



The Impact of Livelihood Capitals on Improving the Sustainable Livelihood of Rural Communities with a Rural Cooperative Approach

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Abstract

Sustainable livelihood was introduced in the 1980s as a new approach to rural development to reduce and eradicate rural poverty. Achieving sustainable rural livelihoods is not possible without considering the rural livelihoods assets. Accordingly, the present study aimed to evaluate the impact of livelihood capital on the sustainable livelihood of members of cooperative companies in the rural cooperative project. The present study was an applied and survey research based on purpose and data collection method, respectively. The statistical population included 198 cooperatives managers covered by the cooperative rural project who were selected by proportional sampling. A structured and researcher-made questionnaire was used as a data collection tool. The content and face validity of the questionnaire were confirmed by a panel of experts. Research reliability was ensured using the pilot study and calculating the Cronbach's alpha coefficient. The regression analysis indicated that four social, natural, financial and physical capitals had the most impact among five livelihood capitals.

Keywords: Livelihood capital, livelihood sustainability, cooperative members, cooperation-rural

Introduction

Designing and implementing comprehensive rural development policies is considered as the basis for empowering and improving the livelihoods of rural households (Jiao et al., 2017). Achieving development requires considering villages and the rural areas as

the basic sector (World Bank, 2008). Lack of considering the rural spaces, disregarding the livelihood of villagers and the power and production facilities of rural areas are regarded as the main problems of not achieving rural development. According to many major authors and international

development organizations for the development of local communities, sustainable rural livelihood approach is considered as one of the frameworks which comprehensively explain people's strategies in vulnerability conditions along with their livelihood and consider both foreign interventions and the activities of rural residents as a dynamic system. Based on the sustainable livelihood approach, household capital consists of a wide range of natural, physical, human, financial and social capitals to improve the living conditions (Tang et al., 2013). The sustainable livelihood approach is based on the extensive rural development theory. This approach was introduced in the 1980s as a new approach to rural development to reduce and eradicate rural poverty. In addition, it emphasizes comprehensive and coherent thinking related to poverty reduction and achieving rural development and quickly gained great popularity among researchers and development stakeholders (Jumapour and Kiomars, 2012). A sustainable livelihood approach contributes to people-centered development activities (focusing on poor people's priorities), responsive and participatory (listening and responding to livelihood priorities identified by poor people), multi-level (working at different levels to reduce poverty), directed (through public and private sectors), dynamic (flexible response to people in various situations) and sustainable (creating economic, institutional balance and social and environmental sustainability) (Matiei Langroudi et al., 2011). Capital is considered as an essential part of people's

livelihood, especially the poor. People need such different capitals to achieve their defined goals (Jameepour and Kiomars, 2012). Livelihood capitals form the core of sustainable livelihoods and are fundamental factors for poor local communities (Ghadiri Masoum et al., 2015). Sustainable rural livelihood models consist of five main human, social, natural, physical and financial capital components, the improvement of which is considered necessary to achieve sustainable livelihood (Abdullahzadeh et al., 2015). That is, achieving sustainable rural livelihood is not possible without considering the livelihood capital in rural areas (Sajasi Gheidari et al., 2016). Recognizing the households living conditions and their access to livelihood capital are considered as one of the most effective opportunities for advancing development goals in rural areas, especially in developing countries (Barimani et al., 2016). Similarly, the current situation should be carefully evaluated to create and achieve a sustainable livelihood for rural households, where the views of the heads of households should be considered (Nowruzi and Hayati, 2015).

A census conducted in Iran in 2016 reported that the number of rural people is 20.7 million people (Statistics Center of Iran, 2016), thus measuring the living conditions of villagers is the first step in achieving rural development goals. Accordingly, the present study aimed to evaluate capital in improving the sustainable livelihood of rural communities with a cooperative rural approach.



Sustainable livelihood approach

Human and economic developments are based on livelihood, which includes everything that people do to make a living. Livelihood includes the abilities and assets (both material dimensions and social resources and activities which are necessary for life (Eftekhari et al., 2011). Livelihood resources are the amount and status of physical, material, social, human and natural assets (Jomepour and Ahmadi, 2011, Wilson et al., 2006). In addition, it means thinking about accessing assets and managing for their maintenance, as well as life and being alive, abilities, assets and activities needed to live and be alive (2006, Chambers). Additionally, human and economic developments are based on livelihood. It is more than having a job, consisting of everything a person does to make a living (Helmor & Sing, 2003). Since the Food Security Report (2000), the debate over poverty, sustainability, rural livelihood systems and their diversification, as well as their focus on the participation process and the nature of poverty led to the recognition of the sustainable livelihood approach (Shen, 2009). Livelihood is sustainable when it can maintain or increase current and future capabilities and assets (Babulo et al., 2008). The sustainable livelihood strategy uses several different approaches which makes a system for creating sustainable livelihoods through integrating such approaches. The starting point for promoting sustainable livelihoods is to clarify what people know, and then strengthen existing livelihood systems in order to guarantee their sustainability and increase productivity

(Helmore, 2001). The sustainable livelihood approach is considered as one of the newest approaches in the field of rural community development. Guillotreau et al. (2012) argued that the livelihood approach considers poverty beyond income inadequacy. Sustainable livelihood is regarded as one of the key aspects of the sustainable rural development paradigm in which serious attention to livelihood and its transformation and ways to address its challenges are among the most essential aspects of rural poverty reduction and rural development (Sajasi Gheidari, Sadeghloo, and Palouch, 2013). It is a non-partisan, comprehensive, people-centered (2013, Morse & McNamara) approach which is consistent with the reality and partnership that empowers poor villagers' livelihood capacities by their empowerment (Scoones, 2009). Scholars believe that people in developing regions and third world countries make their living from a set of assets and capital and that it will be possible to know their livelihood by knowing this framework (Gebru and Weldegebrail, 2012). The sustainable livelihood approach, which is a framework and instrument for understanding the complexity of people's livelihoods and appropriate responses to such complexities, was developed in the late 1990s to progress and alleviate rural poverty (Horsley et al., 2015). Such an approach proposed a comprehensive framework for evaluating the various dimensions of sustainability (Smith et al., 2001). Although various frameworks have been proposed for analyzing sustainable livelihoods, the five-component framework suggested by Department of

International Development is considered as one of the most important frameworks for analyzing sustainable livelihoods (Shen, 2009). This framework emphasizes a people-centered approach based on the five key components of a sustainable livelihood approach. These five key components are livelihood assets, transformational structures and processes, vulnerabilities, livelihood outcomes, and livelihood strategies (Peng et al. 2017). People's capital assets are at the core of the sustainable livelihood approach (Morse & McNamara, 2013), which are divided into human, physical, financial, natural, and social capital based on the Department for International Development (DFID). These five livelihood assets are interdependent, each of which can complement the other assets, and are owned by household members (Ellis, 2005), which can be a solution to a crisis (Elasha et al., 2005). The ability of individuals to escape the scourge of poverty depends on the availability and amount of their wealth, and it is such assets that their variety and amount determine the various livelihood options and

finally the individuals' sustainable livelihood (Morse & McNamara., 2013; Belcher et al., 2013, Peng et al., 2017). Although the sustainable livelihood approach was formed in developed countries, it has been considered as an instrument to improve the living conditions of people in most poor or developing countries. During recent years, a large number of studies have examined various aspects of rural livelihoods including the capabilities, assets and activities needed for life.

Sustainable livelihood capital

As it was already mentioned, livelihood capital consists of social, financial, human, natural and physical capital in the sustainable livelihood approach.

Assets

The individuals' ability to escape poverty depends on their access and the amount of their assets. Such assets determine the various livelihood options and finally sustainable livelihoods of individuals (FAO, 2009).



Literature review

Figure 1. Research findings

| Scholar/year | Title | Findings |
|----------------------------------|--|--|
| (Motsholapheko et al., 2011) | Studying rural livelihoods and household adaptation to floods in the Akavango Delta of Boston | The findings indicated that people generally had high access to natural capital while financial, physical, human and social capitals were low. |
| (Udayakumara & Shrestha, 2011) | Investigating the dynamics of family living standards in two time periods (1988 and 2008) | The results showed that livelihood assets including physical, human and social capital increased over two decades, while access to natural and financial capital decreased significantly. |
| Salmani et al. (2011) | Evaluating the role of seasonal labor migration in the livelihood of rural households in Sarvabad city, Kurdistan province | It was found that natural and social capital is higher among non-immigrant households and higher than physical, human and financial capital among immigrant households. In addition, the mean total capital is higher in immigrant households than that of non-immigrant households. |
| Matiei Langroudi et al. (2011) | Examining the impact of immigrants returning to rural areas on improving residents' livelihoods (case study: Aqqala County in Golestan Province) | The findings indicated that the return of skilled migrants to the countryside had a positive effect on human, financial, physical, social and natural capital. |
| Wadadi (2011) | Analyzing the vulnerability of farmers working on vegetables using the framework of sustainable rural livelihoods in Assadabad city | The results demonstrated that the farmers' financial, human, natural and economic capital are different from each other and are relatively high socially while their greater access to the services of external institutions is not very high. |
| (Asmah, 2011)(Tilt et al., 2009) | Diversity of rural livelihoods and agricultural terminology in Ghana | Based on the results, rural households who have had various agricultural activities with villages and households without this principle are different in indicators and livelihood assets (economic, social, human), emphasizing on diversifying the rural economy to achieve sustainable livelihoods of villagers are considered as the most important practical solution for their research. |
| (Soini, 2005) | Changing the agricultural and livelihood system in the Taita Hills, Kenya | The results of the analysis indicated that only financial capital has a positive relationship with the outcome. Natural capital has a positive relationship while it is not statistically significant. Social and human capitals had no relationship with the livelihood outcome. |

Method and Material

In present correlation study, a survey technique and a questionnaire were used. The statistical population included 405 managers of rural cooperative companies implementing the village cooperative project. Based on geographical divisions, the whole country was divided into five classes (geographical area) such as north, south, west, east and center and a province from each region was selected and evaluated randomly. In addition, the statistical sample size was selected as 198 based on Morgan Table. The documentary and field methods were used to collect data. In the latter, a questionnaire tool was used. To answer the research question and objectives, a questionnaire was designed as the main research tool where all questions, except for personal characteristics, were examined in the form of a 5-point Likert scale (1 = completely inappropriate, 2 = inappropriate, 3 = relatively inappropriate, 4 = appropriate, and 5 = completely appropriate). The designed questionnaire consists of 6 sections as follows: financial, social, human, natural, physical, and sustainable livelihood assets with 7, 8, 5, 5, 5, and 6 items, respectively. The supervisors and advisors' views were used to determine the validity of the questionnaire. After the necessary corrections, it was ensured that the designed questions can measure the content and features of the research. To evaluate the reliability, 30 questionnaires were completed by a separate group in a statistical population similar to the statistical population (Alborz province). Then, its Cronbach's alpha value was calculated ($\alpha =$

0.73 to 0.85). The data were analyzed in descriptive and inferential parts. The descriptive statistics were frequency, mean and standard deviation and linear regression analysis was used as inferential statistics. The researchers used SPSS22 software for this purpose.

Findings

The findings indicated that 54% of the respondents are in the age group of 40-60 years. Additionally, studying the respondents' educational status indicated that 63% have undergraduate and postgraduate education. Examining the respondents' cooperation record showed that 74% have less than 10 years of experience in working with cooperatives. In addition, it was found that 68% of the respondents are male.

Regression

Multiple regression method was used to investigate the causal relationship among the research variables. Therefore, each dimension was analyzed to examine their relationship between the dependent variable of sustainable livelihood and the rural cooperative approach. The stepwise method was used to enter the regression variables. The input of variables to the model continued until the significance of the variable reached 0.95. The financial, social, human, natural and physical capitals and the rural-cooperative approach were considered as independent and dependent variables, respectively. As shown in Table 2, social capital was included in the regression model, determining 28.3% of the variance of sustainable livelihood variable with the rural



approach. Second, natural capital was entered into a regression transaction, accounting for 34.8% of the variance of the sustainable livelihood with the rural cooperative approach along with social capitals. Third, the human capital incorporated into the regression transaction which explains 37.8% of the variance of the sustainable livelihood variable along with social and natural capitals. Fourth, physical

capital was involved in the regression transaction which indicated 39.7% of the variable variance of sustainable livelihood with a rural cooperative approach along with social, natural and financial capital. Furthermore, human capital was not included in regression analysis and the t value of this structure is 1.231 which failed to explain the variance of the dependent variable.

Table 2. Stepwise regression related to the contribution of the capitals affecting sustainable livelihoods with a cooperative village approach

| Predictor variable | R | R2 | Adjusted R ² | B coefficient | Beta coefficient | t Value | F | Sig. |
|--------------------------|-------|-------|-------------------------|---------------|------------------|---------|--------|-------|
| Fixed coefficient | 0.639 | 0.408 | 0.397 | 2.005 | | 1.421 | 34.836 | 0.157 |
| Social capital | | | | 0.208 | 0.277 | 4.110 | | 0.000 |
| Natural capital | | | | 0.259 | 0.245 | 3.935 | | 0.000 |
| Financial capital | | | | 0.168 | 0.186 | 3.089 | | 0.002 |
| Physical capital | | | | 0.185 | 0.162 | 2.686 | | 0.008 |

As shown, the research hypotheses were tested based on the status of such variables. A multivariate (multiple) regression model was used simultaneously to identify the factors affecting sustainable livelihoods. Multiple regressions indicate which factor has the greatest impact on sustainable livelihoods with a rural approach. Therefore, based on multiple regressions, independent variables consist of social, natural, financial, physical, and human capital as effective structures in explaining the sustainable livelihood of the cooperation members of a rural cooperative project. The results

obtained from multiple regressions indicate that the value of the adjusted coefficient of determination is $R^2 = 0.408$, indicating that 40.8% of the changes in the dependent variable are explained by the independent variables. Accordingly, social, natural, financial, and physical capitals are considered as the most important predictors and the factors affecting the sustainable livelihood of the cooperation members of the rural cooperative project, explaining 40.8% of the changes in the dependent variable (households' sustainable livelihood in the rural cooperative project).

Table 3. The linear effect of research variables to test the hypotheses of the research

| Row | Hypothesis | Result |
|-----|---|-----------|
| 1 | Financial capital has a significant effect on sustainable livelihoods based on a rural cooperative approach | Confirmed |
| 2 | Social capital has a significant effect on sustainable livelihoods based on a rural cooperative approach | Confirmed |
| 3 | Human capital has a significant impact on sustainable livelihoods based on a rural cooperative approach | Confirmed |
| 4 | Natural capital has a significant effect on sustainable livelihood based on a rural cooperative approach | Confirmed |
| 5 | Physical capital has a significant effect on sustainable livelihood based on a rural cooperative approach | Confirmed |

Beta values in Table 2 indicate that 0.208, 0.259, 0.168, and 0.185 units of changes are created in the sustainable livelihood variable per one unit of change in the social, natural, financial and physical capitals, respectively. Therefore, the following regression equation (Eq. 1) is written considering such coefficients. In addition, F statistic indicates that the variables entered in the model show a statistically significant expectation of the dependent variable changes.

$$Y=2.005+0.208 \quad x_1+0.259 \quad x_2+0.168 \quad x_3+0.185 \quad x_4$$

Using the above-mentioned formula, the factors affecting sustainable livelihood are estimated with the cooperative village approach and cares should be taken in developing their rural-cooperative project. Interpreting the regression function is as follows. The contribution of social, natural, financial and physical capital in predicting the households' livelihood of the rural-cooperative project is 0.208, 0.259, 0.168,

and 0.185, respectively. For example, their livelihood level increases as 0.259 units per each unit of increase in the standard deviation of natural capital. Considering the obtained beta value, the social capital variable had the largest contribution in explaining the dependent variable compared to other ones (sustainable livelihood of rural cooperative households). Then, natural, financial and physical capital variables had the greatest impact on household livelihood, respectively.

Discussion and conclusion

Today, the existence of some units in rural areas is considered as one of the rural development strategies. Additionally, a correct understanding of sustainable livelihood is one of the basic principles in achieving rural development goals. Therefore, it is necessary to move from traditional to sustainable living patterns in rural communities proportionate with the needs of today's society and environmental capacities to achieve sustainable rural



livelihood. Achieving a sustainable rural livelihood is not possible without considering the rural livelihood assets and capital. Due to the type of participatory exploitation system of the villagers, the rural cooperative project plays a key role in improving the living conditions of the members of each rural cooperative and region in the form of local development. Since more than three decades have passed since the life of the new cooperative system in the country, it seems necessary to evaluate the role of cooperatives in improving the livelihood of members in the framework of new approaches to world-wide livelihoods. Therefore, the present study aimed to investigate the effects of the rural cooperative project on the livelihood assets of households membered in cooperatives of a rural cooperative project. Considering the results of regression analysis, such factors were regulated based on five categories of social, economic, physical, natural and human capital as the main hypothesis, and the independent variables resulting were evaluated from such indicators. It is worth noting that all research in this field was conducted with a biological, social, economic approach as a case study and from one aspect only. The preceding and subsequent effects were not evaluated based on analogy, while the consequences of such a project before and after its implementation (considering all aspects of sustainable livelihood) were evaluated innovatively.

Hypothesis 1: Financial capital has a significant effect on sustainable livelihood based on the rural cooperative approach.

The results indicated that financial capital had a positive impact on the sustainable livelihood with a rural cooperative approach over the cooperative households with an impact factor of 0.186, obtained as the third influential factor, the results of which are consistent with those of Radfar and Paluch (2014), Fatemi Amareh (2011), and Vasi Mohammadi (2011).

Hypothesis 2: Social capital has a significant effect on sustainable livelihood based on a rural cooperative approach.

Accordingly, the result has the most impact with a coefficient of 0.227 and is in line with those of Heidari Al-Kathir (2014) and Vasi Mohammadi (2011).

Hypothesis 3. Human capital has a significant effect on sustainable livelihood with a rural cooperative approach. Human capital was included in the regression analysis with the t value of 1.231, which could not explain the variance of the dependent variable.

Hypothesis 4: Natural capital has a significant effect on sustainable livelihood based on a rural cooperative approach.

Natural capital had a positive impact on sustainable livelihoods with a rural cooperative approach on cooperative households with an impact factor 0.245, regarded as the second influential factor. The rural cooperative project has become a solution to reduce the pressure on land resources and ultimately prevent environmental degradation. In addition, it could use water resources optimally through

comprehensive projecting and management due to the water crisis and its effects on surface and groundwater resources. Such findings are in consistent with those of Amral Poursani (2010) since they suggested that how water supply can affect the livelihood activities of villagers and improving access to water resources makes household livelihoods less vulnerable. Further, the results are in line with those of Nouruzi and Hayati (2015). The fifth hypothesis “physical capital has a significant effect on sustainable livelihood with the rural cooperative approach” is confirmed which is at the lowest level of influence and is in line with those of Heydari Al-Kathir (2014).

As mentioned, the results of regression analysis (stepwise method) indicated that the most important factors affecting livelihood were related to social, natural, financial and physical capitals, respectively, among five categories of structures. In addition, Ahmed et al. (2008), Pravakar et al. (2013) and Sheriff et al. (2008) considered the existence of livelihood capital as necessary for stability and improvement of living standard. Therefore, the villagers’ access to livelihood capital is considered as one of the most important aspects affecting the sustainability of their livelihood. Based on the results indicating the positive effect of cooperative village project units on the livelihood capital of their households which are cited as a general result in the present study, some suggestions are made as follows.

It is suggested that necessary policies be developed for establishing rural cooperatives

in the framework of the rural cooperative project with a variety of trends in both agricultural and non-agricultural activities to meet poverty reduction and achieve sustainable livelihoods. In addition, necessary support is conducted for developing the market of manufactured products such as import management at the time of harvest of cooperatives to regulate the market and government support for better development and using the capabilities of the cooperative sector in flourishing indigenous rural capacities in the rural cooperative project. Accordingly, the rural cooperative project leads to the creation of financial capital and improving employees’ income in this job. Increasing income is considered as one of the ways to reduce poverty and inequality and improve current assets and production. To increase revenue and further prosperity of the activity, some measures should be taken to reduce electricity and water tariffs, subsidies are assigned for production inputs, helping marketing, supplying products and paying low-interest banking facilities along with tax exemptions. Therefore, the rural cooperative project has a positive effect on the components of natural capital such as agricultural land, water and natural resources. Further, non-agricultural activities such as handicrafts or ecotourism which operate simultaneously with the agricultural working season be created and expanded to increase production and optimally use water and facilities, as well as witnessing an improvement in production in rural areas.

Accordingly, the rural cooperative project has a positive effect on the components of



physical capital. Therefore, it is suggested to improve the physical capital of the household member of the rural cooperative project including purchasing transportation equipment, creating a suitable road, and providing more access to media and communication networks.

Finally, since such project led to improved capital, like the study of Paul & Vogl (2013), talented villagers with small lands and low capital should be encouraged to cooperate in the rural cooperative project, and encourage them to develop financial and social capital by joining such organizations and cooperatives through their creation and strengthening, as well as the cooperatives of rural development in the form of rural project.

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