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**Research Paper** 

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# Analyzing the Effective Factors on Developing the Organizing Plans of Zagros Nomads

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The present study generally aimed to analyze the factors affecting the development of the organizing plans related to Zagros nomads among all relevant experts and managers (n=1100). The sample size was determined by using the sampling table of Bartlett et al. (n=360) and stratified random sampling method was used to achieve it. The study was mainly carried out through a questionnaire, the validity of which was obtained by using a panel of experts. The reliability of the questionnaire was found and confirmed through a pre-test and the calculation by Cronbach Alpha. The statistical analysis was done in a factor analysis method by using SPSS22 and AMOS18. The maximum effect on developing the plans of organizing Zagros nomads was obtained in policy making ( $\beta$ =0.59), as well as economic and supportive factors ( $\beta$ =0.56). In addition, marketing ( $\beta$ =0.52), managerial  $(\beta=0.46)$ , infrastructural  $(\beta=0.44)$ , and educational, extension, and participatory factors ( $\beta$ =0.36) affected the development of the plans positively and significantly, respectively. The results of the study can be utilized by policy makers, planners, and relevant managers for supporting decision makings in order to attain sustainable development, along with paying more attention to the nomads in the area.

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#### **INTRODUCTION**

Due to extensive socioeconomic and cultural evolution during the recent decades, nomadic communities faced serious problems for continuing their lifestyle. Some of authorities and nomadic community members consider organizing as one of the approaches for managing a part of the challenges (Amini & Rouzfarakh, 2018).

As mentioned in the article 2 of the Regulation on Organizing Nomads, organizing nomads is defined as the mechanisms related to livelihood and economic security, as well as improving the human development indexes of the community to the mean of rural one in Iran. In addition, it is based on the strategies such as settling volunteer nomads and its plan and support, as well as organizing the migrating nomads (supporting settlement and organizing migration). The necessity of conducting applied studies for developing the organizing plans, which indicate the unique features of the Nomads Affairs Organization of Iran, is more felt by considering the regulation on organizing nomads and results related to statistical assessments in the country which represents the movement of the organization toward their development. Thus, the present study tried to identify and explain the effective factors on developing the organizing plans for Zagros nomads.

Settlement is considered as the most important policy in organizing nomadic community, which spends the main volume of the credits related to Iranian nomads (Shaterian et al., 2011; Amini & Rouzfarakh, 2018). Logically, implementing such policies which are based on creating settlement centers fails to develop this part of the community without performing primary studies (Mahdavi et al., 2009; Shaterian et al., 2011). A large body of research has been conducted on nomadic communities for a long time, most of which focused on social, economic, and settlement issues and a few were related to the topic of the present study which are provided as follows.

Habibyan and Barani (2018) introduced in-

sufficient fodder in winter rangelands, decrease in rainfall and successive droughts, early heat in winter areas, and fear for grazing summer rangelands by villagers and other nomads. According to Amini and Rouzfarakh (2018), improving the quality of life, accessing educational, and health services, strengthening social relations, increasing quality and health in settlement environment, enhancing income status, participating and co-operating collectively. Azadi et al., (2017) reported failing the plans of organizing nomads in meeting their expectations due to the lack of bank credit and access to some services, as well as new employment opportunities. Abdollah Zadeh et al. (2017) mentioned that the settlement of tribal members, and repellents and attractions of settlement, as well as literacy and nomadic income affect maximally and positively the tendency to settle, while the highest negative effect is observed in livestock number and family size.

Additionally, an increase in human capital influences adopting the strategies of service activities and activity variety of nomadic families positively and significantly (Ghazali & Zibaei, 2017). Regarding organizing nomads, Karami and Derikvandi (2016) reported a positive impact on the rate of literate, amount of agricultural land, number of livestock units, type of employment, and level of cultural-social, healthcare, welfare facilities, and insurance services in settled nomadic families, as well as a negative effect on their employment status and income. Ziaeian et al. (2016) mentioned that implementing development plans for each nomadic area by congeographical sidering location and conditions, internal and environmental abilities, and their support by executive organs is regarded as essential to improve the status of nomadic community for balanced development in order to attain social justice, along with providing special facilities to nomads.

Ebrahimi Asl et al. (2015) found that the organizing plan of nomads resulted in changing their main employment from livestock to agriculture and improving their income al-

though it led to widespread unemployment among youth due to the insufficiency of the agricultural lands given in the exchange for revoking the grazing license in the summer area over the time and new generation growth. Karimi and Karami Dehkordi (2015) reported the existence of a lot of potential talents for exploiting rangelands in nomadic areas and villages which are not applied properly due to the weakness of knowledge and awareness in exploiters, as well as extensional services. In addition, a basis should be created for improving exploiters knowledge and skill to utilize other opportunities in nomadic areas and villages through extensional plans and other policies. Norouzi and Mahmoudian conducted a comparative study between economic and social indexes among settled and unsettled nomads in 2015 and found a significant difference regarding social indexes and healthcare.

Shakor et al. (2013) mentioned that social indexes are significantly related to nomad settlement, while an insignificant relationship is observed between economic ones and their settlement. Regarding the evaluation of development levels among nomadic community in the provinces of Iran, Taghiloo and Mousavi (2015) found that the maximum impact is attained for energy accessibility among development indexes and information facilities with high influence coefficient in development level during winter period. In addition, nomad settlement affected their social status positively, while it possessed low economic effect and the assets of nomads changed slightly (Riahi et al., 2013a). Further, the production rate related to the agricultural and livestock crops of nomads, as well as livestock number decreased after settling.

Regarding the nomad camps in Italy, the provision of social services, along with attracting the participation of authorities in the different stages of planning, is considered as the success factor of organizing and settling plans (Lintner, 2014). Upton (2010) assessed the organizing factors of nomad life in today's modern community and pointed out that a main part of organizing is related to government planning and support for nomads, which the support is conducted since nomadic life is the main element of national identify and government seeks to strengthen the identity. Agba (2010) conducted to evaluate the social, economic, and cultural effects of reintegration on organized nomads and concluded that the effects were high, and agricultural systems were destructed and supportive networks were eliminated in these areas, leading to maximum damage in small and moderate families.

Based on the results of various studies, the suitability and efficiency of a special livelihood such as nomadism, transhumance, or settlement are not identical for whole nomadic areas in Iran and each area requires a specific planning (Amini & Rouzfarakh, 2018; Jiao et al., 2017).

#### METHODOLOGY

In general, the present study sought to explain the effective factors on developing the plans of organizing Zagros nomads. The statistical population included all experts and managers involved in the nomad field in provinces located around Zagros area (n=1100). In addition, 360 samples were selected by using stratified random sampling (by considering working place) based on the sampling table of Bartlett. The data collection tool in this research was a researcher-developed questionnaire with closed questions, scored in the 5-point Likert scale from very low, moderate, high and very high. Further, a researcher-made questionnaire was used in the study, a group of specialists in agriculture higher education, managers and experts experienced in nomadic affairs, and Union of Nomadic Co-operatives in Zagros area provinces determined the face and content validity of the questionnaire. The reliability of which was estimated by alpha coefficient (a=0.90). Then, the data were coded, extracted, and transferred to computer after filling the questionnaire in sample groups. Finally, the data were processed and statistical calculations such as computing mean, standard deviation, coefficient of variations and factor analysis were conducted in SPSS software in order to rank the intended factors, and path analysis was implemented by using AMOS<sub>2.3</sub> software for explaining the factors.

Considering the presence of abundant variables and necessity of their final classification into the limited general variables which influence organizing Zagros nomads, factor analysis was applied to evaluate the internal correlation of the effective factors. Additionally, oblique rotation factor analysis was utilized since it represents a more precise clustering of variables and low variables can be found at the reality level, which possess no correlation (Najafi, 2011). Based on the results of the study, KMO was obtained as 0.950, by representing that factor analysis was acceptable and its results could be generalized to statistical population, and Bartlett's test was significant.

#### RESULTS

As shown in Table 1, the eigenvector of five factors are determined as 2.967, 2.735, 2.477, 2.33, 1.876, and 1.653, respectively. In addition, the maximum and minimum share in explaining all variables is respectively related to the first and fifth factors, and six factors can generally specify 58.28 percent of total variance.

Policy making factor: Creating sustainable

employment and income for Zagros nomads, securing the interests and rights of nomadic community in national and provincial planning, providing the appropriate services matched with nomadic culture, binding relevant governmental organs to do their legal duties regarding the implementation of organizing plans, diversifying the income sources of nomads, buying nomad livestock with proper price, equipping settlement centers by responsible executive institutes in the provinces located in central Zagros for organizing nomads based on the strategy of settling volunteer nomads, and its planning and supporting, constructing and expanding nomadic routes, supplying fodder with suitable price to decrease pressure on rangeland, and insuring nomad livestock and products. This factor was considered as the most important and effective one in explaining variables because of possessing the highest eigenvector.

*Economic and supportive factor*: The rehabilitation of rangelands, facility of accessing to loam and credits, number of livestock, economic status and livelihood strategies of Zagros nomads, establishment of industrial and semi-industrial cattle breeding, diversity of the production and economic activities of nomads by supporting production plans, and creating and extending processing, livestock, and agricultural industries, development of nomadic co-operatives, more security of nomads during unexpected events, ownership

Table 1

Nomads Factor Variance percent **Cumulative percent** Eigenvector First 11.65 2.967 11.65 Second 2.735 11.42 23.07 Third 10.23 2.477 33.30 Fourth 9.55 2.330 42.85 Fifth 1.876 8.24 51.09 Sixth 1.653 7.19 58.28

Results Obtained from the Factor Analysis of the Factors Which Affect Developing the Plans of Organizing Zagros

of agricultural lands, as well as garden, and type and number of agricultural and garden machinery. The eigenvector of the factor was determined as 2.735, which had 11.42 percent of total variance generally.

Marketing factor: Generating a secure market for selling livestock, as well as handicrafts, providing organized commercial units, holding special multifunctional markets for nomadic products near to the cities where nomads live, feasibility and locating local mall as an appropriate channel relating the supply of organic and nomadic products to market, forming a direct relation between nomadic producer and urban and rural users, selling nomadic products directly without mediator and removing brokers in the cycle of supplying and selling nomadic products, allocating special spaces for operating health, veterinary, and educational centers, mobile team station, handicraft-training workshops, and the like near to multifunctional market, accessing market by nomads and attracting for tourists, and introducing the types of nomadic handicrafts to urban and rural users. In general, 10.23 percent of total variance was related to the factor with the eigenvector of 2.477.

Managerial factor: Planning the process of developing the organizing plans for the nomads properly, managing the assignment of agricultural and rangelands in organizing desirably, using experts and specialists in the intended process optimally, attracting predicted and allocated credits, evaluating the development of organizing plans as initially, formatively, and finally, and operating the provisions and concepts of organizing plans. The eigenvector of the factor was obtained as 2.330, which explains 9.55 percent of total variance.

Infrastructural factor: Rehabilitating rangelands and implementing livestock-rangeland balance plan better, possessing development indexes such as the supply of drinking water, restoration, embankment, and reform of nomadic routes, distribution of biological goods during crisis, and health care and free visit of nomads, as well as digging and piping well for Central Zagros nomads, strengthening and expanding livestock indexes in implementing the organizing plans in both quantitative and qualitative aspects such as vaccinating and spraying livestock against diseases, coping with livestock diseases, giving the gratuitous assistance to graze livestock, and the like, accessing modern technologies properly, controlling surface runoff through constructing earth storage dams, and providing the possibility of productivity from tourism potentials in Central Zagros area. The factor possessed the eigenvector of 1.876, which specifies 8.24 percent of total variance generally.

Educational, extensional, and participatory factor: Establishing and extending local and nomadic organizations, obtaining confidence and encouraging the nomads more for their higher participation in conducting the organizing plans, expanding educational and research studies regarding organizing nomads, attracting the support of elders, trustworthy, Islamic councils related to Central Zagros nomads for organizing policy, respecting traditional indigenous culture, customs, and arts, assigning rangeland management to nongovernmental organizations and nomadic cooperative in the area, improving knowledge, insight, and skill of the nomads through holding educational-extension courses, developing educational joint stock companies, and managing pests and crops integrally. In general, these variables (eigenvector=1.653) had 7.19 percent of total variance.

In the next stage, structural equation modeling was used along with AMOS23 software in order to explain the effective factors on developing the organizing plans for Zagros nomads. In addition, the proper fit of the model was gotten by using three or four multiple statistical indexes including chi-square by considering degree of freedom (df), rootmean-square of estimated error (RMSEA), and comparative (CFI), normed (NFI), and tucker lewis fit (TLI) (Ghasemi, 2009).

Regarding the present study, six observable variables were analyzed among 360 man-

agers and experts in the nomad field in Zagros area provinces. Further, the chi-square determined in the model ( $X^2$ = 17.35, df= 10.08) was not significant ( $p \ge 0.05$ ). Furthermore, NFI, CFI, TLI, and RMSEA in the model were respectively obtained as 0.95, 0.95, 0.95, and 0.001 by indicating its goodness of fit. Finally, the model was confirmed by considering the intended indexes.

The path diagram in Figure 1 illustrates the direct and indirect effects of each independent variable on developing the organizing plans related to Zagros nomads as dependent one.

Based on the standardized regression coefficients, policy making (b=0.59), as well as economic and supportive factors (b=0.56) affected developing the plans maximally, respectively. Additionally, marketing (b=0.52), managerial (b=0.46), infrastructural (b=0.44), and educational, extensional, and participatory factors (b=0.36) possessed positive and significant impact on the development.

### **DISCUSSION AND CONCLUSION**

The directed plans of settling nomads were implemented since a decade ago for removing nomadism and settling nomads in a constant ecosystem in order to improve their biological conditions. The inefficiency of their current livelihood makes the necessity of providing an appropriate scientific strategy and organizing pattern for nomadic life by relying on economic, social, and environmental studies more apparent (Hossein Zadeh et al., 2011; 9; Rahimi, 2017). The issue may be justified by settling nomads based on their personal experiences and indigenous knowledge without prior planning and supervising the organizations involved in nomads' affairs. The settlements possessed various environmental, social, economic effects, along with affecting nomads in special fields such as literacy, activity type, employment, as well as possessing health facilities (Ebrahimi Asl et al., 2015).



*Figure 1.* The Structural Model of Developing the Organizing Plans for Zagros Nomads by Using AMOS <sub>23</sub> Software

In order to develop organizing Zagros nomads sustainably, different environmental considerations, education, social and food security, participation, and emphasis on the role playing by their cultures and indigenous knowledge, as well as the social dimension of development by relying on local behaviors (the most important one) should be highlighted, and lack of attention may lead to diverse environmental, economic, social, and cultural problems and the like. In fact, disregarding the various dimensions and angles of nomad life in the area can be considered as a reason for failing previous organizing plans like settlement one to achieve much success and dissatisfying nomads.

In addition, rupturing human-nature relationship due to technology development resulted intentionally or unintentionally in disturbing the balance of the nature and destructing different environmental effects in most cases. The inadequacy of water and soil resources, seasonality of production talents and consequently reduction of employment and income, an increase in the costs of living, and insufficiency of communication and service infrastructures demonstrated its spatial reflection as the inability of residence in attracting and maintaining population, enhancement of seasonal and permanent migration to far and near urban centers, and transmission of socioeconomic abnormalities to other biological fields. Further, organizing nomadic community is highlighted for protecting environment, as well as developing and eradicating poverty. This opinion was emphasized after evolution, especially in the fourth development plan, and different rules and regulations were codified and become irrevocable including the executive ones coded by Nomads Affairs Organization and the regulation on organizing nomads (2017).

Based on the results of the present study, policy making, as well as economic and supportive factors, had the highest effect on developing the plans of organizing Zagros nomads, respectively. Additionally, a positive and significant impact was observed in marketing, managerial, infrastructural, and educational, extensional, and participatory factors.

In addition, the results of the study are consistent with those obtained by other researchers regarding the effect of economic and supportive (Ghazali & Zibaei, 2017), marketing (Amini & Rouzfarakh , 2018), infrastructural factors (Ebrahimi Asl et al., 2015) on developing the organizing plans of Zagros nomads.

Considering the impact of educational, extension, and participatory factors on the development of the plans, the results of some researchers are in line with those in the present study (Amini & Rouzfarakh , 2018; Azadi et al., 2017; Ghazali & Zibaei, 2017).

Further, the results in the study are consistent with those reported by other researchers about the effect of policy making (Azadi et al., 2017) and managerial factors (Amini & Rouzfarakh , 2018; Ebrahimi Asl et al., 2015; Youssefi et al., 2016).

Thus, the following suggestions are provided by considering the results:

Implementing civil and infrastructural projects in nomad field such as excavation and embankment, curbs, and bridges, as well as asphalting and restoring thoroughfares.

Constructing cultural and economic infrastructures including school, masque, health house, and commercial and green spaces.

Financing and providing rapid and low-interest facilities to active provinces in developing the organizing plans of nomads generally, as well as the Zagros area ones under study especially.

Forming an organizing committee or managerial/supervisory and consulting unit consisted of scientific and executive specialists and managers, and nomad experts in the executive and research sectors which especially act in the field of nomads and nomadic life, as well as nomad experts, trustworthy, and elders in Zagros area provinces and counties, and focusing on developing to coordinate, communicate, control, supervise, inform, plan completely, implement, assess, as well as its feedback through applying evaluation results in the process of activities in order to improve the efficiency of developing the organizing plans for Zagros nomads.

Attracting co-operation and harmonizing all organs involved in organizing nomads in Zagros area provinces, and creating development centers in all economic, social, and cultural fields based on the fourth development plan and regulation on organizing nomads for developing the organizing plans.

Conducting all stages of planning realistically without idealism.

Establishing multi-purposive production co-operatives (watershed, range, and garden management, and the like).

Marketing for selling products properly (creating cold storage, processing industries, and the like).

Planning extensively to organize and support nomadic handicrafts in the area under study by considering the existence of various indigenous handicrafts in the area, as well as recognizing appropriate potentials for extending employment, economic activities, processing industries, and the like near nomadic territories as one of the interventional conditions affecting the development of organizing Zagros nomads.

Starting up a central core in the west of Iran to produce, support, and distribute the handicrafts of Zagros nomads, and utilizing the experienced nomads who are skilled in weaving carpet, rug, kilim, and saddlebag, and other fields. This center can play an important role in providing different patterns and plans, educating and extending, preparing supplies, investing, and buying products.

Holding briefing, educational, and encouraging meetings to attract the opinion of Zagros nomads, prevent stresses and crises, and accept suggestions in order to enhance the development of their organizing plans.

Paying attention to the special customs, traditions, and social and cultural originalities of Zagros nomads in developing the organizing plans.

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