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# An Investigation of the Various Dimensions of Poverty Experienced by Rural Households and the Mechanisms to Alleviate the Poverty, with a Specific Focus on Dezpart as a Case Study

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**Abstract**
The primary objective of this study was to determine the various dimensions of impoverishment and to investigate the mechanism to alleviate poverty among rural households residing in Dezpart Town located in Izeh City. The present study was pragmatic in its objective and employed an exploratory approach in its methodology. The research sample comprised native experts from Dezpart who responded to the questionnaire on poverty alleviation mechanisms. The validity of the panel of experts and the reliability of the questionnaire were assessed using Cronbach's alpha coefficient, which was obtained at 0.741. The statistical analysis was conducted utilizing SPSS 26, with a significance level set at 0.05. The study was conducted to perform exploratory factor analysis on a set of 34 items that pertained to the questionnaire. As a result, seven primary factors were identified. Given that the variables exhibiting a stronger correlation with each of the factors have been incorporated into the target factor. As a result, a total of 34 questionnaire items were classified. The findings indicated that the variables of participation and employment exhibit the greatest factor loading. Subsequently, a range of factors including infrastructure, taxation, healthcare, education, agriculture, construction, and sales market are deemed significant. These factors are ranked in order of importance based on their respective factor loads, with the sales market factor being the most significant.

**Key words;** Dimensions of poverty, Rural household, Dezpart region, Izeh City

## Introduction

Throughout history, poverty has been a persistent issue that has affected a significant portion of humanity (Alzain HM, et. al., 2021; Irhan HB, & Oran IB, 2022). Consequently, numerous scholars and experts have endeavored to comprehend the essence, scope, and variations of poverty (Zedgenizova I, et. al., 2021). Extensive research has been conducted on this subject, with each researcher offering their interpretation of poverty. Consequently, the literature on poverty contains diverse definitions of the phenomenon. Poverty is a complex phenomenon that cannot be comprehensively defined from a single perspective. The multidimensional nature of poverty and the individuals who experience it pose challenges in providing a precise and comprehensive definition of poverty. (Eskandari, 2003)

The measurement of poverty using only a single indicator of income or expenditure is an insufficient approach to comprehending the destitution experienced by impoverished individuals (United Nations, 2015). In 1987, Amartya Sen posited that poverty is not a one-dimensional phenomenon that can be solely defined by a lack of income. Sen introduced a novel approach to the concept of poverty, known as "multidimensional poverty," which posits that poverty arises when individuals and households are

deprived of fundamental abilities and capabilities. This deprivation manifests in inadequate income, unfavorable health conditions, insufficient education, low self-esteem, and insecurity. Additionally, impoverished individuals experience a sense of helplessness and are deprived of the rights that they are entitled to from birth and at various stages of life across different dimensions, including political, social, and cultural domains.

Historically, poverty has been defined solely in terms of income sufficiency to meet basic food and housing requirements. However, this narrow definition may result in the exclusion of certain individuals from official poverty statistics. By limiting poverty to income poverty, policymakers may overlook other important factors related to poverty. As a result, Amartya Sen has advocated for a multidimensional approach to poverty that takes into account a range of factors beyond income and consumption. (Parvin in 1994)

The concept of poverty has been investigated by Arab Yarmohammadi (2018) in a thesis titled "Multidimensional Approach to measuring poverty; Theoretical Concepts and Empirical Evidence of Iran's Economy". The results obtained suggest that the most significant level of deprivation is evident in both urban and rural regions in terms of the indices of years of education and living conditions. The prevalence of one-dimensional poverty in urban regions of Iran is observed to be on the rise, while there is no conclusive evidence to support the notion of a positive trend in income poverty in rural areas.

The measurement of multidimensional poverty in both urban and rural areas of Iran, as well as nine planning regions, was examined by Hassanzadeh in 2013 in a thesis titled "Measuring Multidimensional Poverty in Iran." The findings from the years under examination indicate a reduction in the one-dimensional poverty measures across all dimensions. Except for transportation and communication, the poverty rate across all dimensions has exhibited a higher prevalence in rural regions as compared to urban areas. Furthermore, there has been a reduction in the prevalence of multidimensional poverty across the entire nation, as evidenced by all three methodologies employed during this period.

The thesis entitled "Economic Study of rural poverty and factors affecting it in Iran" by Khaledi and Kohsar (2000) examined the economic determinants of rural poverty in Iran from 1971 to 1996. The findings indicate that the poverty threshold in rural regions has experienced a significant upward trajectory as a result of the abrupt surge in the costs of essential commodities. The proportion of impoverished individuals residing in rural areas has exhibited significant variations over time. The Gini coefficient in rural areas has been observed to increase due to the rise in population growth rate and real per capita income. The impact of changes in the real added value growth rate, as well as occurrences of war and Islamic revolution, were found to be statistically insignificant.

The alleviation of poverty is consistently regarded as a fundamental objective of both domestic public policies and global accords and is prioritized as the primary aim of the Millennium Development Goals (MDG). Numerous nations have implemented social policies aimed at mitigating poverty. The matter of examining poverty and its assessment, as well as the techniques for reducing poverty, holds significance for both domestic administrations and global institutions (Esfandiarpour, 2015). Moreover, over the past few years, various international, regional, and continental organizations such as the United Nations (UN), the Organization for Economic Cooperation and Development (OECD), the World Bank, and the Asian Development Bank (ADB) have placed significant emphasis on conducting research and studies concerning poverty and its mitigation (Ebrahimi, 2006). As a result of this, numerous investigations have been carried out in Iran, on poverty and its mitigation, as well as the effects of development policies on this issue. Furthermore, scholarly literature, books, and articles have been produced in this particular area of study. Research related to poverty encompasses the assessment of poverty utilizing diverse indicators, the origins and perpetuation of poverty, the

exploration of multiple dimensions of poverty, and the correlation between economic growth and development and poverty, and is of interest to a broad spectrum of scholars in various disciplines such as economics, sociology, urban and rural planning, agricultural development, nutrition, environment, etc. There have been conducted A wide range of studies in this area as well (Ebrahimi, 2006).
Within the context of this study, an examination of the challenges that may arise during the implementation of policies has been conducted. Furthermore, an effort has been made to identify the diverse factors contributing to poverty in the rural regions of the Dezpart region, located in Izeh City. Drawing on documented and scientific research, an analysis was conducted on various dimensions of poverty in rural households within this region, utilizing the multidimensional poverty index.

**Definition of Poverty**

Townsend's research on poverty during the 1960s and 1970s posits that individuals and households may be classified as impoverished if they experience a dearth of resources that hinder their ability to access diverse dietary options, engage in activities, and access typical living conditions and amenities. Sen (1981) argued that poverty should be conceptualized as a lack of fundamental life capabilities, rather than solely relying on the common measure of low income to identify individuals as poor. It is significant to acknowledge that deprivation is a concept that is relative and may possess varying definitions across distinct temporal and spatial contexts.
Rural poverty pertains to the state of being impoverished in predominantly rural regions. Roughly 63% of global poverty is attributed to rural areas, with certain countries such as Bangladesh experiencing as much as 90% poverty in these regions. In sub-Saharan Africa, rural poverty ranges from 65% to 90%. In the majority of nations, the well-being of individuals residing in rural areas is comparatively inferior to those living in urban areas concerning fulfilling personal necessities, obtaining education, accessing healthcare, securing potable water, acquiring housing, and utilizing transportation and communication services. The enduringly elevated levels of poverty in rural areas, regardless of the state of the economy (general or not), have played a role in the swift increase in population and urban migration. Urban poverty, in reality, is a consequence of the rural poor's migration to urban areas in an attempt to escape poverty. According to Alkire (2011), poverty in both rural and urban areas can be attributed primarily to established government policies, including inadequate attention to social and physical infrastructure in rural areas and criminal activities in the agricultural sector.
According to Ravillion et al. (2007), a significant proportion of impoverished individuals in developing nations, approximately 76%, are situated in rural regions. Furthermore, the percentage of rural inhabitants living in poverty is considerably greater than the proportion of the overall population residing in these nations. The disparities between rural and urban regions are progressively widening, particularly in numerous developing and transitional nations. According to Alkire (2010), individuals residing in rural areas experience greater deprivation in comparison to their urban counterparts. Furthermore, as the distance from urban centers increases, the incidence of poverty in rural areas also tends to rise.

**Factors Contributing to the Rural Poverty**

Undoubtedly, rural poverty is attributable to underlying causes and factors, and comprehending these determinants is instrumental in gaining a more nuanced understanding of this phenomenon. The present article examined the factors and underlying causes of poverty in rural regions, drawing upon extant evidence and scholarly inquiry.

**1. Insufficient or Inadequate Infrastructure**

The prevalence of poverty in rural areas can frequently be attributed to inadequate infrastructure, which impedes the advancement and growth of these regions. In rural regions, inadequate communication infrastructure, which limits access to agricultural markets and resources, creates a divide between villagers and technological advancements and emerging markets prevalent in urban areas. Inadequate communication infrastructure has resulted in experiencing social isolation by the rural poor, with limited opportunities to access media and news outlets. According to Farhat and Hayes (2013), isolation hinders communication with urban society and the emergence of fresh markets, which can potentially foster additional growth and economic stability. Furthermore, the inadequate irrigation systems in rural regions pose a risk to the optimal functioning of agricultural yields. Several impoverished rural regions suffer from inadequate water storage and pumping infrastructure, leading to diminished agricultural output and workforce efficiency.

Farhat and Hayes (2013) provide evidence of a correlation between road development and the generation of employment opportunities for individuals who are economically disadvantaged and marginalized. The analysis indicates that case studies demonstrate the potential for road development initiatives to generate employment opportunities in rural regions, particularly in instances where community-based development approaches are employed, with a particular focus on participatory methods. Empirical data suggests that the establishment of rural roads mitigates social isolation and enhances the potential for rural residents to participate in a wider range of economic pursuits. The literature on poverty and isolation highlights the significance of access to roads, new entrances and markets, education and health services, and work opportunities in mitigating rural poverty. The majority of obtained qualitative evidence indicates that the establishment or upkeep of rural roads yields a favorable impact on the delivery of public services.

**2. Geographical Factors**

Geographical isolation and barriers are frequently identified as contributing factors to poverty in rural regions. Rural communities situated in geographically isolated and mountainous regions are often deprived of fundamental amenities. Regrettably, in nations with unstable economies, the exorbitant expenses associated with implementing developmental initiatives in these locales often result in governmental neglect. Consequently, individuals residing in these regions will experience poverty and deprivation. Geographical factors such as remote or sparsely populated islands, rugged and elevated terrain, and mountainous villages pose significant challenges to the development of rural areas.

**3. Insufficient Market Accessibility**

Insufficient market accessibility, typically attributable to inadequate infrastructure, restricted education, or insufficient information, hinders the availability of foreign capital and the provision of rural labor. In numerous rural communities, the availability of employment opportunities is limited, except for the agricultural industry. The primary occupations of rural laborers include construction work, security services, and agricultural and animal husbandry labor. Rural laborers persist in engaging in agricultural-related occupations with meager remuneration due to inadequate access to alternative labor markets. The rural impoverished population encounters a lack of access to financial institutions and capital markets, which restricts their capacity to accumulate savings or acquire credit loans to augment their working capital or enhance the availability of resources. According to Bag et al. (2017), a primary factor contributing to rural poverty and limited employment prospects is the absence of credit and capital accessibility.

**4. Inadequate Provision of Education and Social Services**

The absence of educational resources and restricted opportunities for enhancing personal

competencies impede upward social mobility in numerous rural communities (Alkire et al., 2007). The rural poor often engages in subsistence farming or insecure informal employment due to limited educational attainment and skills. Insufficient knowledge regarding health and nutritional requirements frequently results in suboptimal nourishment or malnourishment among individuals residing in rural areas who are economically disadvantaged. The rural poor face challenges in accessing and providing healthcare due to social isolation resulting from inadequate transportation infrastructure and limited access to information. This predicament contributes to suboptimal health outcomes and elevated rates of child mortality. Disparities in the provision of public education and healthcare services between rural and urban regions have been noted in Asia and Africa, as reported by Abunge (2013).

**5. The Relationship between Women and Poverty in Rural Areas**

According to Ravallion's (2007) findings, rural women are more susceptible to poverty compared to rural men, and they have fewer economic prospects available to them. Regarding the findings of a worldwide survey conducted in 2009, women hold a significant position in the realm of agriculture and rural sustenance, serving as uncompensated family laborers, autonomous and salaried cultivators, frequently lacking access to land, credit, and other valuable resources.

The contribution of women to the rural economy is rarely taken into account due to their employment in occupations that do not readily demonstrate their economic impact, and the outcomes of their labor are not typically recognized as economic production. In certain regions, societal conventions and cultural practices may restrict women from engaging in employment beyond their domestic sphere. However, in other areas, particularly in rural localities across Africa, women assume the role of primary food producers and providers of household sustenance and financial stability. They enhance the familial unit. Conversely, households experiencing severe poverty rely heavily on the labor of women both within and outside the household. Consequently, rural women in such households are tasked with a greater number of workdays and more strenuous labor (UNICEF, 2007).

**6. Rural Poverty and Environmental Degradation**

The issue of rural poverty, encompassing economic and infrastructural impoverishment, can have deleterious effects on the environment. In the context of traditional agriculture, population growth can lead to a dearth of arable land of suitable quality for cultivation, thereby compelling villagers to resort to cultivating low-quality land in hilly and mountainous regions (Grusky, 2006).

In instances where the income of a household is insufficient to meet the fundamental expenses of their livelihood, rural households may encounter difficulties in procuring adequate fodder and sustenance for their livestock. Consequently, they may resort to grazing their livestock in national pastures. Notwithstanding, these pastures possess a unique ability to sustain livestock grazing, and overutilization of said pastures will result in irreparable harm. In rural areas lacking gas infrastructure, households resort to utilizing wood as a primary source of fuel. This practice not only results in the depletion of natural resources but also poses potential long-term ramifications such as heightened susceptibility to floods, soil erosion, and habitat degradation. However, it is important to note that governments may not have the capacity to fully monitor and prevent environmental destruction and exploitation of natural and national resources. To mitigate these negative impacts, it may be more effective to empower impoverished and marginalized rural communities that are most vulnerable to these threats. (Amartya, 1976)

The present study aimed to examine and assess the existing state of poverty among rural households in Dezpart in Izeh City. To achieve this objective, a multidimensional poverty index was computed, which took into account various dimensions such as education, health and hygiene, and living

standards. The study employed two distinct methods, namely expert panel and equal weighting, to assign specific weights to these criteria.

To establish the parameters of the multidimensional poverty index (MPI) for this research in Iran, it is necessary to refer to Table 1, which presents the results of a 2016 study conducted by the Iranian Research Center of the Islamic Legislative Assembly. This table outlines the criteria for measuring poverty and the corresponding levels of deprivation, drawing from international standards established by the United Nations, Oxford Poverty and Human Development Initiative, and previous research on poverty calculation, poverty alleviation, and multidimensional poverty.

Table 1. Multidimensional Poverty Index, Dimensions, Measures, and Limits of Deprivation Compatible with Iranian Data

| **Dimensions** | **Metric** | **Deprivation limit compatible with Iran's data** |
|---|---|---|
| Education | Years of education | The head of the household is not literate. |
| | Children's education | There should be at least one school-age child (6 to 16 years old) in the household who does not study. |
| Health | Child mortality | In the five years before completing the questionnaire, the family has a deceased child. |
| | Proper nutrition | If people in the household for whom nutrition information is available are malnourished, they are considered deprived. |
| Standards of life | Access to electricity | The household does not have access to electricity at home. |
| | Sewage drainage system | The household does not have a bathroom at home. |
| | Access to fuel for cooking | Household fuel for cooking is wood, charcoal, or animal manure. |
| | Access to clean water | The household does not have access to piped water. |
| | Living place situation | The per capita area of the household's residence is less than 10 square meters. |
| | Possession of durable goods | The household should own at least one of the following items: refrigerator, television, telephone, washing machine, and vehicle (car or motorcycle). |

The present study examined the diverse dimensions of poverty experienced by rural households residing in Dezpart, located in the city of Izeh. Subsequently, the various dimensions of poverty were classified according to their respective priorities, and a comprehensive analysis of poverty in the rural regions of Dezpart was conducted. This analysis encompassed eight overarching dimensions, namely education, income, nutrition, living standards, housing, health and hygiene, communication, and transportation. The various dimensions will be assessed and analyzed using specific parameters as outlined in Table 2. The findings will subsequently be utilized to devise strategies aimed at mitigating poverty.

Table 2. Dimensions of Poverty Under Study and the Metrics of Each Dimension

| N | Dimension | Metrics | N | Dimensions | Metrics |
|---|---|---|---|---|---|
| 1 | Education | The literacy level of the head of the household | 18 | Housing | Area per capita |
| 2 | | Access to school in the village | 19 | | Household density |
| 3 | | Dropout status of school-age children | 20 | | The type of materials used in housing construction |
| 4 | | Access to the village library | 21 | | Residential home ownership type |
| 5 | | Access to the mosque | 22 | | number of rooms |
| 6 | Income | The employment status of the head of the household | 23 | health and hygiene | Child mortality |
| 7 | | Monthly income | 24 | | Access to tap water |
| 8 | | The state of ownership of agricultural and garden land | 25 | | Access to the health center |
| 9 | | Number of light and heavy livestock | 26 | | Having health insurance |
| 10 | | Pension status received from support institutions | 27 | | Existence of special diseases or incurable patients |
| 11 | Nutrition | Malnutrition in the household | 28 | connections | Access to landlines and mobile phones (regular and smart) |
| 12 | | Household food basket | 29 | | High-speed internet access |
| 13 | Standards of life | Access to electricity | 30 | Transportation | Type of communication to region center |
| 14 | | Access to bathroom and toilet | 31 | | Owning a personal car |
| 15 | | Type of cooking fuel | 32 | | Owning agricultural vehicles |
| 16 | | Access to piped gas | 33 | | Owning cargo vehicles |
| 17 | | Possession of durable goods | 34 | | Access to commuting service to the city and vice versa |

**Method**

This study was pragmatic in its objectives and employed an exploratory approach in its methodology. The study's statistical population consisted of individuals who were native experts of Dezpart and had responded to the questionnaire on poverty alleviation mechanisms. The present study employed Cronbach's alpha coefficient to assess the reliability of both the expert panel and the questionnaire. The obtained Cronbach's alpha coefficient for the poverty dimension questionnaire was 0.741. The

statistical analysis was conducted utilizing SPSS 26, with a significance level set at 0.05.

**Introduction of the Target Region Under Study**

The Dezpart region is situated in the Zagros highlands at an elevation of 1641 meters above sea level. It comprises three villages, namely Dezpart, North Seymour, and South Seymour. As per the findings of the 2016 census conducted by the Iranian Statistics Center, the region has a populace of 19,351 individuals, which is equivalent to 4762 households. (Figure 1)

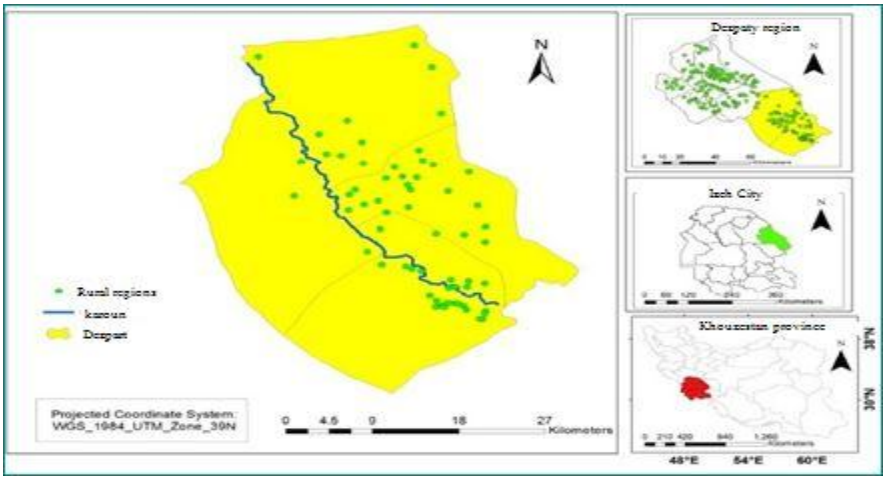


Figure 1. Geographical Location of the Studied Region (Dezpart) and the Distribution of Villages

The aforementioned area comprises a sum of 147 villages, out of which 65 villages are presently unoccupied. Regarding the current road infrastructure, asphalt roads are available in less than 50% of the villages, while the remaining roads are unpaved and intended solely for animal use. Furthermore, as a consequence of the inundation of the Karun 3 dam in 2003, a total of 39 villages suffered the complete submergence of their agricultural fields and lands, while several villages also experienced the destruction of their communication routes. At present, the aforementioned villages are linked to the district center via aquatic routes.

Among the 82 inhabited villages within this sector, 19 villages have implemented a rural guide plan, while the remaining 84 villages have yet to adopt any such plans. The region in question has a total of 75 connected villages to the national electricity network, with 10 villages having access to piped gas and 61 villages having access to piped water. The agricultural sector in most villages experiences low added value due to various factors such as the mountainous terrain, stony land composition, land area restrictions, steep topography, inadequate irrigation system, insufficient communication roads between gardens and villages, transportation difficulties, limited market access for the supply of goods, and traditional animal husbandry practices.

**Findings**

Bartlett's test of sphericity was employed to ascertain the appropriateness of the data for factor analysis, ensuring that the correlation matrix, which serves as the foundation of factor analysis in the community, is non-zero. (Table 3)

Table 3. Checking the Adequacy of the Model and the KMO Test

| Variable | Number of Items | Significance of Bartlett's Test | KMO Variable |
|---|---|---|---|
| Items 1 to 34 of the mechanism questionnaire | 34 | 0.000 | 0.616 |

Table 3 demonstrates that the KMO variable exceeds 0.6, indicating that the model's quality is validated and the questionnaire data is appropriate for factor analysis.
The questionnaire factors have been evaluated based on their eigenvalues, and factors one through seven have been retained for further analysis as they exhibit eigenvalues greater than one. The variance of the variables can be accounted for by 65.955% through the influence of these seven factors.

Table 4. Extraction of Questionnaire Factors

| **Factor** | **Initial Eigenvalues** | | | **Eigenvalues of Non-rotated Extractive Factors** | | | **Eigenvalues of Rotated Extractive Factors** | | |
|---|---|---|---|---|---|---|---|---|---|
| | Total | % of Variance | Cumulative % | Total | % of Variance | Cumulative % | Total | % of Variance | Cumulative % |
| 1 | 7.398 | 21.758 | 21.758 | 7.398 | 21.758 | 21.758 | 6.821 | 20.062 | 20.062 |
| 2 | 5.3 | 15.589 | 37.347 | 5.3 | 15.589 | 37.347 | 3.52 | 10.353 | 30.415 |
| 3 | 2.854 | 8.393 | 45.74 | 2.854 | 8.393 | 45.74 | 3.493 | 10.273 | 40.688 |
| 4 | 2.003 | 5.891 | 51.631 | 2.003 | 5.891 | 51.631 | 2.817 | 8.286 | 48.974 |
| 5 | 1.894 | 5.569 | 57.2 | 1.894 | 5.569 | 57.2 | 2.146 | 6.311 | 55.286 |
| 6 | 1.544 | 4.54 | 61.74 | 1.544 | 4.54 | 61.74 | 2.101 | 6.179 | 61.464 |
| 7 | 1.433 | 4.214 | 65.955 | 1.433 | 4.214 | 65.955 | 1.527 | 4.49 | 65.955 |

The results indicate that the initial factor, namely participation, and employment, accounts for 20.062% of the variance. The second factor, infrastructure, and tax, accounts for 10.353% of the variance, while the third factor, health, account for 10.273% of the variance. The fourth factor, education, accounts for 8.286% of the variance, followed by the fifth factor, agriculture, which accounts for 6.311% of the variance. The sixth factor, construction, accounts for 6.179% of the variance, and the seventh factor, the sale market, accounts for 4.49% of the variance. In total, these factors account for 65.954% of the total variance. (Table 4)
The Component Matrix refers to the matrix of components obtained from factor analysis before rotation. It displays the correlations between the extracted variables and factors. Based on the matrix, it is evident that the enhancement and refurbishment of educational institutions exhibit a cross-loading effect between the initial and third factors.

Table 5. Matrix of Factor Analysis Components Before Rotation

| | **Factors** | | | | | | |
|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| Creation of employment centers in the center of the region | 0.825 | | | | | | |
| Increasing people's participation in rural planning | 0.816 | | | | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Supporting rural working women | 0.786 | | | | | | |
| Targeted allocation of job creation facilities | 0.765 | | | | | | |
| Using the capacity of non-governmental organizations and removing deprivation | 0.764 | | | | | | |
| Facilitating the process of obtaining a license for some rural jobs | 0.715 | | | | | | |
| Attention to employment in the non-agricultural sector | 0.715 | | | | | | |
| Participation of the village governor in carrying out rural projects | 0.689 | | | | | | |
| Implementation of rural plans | 0.679 | | | | | | |
| Participation of village governor and village councils in sector planning | 0.64 | | | | | | |
| Using rural participatory assessment methods | 0.619 | | | | | | |
| Improvement and renovation of schools | 0.6 | | 0.464 | | | | |
| Promotion of technical and professional training | 0.574 | | | | | | |
| Building boarding high schools in the center of the village | 0.527 | | | | | -0.524 | |
| Development of drinking water infrastructure | | 0.734 | | | | | |
| Increasing the number of paramedics, training, and improving the technical quality of rural paramedics | | 0.731 | | | | | |
| Income tax exemption for the rural middle classes | | 0.642 | | | | | |
| Helping to improve the value chain of agricultural and livestock products | | 0.628 | - 0.424 | | | | |
| Expansion of rural medical insurance | | 0.6 | | | | | |
| Development of cultural, sports, and educational infrastructures | | 0.586 | | | | | |
| Tax exemptions for rural industries | | 0.579 | | | | -0.521 | |
| Expansion of clinical and para-clinical services in the center of the region | | 0.508 | | | | | |
| Providing the desired food basket | | 0.494 | | | | | |
| Investment in irrigation and water transmission networks | | 0.478 | | | | 0.418 | - 0.409 |
| Increase in cash subsidy payments | | | | | | | |
| Investing in agricultural promotion and education | | 0.43 | -0.563 | | | | |
| Construction of rural health centers and | | 0.402 | 0.546 | | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| clinics | | | | | | | |
| Funding the cost of treatment for the rural needy | | | 0.486 | 0.418 | | | |
| Investment and development of roads and communication ways | | 0.52 | | 0.558 | | | |
| Organizing and paying attention to rural cooperatives | | | | 0.538 | | | |
| Expansion of educational facilities | 0.446 | | 0.459 | | -0.492 | | |
| Making schools smarter and providing relevant equipment | 0.426 | | | | -0.428 | | |
| Improving the supply process of agricultural and livestock inputs | | 0.49 | | | | 0.518 | |
| Guaranteed purchase of agricultural products | | | | | | | 0.69 |

Due to the lack of a distinct pattern in the aforementioned matrix, we have referred to the Rotated Component Matrix to enhance the clarity of the pattern following rotation.

Table 5. Matrix of Factor Analysis Components after Rotation

| | Factors | | | | | | |
|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| Supporting rural working women | 0.816 | | | | | | |
| Creation of employment centers in the center of the region | 0.808 | | | | | | |
| Increasing people's participation in rural planning | 0.807 | | | | | | |
| Implementation of the rural leader plan | 0.756 | | | | | | |
| Using the capacity of non-governmental organizations and removing deprivation | 0.747 | | | | | | |
| Attention to employment in the non-agricultural sector | 0.73 | | | | | | |
| Facilitating the process of obtaining a license for some rural jobs | 0.723 | | | | | | |
| Targeted allocation of job creation facilities | 0.722 | | | | | | |
| Participation of the village governor in carrying out rural projects | 0.703 | | | | | | |
| Using rural participatory assessment methods | 0.691 | | | | | | |
| Participation of village governor and village councils in sector planning | 0.627 | | | | | | |
| Tax exemptions for rural industries | | 0.831 | | | | | |
| Income tax exemption for the rural middle classes | | 0.789 | | | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Helping to improve the value chain of agricultural and livestock products | | 0.69 | | | | | |
| Investing in agricultural promotion and education | | 0.625 | | | 0.441 | | |
| Development of cultural, sports, and educational infrastructures | | 0.614 | | | | | |
| Development of drinking water infrastructure | | 0.487 | 0.452 | | | | |
| Increasing the number of paramedics, training, and improving the technical quality of rural paramedics | | | 0.764 | | | | |
| Expansion of rural medical insurance | | | 0.755 | | | | |
| Construction of rural health centers and clinics | | | 0.689 | | | | |
| Providing the desired food basket | | | 0.672 | | | | |
| Expansion of clinical and para-clinical services in the center of the region | | | 0.466 | | | | |
| Increase in cash subsidy payments | | | 0.449 | | | | |
| Expansion of educational facilities | | | | 0.845 | | | |
| Making schools smarter and providing relevant equipment | | | | 0.705 | | | |
| Funding the cost of treatment for the rural needy | | | 0.429 | 0.625 | | | |
| Promotion of technical and professional training | | | | 0.583 | | | |
| Improvement and renovation of schools | 0.434 | | | 0.568 | | | |
| Investment in irrigation and water transmission networks | | | | | 0.824 | | |
| Improving the supply process of agricultural and livestock inputs | | | | | 0.77 | | |
| Investment and development of roads and communication ways | | | 0/446 | | | 0.652 | |
| Organizing and paying attention to rural cooperatives | | | | | | 0.616 | |
| Building boarding high schools in the center of the village | 0.428 | | | | | 0.497 | |
| Guaranteed purchase of agricultural products | | | | | | | 0.749 |

Table 5 displays the rotated matrix of components for the questionnaire, presenting the factor loadings of each variable in the remaining seven factors following rotation. The present matrix exhibits a higher degree of interpretability in comparison to the antecedent Non-rotated matrix. The magnitude of the coefficients is directly proportional to the significance of the corresponding factor in the overall variance of the target variable.

The findings of the exploratory factor analysis revealed that the 34 items in the questionnaire can be

attributed to 7 primary factors. The 34 items of the questionnaire have been categorized based on the inclusion of variables with a higher correlation with each of the factors in the target factor.

Table 6. Factorizing the Questionnaire Items

| **Factors** | **Number of Questions** | | **Factor Load** |
|---|---|---|---|
| Participation and employment factor | Supporting rural working women | 11 | 0.816 |
| | Creation of employment centers in the center of the region | | 0.808 |
| | Increasing people's participation in rural planning | | 0.807 |
| | Implementation of the rural leader plan | | 0.756 |
| | Using the capacity of non-governmental organizations and removing deprivation | | 0.747 |
| | Attention to employment in the non-agricultural sector | | 0.73 |
| | Facilitating the process of obtaining a license for some rural jobs | | 0.723 |
| | Targeted allocation of job creation facilities | | 0.722 |
| | Participation of the village governor in carrying out rural projects | | 0.703 |
| | Using rural participatory assessment methods | | 0.691 |
| | Participation of village governor and village councils in sector planning | | 0.627 |
| Infrastructure and tax factor | Tax exemptions for rural industries | 6 | 0.831 |
| | Income tax exemption for the rural middle classes | | 0.789 |
| | Helping to improve the value chain of agricultural and livestock products | | 0.69 |
| | Investing in agricultural promotion and education | | 0.625 |
| | Development of cultural, sports, and educational infrastructures | | 0.614 |
| | Development of drinking water infrastructure | | 0.487 |
| Health factor | Increasing the number of paramedics, training, and improving the technical quality of rural paramedics | 6 | 0.764 |
| | Expansion of rural medical insurance | | 0.755 |
| | Construction of rural health centers and clinics | | 0.689 |
| | Providing the desired food basket | | 0.672 |
| | Expansion of clinical and para-clinical services in the center of the region | | 0.466 |
| | Increase in cash subsidy payments | | 0.449 |
| Education factor | Expansion of educational facilities | 5 | 0.845 |
| | Making schools smarter and providing relevant equipment | | 0.705 |
| | Funding the cost of treatment for the rural needy | | 0.625 |
| | Promotion of technical and professional training | | 0.583 |
| | Improvement and renovation of schools | | 0.568 |
| Agriculture factor | Investment in irrigation and water transmission networks | 2 | 0.824 |
| | Improving the supply process of agricultural and livestock inputs | | 0.77 |
| Construction | Investment and development of roads and communication ways | 3 | 0.652 |

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| factor | Organizing and paying attention to rural cooperatives | | 0.616 |
| | Building boarding high schools in the center of the village | | 0.497 |
| Sales market factor | Guaranteed purchase of agricultural products | 1 | 0.749 |

The findings indicate that the participation and employment factor exhibits the greatest factor load, succeeded by the infrastructure and taxation, health, education, agriculture, construction, and sales market factors. The factors, arranged in descending order of importance based on their factor loads, demonstrate varying degrees of significance.

**Conclusion**

The objective of the present study was to determine various dimensions of poverty prevalent in rural households and to examine the required mechanisms to alleviate poverty in the Dezpart region. The application of factor analysis was employed to examine the variables that influence poverty. The study identified seven factors that contribute to rural development, namely participation and employment. These factors include providing support for rural working women, establishing job search and employment centers in the district center, increasing participation in rural planning, implementing the rural leadership plan, utilizing the capacity of non-governmental organizations, addressing employment in the non-agricultural sector, facilitating the process of obtaining permits for certain rural jobs, purposeful allocation of job creation facilities, involving village governors in rural projects, utilizing participatory assessment methods, and involving village governor and village councils in sector planning. Among these factors, the highest factor load was obtained for the participation of the village governor and village councils in planning.

Subsequently, the infrastructural and tax aspects encompass tax exemptions for rural industries, as well as income tax exemptions for the rural middle class. Additionally, efforts are made to enhance the value chain of agricultural and livestock products, invest in agricultural promotion and education, and develop cultural, sports, and educational infrastructures, as well as drinking water infrastructures.

The third factor that has been identified pertains to health and encompasses various aspects such as augmenting the number of practical nurses, enhancing the technical proficiency of rural practical nurses through training, expanding the scope of rural medical insurance, constructing health centers and clinics in rural areas, providing a suitable food basket, broadening the range of clinical and para-clinical services in centers of towns, and increasing monetary subsidy payment. The fourth factor pertains to education and encompasses the augmentation of educational infrastructure, the implementation of advanced technology in schools, the provision of necessary equipment, the allocation of funds for the treatment of underprivileged rural communities, the enhancement of technical and vocational training, and the modernization and renovation of schools.

The fifth factor pertains to agriculture and encompasses the allocation of resources towards the development of irrigation and water transfer infrastructures, as well as the enhancement of the provision of agricultural and livestock inputs. The sixth factor pertains to construction and encompasses various aspects such as investment and development of transportation infrastructure, organizing and prioritizing construction cooperatives within the community, and establishing boarding high schools in the village center. The seventh factor pertains to the matter of assured procurement of agricultural commodities. The factors have been prioritized in descending order of importance, with the first factor being the most significant and the seventh factor being the least significant.

The findings of the study indicated that 41% of the population residing in the region receive assistance from support institutions, aligning with the statistical data reported by the Imam Khomeini Relief

Committee.

Based on the findings, it is imperative to enhance the infrastructure and augment the populace's accessibility to hygienic potable water. Ultimately, it is recommended that the advancement of Internet communication infrastructure be pursued to enhance the accessibility of high-speed and high-quality Internet to the general public. Additionally, emphasis should be placed on the enhancement and maintenance of communication pathways between farms and gardens.

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