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The Dilemma of Public Hearings in Land Expropriation in China Based on Farmers' Satisfaction

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Although public hearings have been introduced into Chinese land expropriation as an important democratic supervision and conflict resolution mechanism for more than 15 years, there is a dearth of research into its qualities. Taking the farmers' satisfaction with the public hearings as the critical quality indicator, this article analyzes the dilemma of this special institution in Chinese land expropriation. Process tracing is employed to analyze the design defect of the public hearing institution. Farmers' satisfactions with the public hearings are measured by a questionnaire, and the factors are examined by a structural equation model based on the theories of expectancy disconfirmation and procedural fairness. It is concluded that the distorted procedure and the inconsiderate arrangement affect farmers' perceived procedural fairness and decrease their satisfaction with hearings. In order to solve the dilemma of public participation in land expropriation, the relevant authorities should start from the source of affecting farmers' satisfaction.

Keywords: public hearings, land expropriation, farmers' satisfaction, conflict resolution, China

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1 INTRODUCTION

Chinese massive land expropriations have caused numerous social conflicts (Lin et al., 2018; Wang et al., 2019; Xie, 2019; Zhou, 2020; Nanhthavong et al., 2021). Reasons of these conflicts refer to insufficient compensation (Qian, 2015), inequity of the compensation allocation (Tong et al., 2017), illegal expropriation (Wu & Heerink, 2016), corruption of the local cadre (Song et al., 2016), and the absence of democratic supervision and conflict management mechanism (Zhou & Banik, 2014). Public participation is often assumed an effective tool in environmental and natural resources and NIMBY conflict management (Elliott & Kaufman, 2016; Sun et al., 2016; Xie et al., 2017). Public participation has been increasingly promoted in China over the past 3 decades (Gu, 2016). Public hearing, or public meeting, a primary mechanism of public participation, was introduced into China in 1996 (Yang, 2003). Public hearing promoted the political efficacy and deliberative democracy in China (Zhang, 2013; Ergenc, 2014), so it was more appreciated in the construction of the rule-of-law government. The Chinese Ministry of Land and Resources (MLR) enacted the Provision on the Hearings in Respect of Land and Resources (PHRLR) in 2004, which included the Land Expropriation Public Hearing (LEPH). LEPH was designed as an integrated platform of information collection, mutual communication, and down-top supervision at the preliminary stage of land expropriation. Central reformers expected to reduce the illegal expropriation and the social conflicts by improving the procedure transparency and providing farmers a new formal channel to express demands. However, there is a dearth of research into its qualities.

As the symbol of deliberative democracy, public participation is widely employed into contemporary governance (Fung, 2006; Webler et al., 2001). Despite its popularity, most techniques used in participation are inadequate, especially the public hearing, which is always associated with low attendance and low satisfaction (King et al., 1998). Several dilemmas militate against the practice and development of public participation (Rowe & Watermeyer, 2018). There is an urgent need to evaluate the quality of participation (Rowe & Frewer, 2000). In spite of the rapid development in China, the effectiveness of public participation is questioned (Enserink & Koppenjan, 2007). Criteria to evaluate the effectiveness of participation may include comfort, convenience, satisfaction, and deliberation (Halvorsen, 2001; Welch et al., 2004). Satisfaction is an outcome criterion (McComas, 2003). Satisfaction of the participant in natural resource management, project construction, and risk communication is measured (McComas, 2003; Li et al., 2013). A more comprehensive understanding of how the process and outcome criteria relate to participants' satisfaction is an important next step to a more robust public hearing theory (McComas, 2001).

LEPH is the only formal public participation method in Chinese land expropriation. The mass incidents stemming from land expropriation have declined the political trust in rural China (Cui et al., 2015). Re-strengthening farmers' trust in the local government is among the purposes of central government's promotion of participation in land expropriation. The possible relationship between satisfaction and trust in the government (Christensen & Lægreid, 2005) prompts us to evaluate the participation in Chinese land expropriation by farmers' satisfaction with LEPH and to examine the factors of the satisfaction. The structure of the research is as follows. First, an overview of the procedure of LEPH with the process tracing method to identify the design defect of the hearing institution is presented. Second, the theory framework of participants' satisfaction is formulated. Then, data and results are analyzed deeply. Last but not the least, the discussion and conclusion are given.

2 OVERVIEW OF LAND EXPROPRIATION PUBLIC HEARING

Responding to the intense criticism on the transparency of the decision-making and the political demands of the rule-of-law government, MLR introduced several public hearings into land management, including price hearing, legislation hearing, administrative penalization hearing, administrative licensing hearing, and LEPH. Most of these hearings had a relatively successful pilot, except LEPH. All these hearings were divided into categories, hearings organized in accordance with the power of the competent authority (HOP), and hearings organized at the application by a party concerned (HOA). LEPH belongs to the HOA, which means it will be organized at the application by land-expropriated farmers before the county land management department submits the expropriation compensation and relocation plan to a higher authority for approval. There are significant differences among these hearings, including the interests related, the scale and heterogeneity of the stakeholders, and the relationship among the public and authorities. All these hearings were hastily packed into the PHRLR, without careful consideration of the differences. This article argues there is a distortion in LEPH's procedure design, which leads to the disconfirmation of farmers' expectancy and decreases their satisfaction with LEPH. Process tracing, a within-case method aiming at the discovery and validation of a causal mechanism, is employed here to analyze the procedure distortion (Kay & Baker, 2015).

Land expropriation provides large-scale new construction land to Chinese urbanization each year. The County Land Bureau is the only executor of land expropriation. MLR has employed a complicated approval system to monitor and restrain local land expropriation by a strict control of the new construction land quota. The quotas are extremely scarce, and the priority of quota allocation is a sophisticated political issue. In order to make full use of the scarce quota, the land expropriation is project-oriented. Several important pre-work should be finished before the bureau makes an expropriation plan, including project investment confirmation, feasibility study, environmental impact assessment, and location. After an expropriation investigation and result confirmation, the bureau publicizes the plan of land expropriation compensation and relocation, which always includes two parts: 1) the area, location, and type of the lands which are planned to be expropriated and 2) the compensation standard of the land and the relocation standard of the land-lost farmers. This plan is the start point of the LEPH (shown in **Figure 1**), and part 2 is the main content heard in the LEPH.

At the end of the publicity, stakeholders are informed that they have the right to apply for an LEPH in maybe 5–7 days after the publicity date; otherwise, they are asked to confirm a renounce statement. If an LEPH is applied, the bureau will organize the hearing at an appropriate time and place. Participants always include the president, hearing officers, the clerk, the applicants (land-lost farmers), and the respondents (land expropriation officers). The hearing shall proceed in accordance with five steps: president's starting announcement, applicants' inquiries and opinion presentation, respondents' reasons and proof presentation, final statements, and president's ending announcement. All the presentations of farmers and officers, content and discontent, are recorded into the documents. Hearing documents, or renounce statements, are packed into the approval volume, submitting to the higher department. These procedures of LEPH are illustrated by the solid lines in **Figure 1**. However, there are some important lines missed in the procedure design.

According to Rowe and Frewer (2000), public participation encompasses a group of procedures designed to consult, involve, and inform the public of allowing those affected by a decision to have an input into that decision. The input and output procedures are critical to the success of the participation. Many researchers criticize those participations without substantial impact on decision-making as rhetoric (Conrad et al., 2011; Bawole, 2013). It is suggested factors of an authentic participation include constructive feedback on proposal and follow-up communication (King et al., 1998; Manowong & Ogunlana,

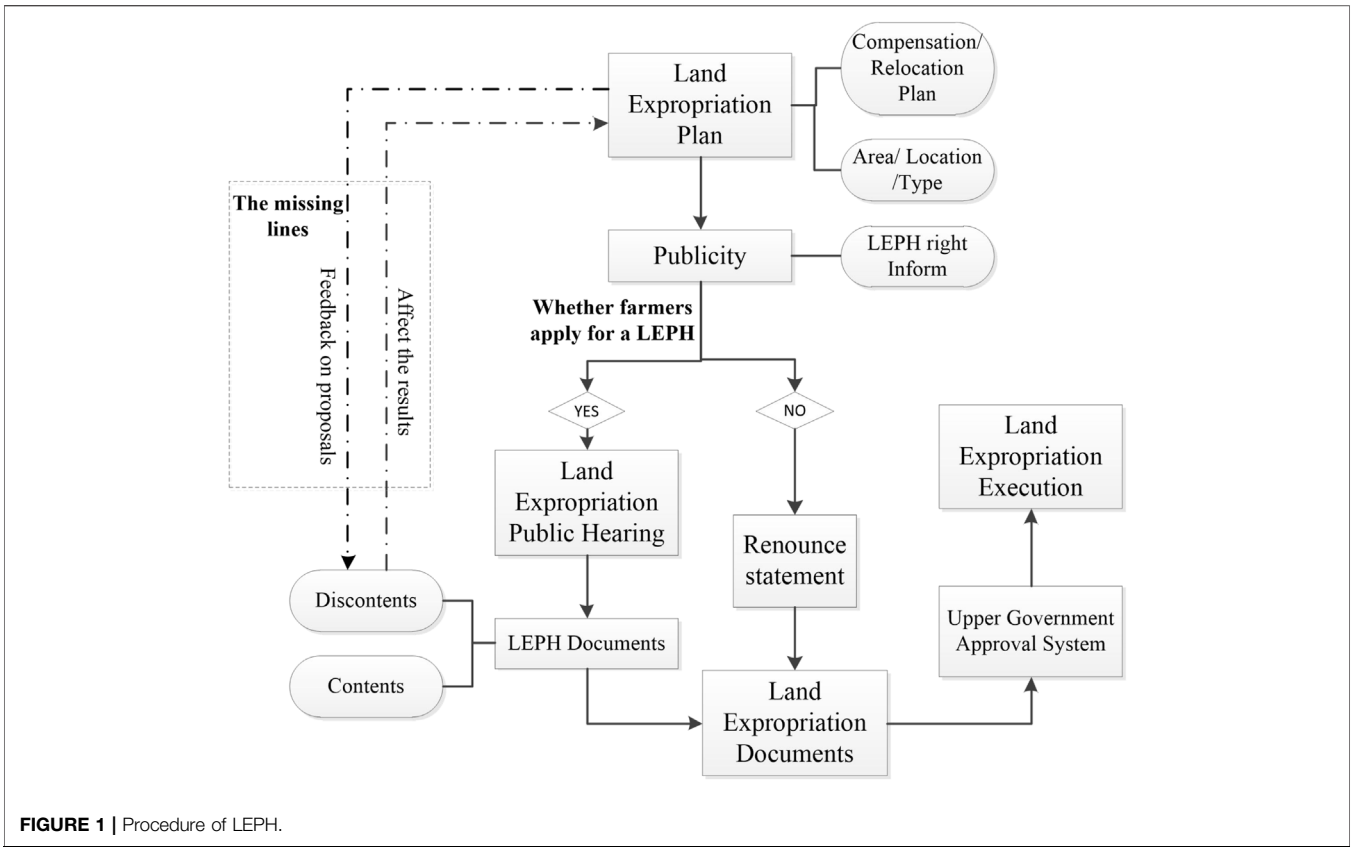

FIGURE 1 | Procedure of LEPH.

2008); meanwhile, participants may reciprocate negatively if they are consulted but ignored (Corgnet & Hernán-González, 2013).

The national provision PHRLR requires hearing documents as an attachment of land expropriation approval volume, without any details about the effect of discontents on the expropriation plan. Several training documents on the construction land approval procedure are released by prefectural land management bureaus, and there is neither any requirement on plan adjustment. Higher authorities approve the plan on the completeness and legality of these documents. The LEPH is designed by authorities as an informative hearing (Heberlein, 1976) or the hearing to satisfy legal requirements for public participation (Checkoway, 1981). However, the participants are trying to be heard, not to do hearing (Conrad et al., 2011; Bawole, 2013; Corgnet & Hernán-González, 2013). So from the perspective of the participants, there are some missing procedures in the institutional design of the LEPH, represented by the dashed lines in **Figure 1**. Land expropriation compensation and relocation involve many authorities, including the bureaus of land management, social security, urban planning, forest management, environmental protection, and the village committee and groups. Numerous disagreement and differences of opinion on the compensation and relocation plan will emerge. Respondents of the LEPH are always limited to the expropriation officers in the bureau of land management. They cannot respond farmers' inquiries constructively, considering the null effect of the hearing details on the expropriation approval. Prevarication is adopted as the strategy to respond to the farmers' concern, which will aggravate the farmers and degrade their experience of the participation. The immanence limitation to the procedure, the complexity of land expropriation compensation and relocation, and the unamiable responses of the authorities crash the system and dissatisfy participants together.

3 THEORY FRAMEWORK

Research studies examining the participants' attitudes toward public participation and their factors are notably absent (McComas, 2003). Ogunlana et al. (2001) examined the public hearing on a construction project in Thailand and identified several factors dissatisfying participants. Based on group communication, McComas (2003) identified expectations, informational communication perception, interest perception, and agency credibility as the underlying factors of participants' satisfaction. In another work, McComas et al. (2007) examined the relationship among perception of procedural fairness, participant's stake in outcome, satisfaction with meetings, and the outcome acceptance. Based on these rare explorations and the referable research results in communication satisfaction, we tried to model the satisfaction with the LEPH on two important theories including expectancy disconfirmation and perceived procedural fairness.

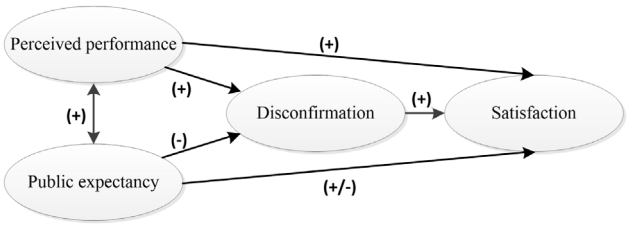

FIGURE 2 | Expectancy disconfirmation model (Van Ryzin, 2013)

Originating in the study of consumer satisfaction (Oliver et al., 1994), expectancy disconfirmation (EDM) has emerged as the predominant model of satisfaction with public services (Van Ryzin, 2013; Petrovsky et al., 2017). The theory assumes that citizen satisfaction is the result of the comparison between expectancy and perception of performance or expectancy disconfirmation. There are three important links in EDM, which are illustrated in **Figure 2**: direct impact of performance perception on satisfaction, direct impact of expectancy on satisfaction, and impact of the interaction between performance perception and expectancy, named disconfirmation, on satisfaction (**Figure 2**).

We extended the EDM at three points. First, we used the perceived procedural fairness as the perceived performance. Based on the works of Thibaut & Walker (1975) and Tyler (1989), McComas et al. (2007) examined the impact of perceived procedural fairness on participants' satisfaction and outcome acceptance with advisory committee meetings, another important participation method. They argued that people cared much about the fairness of the decision-making procedure because it symbolized whether they are respected. Other research studies prove similar impacts of procedural fairness on citizens' satisfaction with the government (Herian et al., 2012).

Second, we added in the link from farmers' satisfaction to their trust in local cadres. Many researchers argued that Chinese people had more trust in the central government than in local cadres (Zhong, 2014). Tense relationships between farmers and local cadres exacerbate the rural unrest in China. The Chinese central government has launched a series of reformation to rebuild the local political trust, such as the village election and rule-of-law government. This purpose is also embedded into the introduction of public participation in China.

Third, considering the frequent emphasis on the critical function of good preparation to a successful public hearing (Manowong & Ogunlana, 2008), we included the perceived preparation kindness into the model. A considerate preparation, such as a suitable time and location, will improve the relationship between the authority and farmers (**Figure 3**).

Some hypotheses are presented as follows based on the aforementioned facts:

Hypothesis 1. Perceived preparation kindness of the hearing will directly predict farmers' satisfaction with the LEPH.

Hypothesis 2. Perceived preparation kindness will predict the farmers' expectancy on the hearing.

Hypothesis 3. Perceived procedural fairness will directly predict satisfaction.

Hypothesis 4. Farmers' expectancy will directly predict satisfaction.

Hypothesis 5. Higher perceived procedural fairness will increase disconfirmation.

Hypothesis 6. Higher expectancy on hearing will decrease disconfirmation.

Hypothesis 7. Farmers' expectancy disconfirmation will directly predict satisfaction.

Hypothesis 8. Farmers' satisfaction will directly predict their trust in local cadres.

Hypothesis 9. There is a positive correlation between expectancy and the perceived performance in such an observational study, the causal direction is typically not specified (Van Ryzin, 2013).

4 DATA AND RESULTS

4.1 Data

4.1.1 Study Area

We purposely chose Tongcheng city in Anqing Prefecture, Anhui Province as the study area (Shown in **Figure 4**). Significant

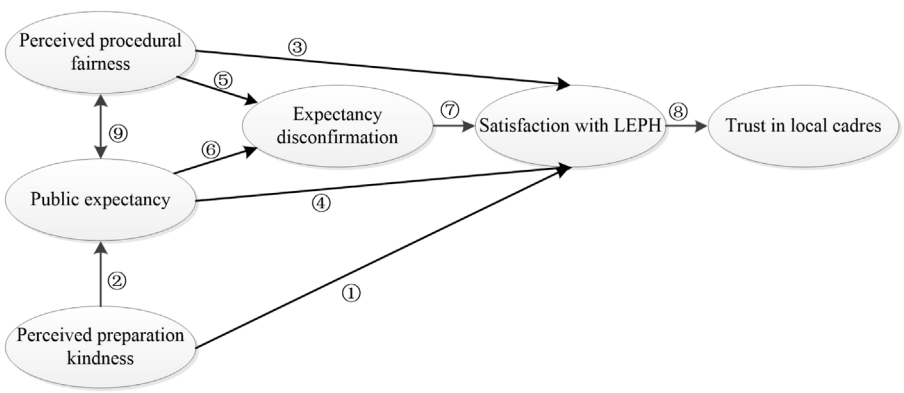

FIGURE 3 | Extended EDM for the LEPH

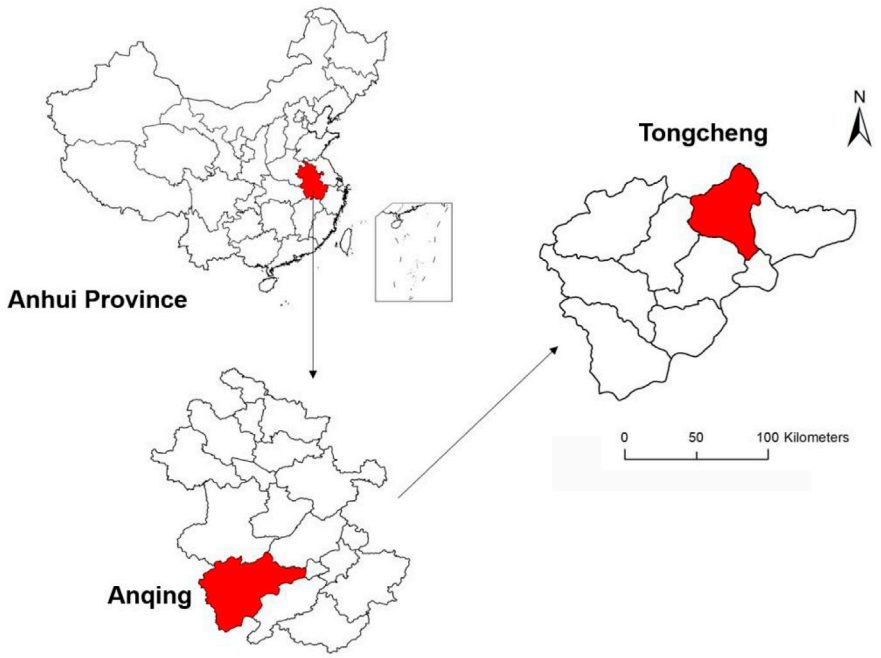

FIGURE 4 | Study area location.

heterogeneities are widely recognized in Chinese economic, social, and administrative issues, so the main principle for us to choose the study area is avoiding the extreme sample. First, according to the post-evaluation of PHRLR sponsored by MLR in 2012, Anhui province was in the medium position at the development and implementation of LEPH. Second, Anhui is also in the medium position at the frequency of the land-expropriation conflict (Lin et al., 2018). Third, the total GDP of Anhui is ranked the middle level in China, 13th out of 31 provinces in 2017. Tongcheng is an ordinary county-level city in Anhui at economic development, social stability, and administrative performance in the Anhui land management system (**Figure 4**).

4.1.2 Questionnaires

Land-expropriated farmers who did and did not attend the hearing were all interviewed for two reasons. The low application and attendance rate of LEPH is a national problem, according to the post-evaluation of PHRLR, so the cost to find enough attendees is too high. More importantly, McComas (2003) had testified in her research that irrespective of whether respondents had ever attended a public meeting, their satisfactions can be predicted. Twenty-six questions are asked to get to know the basic information of the respondents, such as the sexual status, age, education level, employment status, family populations, family monthly income, and proportion of land expropriated. Farmers' perceived preparation kindness is involved which contains whether they are informed sufficiently before the hearing and whether the time and location of the hearing are suitable for them. Then, farmers' expectancy on the process atmosphere, outcome of interest conflict resolution, performance of the president, and performance of other expect attendees are questioned. Later, it refers to farmers' perceived hearing performance of hearing. Farmers are asked to evaluate the normativity of the process, the performance and neutrality of the president and other expect attendees, the openness of the outcome, and whether they have got the information they wonder. Farmers are also asked to evaluate whether their discontents on the hearing will be appreciated by relative authorities.

Farmers' expectancy disconfirmations are measured as subjective. Disconfirmation can be measured either as subtractive or subjective (Petrovsky et al., 2017). Farmers are asked how well the hearing is performed relative to what they expect. Farmers' satisfactions with the LEPH are measured by satisfaction with the process and satisfaction with the outcome, according to the evaluation criteria classification suggested by McComas (2003). At the end of the questionnaire, farmers are asked whether they trust in local cadres and LEPH. All variables, except the first seven questions on basic information, were measured with a 5-point Likert-type scale (1 = strongly disagree/dissatisfy and 5 = strongly agree/satisfy). With the help of the Bureau of Land Management of Tongcheng city, we located 14 villages with land-expropriation in recent 5 years. A total of 447 of 600 questionnaires distributed to farmer families were returned.

4.2 Results

4.2.1 Descriptive Analysis of Main Variables

The mean value and standard deviation of main variables are shown in **Table 1**. Farmers' satisfaction with the process of the LEPH is 3.30 (SD = 0.894), slightly higher than the satisfaction

TABLE 1 | Descriptive analysis of main variables.

Concept	Criteria	Mean	SD
Preparation kindness (P)	Pre-informed (Pi)	3.19	0.940
	Suitable time (Pt)	3.25	0.910
	Suitable location (Pl)	3.24	0.873
Expectancy (E)	Main expectancy (Em)	3.31	0.895
	Expectancy on the process atmosphere (Ea)	3.21	0.962
	Expectancy on the conflict resolution (Ec)	3.31	0.940
	Expectancy on president's performance (Ep)	3.36	0.903
	Expectancy on other expert attendee's performance (Ee)	3.31	0.929
Perceived procedural fairness (F)	Perceived procedural normativity (Fn)	3.31	0.942
	Perceived information acquisition (Fi)	3.34	0.918
	Perceived president's performance (Fp)	3.33	0.927
	Perceived performance of other expect attendees (Fe)	3.35	0.917
	Perceived openness of the outcome (Fo)	3.34	0.912
	Perceived possibility of discontent appreciation (Fa)	3.37	0.966
Disconfirmation (D)	Disconfirmation (Dc)	3.21	0.926
Satisfaction (S)	Satisfaction with the process (Sp)	3.30	0.894
	Satisfaction with the outcome (So)	3.28	0.903

with the outcome of the LEPH, 3.28 (SD = 0.903). These mediocre evaluations show that respondents tended not to be overly satisfied with public hearings as a way of involving themselves into the land expropriation procedures.

The highest result in **Table 1** is the perceived possibility of discontents appreciated by authorities (3.37), which means farmers take LEPH as a formal channel to express discontents and attract authorities' attention. However, the authorities introduced the LEPH as an informative technology, as mentioned earlier at the end of part 2. So, a mismatch appeared.

The lowest results include the three criteria of perceived preparation kindness, the expectancy of the atmosphere, and the disconfirmation. Farmers argued they were not well pre-informed by the authorities on the plan, the documents, and other information on the land-expropriation. Time and location of the LEPH were decided for the authorities' convenience. Low expectancy on the process atmosphere means that a considerable proportion of respondents predicted conflictive arguments during the hearing. Twenty-four respondents (5.4%) firmly predicted there would be a quarrel during the hearing, and 67 (15%) predicted less firmly. Disconfirmation also had a lower value, illustrating farmers' disappointment on LEPH.

4.2.2 Reliability Analysis

The purpose of reliability analysis is to evaluate the stability and internal consistency of the overall questionnaire and the measurement items of each latest variable. As shown in **Table 1**, we chose 19 observable variables to measure the six latest variables. Cronbach α coefficient and split half reliability are commonly used to test reliability in the Likert-type scale, and α coefficient is better than the half method. The higher the reliability of a scale, the more stable it is (Crocker & Algina, 1986). In multiple item scales, intrinsic reliability is particularly important. It not only measures whether each scale measures a single construct but also evaluates the internal consistency of the items in the scale. Cronbach α coefficient is one of the internal consistency coefficients. If Cronbach α is above 0.80, it indicates that the scale has a high reliability. Nunnally and Bernstein (1994) think that the criteria of reliability are different between exploratory research and confirmatory research. The lowest standard of the value of the credit coefficient in exploratory research is above 0.50, and it is better to be above 0.6. The best value of the credit coefficient in confirmatory research is above 0.80, and it is better to be above 0.9. Different scholars have different opinions on the minimum reliability coefficient. Some scholars think that it is acceptable to be above 0.80 (Gay et al., 2009). Some think that it is acceptable to be above 0.7 (Nunnally & Bernstein, 1994). When the reliability is not good, the item will be deleted. The criteria of item deletion or retention are the size of corrected item total correlation (CITC) and whether deletion of item improves Cronbach α (Parasuraman et al., 1988). The higher the CITC, the higher is the internal consistency between the item and other items in the same construct. Generally, items with CITC less than 0.30 should be deleted. We used SPSS 19.0 to test the reliability of the overall questionnaire and each late variable, and the results are shown in **Table 2**.

The Cronbach α coefficient of the overall questionnaire and all dimensions were greater than 0.80, which exceeded the minimum standard of each scholar and showed high reliability. Deleting any item will lead to the decrease in the corresponding Cronbach α, indicating that each construct item represents the same late variable uniformly, and no item is deleted.

4.2.3 Confirmatory Factor Analysis

Compared with exploration factor analysis (EFA), confirmation factor analysis (CFA) focuses more on the relationship between observable variables and latent variables (Everitt & Dunn, 2001). CFA is a pre-step or infrastructure for integrating structural equation modeling (SEM) analysis (Kline, 2015. We used the structural equation modeling method to study the factors that affect the satisfaction of landless farmers to LEPH. SEM is a kind of statistical modeling technology. It uses the measured model and structural model to test the hypothesis relationship between

TABLE 2 | Reliability analysis of sample data.

Variable	Item	CITC	Cronbach α if item is deleted	Cronbach α
Preparation kindness (P)	Pi	0.763	0.844	0.883
	Pt	0.796	0.814	
	Pl	0.762	0.845	
Expectancy (E)	Em	0.758	0.758	0.893
	Ea	0.685	0.685	
	Ec	0.758	0.758	
	Ep	0.778	0.778	
	Ee	0.712	0.712	
Perceived procedural fairness (F)	Fn	0.834	0.913	0.931
	Fi	0.830	0.914	
	Fp	0.811	0.916	
	Fe	0.789	0.919	
	Fo	0.745	0.924	
	Fa	0.772	0.921	
Disconfirmation (D)	Dc	—	—	—
Satisfaction (S)	Sp	0.741	—	0.851
	So	0.741	—	
Trust in local cadre (T)	Th	0.761	—	0.864
	Tc	0.761	—	
Total	—	—	—	0.966

TABLE 3 | Normality test of sample data.

Variable	Min	Max	Skew	C. R	Kurtosis	C. R
Pi	1	5	–0.381	–3.292	0.452	1.950
Pt	1	5	–0.402	–3.471	0.487	2.103
Pl	1	5	–0.448	–3.864	0.767	3.310
Em	1	5	–0.532	–4.596	0.757	3.269
Ea	1	5	–0.344	–2.970	-0.156	-0.673
Ec	1	5	–0.443	–3.825	0.287	1.237
Ep	1	5	–0.502	–4.329	0.557	2.402
Ee	1	5	–0.442	–3.814	0.449	1.936
Fn	1	5	–0.563	–4.859	0.514	2.216
Fi	1	5	–0.555	–4.789	0.734	3.169
Fp	1	5	–0.464	–4.009	0.537	2.318
Fe	1	5	–0.599	–5.171	0.598	2.582
Fo	1	5	–0.555	–4.794	0.600	2.589
Fa	1	5	–0.500	–4.312	0.381	1.644
Dc	1	5	–0.535	–4.614	0.524	2.262
Sp	1	5	–0.497	–4.290	0.696	3.004
So	1	5	–0.354	–3.057	0.558	2.408
Th	1	5	–0.573	–4.948	0.808	3.489
Tc	1	5	–0.564	–4.867	0.672	2.899
Multivariate	—	—	—	—	316.596	118.475

the observable variable and late variable and finds out the potential and interactive causal variables. The most commonly used parameter estimation method in SEM is maximum likelihood (ML). ML estimation has two basic assumptions: 1) the data conform to multivariate normal distribution and 2) the data are large sample data. Under this premise, the parameter estimation of ML will be asymptotically efficient unbiased, consistent, and effective (Schumacker & Lomax, 2004). Amos 21.0 is used to test the multivariate normality of the sample data in this study, as shown in **Table 3**. Under normal distribution, the skew coefficient and kurtosis coefficient should be close to 0. If the absolute value of skew coefficient is greater than 3 and kurtosis coefficient is greater than 8, it indicates that the data distribution may not be normal. If the absolute value of kurtosis coefficient is greater than 20, it indicates extreme kurtosis. If the multivariable kurtosis critical ratio (CR) is greater than 1.96, it indicates that the multivariable is non-normal. In **Table 3**, the skew coefficients of 19 observable variables are between −0.599 and −0.344, the kurtosis coefficients are between −0.156 and 0.808, and the absolute values of skew coefficients and kurtosis coefficients are less than 1, indicating that the single variable is in normal distribution. However, the multivariate kurtosis criticality ratio is far greater than 1.96, and multivariate distribution is typical non-normal distribution. Non-normal distribution of sample data will lead to overestimation of overall model fitting and underestimate of the standard error (SE) of partial parameter estimation. The bootstrap method can effectively deal with non-normal data and solve the estimation deviation caused by non-normal data (Bollen and Stine, 1992). This article will take this method for further research.

The measurement models of six constructs and 19 explicit variables were constructed by using the confirmation factor analysis. The bootstrap method is used to improve the accuracy of ML estimation of the chi-square value and standard error of the measurement model. Three kinds of goodness-of-fit indexes are used to measure the whole model. **Table 4** shows the goodness-of-fit results of the CFA measurement model and the goodness-of-fit evaluation criteria proposed by scholars (Hair et al., 2010). The results showed that the CFA measurement model achieves the ideal goodness of fit.

After the overall evaluation of the measurement model, the validity between the observable variables and the latest variables measured is tested by the confirmation factor analysis. The validity of academic research can be divided into the content validity, criterion related validity, and construct validity. In

TABLE 4 | Goodness-of-fit indices for the measured model.

Model fit index		Evaluation criterion	Value
Absolute fit indices	χ^2	$p > 0.05$	263.667; $p = 0.08$
	Normed χ^2	<2.00	1.911
	GFI	>0.90	0.928
	RMR	<0.05	0.020
	RMSEA	<0.08	0.057
Incremental fit indices	NFI	>0.90	0.955
	IFI	>0.95	0.973
	TLI	>0.95	0.967
	CFI	>0.95	0.973
Parsimonious fit indices	PNFI	>0.50	0.771
	PGFI	>0.50	0.674
	PCFI	>0.50	0.785

Note: χ^2 is the mean value of bootstrap sampling 2000 times. p-value is the Bollen-Stine p value, not the ML p-value. Normed χ^2 is χ^2/df. GFI is the goodness-of-fit index. RMR is root mean square residual. RMSEA is the root mean square error of approximation. NFI is the normed fit index. IFI is the incremental fit index. TLI (NNFI) is the Tucker–Lewis index (the non-normed fit index). CFI is the comparative fit index. PNFI is the parsimonious normed fit index. PGFI is the parsimonious goodness-of-fit index. PCFI is the parsimonious comparative fit index.

TABLE 5 | Convergent validity of sample data.

Variable	Item	Standardized factor loading	AVE	CR
Preparation kindness (P)	Pi	0.830	0.718	0.884
	Pt	0.865		
	Pl	0.846		
Expectancy (E)	Em	0.807	0.629	0.894
	Ea	0.735		
	Ec	0.799		
	Ep	0.839		
	Ee	0.782		
Perceived procedural fairness (F)	Fn	0.871	0.693	0.931
	Fi	0.869		
	Fp	0.854		
	Fe	0.822		
	Fo	0.771		
	Fa	0.801		
Disconfirmation (D)	Dc	1.000	—	—
Satisfaction (S)	Sp	0.850	0.741	0.851
	So	0.871		
Trust in local cadre (T)	Th	0.884	0.761	0.864
	Tc	0.860		

practical operation, the content validity and criterion-related validity often require qualitative research by experts or recognized criterion measurement. In the past, few scholars have measured them, while the construction validity can be measured by confirmation factor analysis. Construction validity consists of conversion validity and discriminative validity. Convergent validity reflects the degree to which observable variables evaluate their latent variables, that is, the problem of measuring circumference. Discriminative validity reflects the degree to which one latent variable differs from the other, that is, the problem of measuring exclusivity (Hair et al., 2013). Conversion validity can be measured from factor loading, average variance extracted (AVE), and construct reliability (CR). The standardized factor loadings of observable variables should be higher than 0.50, and the ideal state should be higher than 0.70. AVE should be greater than 0.50. CR should be greater than 0.7, which indicates that the model has good conversion validity (Hair et al., 2010). The standardized factor loading of observable variables and the AVE and CR indexes of late variables are shown in **Table 5**. It is obvious that factor loading, AVE, and CR all meet the standards, and the conversion validity of the model is good.

In AMOS operation, the chi-square difference test is generally used to identify the significance of chi-square difference (Bagozzi and Phillips, 1982). Further supplementary evaluation of discriminative validity is made by confirming that the confidence interval of two construct correlation coefficients does not contain 1 (Torkzadeh et al., 2003). The chi-squared difference test is carried out for two combinations of six latent variables. The chi-squared difference between the restricted model and the unrestricted model is listed in **Table 6**. Obviously, all the unrestricted models are significantly smaller. Using Bootstrap to calculate the confidence interval of the correlation coefficient between latent variables, we further

TABLE 6 | Discriminant validity of sample data.

Variable	Chi-square difference ($\Delta\chi^2$)	Confidence interval	
		Percentile- corrected	Bias-corrected
P—E	75.92***	(0.729, 0.909)	(0.724, 0.906)
P—F	56.15***	(0.789, 0.901)	(0.786, 0.900)
P—D	63.62***	(0.659, 0.786)	(0.658, 0.785)
P—S	66.09***	(0.772, 0.896)	(0.773, 0.897)
P—T	74.61***	(0.724, 0.860)	(0.726, 0.862)
E—F	66.61***	(0.692, 0.862)	(0.679, 0.856)
E—D	70.54***	(0.586, 0.751)	(0.573, 0.743)
E—S	78.85***	(0.669, 0.859)	(0.652, 0.848)
E—T	70.86***	(0.709, 0.871)	(0.701, 0.867)
F—D	40.65***	(0.750, 0.844)	(0.753, 0.845)
F—S	41.32***	(0.903, 0.978)	(0.902, 0.977)
F—T	42.99***	(0.832, 0.932)	(0.833, 0.933)
D—S	34.05***	(0.799, 0.904)	(0.796, 0.902)
D—T	40.06***	(0.732, 0.869)	(0.729, 0.868)
S—T	53.57***	(0.875, 0.976)	(0.877, 0.978)

*Note: Sampling number of bootstrap is 2000 times. The confidence interval is 95%. ***means $\Delta\chi^2 > 10.827$, reaching a significant level of 0.001.*

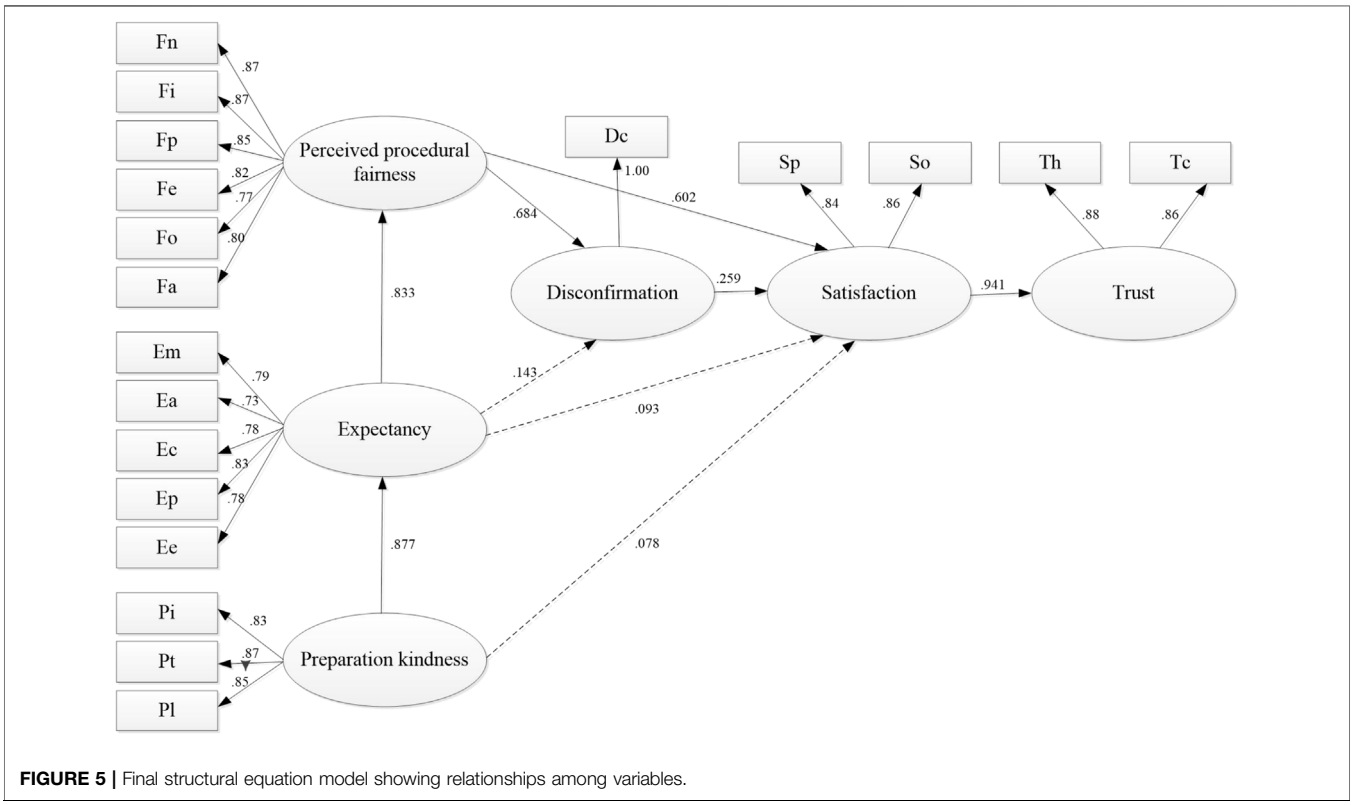

FIGURE 5 | Final structural equation model showing relationships among variables.

proved the discriminative validity. From **Table 6**, we can see that the confidence intervals of percentile corrected and bias corrected do not contain 1. The two tests fully show that the discriminative validity of each construct is high.

4.2.4 Structural Equation Modeling Results

After confirmatory factor analysis, the structural equation modeling is constructed according to **Figure 3**, which assumes that there are significant causal relationships among the six latent variables, namely, preparation kindness, public expectation, performed procedural fairness, farmers' expectation unconformity, farmers' satisfaction, and trust in local cadres. SEM can deal with the complex hypotheses among multiple latent variables easily and intuitively and verifies the hypotheses by calculating path coefficients to test the causal relationship of latent variables. With the help of Amos 21.0,

TABLE 7 | Goodness-of-fit indices for the structural equation model.

Model fit index		Evaluation criterion	Value
Absolute fit indices	χ^2	$p > 0.05$	274.855; $p = 0.00$
	Normed χ^2	<2.00	1.909
	GFI	>0.90	0.910
	RMR	<0.05	0.036
	RMSEA	<0.08	0.066
Incremental fit indices	NFI	>0.90	0.943
	IFI	>0.95	0.962
	TLI	>0.95	0.954
	CFI	>0.95	0.962
Parsimonious fit indices	PNFI	>0.50	0.794
	PGFI	>0.50	0.690
	PCFI	>0.50	0.810

Note: χ^2 is the mean value of 2000 samples for bootstrap. p value is the Bollen–Stine p value, not the ML p value. Normed $\chi^2 = \chi^2/df$. GFI is the goodness-of-fit index. RMR is the root mean square residual. RMSEA is the root mean square error of approximation. NFI is the normed fit index. IFI is the incremental fit index. TLI (NNFI) is the Tucker–Lewis index (non-normed fit index). CFI = comparative fit index. PNFI is the parsimonious normed fit index. PGFI is the parsimonious goodness-of-fit index; PCFI is the parsimonious comparative fit index.

TABLE 8 | Standard error and the standardization coefficient estimate of Bootstrap.

Parameter	Standard error estimate				Standardization coefficient estimate	
	S.E.	Mean	C.R.	Bias	Estimate	P
H1: S < --- P	0.094	0.072	0.766	−0.0059	0.078	0.399
H2: E < --- P	0.039	0.874	22.410	−0.0022	0.877	***
H3: S < --- F	0.092	0.599	6.511	−0.0021	0.602	***
H4: S < --- E	0.113	0.101	0.894	0.0080	0.093	0.366
H5: D < --- F	0.079	0.676	8.557	−0.0082	0.684	***
H6: D < --- E	0.080	0.151	1.888	0.0075	0.143	0.055
H7: S < --- D	0.057	0.259	4.544	0.0007	0.259	***
H8: T < --- S	0.022	0.940	42.727	−0.0011	0.941	***
H9: F < --- E	0.038	0.832	21.895	−0.0008	0.833	***

*Note:***means p < 0.001. SE is the bootstrap estimation of the standard error. Mean is the parameter estimation mean of bootstrap samples. CR is the critical ratio under bootstrap. Bias is the difference between ML estimation and bootstrap estimation mean. P is the p-value under the bootstrap percentage point correction method, not the p-value of ML.*

bootstrap is applied to improve the accuracy of ML estimation, and the standardized structural equation model of **Figure 5** is obtained, in which the sampling number of bootstrap is 2000 times (**Figure 5**).

When the structural equation model is fitted, χ^2 is easy to be affected by the sample size. When the model is complex and large, it will get a significant p value (Rigdon, 1995; Hair et al., 2010). Hair et al. (2010) found that when the sample size is greater than 250, and manifest variables are greater than 12, the p-value of χ^2 is significant. Therefore, we combined other goodness-of-fit indexes to evaluate the model, and the specific results are shown in **Table 7**. χ^2 is the chi-squared mean of bootstrap 2000 samples, not the ML estimated value. Although the p-value is significant, normed χ^2 and other fitting methods are up to the standard. The evaluation of goodness-of-fit indexes supports the structural equation model.

Table 8 shows the validation results of causality between underlying variables of bootstrap ML estimation. In the case of non-normal distribution of data, using ML estimation may lead to the statistical significance of the estimated value of the parameter. Taking the path "expectation" to "unconfirmation" as an example, under ML estimation, $p = 0.028 < 0.05$. In other words, the path is significant at $p = 0.05$. However, under bootstrap percentage correction, $p = 0.055 > 0.05$. This path is not significant. It can be seen that the research proves the ability of the bootstrap to correct the ML estimation of non-normal data. According to **Table 8**, the p-values of H1, H4, and H6 standardized estimates are 0.399, 0.366, and 0.055 (>0.05), respectively, indicating that H1, H4, and H6 are not significant at the significance level of 0.05 and above. In **Figure 5**, the empirical results are represented by full lines and dashed lines, respectively. The solid line indicates that the path is significant at the level of 0.001, while the dotted line indicates that the path is not significant. In other words, except H1, H4, and H6, all assumptions are significant.

5 DISCUSSION AND CONCLUSION

By expanding the theory of expectation failure, this article puts forward a theoretical model based on the hearing satisfaction of the farmers whose land is expropriated and determines the

influencing factors of the satisfaction, in order to solve the dilemma of public participation in land expropriation. The results showed that those hypotheses presented are not all significant. The findings of the study will be discussed as follows.

First, perceived preparation kindness can effectively predict farmers' expectations for hearings (H2). Public expectancy is "willing expectation," but not "real expectation." It is affected by the public's own needs, the information in various aspects learned in the early stage and the public's experience of word-of-mouth. In other words, if the perceived preparation kindness of farmers is low, then the public with learning ability will reduce their expectations rationally. Public expectancy has a positive effect on perceived procedural fairness (H9). This result also fits well with the conceptual basis of the American Customer Satisfaction Index (ACSI) (Fornell et al., 1996). Expectancy has an assimilation effect on perceived procedural fairness. Furthermore, perceived procedural fairness can directly predict satisfaction (H3). If there are standardized hearing procedure design, neutral and professional host and experts, the landless farmers with required information, open and transparent hearing results, and the dissatisfaction and opinions expressed by the farmers at the hearing can be valued by the government authorities; then, the farmers will have perceived procedural fairness, resulting in a high degree of satisfactory.

Second, perceived procedural fairness has a positive effect on disconfirmation (H5). This shows that higher perceived procedural fairness will increase the positive test failure. However, the direct effect of public expectation on disconfirmation is not significant (H6), and the direction is positive (β= 0.143; p = 0.055). According to the theory of expectation failure, under the same expectation, high performance will produce more positive failure. Under the same performance, high expectation will produce more negative failure (Oliver, 1980; Oliver et al., 1994). This is slightly different from our research results. The reason is that the measurement method is different. Van Ryzin (2006) empirically compared the differences between subtractive measure and subjective measure. The results of adopting subjective measure are consistent with the theory of expectation failure, but the modeling results of adopting subjective measure are quite different. The relationship between expectation and disconfirmation is zero or even no significant difference, and the direction is wrong. Then, Van Ryzin (2006) brought the perceived disconfirmation into the model as a mediation variable of the subtractive disconfirmation. It was found that expectancy had a significantly positive effect on perceived disconfirmation. However, the positive direct effect is offset by the significant negative effect of expectancy on the passive subtractive disconfirmation. Finally, the total effect of expectancy on the perceived disconfirmation is 0. Perceived disconfirmation leads to over statement of expected variables in the model. However, in our study, disconfirmation is subjective. This explains why the direct effect of public expectation on disconfirmation is not significant in our study. Disconfirmation is positively correlated with satisfaction (H7). This shows that when farmers participate in a lower-than-expected land acquisition hearing, the landless farmers will have lower satisfaction. In other words, more expectation leads to more disappointment. Public participation at this time has no effect. Then, "poor" participation may be worse than no participation at all (McComas et al., 2007).

Third, the direct impact perceived preparation kindness and public expectancy on satisfaction are not significant (H1 and H4). This may be related to the distortion of the hearing procedure design and information asymmetry. Although the hearing on land acquisition is proposed to the land and resources department by the peasants who have been expropriated, the peasants seem to be the initiator of the hearing. Because the peasants are in a weak position of lacking information, the government is still the leader of the hearing on land acquisition. The compensation and resettlement of land acquisition involves many departments, and the information interaction between them is not smooth. In addition, the government officials with limited rationality have self-interest in policy formulation and implementation (Linping, 2010). In order to protect the interests of their own departments, they will selectively disclose information and conceal information that is not good for them. These factors directly lead to the information asymmetry of the hearing subjects. Therefore, although the government has made good preparation for the hearing of land acquisition, the farmers get sufficient information before the hearing. Due to the asymmetry of information, the farmers cannot identify the effectiveness of information in the hearing process and cannot predict the specific policy behavior of policy makers and executors effectively in advance. Farmers' perceived preparation kindness and expectancy will only directly increase the possibility of farmers' public participation. Because of the unknown implementation of the land acquisition hearing process, farmers are not sure that good perception and expectations before the meeting can directly lead to a satisfactory outcome.

Fourth, in order to explore the total impact of each antecedent of satisfaction on satisfaction, we also used Bootstrap to analyze the mediating effect of the model. The results showed that each intermediate variable in the model is significant at the level of 0.01. The direct effect of perceived procedural fairness on satisfaction was 0.602. The indirect effect is 0.177, and the total effect is 0.779. Perceived procedural fairness plays a completely mediating role in expectancy and disconfirmation. The effect value is 0.570. The direct effect of expectancy on satisfaction is not significant. But perceived procedural fairness can indirectly affect text failure so as to affect satisfaction. The total indirect effect is 0.148. Perceived preparation kindness has no significant direct impact on satisfaction. Satisfaction can be indirectly affected by expectancy, perceived procedural fairness, and text failure.

Finally, results mentioned previously show that the four antecedents of satisfaction can directly or indirectly significantly affect satisfaction, and farmers' satisfaction directly determines their trust in the local government (H8). Therefore, in order to solve the dilemma of public participation in land expropriation, the relevant authorities should start from the source of affecting farmers' satisfaction and effectively manage conflicts. For example, the relevant authorities could communicate fully with those farmers to get to know their real needs and inform them in advance about some relevant policies. At the same time, more participation of the farmers also could facilitate the land expropriation (Webler et al., 2001; Welch et al., 2004; Kline, 2015; Xie et al., 2017).

DATA AVAILABILITY STATEMENT

The original contributions presented in the study are included in the article/supplementary material; further inquiries can be directed to the corresponding author.

AUTHOR CONTRIBUTIONS

Conceptualization, TT; methodology, LS and QL; validation, FZ and RQ; writing—original draft preparation, LJ.

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