

Research Paper

Investigating the Factors Affecting Inequalities in the Income Levels of Villagers Within the Framework of the Three-branch Model: A Case Study of Villages of Islamshahr City

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ABSTRACT

The purpose of this study was to assess the relative importance of factors affecting the differentiation of income levels and the success of investment in agricultural businesses in the villages of *Islamshahr*. Differences in the rates of effectiveness and profitability of agricultural activities exacerbate economic dispersal, difference in the levels of farmers' livelihood, and the imbalance among the economic costs of agricultural jobs in a rural area. Regarding the diversity of cropland sizes in the region, the stratified sampling method was used to appropriately select a sample size of 195 people who took part in interviews and completed questionnaires. In this study, based on a descriptive and inferential approach, the three-branch model framework and the multiple discriminant analysis were used to evaluate the relative importance of the factors that affect the inequality of income levels of rural farmers. The results showed that most of the farmers were land owners and held secondary high school degrees. Also their average farming experience was about 20 years, and their main occupation was agriculture. Most agricultural lands in the region were found still using traditional irrigation methods, and more than 28% of the farmers did not consider the accessibility of water desirable. The results also showed that structural and environmental factors were the most important factors affecting the income gap among the farmers in the region. From the structural point of view, the type of land ownership and land size emerged as the most important factors to determine the probability of being in the lowest-income group.

Extended Abstract**1. Introduction**

Among the main causes of poverty in villages, one may refer to economic, agricultural, occupational, and social factors as well as the rate of participation in economic activities. More than other demographic and geographical variables, increased liveli-

hood burden and decreased household assets account for the increased chance of poverty in rural households. The poverty in a region is caused by two major causes: low net income and inequality of income distribution. Due to structural, environmental and environmental factors, it is not possible for all rural economic activists to achieve a certain level of income.

In general, regarding the inequality of income distribution, empirical and historical evidence from different

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countries shows that there are various factors to cause such an inequality. What makes the situation exacerbated in rural societies are such factors as poor business conditions, lack of proper employment, lack of income source diversity, inappropriate conditions of economic development, impractical and non-applicable economic policies, and unfavorable family conditions. Generally, an increase in the income from crop production can be made through the development of factors involved in production, major technological changes, and improvement of potential efficiency.

Low productivity and income disparity per hectare are the harmful factors in the agriculture of Iran. Many villages in Iran have farms with value added potentiality, but the activity of so many small and large farms with very low productivity has created income gaps among farmers, damaging their motivation to continue agricultural activities. Investigation of the different dimensions of income disparity among farmers has always been of interest to agricultural economics researchers. Several studies have been conducted on the causes of the difference in value added rates of production in different agricultural units. Also, various patterns have been proposed to comprehensively recognize the factors affecting the dynamics of this phenomenon. The three-branch model for the comprehensive assessment of the phenomenon is a rational tool with which many concepts and events can be classified into three branches of structure, behavior, and context. Using that model, we evaluate the relative importance of individual factors affecting the differentiation of farmers' income levels.

2. Methodology

In this study, using the three-branch model and the multiple discriminant analysis, we evaluated the relative importance of the factors affecting the inequality of income levels of rural farmers. In the first step of the study, using the net income index to production costs, we attempted to obtain a clear picture of the farmers' income disparity in the studied region. This indicator, which is defined as an indicator of return on investment (ROI) in some sources, represents the net income that is generated as a result of spending various production costs, including possible land leases and operating costs of production. The three-branch model has three structural, contextual and behavioral dimensions. The naming of the model is based on the assumption that the relationship among structural, behavioral and contextual factors is such that no phenomenon can be outside the interaction of these three branches. It was first introduced by [Mirzai Ahrangani \(2002\)](#) for the

pathology of organizational variables. Indeed, the relationship among these three branches is inextricable, and the distinction between them is purely theoretical and for analyzing and understanding the concepts.

After identifying and categorizing the variables that affect the differentiation of levels of farmers' productivity in the three branches of the model, the multiple discriminant analysis was done to identify the most important of these variables and their relative importance in creating the distinction.

The sample size of the study consisted of 195 people who were interviewed and completed questionnaires. It should be noted that the SPSS software version 19 was used to descriptively estimate the variables of the three-branch model and the multiple differentiation analysis.

3. Results

The ratio of the net income to the total farm production costs showed significant differences in the farmers' income distribution that had led to a livelihood gap, discouragement of agricultural activities, and an increase in the willingness for alternate jobs or migration to cities, especially Tehran.

4. Discussion

In addition, the discriminant analysis showed that structural and environmental factors played the most important roles to create distinctions in farmers' levels of income. In terms of structural factors, property type and civic area, the probability of being in the lowest-income group was higher than that for the other two groups. As for the environmental factors, the net value of the market for manufactured products proved to be the most important factor to distinguish the first group from the other two.

5. Conclusion

The results of the study showed that structural and environmental factors are the most important to make distinctions among farmers in terms of income level. To mitigate these distinctions, markets for agricultural products should be adjusted in such a way that the price paid to farmers can cover their production costs and, thus, motivate them to improve their productivity. In this regard, providing insurance as well as appropriate training programs for all farmers can be a solution. Also, with respect to restricted water resources in most parts of the country, including the city of *Islamshahr*, the government should

continue to encourage farmers to take advantage of new irrigation technologies.

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Conflict of Interest

The authors declared no conflicts of interest

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