlHayari Mohamad sadegh and Ansari, Mohammad hossein, 2014, Analysis of levels of stability assets of paddy system in Rasht city, *Journal of Rural Development Strategies*, first year, No 2, PP. 85-97.
- Sajasi Gheidari, Hamdaleh, Sadeghloo, Tahereh, and Shakoori Fard, Ismail, 2016, Measuring the level of livelihood assets in rural areas with an approach Sustainable Livelihood (Case Study: Villages of Taybad County). *Journal of Rural Research and Planning*, Fifth year, No 1, PP. 197-216.
- Savari, Muslim, and Shokati Amghani, Mohammad, 2019, Identifying Adaptation Strategies for Small-scale farmers in the face of Drought in West Azerbaijan province, *Scientific Quarterly of Geographical Planning*, Ninth year, No 4, 141-166.
- Shahraki, Mahboubeh, 2014, Investigating the position of multifunctional agriculture in sustainable rural livelihood: A case study of aquaculture in Zahedan, M.Sc. Thesis, Yasouj University.
- Sharafi, Zeynab, Nooripour, Mehdi and Sharifzadeh, Maryam, 2017, Assessing Livelihood Capitals and their Sustainability in Rural Households (the Case of the Central District of Dena County), *Journal of Iran Agricultural Extension and Education*, Thirteen years, No 2, PP. 50-70.
- Vadadi, Elham, 2011, Vulnerability analysis of vegetable and summer farmers using the framework of sustainable rural livelihoods: A case study of Asadabad city, MSc, Faculty of Agriculture, Zanzan University.