



Journal of Environmental Sciences Studies

Journal home page: www.jess.ir

Study and analysis of facilitation approach and participation in empowerment of informal settlements

Lotfollah Maleki^{a*}, Ayyoub Mahmoudi^b, Behnam Arik^d

^a. Ph.D, Department of Geography and Urban and Rural Planning, University of Mohaghegh Ardabili, Ardabil, Iran.

^b .Ph.D. student, Department of Sociology of Development, Islamic Azad University, Central Tehran Branch, Tehran, Iran.

^d. Ph.D. student, Department of Sociology of Development, Islamic Azad University, Khalkhal Branch, Ardabil, Iran.

*Email Address: malekei_1350@yahoo.com

Received: (2022-06-07)

Accepted:(2022-08-23)

Abstract

Empowerment of neighborhoods requires the participation of all neighborhood citizens to achieve control and influence on the factors that determine the quality of life in that neighborhood, which is one of the essential goals in the sustainable development of communities. The present study investigates and analyzes the facilitation and participation approach in empowering informal settlements in Ardabil using survey and questionnaire techniques. The statistical population of the present study consists of all residents of the thirteen neighborhoods of Ardabil. This population includes districts 3 and 4 of the municipality, and according to the 2016 population and housing census, the neighborhood population is 84,732. Based on Cochran sampling, 384 people were selected as a statistical sample, and with a combination of multi-stage and quota cluster sampling, samples were determined. Pearson correlation coefficient and multivariate regression tests were used to test the research hypotheses. The results show a significant relationship between the dimensions of local community capital (formal and informal communication networks of neighborhoods, cooperation, trust, participation) and the empowerment of informal settlements socially, economically, physically, and environmentally. Regression analysis showed that 64% of changes in local community capital in empowering informal settlements in Ardabil could be explained and predicted. Finally, the regression analysis showed that the beta variable of local community capital is 0.34, and the beta value of formal and informal communication networks is 0.26. Also, the beta value of cooperation is 0.29, which shows that the variable of local community capital is that Its dimensions of cooperation have the most significant share in the changes of empowerment of informal settlements in Ardabil.

Keywords: Empowerment; Participation; Informal Settlements; Ardabil

Introduction

Migration from rural to urban areas in Ardabil has also coincided with land reform. In the years after the victory of the Islamic Revolution and the imposed war in the sixties. The phenomenon of migration has increased informal settlements Around the city of Ardabil, especially in the northwest of the town. These areas, while now a complete and exceptional example of territories that were created informally and for some time were deprived of civil services related to the sphere of influence of the city of Ardabil, now as part of the legal boundaries of Ardabil city, have the most worn-out texture and body of the settlement (Ardabil city master plan, 1390). The empowerment policy of

these neighborhoods has always been foreseen in the urban development plans upstream of Ardabil. Various strategies have been presented to complete the organization of these neighborhoods. In recent years, facilitation offices have been established to empower the residents of this neighborhood. Areas are considered and implemented. Facilitation can be an effective way to provide a model of resident participation in empowerment policies in informal settlements (Ahmadian, 2003; Amado et al., 2009), as Shamaei (2015), Nasiri (2014) , Piri and Rezaian (2013) and related research

The role of facilitation in organizing informal and suburban textures of the city is mentioned. The

neighborhoods that are located in the informal settlements can be Iranabad, Mirashraf, Yahya Abad, Karima Abad, Salmanabad, Orujabad, Islamabad, Hosseinabad, Panahabad, and pointed to villages such as Golmoghan, Malayosef, Malabashi, Ahmadiéh neighborhood, etc. (Ardabil city master plan, 1390). This research tries to analyze the facilitation approach to empowering these neighborhoods. Informal and marginal settlements are prominent figures of urban poverty formed in or near cities, especially in large cities, in the form of cars, without a license and planning, with an accumulation of low-income groups and a low level of quantity and quality of life. This phenomenon has led to numerous severe problems, including high levels of unemployment in cities, overwhelming pressure on urban services and infrastructure, and severe inadequacies in providing housing for urban residents. According to the United Nations, marginalization and colonization have been identified as the main challenges of the third millennium. Accordingly, one in six people in the world lives in slums. Without the joint action of the government and the participation of residents, the population of one billion slums will reach two billion by 2030. In Ardabil, unplanned migration from villages, urban development, and the uncontrolled growth of informal and unconventional settlements in or near the city have become the most critical issues.

Informal settlements, which have emerged as thirteen neighborhoods in the city, occupy a large part of the population and area of the town, and this justifies the need to pay attention to the organization of informal settlements in Ardabil. In particular, the relative correlation of this social phenomenon with social harms such as (divorce, addiction, unemployment of out-of-school children, and working children) has made it necessary to identify and plan purposefully to overcome these bottlenecks. Empowerment of these neighborhoods requires the participatory action of all neighborhood citizens to achieve control and influence on the factors that determine the quality of life in that neighborhood, which is one of the essential goals in the sustainable development of communities. Therefore, according to the objectives of the research, the following hypotheses are raised:

- 1- Is there a significant relationship between local community capital (formal and informal communication networks of neighborhoods, cooperation, trust, participation) and empowerment of informal settlements in Ardabil?
- 2- Is there a significant relationship between local community capital and physical empowerment of informal settlements in Ardabil?
- 3- Is there a significant relationship between the dimensions of local community capital and social empowerment of informal settlements in Ardabil?
- 4- Is there a significant relationship between local community capital and economic empowerment of informal settlements in Ardabil?

- 5- Is there a significant relationship between local community capital and environmental empowerment of informal settlements in Ardabil?

2. Fundamentals and theoretical framework

Marginalities and informal settlements The Achilles heel of new urban management, especially in, is one of the main challenges of sustainable urbanization (Naqdi, 1392: 35). Provide marginalization. In this regard, liberal theorists believe that these places should be left alone so that invisible market groups can find a solution for them. This view does not address the origins and formation of these settlements. It considers the phenomenon of marginalization as one of the requirements of industrial society (Soltani, 1382: 42), and its supporters, until the early 1923s, believed that informal settlements are a transitional phenomenon that could be overcome by economic development. UN Informal Settlements, The radical view of the strategic planning approach was to empower marginalized neighborhoods. And the analysis of the growth of informal communities is not possible outside the study of the processes of the capitalist system (Irandoost and Sarrafi, 1300: 66). In the late 1903s, an empowerment strategy was introduced, emphasizing the core content of these settlements, which is a man and his activities. The drafting of the empowerment strategy and its adoption at the UN General Assembly was a significant revolution in studying marginalization and the paradigms of urban studies (Kritzman, 1992: 321). Empowerment strategy is the most appropriate solution to organizing marginalization (Exchange, 1302: 221), Which seeks to improve the living conditions of poor communities and gives people the opportunity to enhance their place of residence according to their needs (Gharkhloo and Mireh, 1306: 112). Thus, the empowerment strategy and physical-environmental improvement pay special attention to the human aspects of informal settlements. With more emphasis on eliminating the incapacities and disabilities of individuals in mental and physical dimensions, it seeks to expand the poor's abilities to "participate, negotiate, influence and take responsibility for the institutions that affect their lives." Comparing the approach and principles of empowerment with previous approaches related to the issue of marginalization indicates that the empowerment approach offers different paradigmatic foundations in terms of epistemology, ontology and methodology in dealing with the issue of marginalization because of the specific orientation, specific perspective and ideology. Using a systemic approach involving physical-environmental, socio-cultural, economic, and urban management indicators in establishing social justice, emphasizing the participation of neighborhood residents in neighborhood decisions, formulating policies based on reducing inequality in access to urban services, adopting an approach Humanism in solving the problems of marginalized neighborhoods has led to the

above approach as a reaction against one-dimensional systems and paradigms in marginalized studies. From the beginning of the emergence of the phenomenon of informal housing over time and according to economic and social conditions and general attitudes, different approaches to solving the problem were on the agenda. These approaches have never been uniform and followed a coherent procedure, but they are also diverse in other parts of the world. Assuming that the cause of informal settlements is poverty and structural factors, many policymakers at the macro level have sought macro solutions to this phenomenon. Focusing on macroeconomic policies, including poverty alleviation policies and policies that seek to increase the median income and create social justice, has always been considered the root cause of poverty and slums. Meanwhile, many experts emphasize the importance of social policy at the national level that focuses on social intervention versus economic intervention as a complement to development factors; Social policy shows how government action is effective in the welfare of its citizens. Although the social policy is similar to economic policy, economic policy considers individuals as decision-makers in the labor market and production. In contrast, social policy views them as members of social groups. (Perlman, 2004: 121). Table 1 summarizes the dominant approaches to planning and problem solving of informal settlements.

Community-centric (complete) since 2000	A combination of empowerment and emphasis on decent governance (especially the right to housing) was considered a local community	2000
---	---	------

3. Explanation of the concept and approach of empowerment

As mentioned earlier, empowerment of the local community and related local development is a centralized and participatory approach. It is a kind of upgrade related to securing property rights and economic development in slums and participating in the construction. Construction and improvement of the neighborhood, the need for the involvement of neighborhood residents in the decision-making and planning process to identify priorities for action and support in implementation is essential. The theory of empowerment, sometimes translated as empowerment, was first coined by Rapaport (1997) in social psychology. Therefore, if power is the ability of individuals to anticipate control and participation in the environment, then it can be said that empowerment is a process during which individuals in communities can use such power. Here, participation is a mediator used in the movement towards authority. There is a two-way and direct relationship between empowerment and empowerment, which makes one meaningless without the other because empowering citizens without empowerment and decision-making without empowerment. Enabling means increasing the ability of citizens to reduce the need for services and rely on themselves and socio-individual capital, which will not achieve the desired result. The empowerment strategy emphasizes the mobilization of all potential facilities and resources and all factors to create housing and improve the living conditions of poor communities and gives people the opportunity to enhance their homes and living conditions according to their priorities and needs. Upgrading and empowering local communities is a new approach to solving the urban poverty problem in which building engineering is no longer the only solution. However, it can be a subset of social engineering with the support and facilitation of the public sector, local NGOs, and active participation (Hadizadeh Bazaz, 2003: 37). Empowerment policies are based on the principles of delegation of decision-making and based on the fact that decisions related to investment in domestic economic, social and material development resources should be at the lowest level of efficiency and the lowest level of efficiency for most promotion activities. And the effectiveness of the social level is local and neighborhood (Irandoost: 1388: 135). Concerning the concept of empowerment, many recent texts, especially those related to the World Bank, refer to the idea of empowerment, which generally refers to the expansion of freedom in the field of choice and

Table 1. Summary of dominant approaches in planning and problem solving of informal settlements

The approach of the period of prevalence and mastery of the main points	The approach of the period of prevalence and mastery of the main points	The approach of the period of prevalence and mastery of the main points
Ignore until the 19s	- The problem will be solved with economic development in the whole society	Ignore until the 19s
Forced removal and evacuation of some countries from 1960 to 1980	Informal settlements are filthy on the body of the city and must be dismantled	Forced elimination and evacuation from 1960 to 1980 in some countries until now
Self-help	- Utilizing the labor force, skills and management ability of residents in problem solving	1970-1980
Public housing (social)	Government and government resources are the key to solving the problem. Need for targeted housing subsidies	1970-1980
Place - Services	. Providing land and basic infrastructure is the solution	1970 to 1980
Sectional upgrade (improvement)	Securing the right to housing and infrastructure by taking advantage of the current situation	1980 to date
Empowerment	- Creating a political, administrative and environmental framework	1990 until now

action. This freedom is severely restricted for the poor society by their lack of power and weakness (politically-civilly), especially in their relationship with the government and the market. Empowerment means increasing the opportunities and assets of the poor to participate in negotiations, express opinions, control, and maintain ties with the responsible institutions that are influential in their lives. The World Bank defines key elements in empowerment, access to information, participation and engagement, accountability, and local organizational capacity. From this perspective, given that poverty is multidimensional, the poor need a level of assets and facilities at the individual level (health, education, housing) and at the general level (ability to organize) to launch "collective work" to solve their problems. (Potter and Evans, 231: 1384). In empowerment, the participation of poor individuals and groups in politics and decision-making in urban society is organic. A partnership is formed based on a bilateral dialogue, and the citizen, by gaining identity through this dialogue, also identifies their habitat and causes it to enter the public sphere. The formation of informal settlements that had a common starting point and at the same time with the Industrial Revolution has continued until now and is based on geographical conditions and factors influencing their formation and governing system structures in different forms in developing and developed countries. Today, such life patterns in cities are growing at such a risk that since the early 1970s, various commissions, such as the United Nations Commission on Human Settlements, have been working on several solutions. The strategies of the Human Settlement Commission in 1996 as suitable and sufficient housing for all and sustainable development and its executive strategies in 1997 are called the shelter for all examples of these activities.

In the late 1980s, liberalization and economic stabilization policies in general and housing policies, in particular, were criticized, and the need to change them became apparent. This change generally addresses the need to strike a balance between the role of the private and public sectors and to rely unilaterally on one of them. This approach was not limited to the World Bank and the International Monetary Fund; This approach, called empowerment, was adopted by the United Nations General Assembly in 1987 and became a global shelter strategy. (Alaei, 9,1385). In this new approach to housing policies, which can be said to be known as the "basic need" in the form of a new system in development economics, the social and economic categories of development are treated equally. This time it tries comprehensively that projects Individually link low-income housing to the macroeconomics of government economic programs, financial markets, physical planning, etc. The main axes of this approach are: establishing a complete link between the housing sector and macroeconomic planning; a comprehensive link between housing

planning and urban planning; policy orientation to achieve "empowerment" of households using non-governmental organizations and organizations based on Communities such as self-governing organizations that are affiliated with government activities and market performance. Thus, in the second half of the 1980s, to find a policy that covers both the weakness of the household economic and the non-use of collective power and can be used for existing informal settlements, an empowerment strategy was proposed along with upgrading or improving existing environments. Meshgini and others, 1390: 128).

4. Types of intervention patterns in informal housing and their pathology

From the beginning of the emergence of informal settlement, according to the social and economic conditions and prevailing attitudes, different approaches and models to solve the problem were on the agenda. Ignoring slums, meanwhile, is the first common denominator derived from the school of liberalism. The proposed solution to this view is basically to tolerate such places and leave them in the invisible hands of the market, which will think of a resolution at any rate. With the passage of time and the failure to achieve the goals and the fact that economic development can not create the expected change in low-income settlements and solve the problem, coercive methods and some elimination of the phenomenon and consequently forced evacuation and settlement destruction to an approach Became pervasive. However, the different experiences of the above procedure showed that this approach does not solve the problem but transfers the issue to the cities.

Self-help has been another method used in informal settlements. Self-help refers to the use of labor, skills, organizational talent, and the ability of household management to build and improve their housing unit (Alkoyan, 1364: 67). However, the lack of property rights for residents, the poor ability to invest in construction, the mechanism and consequently the prolongation of the construction period, and the instability of housing has caused the above approach to not be accepted by most planners. Public housing is another comprehensive approach to solving the problem of informal settlements. This pattern has the highest level of government intervention. The plan's high cost, the inconsistency of the plan of the units with the lifestyle, the emphasis on unrealistic standards, and the inability of the owners to pay the installments were among the reasons that led to the failure of this plan (Shokouei, 1355: 79). Following the public housing, the model was the place and service model, which aims to provide plots of land with basic infrastructure for target groups. Administrative delays and lack of skilled human resources, relocation of people and gathering of people with ethnic and racial diversity, and lack of financial resources are among the problems of this plan. In

general, issues of location and service plans and other policies and their failure have led to an approach to upgrading or improving slums. This approach has been considered by policymakers and city managers in developing countries more than any other approach in the last two decades. Improvement is, in fact, the abandonment of some elimination approaches and the acceptance of the reality of the phenomenon of informal settlements by urban management and urban policymakers. Upgrading part of the poor neighborhoods is associated with increasing value. Increasing the value of land and housing brings an increase in income, health promotion, and skills. Other promotional benefits include maintaining the existing social structure, disrupting the economic system, maintaining low-cost housing, and minimizing or minimizing the problems and negative consequences of resettlement. (409: 1995, Ranvinder & Aldrich quoted from Irandoost, 2009, 123) . However, from the second half of the 1980s onwards, an empowerment strategy along with improvement was recommended. The empowerment method is a global strategy for providing housing for the poor, which was also adopted at the 2000 UN General Assembly. This approach as a social policy stems from the view that reducing urban poverty requires simultaneous management of the physical, economic and social aspects. This strategy emphasizes the mobilization of all facilities and potential factors to provide housing and improve the living conditions of informal settlements and gives people the opportunity to improve their housing and living conditions according to their priorities and needs (Jabbari, 1997). This pattern is a recent approach to dealing with informal settlements.

5. Research method

The present study is a descriptive survey. To formulate the theoretical framework of the research, additional techniques such as library and documentary studies have been used. The statistical population of the present study is all citizens aged 16-65 years old living in the thirteen neighborhoods of Ardabil, which includes districts 3 and 4 of the municipality. A selected sample of a researcher-made questionnaire was used to collect information. In this study, a researcher-made questionnaire and a constructive interview have been used to assess and analyze the identity of urban neighborhoods by emphasizing the sense of belonging to the place in the thirteen neighborhoods of Ardabil.

Table 2- Cronbach's alpha of the variables studied in the study

Variables	Cronbach's alpha
Formal and informal communication networks of neighborhoods	0.86
Cooperation	0.81
the trust	0.83

participation	0.88
Local community capital	0.85
Physical	0.71
social	0.75
Economical	0.72
environmental	0.76
Empowerment	0.74
General alpha of variables	0.8

The following two methods have been used to analyze the statistical information obtained from the questionnaire and test the research hypotheses:

A) Application of statistical techniques at the descriptive level, which is based on drawing one-dimensional tables and histograms and interpreting tables and graphs.

B) The use of statistical techniques at the inferential level, which includes Pearson correlation coefficient and regression model.

It should be noted that all calculations and drawings of charts and tables have been done through SPSS21 software.

The statistical sample studied in this study is 384 people. Therefore, in the descriptive statistics section, the characteristics and general conditions of the respondents and the statistics related to the indicators of inclination to the center are specified.

6. Descriptive analysis

Table 3- Frequency distribution of respondents by gender

Gender	abundance	Percentage
Female	151	39.33
Male	233	60.67
Total	384	100

According to Table 3, 39.33% of the respondents are female, and 60.67% are male.

Table 4- Frequency distribution of respondents by age

age	abundance	percentage
Under 25	48	12.5
26-30	61	15.89
31-35	45	11.72
36-40	76	19.79
41-45	42	10.94
46-50	36	9.37
51-55	40	10.42
56-60	22	5.73
Up to 61	14	3.64
total	384	100

According to the results of Table 4, 12.5% of the respondents were under 25 years old, 15.89% were 26 to 30 years old, 11.72% were 31 to 35 years old, 19.79% were 36 to 40 years old, 10.94% were 41 to 45 years old, 9.37 percent were 46 to 50 years old, 10.42 percent were 51 to 55 years old, 5.73 percent were 56

to 60 years old and 3.64 percent were up to 61 years old.

Table 5 - Frequency distribution of respondents by education

Education	abundance	Percentage
High school	88	22.91
Diploma	56	14.58
Associate Degree	55	14.32
Bachelor's degree	91	23.69
Master's degree	68	17.7
Ph.D.	26	6.7
Total	384	100

According to Table 5, 22.91% of the respondents' education is High school, 14.58% diploma, 14.32% associate degree, 23.69% bachelor's degree, 17.70% master's degree, and 6.70% Ph.D.

Table 6- Central indicators and variable distribution of local community capital and its dimensions

Factor	Local community capital	participation	Trust	Cooperation	Formal and informal communication networks of neighborhoods
Average	2.7	3.11	2.89	2.46	2.37
Std. deviation	0.66	0.83	0.68	0.59	0.54

According to Table 6, the average of neighborhoods' formal and informal communication networks is 2.37, cooperation and cooperation is 2.46, trust is 2.89, participation is 3.11, and the dimensions of local community capital are 2.70.

Table 7- Central indicators and dispersion of empowerment variable and its dimensions

Factor	Empowerment	Environmental	Economic	Social	Physical
Average	2.96	3.14	2.91	2.79	3.01
Std. deviation	0.74	0.85	0.7	0.66	0.78

According to Table 7, the average physical empowerment is 3.01; social is 2.79; economic is 2.91; environmental is 3.14; and green empowerment is 2.96.

6. Inferential statistics

In this section, after quantifying and summarizing the scores, the answers to the questions related to each research question have been examined to examine the research hypotheses. For quantification, the scores (1 to 5) of the inquiries related to each variable are added together. First, with the help of the Kolmogorov-Smirnov test, we investigate the normality of the distribution of independent and dependent variables of the research. In the Kolmogorov-Smirnov test, the null hypothesis is equal to the normality of the desired variable distribution. If the significance level of the difficulty is less than 0.05, the null hypothesis is

rejected, and the distribution of the variable is not normal. If the distribution of the variables is expected, we use parametric tests and, otherwise, non-parametric tests to test the hypotheses.

7. Check the normality of the data

In this section, we first examine the normality of the variables of local community capital dimensions: formal and informal communication networks of neighborhoods, cooperation, trust, participation, and empowerment dimensions: physical, social, economic, and environmental. The test's null hypothesis is (H0): the normality of the distribution of variables. The opposite assumption is (H1): abnormality of the distribution of the variable under study. If the significance level of the test is less than 0.05, the null hypothesis is rejected, and it can be said with 95% confidence that the data distribution is not normal. If the significance level of the test is more than 0.05, we accept the null hypothesis, and the data distribution is normal.

Table 8- Checking the normality of the distribution of variables

Variables	Significance level	Results	The statistical value of z
Local community capital	0.412	P> 0.05 Accepting the null hypothesis of a standard variable distribution.	0.886
Formal and informal communication networks of neighborhoods	0.255	P> 0.05 Accepting the null hypothesis of a standard variable distribution.	0.782
Cooperation	0.377	P> 0.05 Accepting the null hypothesis of a standard variable distribution.	0.911
Trust	0.116	P> 0.05 Accepting the null hypothesis of a standard variable distribution.	1.192
participation	0.098	P> 0.05 Accepting the null hypothesis of a standard variable distribution.	1.14
Empowerment	0.238	P> 0.05 Accepting the null hypothesis of a standard variable distribution.	0.753
Physical	0.126	P> 0.05 Accepting the null hypothesis of a standard variable distribution.	1.08
Social	0.376	P> 0.05 Accepting the null hypothesis of a standard variable distribution.	0.948
Economic	0.174	P> 0.05 Accepting the null hypothesis of a standard variable distribution.	1.36
Environmental	0.217	P> 0.05 Accepting the null hypothesis of a standard variable distribution.	0.631

According to Table 8, the significance level of the normality test of variables is more than 0.05. Therefore, the null hypothesis is accepted, and it can be said with 95% confidence that the distribution of the variable is normal; Therefore, we use the parametric test to test the relevant hypotheses.

8. Investigation of research hypotheses

8.1 The first hypothesis

There is a significant relationship between the dimensions of local community capital (formal and informal communication networks of neighborhoods, cooperation, trust, participation) and the empowerment of informal settlements in Ardabil.

Table 9 - Pearson correlation coefficient results to determine the correlation between local community capital and empowerment of informal settlements

The first variable	The second variable	Number	Correlation coefficient	Sig.
Local community capital	Empowerment of informal settlements	384	0.71	0.002

****.** Correlation is significant at the 0.01 level (2-tailed).

According to Table 9, considering that the significant level of test error for the confidence level is 0.99 less than 0.01 (sig = 0.000), it can be said that the hypothesis is confirmed and between the dimensions of local community capital. There is a significant relationship between the empowerment of informal settlements in Ardabil. As the size of the local community increases, so does the empowerment of informal settlements because the correlation coefficient between the two variables is positive (0.71) and indicates a strong and positive relationship between the studied variables.

8.2 The second hypothesis

There is a significant relationship between the dimensions of local community capital and the physical empowerment of informal settlements in Ardabil.

Table 10 - Pearson correlation coefficient to determine the correlation between local community capital and physical empowerment of informal settlements

The first variable	The second variable	Number	Correlation coefficient	Sig.
Local community capital	Physical empowerment	384	0.62	0.000

****.** Correlation is significant at the 0.01 level (2-tailed).

According to Table 10, there is a significant relationship between the dimensions of local community capital and the physical empowerment of informal settlements in Ardabil. The Pearson correlation coefficient test results indicate that with a

confidence level of 0.99 and an error level of less than 0.01 (sig = 0.000), the hypothesis is confirmed, and the correlation coefficient between the two variables is equal to 0.69. It indicates a positive and robust relationship between the two variables.

8.3 The third hypothesis

There is a significant relationship between the dimensions of local community capital and the social empowerment of informal settlements in Ardabil.

Table 11 - Pearson correlation coefficient to determine the correlation between local community capital and social empowerment of informal settlements

The first variable	The second variable	Number	Correlation coefficient	Sig.
Local community capital	Social empowerment	384	0.74	0.000

****.** Correlation is significant at the 0.01 level (2-tailed).

According to Table 11, the Pearson correlation coefficient is 0.74, and the significance level of the test is 0.000. Since the significance level of the test is less than 0.01 (P <0.01); Therefore, the research hypothesis is accepted, and there is a significant relationship between local community capital and social empowerment of informal settlements in Ardabil. Also, the Pearson correlation coefficient number indicates a strong and direct connection.

8.4 The fourth hypothesis

There is a significant relationship between local community capital and economic empowerment of informal settlements in Ardabil.

Table 12 - Pearson correlation coefficient to determine the correlation between local community capital and economic empowerment of informal settlements

The first variable	The second variable	Number	Correlation coefficient	Sig.
Local community capital	economic empowerment	384	0.666	0.009

****.** Correlation is significant at the 0.01 level (2-tailed).

According to Table 12, there is a significant relationship between local community capital and the economic empowerment of informal settlements in Ardabil. The Pearson correlation coefficient test results indicate that the hypothesis is confirmed with a confidence level of 0.99 and an error level of less than 0.01 (sig = 0.009). The correlation coefficient between the two variables is equal to 0.69. It indicates a positive and robust relationship between the two variables.

8.5 The fifth hypothesis

There is a significant relationship between local community capital and environmental empowerment of informal settlements in Ardabil.

Table 13 - Pearson correlation coefficient to determine the correlation between local community capital and environmental empowerment of informal settlements

The first variable	The second variable	Number	Correlation coefficient	Sig.
Local community capital	economic empowerment	384	0.56	0.000

****.** Correlation is significant at the 0.01 level (2-tailed).

According to Table 13, the significance level of test error for the confidence level is 0.99, less than 0.01 (sig = 0.000). It can be said that the fifth hypothesis is confirmed, and between the local community capital, There is a significant relationship between environmental empowerment of informal settlements in Ardabil. The correlation coefficient between the two variables is equal to 0.56. It indicates a positive and moderate relationship between the studied variables, i.e., the more the local community capital increases, the more environmental empowerment increases, and vice versa.

9. Investigation of variables using the regression model

Table 14- Summary results of multiple regression model in simultaneous method to predict the variables of local community capital, formal and informal communication networks of neighborhoods, cooperation, and cooperation, trust, and participation by empowering informal settlements in Ardabil

Adjusted determination coefficient	Determination coefficient	Correlation coefficient
0.63	0.64	0.8

According to Table 14, the correlation coefficient column expresses the degree of correlation between the dependent and independent variables. This correlation is 80%, which indicates the effect of independent variables on the empowerment of informal settlements in Ardabil. The coefficient of determination column expresses the prediction value of the dependent variable by the independent variables, which is equal to 64%, which indicates that 64% of the changes in the dependent variable can be attributed to the changes in the independent variables.

Table 15- Results of one-way analysis of variance

	Sum of squares	Mean square	F	Freedom degree	Sig.
Regression	8762.867	2190.717	8.636	4	0.000
Error	96146.289	253.684		379	
Total	104909.156			383	

According to the results of Table 15 of regression analysis of variance, to check the certainty of a linear relationship between variables. As the results of the table show, because the significance level is less than 0.01; Therefore, it can be said that the use of the linear regression model is unobstructed. Or in other words, independent variables can predict the dependent variable. In Table 16, we deal with the information related to each independent variable.

Table 16- Multiple regression test results

Independent variable	t value	Standardized beta	Std. deviation	Regression coefficient	Sig.
Constant	2.072	-	1.667	3.454	0.039
Local community capital	6.78	0.34	0.106	0.721	0.000
Formal and informal communication networks of neighborhoods	5.335	0.261	0.1	0.532	0.000
Cooperation	4.705	0.29	0.089	0.42	0.000
Trust	0.368	0.02	0.091	0.034	0.713
participation	0.025	0.001	0.065	0.002	0.98

In Table 16, the coefficients of independent variables and the extent of their impact on the dependent variable, and the significance of each coefficient are performed. To formulate a regression equation, we need information such as the constant value of the equation or regression coefficients or β and the linearity test, which is determined from a significant level. As shown in the Table, the first row belongs to the constant value of the equation, which is equal to 3.45. The test statistic is equal to 2.072. The point to be noted is the significance of this statistic, which is equivalent to 0.03; since the significance level of this statistic is less than 0.05, it can be said that it is significant. The second row of the Table belongs to the effect of local community capital on the dependent variable. As can be seen from the Table, the beta level is equal to 0.34, and the test statistic is equivalent to 6.78. And since this value is less than 0.01, it can be concluded that it is significant and enters the regression equation. The third row is about the effect of neighborhood formal and informal communication networks on the dependent variable. As shown in the

Table, the beta coefficient equals 0.26, and the test statistic is 5.33. The level of significance is equal to 0.000, which is less than 0.01, so it can be concluded that it is significant. This variable affects the dependent variable and enters the regression equation. The fourth row is about the effect of cooperation and collaboration on the dependent variable. As shown in the Table, the beta coefficient equals 0.29, and the test statistic is 4.70. The level of significance is equal to 0.000, which is less than 0.01, so it can be concluded that it is significant. This variable affects the dependent variable and enters the regression equation. The fifth row is about the effect of trust on the dependent variable. As shown in the Table, the beta coefficient equals 0.02, and the test statistic is 0.36. The level of significance is equal to 0.713, which is greater than 0.01, so it can be concluded that it is not significant. This variable does not affect the dependent variable and does not enter the regression equation. The sixth row is about the effect of participation on the dependent variable. As shown in the Table, the beta coefficient equals 0.001, and the test statistic is 0.025. The level of significance is equal to 0.98, which is greater than 0.01, so it can be concluded that it is not significant. This variable does not affect the dependent variable and does not enter the regression equation.

10. Conclusion

The research hypotheses show a significant relationship between the dimensions of local community capital (formal and informal communication networks of neighborhoods, cooperation, trust, participation) and empowerment of informal settlements socially, economically, physically, and environmentally. There is. Also, a regression study of research variables showed that 64% of changes in local community capital in empowering informal settlements in Ardabil could be explained and predicted. Therefore, the following practical suggestions in social strategies, economic strategies, physical strategies, environmental strategies, and management strategies can be a way out of the problem and facilitate and participate in the study of real-world empowerment. To be. Therefore, according to the results, the following suggestions are presented.

- 1- Construction of educational-health space (lack of kindergarten, high school, and vocational school in the suburbs)
- 2- Strengthening non-governmental institutions, in addition to helping to create newer institutions to promote welfare programs and services (social empowerment)
- 3- The movement of government institutions to build trust, increase the willingness to participate and, as a result, promote social capital.
- 4- Strengthening the security of housing by issuing a formal ownership document without going through the usual administrative processes along with financial facilities for the owners of these neighborhoods

- 5- Granting financial facilities in case of inefficiency of the policy of legalizing property rights and issuing an official ownership document;
- 6- Removing legal barriers and helping to benefit from financial facilities, of course, by emphasizing the return of these resources, not gratuitous and continuous aid that leads to continued dependence;
- 7- Preventing the continuation of the process of illegal and unlicensed constructions by urban management organizations and municipalities
- 8- Creating the ground for benefiting from low-interest loans and a chain guarantee for the renovation of worn-out structures and the construction of housing according to standard urban planning regulations.
- 9- Institutionalizing a policy based on interaction and action-oriented cooperation with informal non-governmental organizations such as religious delegations and the neighborhood level to preserve the environment.
- 10- Creating security of occupation for residents to gain their trust for active participation in empowerment programs due to informal occupation of housing or land, fear of losing property hinders their trust and relationship with the municipality and others. Organizations become urban. Therefore, thinking of a plan to address this issue can help improve the process of resident participation and, as a result, the success of empowerment projects.

References

1. Ahadnejad Roshati, M; Zadvali, Sh; Zadvali, F. (May 2013). Informal housing and sustainable urban development, challenges and consequences among the suburbs north of Tabriz. Article published in the conference of the first national conference on urban planning and architecture over time, Qazvin: Imam Khomeini International University. (*in Persian*).
2. Ahmadian, R. (2003). Inefficient and unrealizable urban development plans. *Journal of Municipalities*, 5(50), 12-18. (*in Persian*).
3. Akhavan tafti, M; seif, S. (1995). Post-divorce shock, the effect of parental separation on children, *Journal of Counseling Research*, 3(4), 59-75. (*In Persian*).
4. Asadi Mahal Chali, M. (2015). Community-based empowerment in order to achieve good urban governance, Tehran: Armanshahr Publications. (*In Persian*).
5. Asadi Mahal Chali, M. (May 2014.). Explain the principles and methods of empowering people in local communities in order to promote good urban governance. Article published in the National Conference on Culturalistic Urbanism, Isfahan: Sheikh Baha'i University. (*In Persian*).
6. Asghari Lafmejani S, Shahraki E, Naderian far M.(2016). Barriers to social and economic empowerment of rural households Case: patients protected by the Imam Khomeini Relief

- Committee in Sistan Region. Journal of space economy and rural development. 5 (15) :103-124(*in Persian*).
7. Irandoost, K; Sarrafi, M. (2005). Despair and hope in informal settlements: a case study of Kermanshah, Social Welfare Quarterly, 7 (26), 201-221. (*In Persian*).
 8. Bastani, S. (2008). Investigating the social capital of the network in 10 neighborhoods of Tehran: Investigating the position of local relations in social networks. Journal of Social Studies, Iran 2 (2), 55-75. (*in Persian*).
 9. Bibi, E. (2007). Research Methods in Social Sciences, (Translated by Reza Fazel). Tehran: Samat Publications. (*in Persian*).
 10. Pashaeizadeh, Hossein (2008). An overview of the Delphi method. Peik Noor Journal - Humanities, 6 (2), 63-79. (*in Persian*).
 11. Piri, E; Rezaeian, m.(2013). empowerment of informal settlements based on asset based policies of communities development. Journal of Motaleate Shahri, 3(10), 63-72. (*in Persian*).
 12. Heidari Nowshahr, M; Nazarian, A. (2011). Investigating the Factors Affecting Marginalization and Its Reflections, with Emphasis on the Use of Urban Services: A Case Study of Yazd, Journal of Territory, 8 (31), 31-49. (*in Persian*).
 13. Dadashpour, H; Hosseinabadi, S; Portaheri, M (2012), Analysis of the role of residents' empowerment in physical-environmental improvement of non-toxic settlements in Sabzevar, Journal of Geography and Planning, 16 (41), 95-127. (*in Persian*).
 14. Rezaei, M R; Kamandari, M (2014), Investigation and analysis of the causes of the formation of marginal settlements in Kerman: a case study of the neighborhoods of Sidi and Imam Hassan, Journal of Spatial Planning, 4 (4), 179-196. (*in Persian*).
 15. Rafipour, S; Dadashpour, H; Rafieian, M. (2010). Investigating the Capacities of Social Capital in the Framework of Mabna Neighborhood (Case Study: Study of Firooz Salar Gogan Neighborhood). Journal of Welfare Planning and Social Development, 2 (3), 203 - 239. (*in Persian*).
 16. Rafieian, M; Saifal-Dini, F. (2005), Strategies for Organizing Informal Housing and Intervention Program in Bandar Abbas, International Journal of Engineering Sciences, 16 (1), 27-52. (*in Persian*).
 17. Rafipour, F. (2005). Special Research Techniques in Social Sciences, Third Edition. Tehran: Anteshar Joint Stock Company. (*in Persian*).
 18. Rusta, M. (2010). The role of social components in the realization of urban renewal. Journal of Landscape, 2 (10), 26-30. (*In Persian*).
 19. Zali, N; Rahmati, Y; Chareh, N. (2015). Evaluation and critique of the plan for organizing and empowering informal settlements in Shiraz; Case study of Mahdiabad neighborhood (Catsbase), Journal of Urban Research and Planning, 6 (23), 115-132. (*In Persian*).
 20. Sarukhani, B (2006). Research methods in social sciences. (Second Edition). Tehran: Institute of Humanities and Cultural Studies. (*In Persian*).
 21. Sarmad, Z; Bazargan, A; Hejazi, E. (2002). Research Methods in Behavioral Sciences, Tehran: Agah Publications. (*In Persian*).
 22. Soltani, M. (1980). Study of Marginalization and its Organization in Zanjan (Case Study: Fatemeh Alley), Master Thesis, Tehran Teacher Training University, Faculty of Literature and Humanities, Department of Geography and Urban Planning. (*In Persian*).
 23. Saifaddini, F. (1997). Public Participation and Development Planning, Journal of Social Sciences and Humanities. 12 (2), 147-164. (*In Persian*).
 24. Shadi Talab, J; Kamali, A . (2002). Women's Social Participation, Journal of Women's in Development and Politics, 1 (4), 26-52. (*In Persian*).
 25. Shamai, A. (2015). Neighborhood Development Strategies with a Participatory Approach through Facilitation Offices (Case Study: Dilapidated Texture of the Republic of Tehran), Journal of Local Development, 7 (1), 103-128. (*In Persian*).
 26. Abedi, A, (2012). Urban Neighborhood Renovation Planning Using Social Networks, Master Thesis, University of Tehran, Faculty of Urban Planning, Department of Urban Planning. (*In Persian*).
 27. Fathollahzadeh, H; Zahed Zahedani, S. (2016). Strategic planning, in order to empower the suburbs (flood suburbs, Ahmadabad and Yanouq Darreh Si Tabriz), Quarterly Journal of Contemporary Sociological Research, 4 (6), 61-88. (*In Persian*).
 28. Gharkhloo, M; Mireh, M. (2007). Social empowerment, a solution for marginalization (Sheikh Abad, Qom). Shushtar Azad University Social Sciences Quarterly, 1 (1), 111-126. (*In Persian*).
 29. Kargar, B. (2010). Space, society and social security on the southern outskirts of Lakan, Tehran (Islamshahr). Journal of Social Security Studies, 1 (22), 42-13. (*In Persian*).
 30. Coleman, J. (1998), Foundations of Social Theory (translated by Manouchehr Sabouri), Tehran: Ney Publishing. (*In Persian*).
 31. Gol Faramarzi, A; Hatami Nejad, H; Sarvar, R. (2016), A Study of the Status of Public Participation in Empowerment and Improvement of Informal Settlements: A Case Study of Golestan City, Meymantabad Neighborhood, Shadchay River, Article Published in the Second International Congress of Earth Sciences and Urban Development, University Jihad, East Azerbaijan Province . (*In Persian*).

32. Latifi, Gh; Azimi, M. (2010). Social capital and its role in planning two urban administrations. *Specialized Information Monthly*, 1 (1), 108-119. *(In Persian)*.
33. Massoud, M; Haghverdian, F. (2012). The Role of Social Capital on the Empowerment of Informal Settlements (Case Study: Around the Aynak Pool Neighborhood in Rasht, *Journal of Human Settlement Planning Studies*, 7 (18), 128-140. *(In Persian)*.
34. Mashhadi, M. (2010). A Survey of Australian Cultural Participation, *Journal of Research Culture*, 1 (149), 52-63. *(In Persian)*.
35. Moshiri, F; Sarrafi, M; Dehban, M. (March 2013). The place of social capital in empowering and organizing communities living in informal settlements. Tehran: National Conference on Geography, Urban Planning and Sustainable Development, Tehran, 1-13. *(In Persian)*.
36. Masoumi Eshkevari, H, (2002). Active city and sustainable urban development management, Tehran Program and Budget Organization. *(In Persian)*.
37. Nasiri, I. (1393). Challenges of Urban Poverty and the Necessity of Approaching Community-Based Strategies in Informal Settlements (Case Study: Wireless Neighborhood of Zanjan), *Journal of Human Settlement Planning Studies*, 9 (27), 153-168. *(In Persian)*.
38. Norman, B, (2012). Social Research Design (Translation: Hassan Chavoshian). Tehran: Ney Publishing. *(In Persian)*.
39. Noroozi, F; Bakhtiari, M (2009). Social participation and social factors affecting it, *Journal of Strategy*, 18 (53), 249-269. *(In Persian)*.
40. Noroozi, F; Mofarrah, Fatima. (2009). Investigating the Factors Affecting the Tendency to Social Participation among Students (with Emphasis on Social Capital), *ocial Sciences Research Quarterly*, 5 (21), 127-160. *(In Persian)*.
41. Niazi, M; Nasrabadi, M. (2009). Empowerment based on social capital strategy. *Journal of Tadbir*, 1 (203), 26-21. *(In Persian)*.