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Causes of Conflict in Rangelands Exploitation: Evidence from Iran

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ABSTRACT

Rangeland is a common-pool resource that has become a context for conflict among different exploiter groups. Hence, the present study aimed to identify and evaluate the causes of the Rangelands Conflict (RC) in Iran. This study used a mixed analysis (first qualitative then quantitative) in terms of purpose in the field of applied research. The research sampling method was snowball sampling method in the qualitative phase and random stratification with proportional assignment method in the quantitative phase. Thematic analysis and confirmatory factor analysis were used in the qualitative and quantitative phases, respectively. The result of data analysis in the qualitative phase led to the identification of six causes of conflict based on "Society-Culture", "Economy", "Educational-Extension", "Technique-Specialization", "Structure-Legislation", and "Management". The second-order confirmatory factor analysis technique was used in the quantitative phase. The results revealed that the causes of the conflict and their indicators were identified correctly. According to the results, understanding the context of conflicts helps the convergence of views among different stakeholders in achieving the rangelands co-management.

Keywords: Decision-making tool, Common-pool resource, Conflict management, Rangelands co-management.

INTRODUCTION

Nations have long challenged each other over the right to use natural resources, especially rangelands (Adeoye, 2017). This problem is further reflected in the fact that rangeland is a common pool resource (Sun, 2007) and is readily available to everyone. Ostrom *et al*. (1999), citing Alipour and Arefipour (2019), define common resources as resources for which, firstly, it would be costly to exclude stakeholders through physical and institutional means and, secondly, exploitation by one exploiter reduces the resource's availability for others. Hardin (1968) mentions this theorem as a Tragedy of Commons: "individuals who share a common resource will act in their benefit, obtaining worse results than if they acted collaboratively" (Blanco *et al*., 2019). The complex situation of common resources, such as rangeland, will be a platform for competition and conflict between exploiters (Ochola *et al.,* 2010; Adeoye, 2017). This has led to excessive use of rangeland, which leads to its erosion and destruction (Hileman *et al*., 2016).

Competition for scarce resources has always been a major cause of conflict between different groups, particularly in rural areas (Worku and Feyssa, 2016). This creates many problems in interpersonal relationships (Shettima and Tar, 2008), and it is predicted that in the future the conflict over natural resources will be wider with limited resources (Herdiansyah *et al.,* 2014). The same conflict again intensifies the destruction of existing resources in a vicious circle (Wassie, 2020). This is more intense

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in developing countries that are more dependent on natural resources (Worku and Feyssa, 2016). Researchers point out that a set of cultural, social, economic, educational, managerial, and legal values or factors are a context for the occurrence and exacerbation of conflicts (Wilmot and Hocker, 2010; Al Haija, 2011; Jalali, and Abadi., 2018; Cerquetti *et al.,* 2019; Maiti and Choi, 2021). On the other hand, the failure of communities to create appropriate structures (governance) and preventive strategies to prevent conflict provides a suitable environment for these conflicts (Collins, 2019). The consequences of these conflicts can be seen in migration, rapid urbanization, soil degradation, biodiversity reduction, prevention of environmental services, climate change, environmental pollution, and even damage to human health and survival (Jouanjean *et al.* 2014; Wassie, 2020) and, in general, the underdevelopment of rural communities (Ubwa, 2018). Therefore, the importance of studying conflict in the context of planning the use of natural resources is undeniable, because planning is unpredictably about conflict (Almeida *et al.,* 2017). Therefore, it is important to have a general view of the conflict sources in the context in which the conflict arises. Because awareness of the causes of conflict helps its management or resolution (Bijani and Hayati, 2011). Resolving conflicts leads to social stability, improvement of the economic situation, and most importantly, reducing the destruction of rangeland resources in rural communities (Bijani *et al.,* 2020). Although researchers have analyzed the conflict over natural resources exploitation (especially water conflict) from different perspectives (Bijani and Hayati, 2011; Bijani and Hayati, 2015; Bijani *et al.,* 2020; Mohammadinezhad and Ahmadvand, 2020). However, to the best of our knowledge, no comprehensive research has been conducted to investigate the causes of RC in Iran. Hence, for RC reduction or management, the present study seeks to identify and evaluate the causes of conflict among different stakeholders. The mentioned objective is achievable in the following four steps:

1. Identifying primary concepts related to RC
2. Identifying the factor structure and categorizing the RC causes
3. Confirmation and validation of the RC causes
4. Providing practical suggestions for reducing and managing RC.

MATERIALS AND METHODS

Area and Population Studied

This research was conducted in West Azerbaijan Province. This region is located in the northwest of Iran (Figure 1). The rural economy of this province is mostly based on agriculture and animal husbandry (Haji *et al.,* 2019). As 60% of the area of West Azerbaijan Province consists of rangelands (2.653 M ha), which have an important role in the economy and livelihood of rural households and exploiters in the province. However, in recent years, the issue of possession, encroachment, destruction of rangelands, and consequently, social conflicts that have somehow formed a vicious cycle, has attracted the attention of public opinion and the government. Although several programs and measures have been proposed to mitigate this situation, unfortunately, not much has been achieved (West Azerbaijan Agricultural Jihad Organization, 2019). Accordingly, investigating the causes of RC is one of the research priorities in this province. Therefore, the convergence of different stakeholders' perspectives to identify the causes of conflict can play a key role in reducing it, as well as better exploitation and management of rangelands. Given that natural resource experts and local exploiters have a key role in the rangeland exploitation and management, they were considered as the primary stakeholders.

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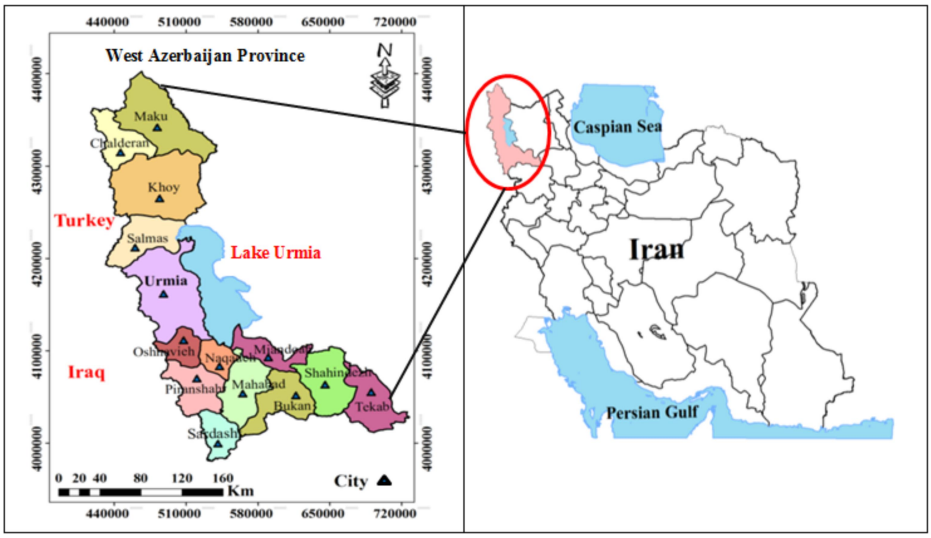

Figure 1. The study area in West Azerbaijan Province, Iran.

Study Design

Due to the fact that there is no single best method for data collection, a mixed methodology relying on the pragmatism perspective was employed in the present study (Clark and Creswell, 2008). The basic principle of mixed methods research is using quantitative and qualitative techniques either concurrently or sequentially, so that it has complementary strengths and dissimilar weaknesses (Johnson and Onwuegbuzie, 2004). The mixed-method equips the researcher with tools that facilitate his work and take into account the broad dimensions of the problem (Lin and Loftis, 2005). It also allows a research question to be examined from different perspectives (Regnault *et al.,* 2018). Hence, it helps to better understand the phenomenon under study (Creswell *et al.,* 2003). In this research, a Sequential Explanatory Design/Approach was used. In this design, first, qualitative data, then, quantitative data are collected and analyzed. Priority is usually given to the qualitative phase, and quantitative data is used to reinforce qualitative data. Data analysis is usually relevant and the combination is done in the interpretation and discussion phase. This design is used when tools are not available, variables are not known, or there is no theory or framework for research. This design is also useful when the researcher develops and tests a new questionnaire (Creswell *et al.,* 2003).

Sampling Size and Procedure

Qualitative Phase of Research

The purpose of the qualitative stage was to answer the question of what are the causes of the Rangeland Conflict (RC). To respond to that, an interpretive approach was needed (to examine the views and social realities). Information in the qualitative section was collected through semi-structured exploratory interviews. However, during the interviews, more questions were asked according to the circumstances and situation of the interview so that the interviewees could provide the researcher with more extensive and in-depth information. The interviews were conducted by both telephone and face-to-face in August 2021. Most of the interviews were transcribed and some of them were also recorded. A set of

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initial and pre-prepared questions were provided to the interviewees who had various experiences and theoretical, practical, and professional contacts with the management, protection, and exploitation of Iranian rangelands. Then, with the necessary coordination, the interviews with the experts continued until "theoretical saturation". The statistical population of this part of the research consisted of 17 key informants or leading villagers (5 persons), specialists, and experts of the Forests, Range and Watersheds Organization (5 persons), Department of Environmental (3 persons), and the Agricultural Jihad Organization (Agricultural Department) (4 persons) who had a general knowledge of the research subject. The key informants were selected by the purposive snowball sampling method. The reason for using this method was the high level of conflict between different stakeholders, as well as the experience that the researcher creates and the lack of previous research on this subject, which led the researcher to use purposeful sampling. The method of determining the sample size in this section is to achieve theoretical saturation. Afterwards, the interviews were converted into textual data and a preliminary analysis was performed. To ensure that the data obtained from the interviews were a correct interpretation of the main perspective of the participants and that the information extracted from the data was appropriate, the work process was resent to informants (Valizadeh *et al.,* 2021). The "Thematic analysis" technique was used to analyze the data in this section. Thematic analysis is a way to identify, analyze, and report patterns in qualitative data. A pattern is a model that is obtained through the conceptual order of data. This method is a process for analyzing textual data that converts scattered and diverse data into rich and detailed data (Braun, and Clarke, 2006).

To confirm the validity of the extracted concepts, the opinions of experts and key informants were used. Also, to calculate the reliability, the coding was done manually by studying the selected sources line by line. After coding, the results were compared with each other according to the following formula, and the Holstie's method was used to calculate the reliability:

$PAO= 2M/(n_1+n_2)$

Where, PAO is the Percentage of Agreement Observed (reliability coefficient), M is the number of agreements in the two coding stages, n_1 is the number of units coded in the first stage (before commenting experts) and n_2 is the number of units coded in the second stage (after commenting experts). PAO varies between 0 (no agreement) to 1 (complete agreement) (Nouri *et al.,* 2019). The answer of the calculation result for the present study showed that the themes had high reliability:

$PAO= 2\times18/(26+21)= 0.76$ Reliability of Conflict Causes

Quantitative Research Phase

The purpose of conducting a quantitative phase of research was to evaluate and determine the importance of the categories of causes of conflict based on the qualitative phase. Therefore, after identifying all the categories of causes of conflict in the exploitation and management of rangelands, a questionnaire with 65 questions were designed based on the Likert scale with a range of 1 to 5 (very low, low, medium, high and very high). After designing the questionnaire, to estimate the validity of the questions, it was presented to a panel of experts and specialists in the research topic. Based on receiving corrective feedback from panel members and modifying the questionnaire, the validity of the questionnaire, coordination of the subject with the questions, usability and appropriateness of the questions were ensured. Then, to estimate the reliability of the research tool, in a pilot study outside the research community (Kurdistan Province), 30 questionnaires were distributed. After collecting the questionnaires, reliability values were obtained using Cronbach's Alpha coefficient for its different parts

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(0.76-0.89). The statistical population of this stage also included local rangeland exploiters of six townships (N= 66,867) in West Azerbaijan Province, Iran. To determine the sample size, Krejcie and Morgan table and random stratification with proportional assignment method were used, which finally estimated the sample size of 363 people. The reason for using this method was the distribution of the exploiting population, the size of the rangelands, and the linguistic differences of the study population. Finally, $SPSS_{26}$ and $LISREL_{8.80}$ software were used for quantitative data analysis. In summary, the process and steps of identifying and evaluating the causes of RC in this study are shown in Figure 2.

RESULTS

Qualitative Phase

Data obtained from interviews with 17 people from different groups of knowledgeable (informant) rural exploiters, natural resource specialists and extension agents, as well as a review of theoretical and experimental sources of research, were analyzed. In the qualitative section, the thematic analysis method was used to analyze the interviews. Thematic analysis was performed in three stages: "Open coding", "Axial coding" and "Selective coding". The goal of open coding was to develop a massive number of codes to describe the data. In the open coding stage, the unit of analysis was line by line or

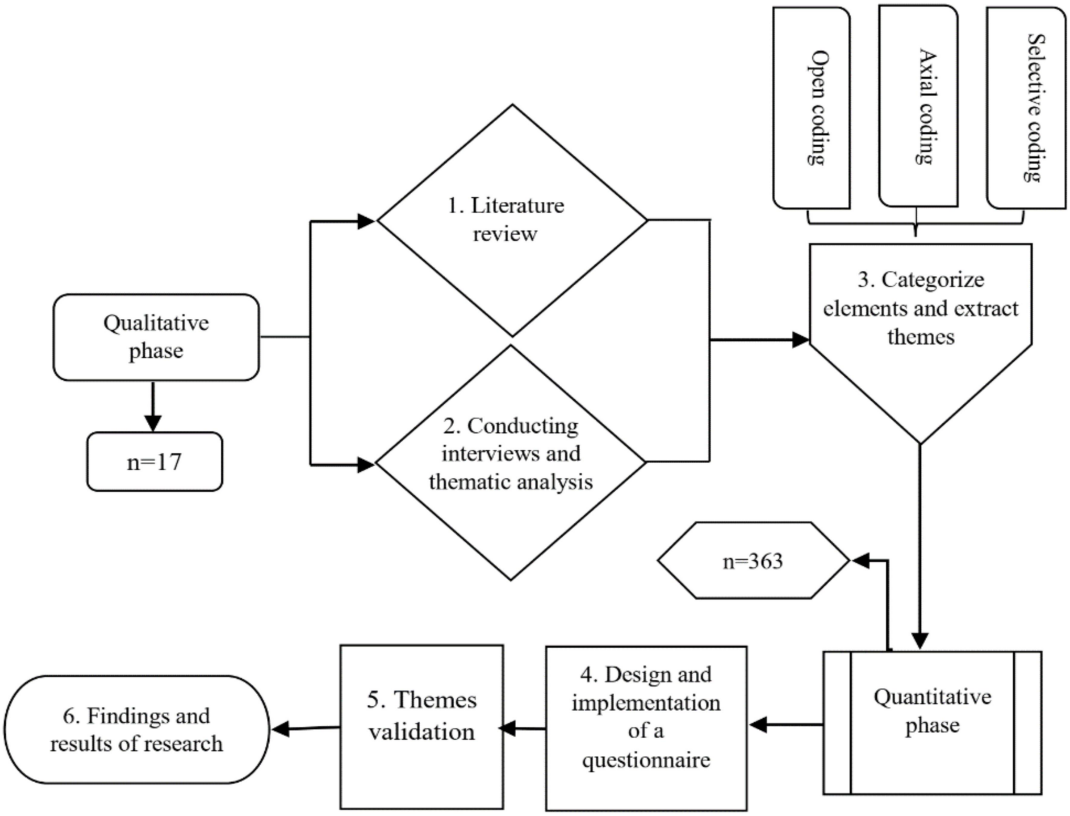

Figure 2. Research implementation framework.

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phrase by phrase. Axial coding was used to examine the relationships between concepts and categories developed in the open coding process. Therefore, in the axial coding stage, the categories and concepts created in the open coding stage were created as an interconnected network. Selective coding has a more abstract level than axial coding and expresses the process of selecting the main category and its relationship with other categories of axial coding. Hence, in the third step, selective coding was used to refine and integrate subcategories to develop a theoretical research design (Vollstedt and Rezat, 2019). In the first stage, 65 concepts, entitled causes of conflict, were extracted from the interviews in open coding. Then, for more coherence of concepts, 26 sub-themes/subcategories of causes were obtained based on the axial coding method. Finally, in the selective coding stage, 6 main themes/categories, as causes of conflict, were identified and extracted (Table 1).

To confirm the validity of the extracted concepts and ensure the relevance of the methods, tools, and techniques used in the present study, the opinions of experts and key informants were used. According to the situation and conditions of the studied community, the concepts and categorizations were given to 4 experts to review the extracted concepts (Willis *et al.,* 2007).

Quantitative Phase

Verifying the Factor Structure

To evaluate the results obtained from the qualitative step of the research and to match the results with the existing texts, a second-order Confirmatory Factor Analysis (CFA) was performed, which showed the summary and classification of the causes of RC. For CFA, Linear Structural Relations (LISREL) software with the Maximum Likelihood Estimation method was used. To begin the CFA, the multivariate and normative nature of the survey data was examined. All kurtosis values were less than the absolute value of 0.5, and the values of squared Mahalanobis Distance (D2) showed the least evidence of outliers that indicated a normal distribution of data (Byrne, 2010). Also, to assess the validity and appropriateness of the conflict causes index, fitness indices were used. The results of the CFA indicated a sufficient fit between the hypothetical model and the experimental data. Detailed information on CFA fit indices is shown in Table 2. According to the results, the higher values of the fit indices indicate the good fit of the model, in other words, the compatibility of the theoretical model with the experimental model.

Figure 3 shows the second-order confirmatory factor analysis model of the causes of conflict with standardized factor loadings. The causes of conflict by 6 factors and 26 indicators are represented. Table 3 shows the standardized factor loading, t values and standardized Gamma coefficient for each indicator of each factor. In this study, 0.3 was set as the standard factor loading, meaning that indices with a factor loading of less than 0.3 should be removed from the model. However, since all factor loading was greater than 0.3, none were eliminated. The obtained factor load in all cases was greater than 0.3, indicating that the correlation between latent and observed variables was acceptable.

Reliability and Validity

After assessing the fit of the model, the reliability and validity of the model were evaluated. Tables 2 and 3 show the reliability and validity results for each of the model factors (latent variables). The reliability of the model was evaluated using Cronbach's Alpha values and Composed Reliability (CR). As the results show, Cronbach's Alpha values for all factors were higher than the recommended threshold of 0.7 and CR values for all factors exceeded the suggested value of 0.7 (Hair *et al*., 2010), indicating adequate compatibility

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Table 1. Thematic analysis: Categorize elements and extract themes of causes of conflict.

Main themes/ Categories	Sub-themes/Sub-categories	Concepts
Society-Culture-based	Perspective gap	Lack of common understanding in the field of rangeland management among different stakeholders
		Different needs and values
		The reluctance of different exploiters to protect rangeland
	Maximum exploitation	The dominance of a worldview based on the maximum exploitation of common-pool resources
		Closed and vulgarity/populist beliefs of the local community of exploiters
	Individualism sovereignty	Lack of institutionalization of participation culture in rangeland management and protection
		Lack of a collectivist view on the exploitation of rangelands by various stakeholders
		Selfishness of people in the exploitation of rangeland
		Lack of negotiation culture among different stakeholders exploiting rangelands
	Demographic change	Foreigners entering the area
		Ethnic dispersal
		Cultural differences of different exploiters
		Increasing the population exploiting rangeland
	Metaphysical	People's ingratitude towards God
		Avoiding from spirituality
	Decreasing the local leaders' influence	Reducing the role of local community leaders among different stakeholders
		Personal disputes among local exploiters
Economy- based	High cost of animal husbandry	Selling the residues of agricultural activities to livestock breeders
		Being expensive and unaffordable of industrial animal husbandry
	Free rangeland resources	Free rangeland services and products for many stakeholders
		Looking at rangeland only from an economic point of view
	Instability of livelihood	Strong dependence on livestock income
		Existence of vulnerable groups in the local community
		Increasing the cost of living
		Low purchasing power towards buying fodder for livestock
	Lack of income diversity	Unemployment of people in other sectors
		Low productivity of agricultural activities
Educational- Extension- based	Lack of proper communication with people	Not inviting different stakeholders to participate in education and extension programs
		Insufficient understanding of the diverse needs and priorities of stakeholders
		Lack of consensus or real convergence in the views of those involved in the implementation of education and extension programs for sustainable rangeland management
		Low quality of educational programs
	Lack of adequate education	Lack of training classes for people with conflicts
		Lack of public access to extension training
	Low literacy of exploiters	Low education of the local community
		Lack of awareness of the conflict consequences and rangelands destruction
		Lack of understanding educational content
		Low literacy or illiteracy of shepherds

Table 1 continued…

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Continue of Table 1. Thematic analysis: Categorize elements and extract themes of causes of conflict.

Technique-Specialization-based	Lack of GIS application and cadastral maps	Lack of using GIS (not using pictures, tables, maps and reports) in some rangelands
		Lack of coding and fencing of rangelands
	Lack of using biotechnologies	Lack of planting plants resistant to drought conditions to preservative and rehabilitate pastures
		No use of breeding animals or progressive husbandry techniques
	Development of civil and agricultural activities	Use of technologies to further destroy pastures
		Civil operations incompatible with rangeland sustainability (such as: urban construction, construction of recreational settlements, road construction, expansion of industrial centers)
	Insufficient technical and scientific skills of environmentalists	Lack of manpower and facilities to control rangeland areas
		Lack of skills and scientific-applied information necessary to manage rangeland areas
		Lack of proper technical equipment for rangeland protection and rehabilitation
Structure-Legislation-based	Lack of transparent rules	Bypassing existing laws by some influential institutions
		The contradiction of existing laws on sustainable exploitation and management of rangelands
		Non-compliance of formal laws on natural resource management with the traditional rights and regulations of indigenous exploiters
	Institutional weakness	Lack of inter-institutional coordination in the field of rangeland management and exploitation
		Procrastination and bureaucracy in handling disputes
	Non-payment of green fines	Lack of strict and rigid laws to prevent the uncontrolled destruction of rangelands
	Insufficient credits	Lack of budget allocation required for the implementation of rangeland management projects
		Erosive process of granting facilities by the government to the exploiters
	Centralism	Unrelated government priorities to local community and conservation of natural resources
		Unequal access of different stakeholders to rangeland resources
		Government ownership of rangeland
Management-based	Inadequate monitoring and assessment of programs	Insufficient monitoring and assessment of programs for conservation, development and rehabilitation of rangelands
		Lack of strict monitoring of protection and conservation
		Lack of proper supervision by officials on the rangeland exploitation
	Failure to observe the principles of preserve	Premature and uncontrolled grazing of livestock in rangelands
	Livestock and rangeland imbalances	Livestock and rangeland imbalance
		Improper distribution of rangeland per capita
	Weak local management	Lack of proper mechanism for resolving conflicts in the community
		Weakness of the existing local organizations in the field of sustainable rangeland management

between each factor with its indicators. The Average Variance Extracted (AVE) index was also used to assess the convergent validity of the CFA model. This index measures the variance that a latent variable acquires from its indicators (Fornell and Larcker, 1981). The results showed that AVE values for all factors were higher than the suggested threshold (0.50) (Valizadeh *et al.,* 2021), indicating a satisfactory convergent validity (Table 3).

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Table 2. Measurement model fit indices for the causes of conflict.[a]

Index	RMSEA	AGFI	GFI	NFI	IFI	CFI	NNFI	χ^2/df	χ2	df
Cut-off	≤ 0.080	≥ 0.90	≥ 0.90	≥ 0.90	≥ 0.90	≥ 0.90	≥ 0.90	≤ 3	-	-
Results	0.073	0.92	0.93	0.90	0.95	0.95	0.91	2.8	844.37	293

[a] χ^2=Chi-Square, df= Degree of freedom, RMSEA= Root Mean Square Error of Approximation fit index, CFI= Comparative Fit Index, GFI= Goodness of Fit Index, AGFI= Adjusted Goodness of Fit Index, NFI= Normed Fit Index, NNFI= Non-Normed Fit Index, IFI= Incremental Fit Index.

Table 3. Summary of measurement model findings for causes of conflict.

Factor/Dimension	Indicator	Loading Factor	t Value	Standardized Gamma coefficient (γ)	t Value	CR	AVE
Society-Culture-based	Perspective gap	0.69	--	0.87	11.26	0.85	0.50
	Maximum exploitation	0.73	10.30				
	Individualism sovereignty	0.74	10.61				
	Demographic change	0.77	11.23				
	Metaphysical	0.67	9.69				
	Decreasing the local leaders influence	0.65	8.41				
Economy- based	High cost of animal husbandry	0.69	--	0.97	9.35	0.80	0.51
	Free rangeland resources	0.70	7.64				
	Instability of livelihood	0.73	7.83				
	Lack of income diversity	0.75	7.91				
Educational-Extension- based	Lack of proper communication with people	0.76	--	0.72	9.20	0.81	0.58
	Lack of adequate education	0.82	10.12				
	Low literacy of exploiters	0.72	8.85				
Technique-Specialization-based	Lack of using GIS application and cadastral maps	0.73	--	0.65	9.43	0.80	0.50
	Lack of using biotechnologies	0.75	11.38				
	Develop civil and agricultural activities	0.69	10.69				
	Insufficient technical and scientific skills	0.68	10.62				
Management-based	Inadequate monitoring of programs	0.73	--	0.52	6.56	0.81	0.52
	Failure to observe the principles of preserve	0.72	7.23				
	Livestock and rangeland imbalances	0.69	7.03				
	Weak local management	0.75	7.36				
Structure-Legislation-based	Lack of rules transparency	0.68	--	0.60	7.93	0.83	0.51
	Institutional weakness	0.78	9.76				
	Non-payment of green fines	0.83	10.09				
	Insufficient credits	0.67	8.00				
	Centralism	0.59	6.48				

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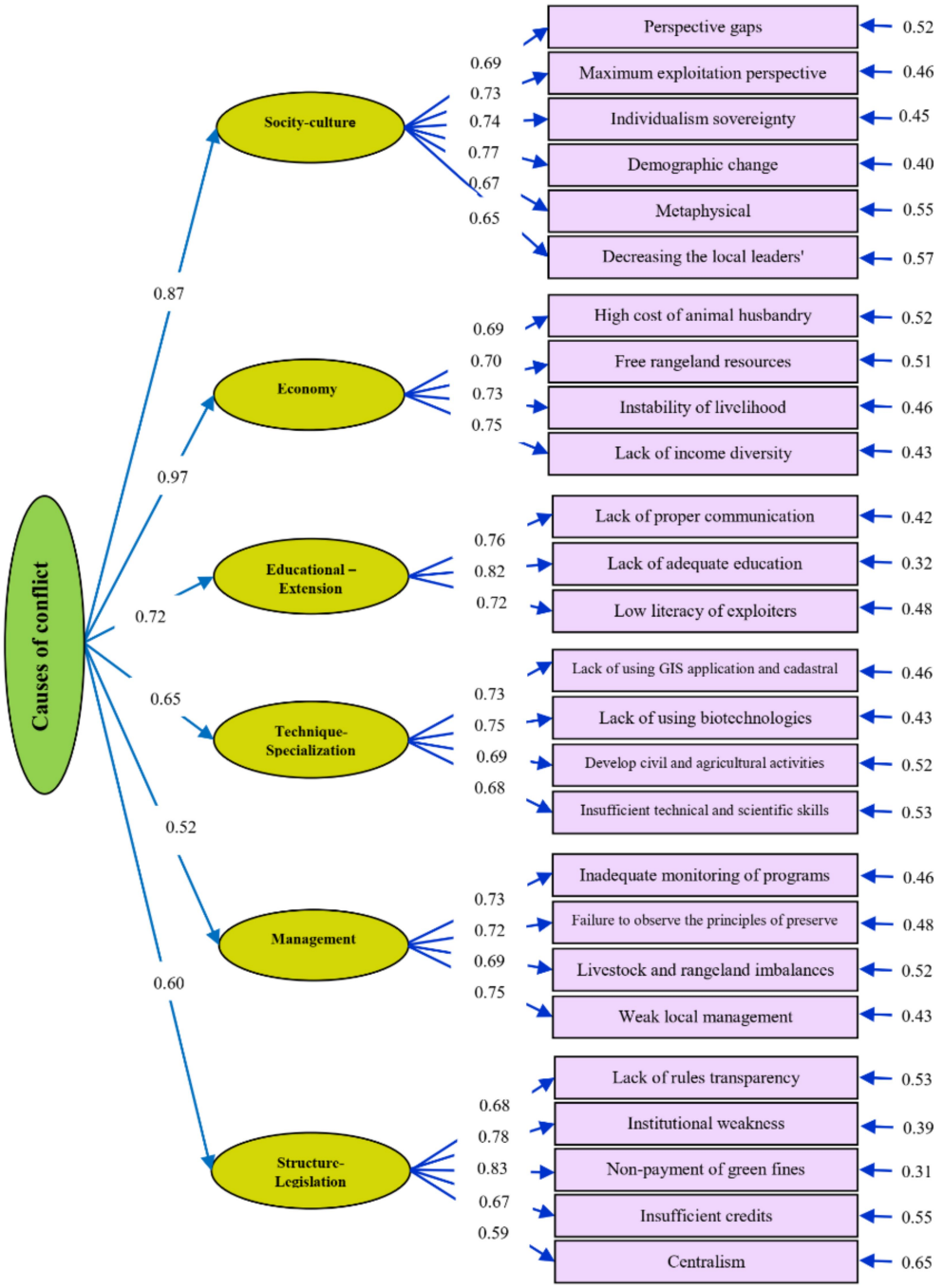

Chi-Square=844.37, df =293, P-value=0.0000, RMSEA=0.072

Figure 3. Confirmatory factor analysis of the cause of conflict based on standard coefficients.

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The final model of the second-order confirmatory factor analysis of the causes of RC, based on standard coefficients, is shown in Figure 3.

DISCUSSION

According to the research findings, economic factors are one of the most important causes of RC. The fragile economic conditions of Iranian rural society, especially rangelands exploiters who are among the most vulnerable in the society, as well as the free availability of common-pool resources, especially rangelands, have caused competition and conflict over the rangelands' exploitation and its management. Accordingly, it is suggested that planners, legislators and decision-makers of rural development and those in charge of the natural resources sector, in the direction of sustainable development goals, guide rangelands' exploiters towards sustainable livelihoods. In this regard, diversifying the use of rangeland (multi-purpose use such as medicinal use, tourism and beekeeping, etc.) can help increase the income of range landers, increase their participation in rangeland conservation, reduce tensions and conflicts, and reduce costs of rangelands management and their dependence on livestock.

Based on the results, social and cultural factors of causes of conflict among rangeland exploiters were ranked second in terms of importance. It is clear that the social issues of a society have a significant impact on people's relationships with each other and people's relationship with the environment (Haji *et al*., 2021a). In the field of rangeland exploitation, it is not possible to separate rangelands and human communities who are living in them. Therefore, it is wrong to pay attention to the ecological aspects of an ecosystem without considering the socio-cultural aspects. Accordingly, identifying the social causes of conflict among different stakeholders will help to better understand the issue. By being aware of the current situation (causes) and the conditions that may arise in the future (outcome), one can better manage, or can reduce, conflict among people. Because conflict cannot be removed from human life completely, peaceful life depends on conflict management. Social conflicts in Iranian society, especially in rural areas, have led to more competition on the rangelands exploitation and the repetition of this situation over the years has led to the destruction and vanishing of rangelands (Jalali and Abadi, 2018; Bijani *et al.,* 2020). In this regard, decision-makers and those in charge of natural resources protection can overcome the conflict among different stakeholders through strengthening the convergence of views among them. For this purpose, strengthening the position of local leaders, reviving the values and traditions of the local community, as well as strengthening spirituality in the community should be considered. The positive consequences of this action can be mentioned as peace, security and improving the quality of community life, and it can reduce the challenges facing rangelands. It should not be forgotten that resolving disputes depends on the strength of local communities, their degree of stratification, and their capacity to form alliances.

Also, according to the results, the third cause of conflict between different rangeland exploiters was related to educational-extension factors. According to the experts,, education or public awareness is an essential element in the development process. In the field of rangeland exploitation, environmental literacy through the convergence of views can help principled exploitation, conservation, and rehabilitation of rangelands. Based on the interviews, it was found that the main RC in Iran is poor education. Accordingly, to reduce the conflict in the rangeland exploitation and as a result, reduce its adverse environmental effects, it is suggested to pay serious attention to the education and awareness of the stakeholders at different national, regional, and local

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levels. To this end, extension agents, who are at the forefront of knowledge transfer and public awareness, should hold various educational programs to clarify the importance of rangeland ecosystems and their role in community life. In this regard, taking advantage of cyberspace potential and membership of many leading exploiters (especially young people) in social networks can be useful. On the other hand, Iranian exploiters in general, and exploiters of West Azerbaijan Province in particular, belong to different ethnic groups (Haji *et al.,* 2019). However, educational institutions generally emphasize the transfer of information in a language that affects the effective communication between learners and educators. Therefore, it is recommended that extension agents focus on transmitting educational content in different languages.

Another cause of RC is technique-specialization-based. In the context of technological-specialized causes of conflict, two points must be considered. The first is related to the lack of experienced environmentalists and the inadequacy of their technical and professional skills. This does not help much in reducing and managing conflicts. The second is the use (non-use) of technologies that cause (lack of) conflict. For example, the use of rangeland audit plans and the use of biotechnology can lead to the preservation of rangelands and reduction of conflicts between people; instead, the technologies used in civil and agricultural activities have led to conflicts in society. Accordingly, first, it is suggested that the Natural Resources Administration pay more attention to the recruitment of specialized and skilled personnel in the process of attracting environmentalists. Second, civil and development programs should be implemented in areas where the importance of natural ecosystems in terms of the value of biodiversity and other ecosystem services is minimal. In addition, the establishment of industrial animal husbandry and facilitating its operation reduces the pressure on rangelands and thus reduces conflict.

The results showed that managerial factors are other causes of RC. In rangeland management, the type, number, and distribution of livestock in rangeland are the main components. The reason for not paying attention to these components can be related to the economic conditions of the exploiters and the climatic situation of the region. In mountainous areas where light livestock is more common (climatic conditions), livestock cannot graze from rangeland during the winter, due to the high cost of forage (economic conditions) immediately after the snow melts and before the plants' growth, livestock grazing is not controlled in the rangeland and the rangeland is severely damaged. This situation has led to the destruction of rangeland for many years. In addition, the negative attitude towards rangelands, and the lack of sufficient recognition of the importance and capacity of rangeland ecosystems at all management levels in the country, has made everyone consider rangelands as land reserves for future civil and development projects (Motamedi *et al.,* 2020). Poor management of natural resources, especially rangeland, has become a serious problem in the studied community and has had detrimental effects on stakeholders. It has led to the increasing destruction of natural areas, and has raised the conflicts between exploiters. It should not be overlooked that conflicts exist in themselves and is an undeniable phenomenon. Therefore, the art of society is to manage the conflict, not to eliminate it. Accordingly, it is suggested that officials, planners, policymakers and decision-makers in the natural resources sector minimize the conflict among different stakeholders by using management strategies. To this end, using the capacities of all stakeholders, especially the local community, and involving them in plans and programs for the exploitation, rehabilitation and protection of rangelands can overcome the conflict among individuals. However, community-based management (in the form of NGOs) is highly emphasized concerning natural resources (Haji *et al.,* 2020b).

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However, according to surveys conducted in the study area, a small number of cooperatives and rangeland organizations are active. Therefore, establishing and supporting local organizations will be a low-cost way to manage rangelands, so that these organizations have both a protective and an enlightenment /educational role.

Based on the results of the evaluation process, the legal-structural factor was also one of the strong determinants of the causes of RC. This result means that according to the view of stakeholders, legal-structural causes lead to conflict among individuals. It is clear that the type of environmental laws and the governing structure of society will play a decisive role in the sustainability or instability of natural areas. Studies show that in general, the existing laws and regulations have not been able to prevent the destruction of rangelands and improve the current situation. These laws have largely disrupted rangeland management systems in the past and have not been replaced by a suitable management system. Organizations in charge of natural resources in Iran suffer from the lack of a coherent administrative structure, so, they are not responsive to the existing situation. Structurally, in Iran, the organizations in charge of natural resources and environmental protection are not independent, but operate under the Ministry of Agriculture Jihad, which conflicts with each other in terms of goals. For example, the Forests, Range and Watershed Management Organization pursues conservation goals, but other organizations affiliated with the Ministry of Agriculture Jihad pursue development goals (exploitation and more destruction of resources). Therefore, it is suggested that legislators and policymakers review and update environmental laws. In addition, emphasize the necessary coordination between rangeland protection organizations and other stakeholder institutions. Policies and laws should encourage local people and institutional participation in the management and protection of rangelands, along with the protection of traditional rights and the tenure of indigenous peoples through proper sharing of interests. In addition, criminal rules in Iran focus more on the occurrence of violation rather than trying to prevent it. Therefore, efforts should be focused on ensuring that environmental laws prevent violations as much as possible, and in the event of a violation, the judiciary will deal decisively with the offending natural and legal persons. On the other hand, it should be noted that rangeland ownership is the source of many problems of stakeholders and the challenges facing rangelands. Naturally, management strategies in using rangelands depend on the type of ownership (public or private). In Iran, the government owns rangelands, which has led to the maximum exploitation of rangelands and, as a result, has caused conflict among stakeholders (Jalali and Abadi, 2018; Bijani *et al.,* 2020; Motamedi *et al.,* 2020). Indeed, issues such as attention to national interests, welfare and well-being of the community, use of recreation areas, and creation of equal opportunities for the public require that the ownership and management of rangelands be public. Nevertheless, firstly, the various exploiters and over-exploitation and, secondly, the lack of government control over the mode of exploitation (the government only seeks to increase rents and exploitation), plunged rangelands into the abyss of destruction. Therefore, it is suggested to reduce conflicts, protection, and consequently better management of rangelands, in areas where human population pressure on rangelands is high, the rangeland management and exploitation should be private.

CONCLUSIONS

The present study examined the causes of Rangelands Conflict (RC). In this study, it was tried to take advantage of the experts' opinion in charge of natural resources conservation and local exploiters' views who are the main stakeholders of rangelands. The results of this research showed that the

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causes of RC include a set of "Society-Culture-based", "Economy-driven", "Educational-Extension-sided", "Technique-Specialization-based", "Structure-Legislation-based", and "Management-based" factors. An in-depth study of these factors revealed the role of different individuals and institutions in the occurrence of these issues. In this regard, to manage and reduce conflicts and enhance rangelands conservation, it is suggested that these factors should be given serious consideration by planners, policymakers and those in charge of natural resource protection.

This study has limitations and their discovery could be useful for future studies. Firstly, although this study was conducted using a statistically acceptable sample and its results can be generalized to other similar areas, it should not be forgotten that some context-specific features may affect its applicability in other areas with different conditions. Therefore, it is suggested that future researchers pay attention to these features in their research. Secondly, the results of this research were based on the self-reporting method. Considering that there is no benchmark database in Iran regarding the factors investigated in this research, some research results may not be tangible in practice. Therefore, it is suggested that future researchers try to develop a benchmark database. Thirdly, in this study, the causes of conflict were discussed only with regard to Iran's internal conditions, and cross-boundary policies that could affect conflicts were not mentioned. Therefore, future researchers can focus their research on the cross-boundary causes of conflict.

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علل تضاد در بهره‌برداری از مراتع: شواهدی از ایران

ل. حاجی، و د. حیاتی

چکیده

مرتع یک منبع مشترک است که به زمینه‌ای برای درگیری بین گروه‌های مختلف بهره‌بردار تبدیل شده است. از این‌رو، هدف پژوهش حاضر شناسایی و ارزیابی علل تضاد مراتع در ایران است. این پژوهش از تحلیل آمیخته (اول کیفی سپس کمی) استفاده می‌کند که از نظر هدف در حوزه پژوهش کاربردی قرار دارد. روش نمونه‌گیری تحقیق در بخش کیفی به روش گلوله‌برفی و در بخش کمی روش نمونه‌گیری تصادفی طبقه‌ای با انتساب متناسب بود. از تحلیل تماتیک و تحلیل عاملی تأییدی به ترتیب در بخش کیفی و کمی استفاده شد. نتایج تجزیه و تحلیل داده‌ها در بخش کیفی منجر به شناسایی ۶ علت تضاد «اجتماعی- فرهنگی»، «اقتصادی»، «آموزشی- ترویجی»، «فنی- تخصصی»، «ساختاری-حقوقی» و «مدیریتی» شد. در بخش کمی از تکنیک تحلیل عاملی تأییدی مرتبه دوم استفاده شد که نتایج نشان داد که علل تضاد و شاخص‌های آنها به درستی شناسایی شده است. بر اساس نتایج، درک زمینه تضادها به همگرایی دیدگاه‌های ذینفعان مختلف در دستیابی به مدیریت مشترک مراتع کمک می‌کند.

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