Site Selection of Local Marketing Cooperatives of Agricultural Crops in West Azerbaijan Province, Iran

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Abstract

Undoubtedly one of the necessities of today's world is the competition with other countries to achieve a balanced position, yet superior in many aspects of economic, social, political and cultural aspects. Based on the statistics, 31.54 percent of the Iran total population lives in rural areas where agriculture is the main source of their income. One of the major problems of agricultural economy in Iran refers to many brokers and intermediaries in the transfer of goods from the producer to the consumer. This reduces the producer's share of the proceeds from the sale of products. Agricultural marketing cooperatives are very important tools to decrease this gap. So in this research have been tried to know and recognize the best places in creating Local Marketing Cooperatives of Agricultural Crops in West Azerbaijan Province, Iran.in this regard, 18 place information layers have been used and finally the best places were known.

Keywords: local marketing, cooperatives, agricultural crops, West Azerbaijan, Iran

1. Introduction

West Azerbaijan province produces about 30 percent of total apple production in Iran and is allocated to the first position (Statistical Yearbook of Agriculture, 2004). However, despite of having 7 frontier areas and 9 active customs, the main market is affected by the brokers and intermediaries. Based on available statistics, west Azerbaijan with about13 million dollars exports has the 4th rank of agricultural exporters in Iran. Approximately 16 million dollars of agricultural commodities produced in the West Azerbaijan province have not been exported from formal customs and areas in fact only 42 percent of agricultural export commodity has been exported from the customs Province (Iran exporting Workgroup, 2011). Jalalzadeh (2008), in his research confirmed that more than 60 percent of Apple growers in West Azerbaijan sell their products through intermediaries. According to Najafi (2003), cooperatives by sustaining the farmer income and eliminating the role of intermediaries can help to the rural welfare. The share of marketing cooperatives than total trading in Cyprus and Kuwait were respectively 35 and 80 percent (Alizadeh, 2003). The results of this research can draw an approach for related organizations to design and implement suitable and effective strategies enhancing benefits for both producers and consumers and finally help to sustainable rural and agricultural development.

2. Literature Review

2.1 Agricultural Marketing

The new concept of marketing was considered since 1960 and the focus shifted from the product to the customer In the past, persuade the potential customers to purchase the product was the Instrument to achieve greater profitability, but in new Paradigm, all elements of the marketing mix (4P) are constituted the instruments to achieve this goal. These elements are: product, price, persuade, channel and location of distribution (Keegan, 2001). Boluriyan Tehrani (2001) believed that the elements of marketing mix are: Product, Place Distribution, Price, Packaging, Public Relations, People, Power and Promotion. Agricultural marketing is a form of marketing that encompasses all goods and services related to the field of agriculture. All these products directly or indirectly support the effort to produce and deliver agricultural products from the farm to the consumer (wiseGEEK, 2013). Sedaghat (2000), in his research about the problems of pistachio marketing recognized that the pistachio marketing is ineffective. Ashrafi et al. (2005) revealed that the share of intermediaries is very high

in agricultural trades while Mehdipour et al. (2005), emphasizes on high rate of agricultural marketing margin in Iran. Rinarts et al. (2005) and Dong (2007), believed that Lack of effective communication between the producer and the consumer can enhance rate of agricultural marketing margin. Mutual effective relation between the producer and the consumer has mentioned in Mizuno et al. (2008) and B Jama (2008) researches too.

2.2 Agricultural Marketing Cooperatives

Production cooperatives are one of the most efficient elements of agricultural production system whose involve many farmers around the country (Saadi, 2007). If we want to have effective cooperatives, we must participate the member farmers in the affairs (Bazrafshan & hatamshahin, 2010). Agricultural marketing cooperatives are business associations whose principal purpose is to market farm products for producer members (agricultural cooperative service, 1984). Sedaghat (2000) believed that lake of people based organizations and cooperatives are main reasons of pistachio marketing problems. Abbasi (2002), states that cooperatives can help to increase exports. Geravand et al. (2010), in their research showed that the consumers have bought their goods from cooperatives have had more satisfaction rather than the other sectors. B Jama et al. (2008), believed that cooperatives can improve the quality of crops and sustain the supply of goods and its market

2.3 Site Selection

The act or instance of site selection comes after analyzing established factors which are known as selection. Site selection refers to the fact of having been chosen. Also, the term refers to the selected location itself as well as the selected real estate (enterprise and economic development glossary, 2013). Parhizkar (1997) believed that, GIS has a greater ability than other models in site selection. Many researchers used than site section in their studies, Faraji et al. (2009), Heidarzadeh (2003), Farhoudi and Zandi (2005) and Manolidiadis (2002) are some examples than many people that use various methods and models of site selection in their scientific works,

3. Methodology

The study used a survey design for data collection. All farmers of West Azerbaijan province were included in the study. The sample size was determined as equal to 386 people through Cochran formula and the stratified proportionate random sampling method was used to choose the sample and a questionnaire was designed and employed to gather the required data. Cronbach's alpha computed to measure reliability of the questionnaire and its rate was 0.86. Face validity of the instrument was determined by related experts. Data were analyzed using descriptive statistics and GIS analysis.

Site selection

Site election has been done by using than GIS model. In this model, some factors and indicators have been chosen and then these factors are weighted in two steps:

- External weight, which is ranking the factors rather than themselves (Table1)

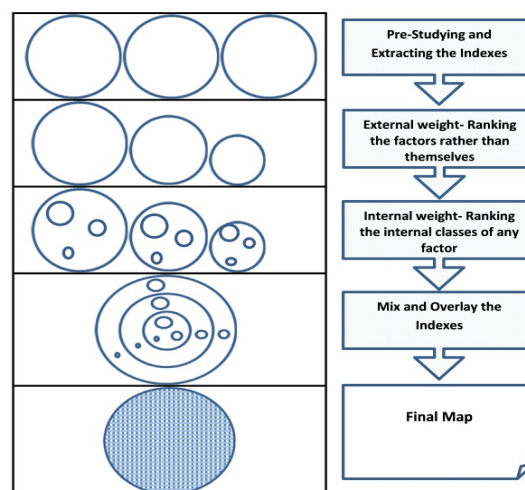- Internal weight, which is ranking the internal classes of any factor (Table2)

Figure 1. Hierarchy model of site selection by GIS

Source: research team.

3.1 Study Area

West Azerbaijan produces about 30 percent of total apple production in Iran and the first place in this regard is allocated to this province. Despite having several customs and markets with possibility of direct deal between producer and customer, major share of agricultural trade is for big intermediaries. Based on statistics, West Azerbaijan with revenue about 13 million dollars (0.59 percent than total of country) from agricultural exports has a very important problem in which only 42 percent of total province exports has done from formal borders and gates and the remaining have been exported from unknown gates (country export workgroup, 2011). Jalalzadeh (2008), believed that about 60 percent of apple farmers in study area use than marketing channels which are under the intermediaries.
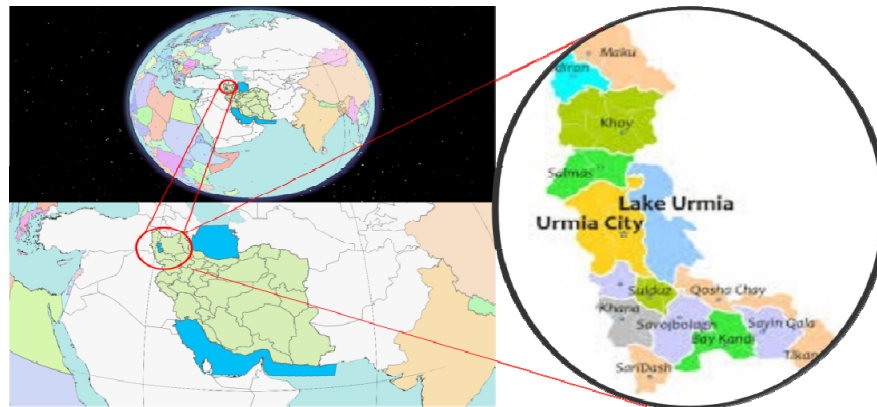

Figure 2. Geographical position of West Azerbaijan

4. Results and Discussion

4.1 Professional and Individual Characteristics of the Apple Farmers

In total, 366 persons (94.8 percent) of the farmers are men and there are merely 20 (5.2 percent) female farmers. The average age of the farmers is 49 years and their average farming experience of the respondents is 24 years. Considering the educational level, most of the farmers (57.5 percent) have reading & writing skill. According to the results of this research, the main job of 292 of the respondents (75.6 percent) is agriculture and the others have non-agricultural as their main jobs and farming is a part-time work for them (Table1).

Table 1. The individual and professional characteristics of the farmers of West Azerbaijan Province, 2013 (n=386)

		Average	Minimum	Maximum	Standard deviation
Age		49	78	23	12.318
Farming experience		24	1	59	14.190
		frequency	percentage	Cumulative percentage	
• Gender	Male	366	94.8	94.8	
	Female	20	5.2	100	
• Educational level	Illiterate	45	11.7	11.7	
	reading & writing skill	222	57.5	69.2	
	Diploma	75	19.4	88.6	
	Post- diploma	44	11.4	100	
• Main job	Agriculture	292	75.6	75.6	
	Non-Agriculture	94	24.4	100	

Source: Research results.

4.2 Site Selection

4.2.1 Pre-Studying and Extracting the Indexes

In this step 18 indexes were selected for selecting the best location to establish the local marketing cooperatives which are: Land use, Distance from main city, Distance from Village, Distance from Rural district, Distance from mine, Distance from center of district, slope, soil, Topography, Distance from main roads, Distance from highways and freeways, Distance from natural Faults, Distance from rivers, Distance from Political borders, Climate class, Distance from the landslide, Distance from protected areas, Soil erosion.

4.2.2 External Weight- Ranking the Factors Rather Than Themselves

According to subject of study, the indexes were weighted from 1, 10, 20 to 170 (Table 2).

4.2.3 Internal Weight, Which Is Ranking the Internal Classes of Any Factor

According to importance of any component, the internal components of each index were weighted (Table 3).

4.2.4 Preparing the Layers of Indexes

In this step, the layers of each index have been prepared (Figure 2).
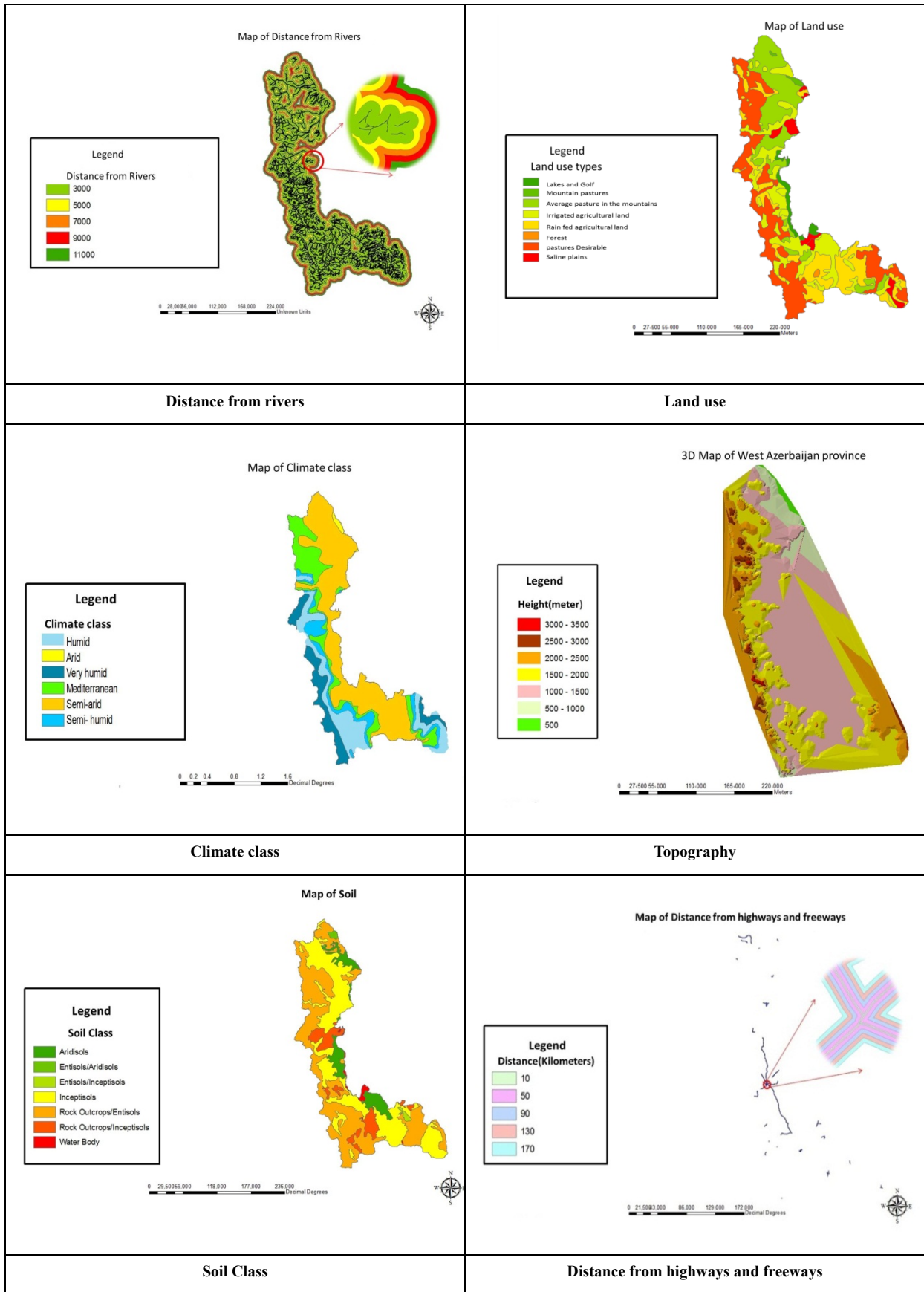
4.2.5 Mix and Overlay the Indexes

The layers prepared in step 4, have been mixed and overlaid and final map of site selection of local marketing cooperatives has been resulted (Figure 3).
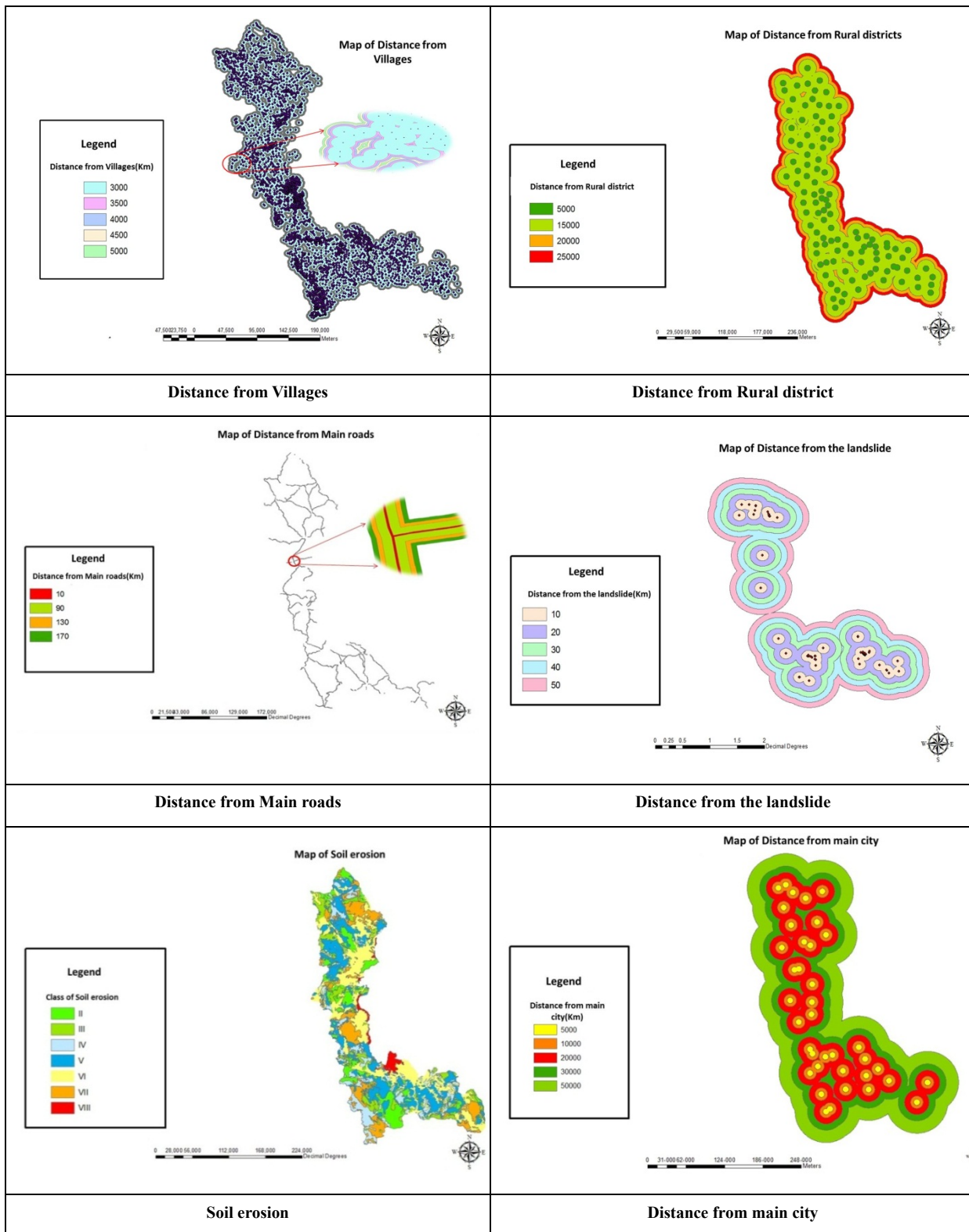
Table 2. External weights of index factors

Index factor	Hierarchy of marketing cooperatives			Factor Index	Hierarchy of marketing cooperatives		
	Local	Central	Mother		Local	Central	Mother
Land use				**Distance from main roads**			
Weight	100	90	120	Weight	120	120	140
Distance from main city				**Distance from highways and freeways**			
Weight	140	170	160	Weight	110	110	110
Distance from Village				**Distance from natural Faults**			
Weight	170	150	50	Weight	1	1	1
Distance from Rural district				**Distance from rivers**			
Weight	160	140	130	Weight	80	70	60
Distance from mine				**Distance from Political borders**			
Weight	40	10	80	Weight	70	60	170
Distance from center of district				**Climate class**			
Weight	130	160	150	Weight	10	30	20
slope				**Distance from the landslide**			
Weight	50	50	30	Weight	60	80	90
soil				**Distance from protected areas**			
Weight	150	130	100	Weight	30	20	10
Topography				**Soil erosion**			
Weight	90	100	70	Weight	20	40	40

Table 3. Internal weights of index factors

Index factor	Internal weight							
	10	20	30	40	50	60	70	80
Land use	Irrigated agricultural land	Rain fed agricultural land	Forest	Pastures Desirable	Mountain pastures	Lakes and Golf	Average pasture in the mountains	Saline plains

Index factor	Internal weight						
	10	20	30	40	50	60	70
Topography	3000–3500m	2500–3000m	500m	2000–2500m	1500–2000m	1000–1500m	500–1000m

Index factor	Internal weight						
	0	10	20	30	40	50	60
soil	Water Body	Inceptisols	Aridisols	Entisols/ Inceptisols	Entisols/ Aridisols	Rock Outcrops/ Inceptisols	Rock Outcrops/ Entisols
Soil erosion	VIII	II	III	VII	VI	V	IV

Index factor	Internal weight					
	10	20	30	40	50	60
Climate class	Arid	Very humid	Humid	Semi- humid	Mediterranean	Semi-arid

Index factor	Internal weight				
	10	20	30	40	50
Distance from main city	50000m	30000m	20000m	10000m	5000m
Distance from Village	5000m	4500m	4000m	3500m	3000m
Distance from rivers	3000m	5000m	7000m	9000m	11000m
Distance from natural Faults	10000m	50000m	90000m	130000m	170000m
Distance from highways and freeways	170000m	130000m	90000m	50000m	10000m
Distance from center of district	30000m	25000m	20000m	15000m	10000m
Distance from the landslide	10000m	20000m	30000m	40000m	50000m
Distance from protected areas	20000m	40000m	60000m	80000m	100000m

Index factor	Internal weight			
	10	20	30	40
Distance from Rural district	25000m	20000m	15000m	5000m
Distance from mine	5000 m	15000 m	20000 m	25000 m
Distance from Political borders	200000m	150000m	100000m	50000m
Distance from main roads	170000m	130000m	90000m	10000m

Index factor	Internal weight		
	30	40	50
slope	More than 8 percent	3 to 8 percent	Less than 3 percent

Distance from rivers

Land use

Climate class

Topography

Soil Class

Distance from highways and freeways

Distance from Villages

Distance from Rural district

Distance from Main roads

Distance from the landslide
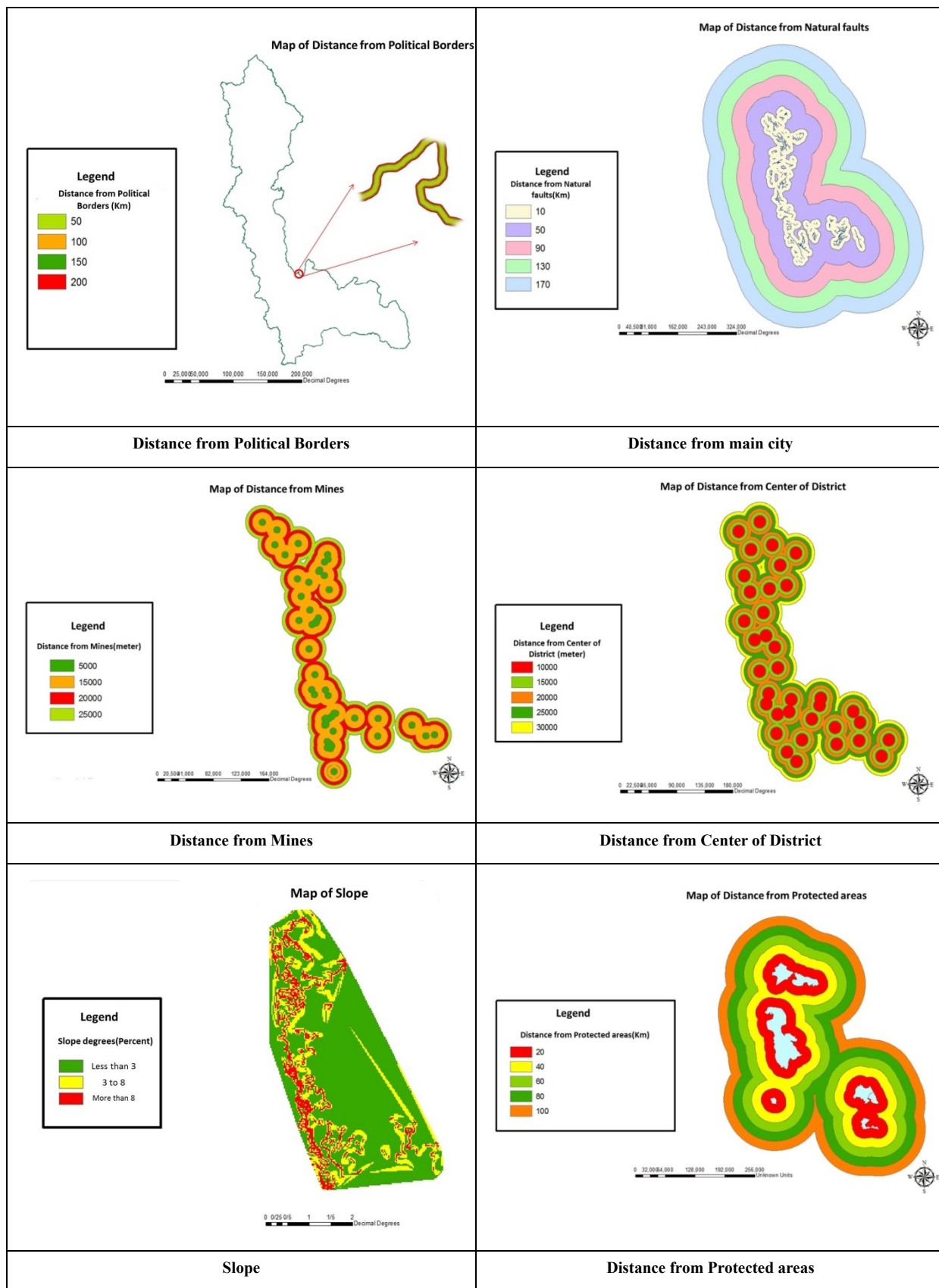

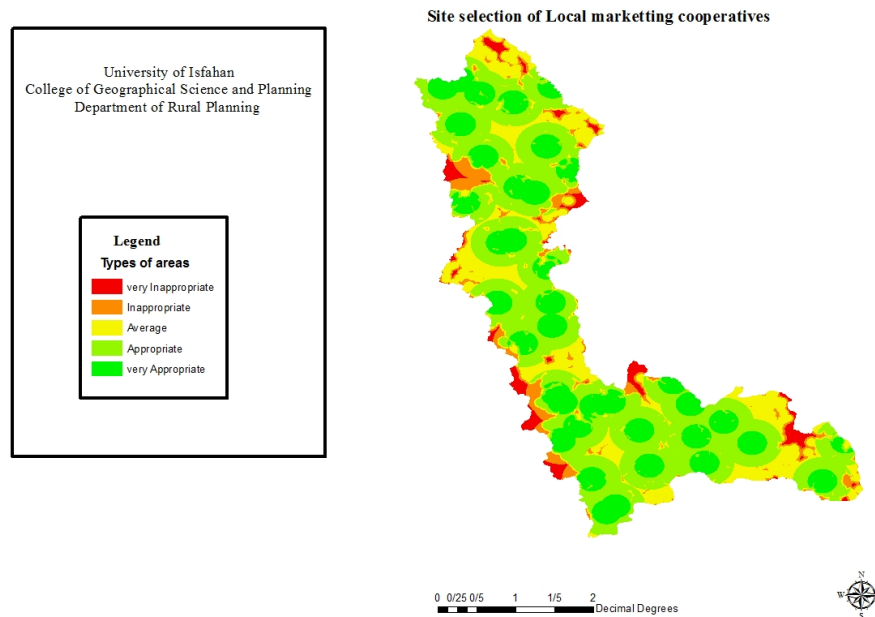**Soil erosion**

Distance from main city

Figure 2. The layers of selected indexes

Figure 3. Final map of site selection of local marketing cooperatives

Based on final results and according to the viewpoints of related experts, West Azerbaijan has been divided to 5 types of area to establish the local marketing cooperatives. Findings of final map (Figure 3) revealed that frequent locations are suitable (appropriate and very appropriate). So by according to another requirement the local marketing cooperatives can establish at the favorable locations where comprehensive conditions have in this regard.

Acknowledgements

References

Abbasi, M. (2002). Cooperative sector, the need for global markets. *Journal of Cooperation*, *133*, 4.

Alizadeh, G. H. (2003). Cooperation, WTO and the need for IT applications in cooperatives. *Journal of Cooperation, 148*, 8–12

Ashrafi, M., Sadrolashrafi, M., & Karbasi, A. (2005). Investigating the marketing margin of grapes and raisins in Iran. *Journal of Commercial Bulletin, 35*, 213–238.

Bazrafshan, J., & Hatam, S. H. (2010). Pathology of Iranian rural cooperatives. *Proceedings of the Fourth International Congress of the Islamic World Geographers.*

Boluriyan, T. M. (2001). *Marketing and market management*. Publication of institute of commercial studies and researches, Tehran, Iran.

Cooperative Service. (1984). *Farmer cooperative statistics*. U S D A., Cooperative Info. Rep. No. 27.

Dong, W., Swain, S., & Berger, P. (2007). The role of channel quality in customer equity management. *Journal of Business Research, 60*. http://dx.doi.org/10.1016/j.jbusres.2007.05.005

Enterprise and economic development glossary. (2013). Retrieved from http://www.sitelocationassistance.com/search/dictionary/s/site_selection.htm

Export workgroup of Iran. (2011). *Monitoring the provincial foreign trade*. Publication of Trade Promotion Organization of Iran, Ministry of Industry, Mine and Trade.

Faraji, H., Karimzadeh, H., Sahneh, B., & Kouhestani, H. (2009). Modelling a siteselection of landfill in rural areas by GIS (Case study: rural areas of bostan abad county). *Journal of geography and planning, 27*,

17–45.

Farhoodi, R., Habibi, K., & Zandi, B. P. (2005). Site selection of Municipal solid waste landfill location by using Fuzzy Logic in GIS desktop (case study: Sanandaj county, Iran). *Journal of Beautiful Arts, 33*.

Geravand, A., Noorayi, M., & Saei, I. (2010). The impact of marketing mix on purchasing decisions and customer satisfaction in production cooperatives of Kouhdasht county. *Journal of Cooperation, 3*, 69–87.

Heidarzadeh, N. (2003). *Criteria of Site selection of Municipal solid waste landfill location*. Publication of organization of Municipalities of the country.

Jalalzadeh, M. (2008). *Investigation and Analyzing the Components of Improvement of Gardens Management in Orumieh County*. Master Thesis in Rural Development, Tehran University, Karaj.

Jama, B., Mohamed, A., Mulatya, J., & Njui, A. (2008). Comparing the "Big Five": A framework for the sustainable management of indigenous fruit trees in the dry lands of East and Central Africa. *Ecological in Dicators, 8*.

Keegan, W. (1936). *Management of global marketing*. Publication of cultural research office, Tehran, Iran.

Manoliadis, O., Baronos, A., & Tsolas, I. (2001). A two level multicreteria DSS for landfall site selection. *Environmental Protection and Ecology,* 45–49.

Mehdipoor, E., Sadrolashrafi, M., & Karbasi, A. (2005). Investigating the Marketing of Potato Product in Iran. *Journal of Agricultural science.*

Mizuno, M., Saji, A., Sumita, U., & Suzuki, H. (2008). Optimal threshold analysis of segmentation methods for identifying target customers. *European Journal of Operational Research.* http://dx.doi.org/10.1016/j.ejor.2007.01.038

Najafi. (2003). *Understanding the status of agricultural marketing in rural cooperatives*. Research project.

Parhizkar, A. (1997). *Offering a suitable model for site selection urban service centers with research about models and urban GIS*. PhD Thesis. Tarbiat modarres University, Tehran.

Reinartz, W., Thomas, J., & Kumar, V. (2005). Balancing acquisition and retention resources to maximize customer profitability. *J Mark, 69*(1). http://dx.doi.org/10.1509/jmkg.69.1.63.55511

Saadi, H. (2007). Pathology of Agricultural production cooperatives. *Journal of Jahad.*

Sedaghat, R. (2000). Economic evaluation of pistachio marketing in Fars province. *Journal of Agricultural economy and Development, 32*, 273–290.

Statistical Center of Iran. (2004). *Annual agricultural yearbook*. Retrieved from http://www.amar.sci.org.ir

WiseGeek. (2013). Retrieved from http://www.wisegeek.com/what-is-agricultural-marketing.htm

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