

Analysis and evaluation the sustainability of agricultural system (Case study: rural areas of central district of Minoudasht County)

Boshagh. Mohammadreza¹

Ph.D Candidate in Geography and Rural Planning, Isfahan University, Isfahan, Iran

Taghdisi. Ahmad

Assistant Prof. Geography and Rural Planning, Isfahan University, Isfahan, Iran

Toosi. Ramazan

M.A Candidate in Geography and Rural Planning, Isfahan University, Isfahan, Iran

Received 15 December 2012

Accepted 2 January 2013

1. INTRODUCTION

Sustainable and continuous development of each country is depended to Sustainable of agricultural system. As food security, environmental security, improved economic status and overall survival and the life of the country will be possible to achieve a sustainable agriculture. Assess the sustainability of agriculture in rural areas as the focus of a significant share of the farmer population and the threats facing the sustainable development of agriculture, to be realistic plan for improving agricultural sustainability in action. In this regard rural areas of central district of Minoudasht township that has regions such as climatic and geographical conditions and farming as the main source of income and employment opportunities, appropriate development in rural regions is provided. So to achieve a sustainable agricultural system is one of the policies of the most important the countries agricultural sector. The sustainability of agricultural system has depends so many factors. Consideration and recognition these factors can play an important role in the formulation of policies and strategies for sustainable agriculture. Agriculture is one of the main economic sector which contributes 25% to GNP and 30% to employment in Iran. Food and fiber production constitutes as one of the national planning agenda, particularly as far as the food security and food self-sufficiency is concerned. This is crucial since the world population experiences an incremental trend on one hand, and limited soil and water resources on the other have attracted the attention of the decision makers on the importance of resource planning and management. Hence the aim of this study is identification and assessment the factors effective in the sustainability of agricultural system that in a case study have been in rural areas of Minudashat.

* Email: M.r.boshagh@gmail.com

Corresponding Author: 00989377847706

2. THEORETICAL BASES

Generally, all single definition of sustainable agriculture that is accepted is very difficult. Agricultural policies in sustainable agriculture and natural resources to produce the maximum sustainable production in the short term and long-term continued to be pushed. Land of the Brandt report, entitled "Our Common Future" in 1987 and its culmination in 1992 in Rio de Janeiro will provide different definitions of sustainability and sustainable agriculture. Some experts and others looked on from the vision of sustainable ecological agriculture, ecological aspects of the term assurance beyond mere knowledge and its receptor in the areas of ethics, sustainable development, sustainable rural communities and institutions as well. Thus, sustainable agriculture to balance economic, ecological and rural cultures together is emphasized.

3. DISCUSSION

Determining and assessing the sustainability of through a collection of variables are usually faced with two problems: A) Dependence between selected variables B) Not determined of significance of the coefficient (weight) each index. Because of two problems, were used the analysis method of the principal components which the most common method is in factorial analysis and the aim of solving the problem of interdependence a collection of variables and summarization some of the main components (Factor). Factor is a new variable which is cause to determine the dimensions infrastructural of this study after this stage the research; reduction of volume the indices introduced, extraction and identification of the factors of main compound and nomination and data preparation, in the second phase of the study, cluster analysis method was used. This method allows the researcher that based on the equal between the cases or subjects in the study, them to appropriately classified, and then it will explained.

4. CONCLUSION

The results obtained from statistical analysis in SPSS software shows that five factors infrastructural support services, sustainable agronomical operations-orientation, social-participation, ecological and economical are able which more than 58% of the variance can explain the sustainability of agricultural system that infrastructural support services factor the most important role for about 22 percent is allocated. Assessment of the farmers in terms of enjoyment and sustainability of agricultural system in the region also show that 16 percent of farmers have been in very unstable group, 35.5 percent in unstable group, 26 percent in somewhat stable .16.5 percent in stable group and 6 percent in totally stable group.

5. SUGGESTIONS

-Attention and the emphasis on service development and village facilities and the widespread support of rural community and adopting of the policies to improve the quality of life in rural areas.

- Expand and enhance of promotional & training programs in the quantitative and qualitative dimensions and use of communication channels and informing to the farmers about the use of the methods of sustainable agronomical operations.

-The more expansion of cooperative and collaborative activities between farmers and to attract their actual participation.

-Integration of agricultural lands to improve agricultural mechanization and improving the management of rural resources and agricultural especially water resources management as an asset and vital input.

-According to the economic factor and profitability in sustainability of agricultural system.

Key words: Factors, sustainability, agricultural system, rural areas, central district of Minudashat County.

References (In Persian)

- 1- Arabiun, A.; Kalantari, K.; Asadi, A. & Shaaban Ali Fami, H., (2009). *"To assess sustainability system of wheat farming in Fars Province and determination of effective factors"*, Magazine of Agricultural Promoting and Training Science of Iran, No.3, Pp 17-28.
- 2- Golestan Governor, (2007). *"Golestan Province Statistical Yearbook"*.
- 3- Hafeznia, M. R., (2008). *"Introduction to research in the humanities"*, Fourteenth Edition, Tehran: SAMT Press.
- 4- Hassan Shahi, H.; Irvani, H. & Kalantari, Kh., (2009). *"To assess the sustainability of the agricultural production cooperatives covered Wheat farmers in Fars province"*, Iranian Journal of Agricultural and Development Economics Research, No. 2, Pp. 135-143.
- 5- Hatfield, J. L., & Karl, D. L., (1997). *"Sustainable agricultural system, translates a small change"*, Translated by M.Husseini & H.R. Khazaei, Mashhad: Mashhad University Jihad Press.
- 6- Hayati, D. & Karami, E., (1996). *"Compiling an index to measure the sustainability of farming systems research in the socio – economic"*, Proceedings of the First Conference of Iranian Agricultural Economics (Vol. 2), University of Sistan and Baluchistan, Pp. 634-649.
- 7- Hayati, D., & Karami, E. (1999). *"Effective structure on knowledge of agricultural sustainability and sustainable cropping systems, (a case of study: wheat farmers of Fars Province)"*, Journal of Agricultural Science and Natural Resources, Vol. 3, No. 2, Pp. 21-33.

8- Irvani, H., & DarbanAstaneh, A., (2004). *"Measurement, analysis & explain the sustainability of operational units (a case of study: Wheat farmers of Tehran Province)"*, magazine of Iran Agricultural Science, Vol.35, No.1, Pp. 39-52.

9- Kalantari, K., (2010). *"Processing and analyzing in social-economic research"*, fourth edition, Tehran: Farhang Saba Publication.

10- Kalantari, K.; Asadi, A., & Choobchyan, S., (2009). *"The formulation and validation of indicators of sustainable development in rural areas"*, Urban and Regional Studies and Research Quarterly, No. 2, Pp. 69-86.

11-Motie Langeroudi, S. H., & Shamsaii, E., (2007). *"Continuity and sustainability of agriculture-based rural development"*, Journal of Geographic Research, Twenty-Second Year, No. 2, Pp. 85-104.

12-Najafi, G., & Zahedi, S., (2005). *"The sustainability of agriculture in Iran"*, Iranian Journal of Sociology, No. 2, Pp. 73-106.

13-Ommami, A. R., & Chizari, M., (2006). *"Determination of Economical Social and Agricultural Particulars of Ahvaz, Dezful & Behbahan County wheat farmers, due to the low input sustainable agricultural techniques(LISA)"*, Agricultural Science & Natural Resources Journal, No.1, Pp. 107-119.

14-Rezaei Moghaddam, C., & Karami, E., (2006). *"Agricultural Extension, Poverty and Sustainable Agriculture: Application of path analysis (Path Analysis)"*, Iran's Agricultural Extension and Education Science Quarterly, Vol. 2, No. 1, Pp. 55-72.

15-Taghdisi, A., & Bosshaq, M. R., (2010), *"Challenge of agriculture and their impact on the rural population with emphasis on changes in cultivation (Case study: Silakhor, east village- Azna County)"*, Rural Research Quarterly, No. 2, Pp. 137-161.

References (In English)

16-Along, J., Martin, R., (1995). *"Assessment of the adoption of sustainable Agriculture Practices: Implications for Agricultural Education"*, Journal of Agricultural Education, 36, 34-40.

17-Bosshaq, M.R.; Afzalnia, F. & Moradi, H., (2012). *"Measuring indicators and determining factors affecting sustainable agricultural development in rural areas- A case study of Ravansar, Iran"*, International Journal of AgriScience, Vol. 2, No. 6, Pp. 550-557.

18-Cirella, G.T., & Tao, L., (2010). *"The index of sustainable functionality: an application for measuring sustainability"*, International Journal of Human and Social Sciences, No. 5, Pp.279-285.

19-D' Silva, J. L.; Abu Samah, B.; Uli, J., & Hayrol Azril. M. S., (2011) *"Acceptance of Sustainable Agricultural Practices: The Case of Crop Farmers"*, American Journal of Agricultural and Biological Sciences, No. 6, Pp. 227- 230.

20-De Koeijer, T.J.; Wossink, G.A.A.; Struik, P.C., & Renkema, J. A., (2002). *"Measuring agricultural sustainability in terms of efficiency: the case of Dutch sugar beet growers"*, Journal of Environmental Management, No. 66, Pp. 9- 17.

- 21-Gomez-Limon, J. A., & Riesgo, L., (2009). *"Alternative approaches to the construction of a composite indicator of agricultural sustainability: An application to irrigated agriculture in the Duero basin in Spain"*, Journal of Environmental Management, No. 90, Pp. 3345- 3362.
- 22-Herzog, F., & Gotsch, N., (1998). *"Assessing the Sustainability of Smallholder Tree Crop Production in the Tropics: A Methodological Outline"*, Journal of Sustainable Agriculture. No. 11, Pp. 13-37.
- 23-Hua-jiao, Q.; Wan-bin, Z.; Hai-bin, W., & Xu, C., (2007). *"Analysis and Design of Agricultural Sustainability Indicators System"*, Agricultural Sciences in China, No. 6, Pp. 475-486.
- 24-Karami, E. (1995). *"Agricultural Extension: The question of sustainable development in Iran"*, Journal of Sustainable Agriculture, No. 5, Pp. 61–72.
- 25-Karami, E., & Mansoorabadi, A., (2008). *"Sustainable agricultural attitudes and behaviors: a gender analysis of Iranian farmers, Journal of Environment"*, Development and Sustainability, No.10, Pp.883-898.
- 26-Mahdavi Damghani, A.; Koocheki, A.; Rezvani Moghaddam, P., & Nassiri Mahallati, M., (2006). *"Studying the Sustainability of a Wheat-cotton Agroecosystem in Iran"*, Asian Journal of Plant Sciences, No. 5, Pp.559-562.
- 27-Muller, S. (1998). *"Evaluating the Sustainability of Agriculture, the Case of the Reventado River Watershed"*, Costa Rica. TÖB Publication No.: TÖB F-V/5e.
- 28-Newman, P., & Rowe, M., (2003). *"Hope for the Future: the Western Australian State Sustainability Strategy"*, Western Australian Government, Perth: Dept. of the premier and cabinet, Australia.
- 29-Ommani, A. R.; Chizari, M.; Salmanzadeh, C., & Farj Allah Hossaini, J., (2009). *"Predicting Adoption Behavior of Farmers Regarding On-Farm Sustainable Water Resources Management (SWRM): Comparison of Models"*. Journal of Sustainable Agriculture, No. 33, Pp. 595-616.
- 30-Praneetvatakul, S.; Janekarnkij, P.; Potchanasin, C., & Prayoonwong, K., (2001). *"Assessing the sustainability of agriculture, A case of Mae Chaem Catchment, northern Thailand"*, Journal of Environment International, No. 27, Pp.103-109.
- 31-Sadati, S.A.; Shaabanali Fami, H.; Asadi, A., & Sadati, S.A., (2010). *"Farmer's Attitude on Sustainable Agriculture and its Determinants: A Case Study in Behbahan County of Iran"*, Research Journal of Applied Sciences, Engineering and Technology, No. 2, Pp.422- 427.
- 32-Salamon, S.; Fransworth, L.R.; Bullock, G.D., & Yusuf, R., (1997). *"Family factors affecting on adoption of sustainable farming system"*. Journal of soil and water conservation. No. 52, Pp.265-271.
- 33-Saltiel, j.; Bauder, W.J., & Palakovich, S., (1994), *"Adoption of Sustainable Agricultural Practices: Diffusion, Farm Structure and Profitability"*, Journal of Rural Sociology, No. 59, Pp.333-349.

34-Sharghi, T.; Sedighi, H., & Roknoddin Eftekhari, A., (2010). *"Effective Factors in Achieving Sustainable Agriculture"*, American Journal of Agricultural and Biological Sciences, No. 5, Pp. 235-241.

35-Siwar, C.; Mahmudul Alam, M.; Wahid Murad, M., & Al-Amin, A. G., (2009). *"A Review of the Linkages between Climate Change, Agricultural Sustainability and Poverty in Malaysia"*, International Review of Business Research Papers, No. 5, Pp. 309- 321.

36-Tatlidil, F.F.; Boz, I., & Tatlidil, H., (2009). *"Farmers' perception of sustainable agriculture and its determinants: A case study in Kahramanmaras province of Turkey"*, Environ. Dev. Sustain, No.11, Pp.1091-1106.

37-Taylor, j., (2002). *"Sustainable Development a Dubious Solution in Search of a Problem"*, Policy analysis, pp. 1-49.

Archive of SID