Empirical Study on Growth of Evil Forces in Land Requisition and Relocation in City G of Hubei Province Based on Social Network Analysis

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Abstract Using social network analysis method, this paper made an empirical study on growth of evil forces in land requisition and relocation in City G of Hubei Province. It obtained following results: (i) lawless developers and inefficient public security organs form interested parties of evil forces. Besides, the inward closeness centrality of evil forces is high, manifesting that evil forces independently possess decentralized power of network and have unscrupulous behavior in land requisition and relocation to a certain extent. (ii) Activities of evil forces have complicated spatial correlation and their geographical distribution is uneven, taking on irregular characteristics. In the field of land requisition and relocation, some evil forces are expandiXng and spreading, while other forces are relatively weak. In conclusion, growth of evil forces comes from premeditation and collaboration of lawless developers, lack of functions and weak attack of public security organs; growth of evil forces has periodic changes, when in power, they will take opportunity to expand, while losing power, they will hide or even disappear.

Key words Land consolidation, Land requisition and relocation, Evil forces, Empirical study, Social network analysis

1 Introduction

It has become an indisputable fact that evil forces always intervene in land requisition and relocation field. In this study, evil forces mainly refer to underworld organizations forcing farmers and relocation households to remove their land by brute and violent forces, such as beating, smashing and looting. For example, Han Enping underworld organization consists of 29 members and does evil things in Hohhot City of Inner Mongolia, and they accumulate money mainly through helping developers to relocate by violent forces[1]. The head of sinister gang, Fu Qiang, had been involved in land requisition and relocation works for a long time. In the end of 2008, he called together more than 100 hooligans to pull down houses of relocation households in a resettlement project, and houses of four households became ruins just in a morning[2]. Such method of "accumulating wealth by brutal forces" and "protecting developers by violent means" is strongly condemned by the society. Tan Shukui, professor of Huazhong University of Science and Technology, stated that land premium is still a big pillar of financial revenue of some areas, and urban construction progress is the political performance pursued by some cadres; in consequence, it is inevitable that some cadres get blinded by the lust of gain, collude with developers and evil forces behind the scenes, leading to violent land requisition and relocation and harming benefits of the masses[2]. Land requisition and relocation go in accompany with China's urbanization. In the process of land requisition and relocation, it involves institutional adjustment and benefit allocation. Brutal and evil people obtain survival opportunity in areas where rural grass-roots political power is weak and social management is relatively insufficient, making them tainted with the color of evil forces of hooligan style requisition and relocation.

Schneider *et al* revealed causes of growth of evil forces through reviewing marginalized global enemies[3]. Cheloukhine stated that the root cause of Russian mafia is shadow economy after privatization[4]. Scalia analyzed transmutation of Sicilian Mafia in Fordism and Post Fordism from economic and cultural perspective, and pointed out globalization brings crime opportunities and creates new illegal market[5]. Patrimonial found existence of regional hereditary politics provides possibility for development of underworld organizations[6]. Bovenkerk believed that some strategies of government have incentive influence on growth of evil forces[7]. He Xuefeng considered that evil forces and official institutions gradually become two foundations of village governance[8]. Ou Sanren *et al* found that evil forces develop in some rural areas in an abnormal way and become background pusher of many rural group accidents[9]. Liu Yufeng *et al* stated that public power of the state is gradually removed from rural areas after reform and opening up, then rural evil forces obtained growth and development[10]. Geng Yu further stressed that grass-roots political power and evil forces have the tendency of collaboration[11]. In sum, growth and development of evil forces have certain researches, but there are no definite answers about how they growth in China, how they are focused, and what about their growth environment and characteristics. In view of these, we made an empirical study to provide reference for land consolidation.

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2 Social network of evil forces

In order to reveal interested parties of evil forces and answer questions of whom evil forces will exert influence on, from whom they will seek protection, and in which way the counterpart will react, we adopted social network analysis method (SNA). Social network analysis is the mapping and measuring of relationships and flows between people, groups, organizations, and other connected information/knowledge entities. The nodes in the network are the people and groups while the links show relationships or flows between the nodes. SNA provides both a visual and a mathematical analysis of human relationships. Social network analysis stresses mutual influence and dependence of actors, consequently leading to overall emerging behavior[12].

2.1 Building of social network In December of 2011 to March of 2012, using Expert Consultation Method, we surveyed 266 experts in all over the country, including professors, famous scholars, and government officials. Questions mainly involve "how evil forces intervene in land requisition and relocation", "which parties have related interests with evil forces", and "what about the type of their relationship". We received 100% copies of questionnaire. According to their answers of questions, we obtained social network table (Table 1) of evil forces. Inputting corresponding survey and statistical data with the aid of Netdraw software, we established adjacent matrix of interested parties (Fig. 1).

Table 1 Interested parties of evil forces in land requisition and relocation

Type of interested parties	Name of interested parties	Remarks
Evil forces	Mainly local ruffians, vagrants, hired roughnecks	Beating, smashing and looting, violent relocation, cutting off water, electricity, and gas
Local government	Considering local GDP growth, political performance assessment and land finance, hoping smoothly push forward land requisition and relocation, and having advantage of political power	Pursuing local development in the name of public interests, and taking administrative or judicial dismantling as necessary
Developers	Maximizing self benefits, obtaining maximum output with minimum costs, and having capital advantages	Making effort to reduce relocation resistance, reach agreement with relocation households as soon as possible, upgrade and evolution of land requisition and relocation conflicts promoting them to take illegal means of relocation to a certain extent
Relevant departments (urban construction department, demolition and relocation office, public security organs, and land and house management departments)	Issuing official documents, evaluating real estate price, formulating compensation standards, and keeping order of land requisition and relocation according to administrative order of local government	Making effort to fulfill superior order, depending on specific requirements of maintenance of benefits of the masses in land requisition and relocation
Relocation households	Considering rationality and acceptability of compensation for resettlement, and safeguarding self benefits in conditions available	Safeguarding rights in land and finance on according to game ability and position through submission, insubordination, and catering

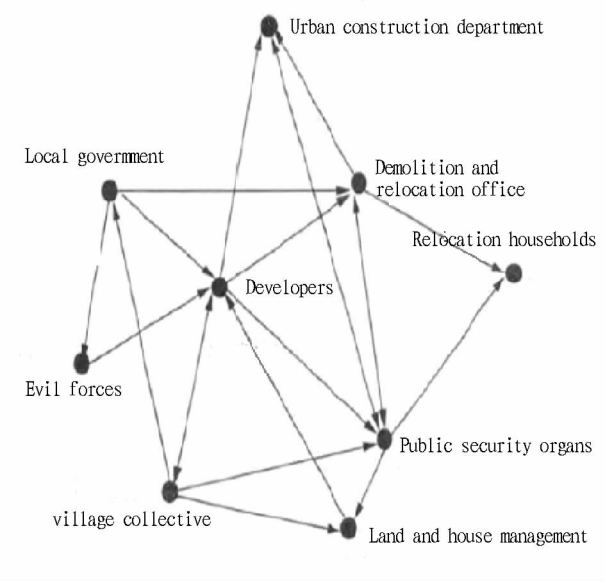

Fig. 1 Social network of evil forces in land requisition and relocation field

2.2 Analysis of related indicators Nodes represent actors. They form social network through connection of information and contract, while individual actions are influenced by their position in the network. Use arcs to denote the relationship between interested parties, and assign weight to arcs using binary method. If there exits a relationship, the weight is 1, if there is no relationship, the weight is 0. Use the centrality to measure the central position of interested parties. The centrality includes degree centrality $CD(n_i)$, closeness centrality $CC(n_i)$, and betweenness centrality $CB(n_i)$. Calculation formula is as follows:

$$C_D(n_i) = \frac{mm(n_i)}{(N-1)} \quad \text{(Formula 1)}$$

$$C_D(n_i) = \frac{(N-1)}{\sum_{j=1}^{n} d(n_i, n_j)} \quad \text{(Formula 2)}$$

$$C_B(n_i) = \frac{\sum_{j<k} g_{jk}(n_j)/g_{jk}}{[(N-1)(N-2)]} \quad \text{(Formula 3)}$$

In Formula 1 through Formula 3, N signifies network size, $mm(n_i)$ denotes number of lines connecting with node n_i, $d(n_i, n_j)$ refers to short line distance between nodes n_i and n_j, g_{jk} signifies number of short lines between nodes n_i and n_j, $g(j_k\, n_i)$ stands for

number of short lines between two actors including actor n_i. Degree centrality refers to the number of ties a node has to other nodes. Actors who have more ties may have multiple alternative ways and resources to reach goals-and thus be relatively advantaged. Degree centrality is used to measure if there are intensive transactions in the position, in which specific interested parties exist. Closeness is a measure of the degree to which an individual is near all other individuals in a network. It is the inverse of the sum of the shortest distances between each node and every other node in the network. Closeness centrality is used to represent ability of interested parties of sharing resources and information in the network. Betweenness is a measure of the extent to which a node is connected to other nodes that are not connected to each other. It is a measure of the degree to which a node serves as a bridge. Between centrality is used to measure the ability of interested parties of controlling resources and information in the network. The enhancement density and central potential network density represent closeness degree between actors. Generally speaking, the higher the network density, the more significant restraint the actor suffers from network structure, and the weaker independence ability of individuals. The network density is calculated as per Density = L / $[N(N-1)]$, where L is number of arcs. Central potential depicts difference degree of actors in the whole network. The higher the central potential value indicates that network has tendency of centralization and the distribution of powers will be more uneven. The central potential of network is the ratio of sum of difference between centrality of the most core point (corresponding maximum centrality) and centrality of other points to the sum of largest possible difference. The formula is as follows:

$$C = \sum_{i=1}^{N}(C_{\max} - C_i) / \max\left[\sum_{i=1}^{N}(C_{\max} - C_i\right] \quad \text{(Formula 4)}$$

where C_{max} is the maximum centrality and C_i is centrality of n_i.

Table 2 tructural indicators of network

Indicator	Value	Indicator	Value
Density (mean matrix)	0.3469	Central potential of degree centrality (inward degree)	44.32%
Standard deviation	0.4761	Central potential of betweenness network	35.18%
Central potential of degree centrality (outward degree)	31.22%	Central potential of closeness network	–

The density of entire network is 0.3469 (Table 2), *i. e.* 34.69% possible relationship exists. Outward degree centrality (31.22%) is obviously smaller than inward degree centrality (44.315%), indicating that the distribution of interested parties using network resources is more unbalanced than interested parties outputting resources. The betweenness centrality indicates that there exist interested parties having ability to effectively control resources in the network (35.18%). It is impossible to calculate closeness centrality because the built social network graph is not strong connected graph, the overall closeness between interested parties is relatively low and network structure has decentralized power center. Through calculation of degree centrality, betweenness centrality and closeness centrality, we found that public security organs have the maximum outward degree centrality (60.50%), while developers have the maximum inward degree centrality (73.00%), showing their influence in the network. Besides, developers and public security organs have higher betweenness centrality, 40.40% and 25.18% separately, indicating that they are situated in core position of the network and are likely to control other parties. Inward closeness centrality of evil forces is higher (52.33%), showing that they are not controlled by other interested parties in the resource input, or in other words, other interested parties are influenced by evil forces in the resource input. Public security organs, developers and village collective have higher outward closeness centrality (65.86%), indicating that all these three parties highly depend on other parties in the resource input.

The above results show that evil forces intervene in land requisition and relocation field on the condition that there is close social relationship with developers and public security organs. They two parties promote growth of evil forces. On the one hand, developers cooperate with evil forces to jointly participate in forced demolition and relocation and project development, seek gray income. In other words, evil forces are employed by developers or evil forces are developers themselves. On the other hand, public security organs are weak in law enforcement. Even, some public officials become umbrella of evil forces. As a result, public security organs provide survival space for evil forces. In addition, public security organs are major functional departments of local government. This further explains growth of evil forces is inseparable from inefficient management of local government.

3 Spatial relation network of evil forces

In order to reveal spatial relation network of growth of evil forces, we made an empirical survey of City G in Hubei Province in April to September of 2012. We found that City G is at the rapid development stage and has rapidly increase of land demands and the task of land requisition and relocation is heavier and heavier. Since 2000, many violent demolition and relocation accidents occurred in City G, as shown in Fig. 2. Life and property safety of some relocation households get seriously threatened. Here, violent demolition and relocation of evil forces specially refer to violent demolition of homestead and houses of relocation households by evil forces consisted of local tyrants and hooligans by illegal means such as threatening, sneak attach, disturbances, siege, destruction, forcing, and internment.

Radil *et al* imbedded criminal gangs into competitive network of certain geographical position and derived possibility of their actions through setting of spatial restraint[13]. Tita *et al* analyzed spatial distribution of incidents of violence through establishing spatial weight matrix[14]. According to this research idea, we made auto-correlation analysis, cluster analysis, and regression analysis on growth space of evil forces in combination with popula-

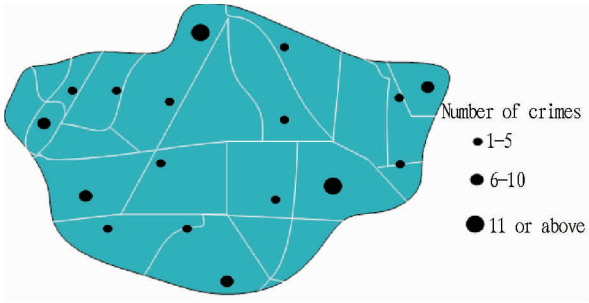

Fig. 2 Number of crimes for evil forces intervening in land requisition and relocation in City G of Hubei Province since 2000

tion census data and crime characteristic data of City G.

3.1 Moran index of crimes of evil forces Firstly, calculate Moran index of crimes of evil forces as shown in Fig. 2 as per the formula 5.

$$I = \sum_i \sum_i w_{ij}(x_i - \mu)(x_j - \mu) / \sum (x_i - \mu)^2 \qquad \text{(Formula 5)}$$

I is between -1.0 and 1.0. If it is negative, it means negative correlation; if it is positive, it means positive correlation. x is number of crimes. W_{ij} is binary matrix of adjacent spatial weight as per adjacent standard or distance standard, and the purpose is to define mutual adjacent relationship of spatial objects. Generally, W_{ij} of adjacent standard is:

$$W_{ij} = \begin{cases} 1 & \textit{when the region } i \textit{ is adjacent to region } j \\ 0 & \textit{when the region } i \textit{ is not adjacent to region } j \end{cases} \qquad \text{(Formula 6)}$$

where $i = 1, 2, \cdots, n$; $j = 1, 2, \cdots m$; $m = n$ *or* $m \neq n$. Rook adjacency refers to adjacent relationship defined by common boundary length. Queen adjacency refers to adjacent relationship defined by common boundary points. From Table 3, we know that in the first order adjacency, $I = 0.0907$ and the significance level is 0.047, while in the second order adjacency, $I = -0.0865$, indicating weak negative auto-correlation. These show that there exists spatial relationship between evil forces in City G, but the relationship is relatively complicated and needs further study.

3.2 Spatial distribution network of evil forces With the aid of Netdraw software, we built spatial distribution network of activities of evil forces in City G. According to data provided by public security organs of City G, since 2000, there have been 29 gangs of evil forces in land requisition and relocation field in City G. For convenience of study, we took 120 population census areas of City G as geographical setting range. Among these areas, 23 areas had no intervention of evil forces, while 95 areas had different degrees of intervention of evil forces (2 areas have no statistics because of no cooperation with local public security and family planning authorities). Code 8 and Code 18 gangs of evil forces have the most activity areas, respectively 15 and 14 population census areas. Code 18, 20, 21, and 29 gangs of evil forces have fewer activity areas (two areas), and Code 7, 10, 11, 14, 16, 17, 25 and 27 gangs of evil forces have fewest activity areas (one area). According to this, we depicted new topological graph of spatial network (Fig. 3).

Table 3 Moran index for spatial auto-correlation of crimes of evil forces

	Rook adjacency	Queen adjacency
First order adjacency	0.090 7*	0.082 1
Second order adjacency	−0.086 5*	−0.035 6
Merge of first order and second order adjacency	−0.009 5	−0.036 7

Note: * signifies significant at 5% level.

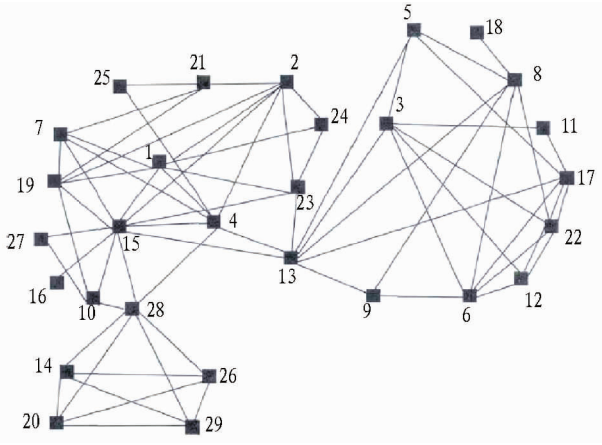

Fig. 3 Spatial distribution network of evil forces intervening in land requisition and relocation in City G of Hubei Province

Then, using cluster analysis method, we classified spatial relationship for evil forces intervening land requisition and relocation in City G of Hubei Province. In the freedom degree $df = 1$, $df = 3$, and $df = 7$, significance level of three clusters is relatively high. Fig. 4 is the visual geographical illustration of three clusters. We found that activities of evil forces in City G have complicated spatial correlation, and their geographical distribution is uneven and takes on irregular characteristic. Some gangs intervene in wider areas (up to 10 areas), while some gangs intervene in narrow areas (only two or three areas). Generally speaking, asymmetry in spatial structure reflects strength of activity ability, organization size, and development direction of evil forces. Gangs with wider control areas have higher activity ability and large organization size. This reflects relative consolidation of brutal people governance, or they promote land requisition and relocation in high efficiency and they tie together with some lawless officers and developers. Collaboration of benefits leads to penetration of evil forces into land requisition and relocation; gangs with narrow control areas have weak activity ability and small organization size, so they have to intervene in small areas. This reflects gangs of evil forces have not got firm foothold, they remain in the fighting stage of simple violence. Although not cooperating with lawless officers, the value of being used is not well recognized.

3.3 Spatial dependence model of evil forces From the above discussion, network matrix of evil forces in City G is not a binary matrix completely connected. Each unit at least has an adjacent relationship, indicating that several gangs share the common geographical blocks (population census areas), so there may be some spatial dependence. Therefore, we established spatial dependence

model of evil forces.

$$Y = \rho w_y + X\beta + \varepsilon \quad \text{(Formula 7)}$$

where t is a scalar denoting spatial auto-regression parameters, w denotes weight matrix of relationship between geographical positions, X signifies exogenous independent variable matrix, and β is vector of regression coefficient. ε is error term. Assuming it is normal distribution, there will be:

$$\varepsilon \sim N(0, \sigma^2 I)$$

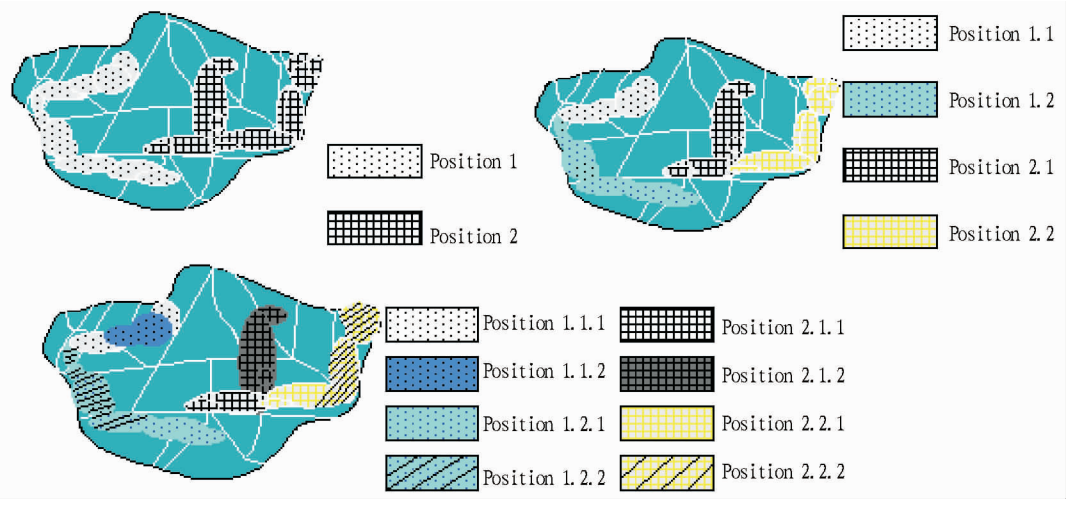

Fig. 4 A, B and C are the first, second, and third clusters of introverted iterative relationship in CONCOR process separately

Since wy is endogenous, it is not appropriate to adopt OLS regression, but should adopt two stage least square or MLE to estimate parameters. We used potential crimes (*i. e.* crime prediction) to measure spatial lag.

The first model, we obtained crime prediction value of each block of evil forces, the formula is as follows:

$$Y = \beta_0 + \beta_1 NonnativePop + \beta_2 MedHHInc + \beta_3 \% FemHH + \beta_4 \% MalHH + \beta_5 \% CompensationStandard + \beta_6 \% RelocationHH + \beta_7 ExtremePov + \beta_8 CrimeRecord + \beta_9 PopDensity + \beta_{10} NoHs + \beta_{11} \% CrimeAge + \beta_{12} Area + \varepsilon \quad \text{(Formula 8)}$$

Table 4 Descriptive statistics of variables

Variables	Min./Max.	Mean value (Standard error)	Code of variable
Independent variables			
Population density	870/15 489	6 287(3 926)	*Pop Density*
Area//km^2	0.058/1.821	0.295(0.237)	*Area*
Average annual income of middle income families	36,132/52,625	28 232(9 645)	*MedHHInc*
Percentage of female-headed households	0.0/56.13	14.80(9.62)	*FemHH*
Percentage of male-headed households	0.0/100.00	66.16(18.55)	*MalHH*
Percentage of relocation households	0.0/18.19	7.11(3.34)	*Relocation HH*
Compensation standards	486.68/6177.93	1472.13(15.65)	*Compensation Standard*
Academic credentials of criminals (lower than senior high school)	0/86.67	60.17(17.44)	*NoHS*
Percentage of age of committing crimes (percentage of 16 – 28 years old)	32.72/50.41	40.63(2.79)	*Crime Age*
Extreme poverty situation of criminals	0/1	51.95(50.13)	*Extreme Pov*
Criminal record or not	0/1	30.19(40.28)	*Crime Record*
Percentage of non local population	22.37/100.00	72.57(18.58)	*Nonnative Pop*
Dependent variable			
Number of crimes	3/22	5.19(9.19)	

Note: since there are no activities of evil forces in 23 population census areas and 2 areas lack census data, the number observed $n = 120 - 25 = 95$.

The second model, in formula 8, add $\rho W_g \hat{y}$ after β_0, in other words, taking prediction value of crime $\hat{y} \times W_g$ as variable to measure whether evil forces are influenced by adjacent units. The third model, in formula 8, add $\rho W_a \hat{y}$ after β_0, to inspect spatial status of distribution of evil force gangs. The fourth model, in formula 8, add $\rho W_g \hat{y}$ and $\rho W_n \hat{y}$ after β_0, to calculate overall crime prediction value of spatial lag and network lag of evil forces. Formula will not be listed one by one.

In the setting of variables, we referred to opinions of Olate[15], we focused on searching micro-data of criminals (members of evil forces) and macro-data of place of crime (activity area of evil forces). Micro-data were provided by public security organs of City G and macro-data were provided by statistical department of City G. There are 12 independent variables and the dependent variable is number of crimes of evil forces, as listed in Table 4.

Table 5 Regression results of spatial dependence model of evil forces

	Crime prediction model	Adjacency lag model	Network lag model	Overall model of adjacency lag and network lag
Population density	0.049(3.28)**	0.037(0.99)	0.041(1.20)	0.032(0.87)
Area//m^2	0.797(2.61)**	0.821(1.42)	1.239(2.05)*	1.232(2.05)*
Average annual income of middle income families	0.073(0.88)	0.093(0.55)	0.131(0.78)	0.148(0.75)
Percentage of female-headed households	2.138(3.54)**	1.543(1.17)	1.747(1.35)	1.487(1.13)
Percentage of male-headed households	−0.015(4.03)**	−0.018(2.07)*	−0.012(1.49)	−0.013(1.56)
Relocation households	−0.018(0.88)	−0.043(0.78)	−0.029(0.58)	−0.036(0.72)
Compensation standards	0.002(0.35)	−0.004(0.53)	−0.008(0.93)	−0.013(1.21)
Academic credentials of criminals (lower than senior high school)	0.011(1.38)	−0.013(0.50)	−0.000(0.02)	−0.011(0.46)
Percentage of age of committing crimes (percentage of 16 −28 years old)	0.004(0.17)	0.049(0.74)	−0.016(0.33)	0.012(0.16)
Extreme poverty situation of criminals	0.901(4.29)**	0.909(2.04)*	0.972(2.23)*	0.935(2.10)*
Criminal record or not	0.766(4.87)**	0.875(2.59)**	0.846(2.68)**	0.868(2.62)**
Percentage of non local population	0.028(7.76)**	0.023(2.52)*	0.022(3.49)**	0.021(2.80)**
Spatial lag of crimes	−	0.187(1.83)	−	0.092(0.88)
Network lag of crimes	−	−	0.086(2.53)*	0.084(2.44)*
Constant term	−0.674(0.67)	−3.819(1.00)	−0.481(0.20)	−2.333(0.62)

Note: parenthetic values are absolute values of z, * signifies significance at 5% level, and ** signifies significance at 1% level; y = number of crimes in each block (population census area), n = 95 blocks.

Regression results (Table 5) indicate that in all 4 models, independent variables "extreme poverty situation of criminals", "criminal record or not", and "percentage of non local population" are significant. These reflect that evil forces intervene in land requisition and relocation field mainly because land requisition and relocation can provide opportunities for them to earn money and improve their living situation. Besides, many members of evil forces have criminal records or most of them are not local people, indicating there exists some social discrimination and psychological unbalance which promotes to earn black money. From Model 3 and Model 4, we know that network lag of crimes of evil forces is 0.086 (the significance level is 5%), and the overall value of adjacency lag and network lag is 0.084 (the significance level is 5%). These reflect that activities of evil forces in land requisition and relocation of City G have no complete regularity in time and space. Growth of evil forces has certain incubation period or inhibition period, which is mainly related to effort and intensity of cracking down the evil forces.

4 Conclusions

In line with survey of City G in Hubei Province, according to social network analysis, in certain sense, developers (lawless people) and public security organs (weak attackers) constitute interested parties of evil forces in land requisition and relocation field. They determine resource input and output of evil forces and they have established certain interdependent relationship. Besides, the inward closeness centrality of evil forces is high, manifesting that evil forces independently possess decentralized power of network and have unscrupulous behavior in land requisition and relocation to a certain extent and play the role of fist theory and one-off business. Therefore, growth of evil forces comes from premeditation and collaboration of lawless developers, lack of functions and weak attack of public security organs. According to spatial relation network analysis, activities of evil forces have complicated spatial correlation and their geographical distribution is uneven, taking on irregular characteristics. In the field of land requisition and relocation, some evil forces are expanding and spreading, while other forces are relatively weak. In addition, evil forces have adjacency lag and network lag in space, reflecting lawless actions and brutal means will not be supported and will be punished by social justice at last. Thus, growth of evil forces has periodic changes, when in power, they will take opportunity to expand, while losing power, they will hide or even disappear. We revealed growth logic of evil forces in land requisition and relocation field at empirical level. Although 226 experts are few and City G of Hubei Province is just an individual case, we must take serious treatment in the face of objective data and scientific demonstration.

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er households. The wide gap between the rich and the poor will be unimaginable. Due to self limitation, farmers fail to see clearly the essence. Some farmers sell their land use right at high time in one time. Government should play its role in this process and establish long term mechanism to ensure long term benefits of land transferors. On the other hand, when land is centralized in few people, the right of control is determined by few people. Some people give up grain production for higher benefits. If this situation is worse, it will threaten national grain security. Thus, government must reinforce supervision and guide reasonable use of rural land. Land use right circulation should combine with adjustment of agricultural structure and conform to requirements for agricultural structural adjustment and regional distribution. In main grain production areas, it is required to ensure overall cooperation on the basis of guaranteeing national grain security.

3.3 Adopting flexible and diverse circulation methods The existing land circulation only remains simple land exchange stage. Some areas have established intermediary service organizations, but many are established by government departments and exercise administrative functions. They are carriers of government serving agriculture. Thus, circulation is simple in both organizational form and operation mechanism. In view of broad and complex situation of rural areas, as well as varied economic conditions, it is recommended to combine local realities, and select proper circulation form, to fully stimulate grain planting enthusiasm and bring into play maximum benefits. All areas should combine several circulation methods, to avoid drawbacks and bring into play functions of merits, to improve agricultural production mode and increase agricultural production efficiency. For areas without proper natural conditions for large scale operation, it is recommended to allow existence of mini household contractual management.

3.4 Strengthening legal construction and administrative management to ensure benefits of the interested parties As the most important means of production for famers, land is the foundation for farmers to obtain living guarantee. Land circulation concerns vital interests of farmers. Therefore, it is required to strengthen monitoring and management from legal construction and administrative management, to practically protect benefits of the interested parties. Firstly, it is recommended to ensure benefits of farmers transferring out land use right. For example, it is recommended to establish long-term effective mechanism. In the land circulation contract, it is required to clearly stipulate that farmers transferring out land can take back land use right, to avoid losing land use right permanently and losing the fundamental guarantee. Towns and townships and village collectives give out contracts, determine reasonable benefit allocation relationship. Besides, it is required to ensure rights and benefits of operators. After transferring out land, the autonomous management right, product disposal right, and income distribution right are legally protected, and any organization or individual shall not intervene against their production management and product sales. In addition, it is required to allow operators to subcontract rural land in the contract period. From transaction of management right to allocation of benefits, there shall be monitoring and control of legal, economic and administrative means, to solve conflicts and disputes rationally.

3.5 Establishing rural minimum living security system In some areas with little land and small population, the farmland only solves food and living problem. For those areas, it is recommended to gradually consolidate land use right, actively explore other employment channels, liberate rural labor, gradually realize protection of farmers losing land management right, and implement the rural minimum living security system. Of course, this will not be achieved if the state has no powerful financial strength. In this way, social pattern will not bring about chaos. The ultimate purpose of building new socialist countryside is to increase farmers' income. According to current per capita farmland level and agricultural production efficiency, simply relying on agricultural subsidies is not sufficient to solve problems. Increasing farmers' income is not encouraging farmers to plant, but brings benefits to farmers. There are essential differences between them. The fundamental approach for solving three rural issues lies in reducing farmers, realizing large scale production, and agricultural industrialization. Finally, in the process of implementing reform of land management right circulation, it is required to take care and make steadily progress.

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