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Evaluation of the Spirituality of Village Committees on Integrated Risk Governance of Agricultural Drought: A Case Study in Xindu District, Hebei Province, China

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Abstract: The spirituality of stakeholders in cases of drought has gained significant attention in the field of integrated risk governance of agricultural drought. In this paper, based on a field survey and 30 drought response actions in China, we established an indicator system and quantitative model based on concentration and willpower (spirituality, abbreviated as S), considering the aspects of responsibility (R), enterprise (E), and devotion (D) to evaluate the spirituality of the village committee of Xindu District, Hebei Province. We aimed to develop a new method for the quantitative research of multi-stakeholders' concentration and willpower and to provide a more scientific reference for the formation of consilience in the process of improving risk governance capability. The main conclusions are as follows: (1) Condensed connotations of spirituality focus on expressing the spirit state of each stakeholder, which is the embodiment of the stakeholder's concentration and willpower in the consilience system. (2) An evaluation framework of "deeds information excavating → stakeholder-oriented survey → grading and classification" is formed. Based on Chinese traditional cultural backgrounds and administrative system characteristics, the evaluation indicator system and model of spirituality are constructed and will further promote the visualization and quantification of spirituality research. (3) The spirituality index (S) of village committees on integrated risk governance of drought presents a trend of normal distribution, and the average value of all secondary indices is R > E > D. The mean value of R is 0.93 and the sample range is 0.49. D has the lowest mean value, with a range of 0.37. (4) There is a regional difference in the average values of spirituality index (S) as follows: "plain area > mountain area > hilly area", from the perspective of geomorphic units, and "high-income area > middle-income area > low-income area", from the perspective of the regional economy.

Keywords: village committee; agricultural drought; integrated risk governance; spirituality

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1. Introduction

In the context of global warming, the frequency of droughts and economic losses caused by droughts are both present and increasing trends. From 2015 to 2020, annual grain loss due to drought in China reached 16.4 billion kg and the area of crops affected by drought was approximately 4.5 million hm^2 in 2021 [1]. Since July 2021, rare high temperatures have occurred in many parts of the world. The Yangtze River basin in China suffered the most severe drought since 1961, with a rare phenomenon of "flood season withering". In addition, many European countries also experienced severe drought [2]. Drought increasingly threatens the country's agricultural production and food security, and an in-depth study of agricultural drought risk governance in the field of disaster research is urgently required.

The role of the spirituality of stakeholders in disaster risk governance and crisis response has received widespread attention. In 2009, Yunnan Province suffered a severe

drought in many places and local cadres crossed mountains to deliver water to the masses. In 2011, a drought hit Shiqian County in Guizhou Province, and cadres diverted underground water to alleviate the disaster. In 2013, Hengyang City in Hunan Province suffered from drought, and as a result, cadres actively mobilized the whole village to dig ditches and remove silt. In 2022, a severe drought occurred in Chongqing, where the village cadres and volunteers ran along the rugged mountain roads in the countryside to deliver water to farmers who were short of water. In the face of drought, grassroots cadres relied on the will of concentration, forged a strong connection with their faith, and overcame various difficulties encountered in the process of drought resistance [3]. The performance of cadres in response to other crises is commendable. At the outbreak of COVID-19 in 2019, global response measures were taken [4]. The active management of cadres helped to control the development of the pandemic. Compared with some anti-pandemic beliefs in rural China, the response to the pandemic was more organized, timely, and effective under the leadership of a responsible village committee. The above cases clearly reflect the impact of the spirituality of the stakeholders on their response to disaster crises and demonstrate that their willpower played an important role in disaster prevention, mitigation, and relief.

The concept of spirituality belongs to the field of ideology, which has not been uniformly defined by the academic community. Many scholars try to analyze it from the perspective of religion, existentialism, and internal origin and believe that spirituality is the overall expression of fraternity, the meaning of personal existence, and internal consciousness [5–8]. In the field of psychology, spirituality is generally studied quantitatively using the mental health function assessment manual (FACIT-SP) from the perspectives of religious beliefs, mental health, and human values [9]. In the field of economics, there are many studies on workplace spirituality, which can be quantified by developing the spirituality evaluation scale [10,11]. In the field of management, scholars focus on the relationship between spirituality and stakeholders. For example, in the cognitive process of public service motivation, it is found that the personal spiritual qualities of stakeholders, such as solicitude, fairness, and loyalty, have a profound impact on their public service behavior [12]. In the field of nursing and health, several studies constructed an SIWB (spirituality index of well-being) to assess the mental health of the local population [13,14]. In addition, some studies show that the spiritual belief of the stakeholders has a positive effect on their work [15]. The research mentioned above can provide valuable references for the research of spirituality on disaster risk governance.

Research on the spirituality of disaster risk governance is still in its infancy and mainly focuses on the following aspects. (1) The connotation of spirituality: Some scholars pointed out that benevolence, resistance, mutual assistance, dedication, and optimism are the core embodiments of spirituality in disaster prevention and mitigation [16], while other scholars stressed that helping the world, overcoming difficulties, helping each other, and sacrificing oneself are the core factors in disaster relief spirit [17]. (2) The influence of spirituality: Several scholars have studied the relationship between spirituality and risk, and their results show that individual spirituality helps people understand risk more deeply [18]. The relationship between spirituality and climate change response has also been considered, and results show that individual spirituality has a positive impact on individual actions [19]. (3) The relationship between spirituality and consilience: Spirituality is closely related to consilience, which is mentioned in current disaster risk governance. If consilience is the expression of multi-stakeholders' "concentration with consensus and hard power", spirituality can be seen as the characterization of individual stakeholders' concentration and willpower. Consilience emphasizes the unity with "other consciousness", which refers to the consistency of conscious activity of individuals and others in the process of jointly responding to the crisis, while spirituality emphasizes an improvement in "self-consciousness", which refers to the process that individuals change their own physical and mental state from fragile negative to concentrated positive [20]. In fact, the relationship between spirituality and consilience is still under exploration.

At present, there are few quantitative studies on spirituality in the field of disaster risk governance, but there are still methods that can be used for reference in other related research fields, including perception, consensus of stakeholders, and consilience. Those methods include: (1) The scale method [19]. Some scholars have developed a spirituality scale to evaluate employees' workplace spirit, including factors of inner experience, work significance, sense of community, sense of responsibility [10], while other scholars have designed a local workplace spirit scale based on the characteristics of collectivist culture [21]. (2) Vector method. Some scholars have established three-dimensional space vectors based on the stakeholder's cognition and calculated the angle between vectors by constructing cosine function to evaluate the consistency of farmers and the government in the cognition of drought resistance [22], while other scholars have also expressed the stakeholder's cognition indicators in the form of a vector and calculated the "distance" between vectors, so as to quantify the consensus of each stakeholder [23]. (3) Indicator-integrated method. Some scholars choose five elements, such as material, spirit, politic, culture, and security, to establish a national consilience index system and express the national consilience with the weighted sum result [24], while other scholars selected indicators related to psychological perception and identity to express consilience by calculating the total score of indicators [25,26].

Above all, research into spirituality on disaster risk governance is a frontier scientific issue. Scholars are aware of its significant role the field, but there is still a lack of quantitative research on individual spirituality in the process of disaster risk governance. In addition, it is also found that the village committee, as the grassroots management organization in China's administrative system, plays a key role in the process. The will, mindfulness, and sense of responsibility of village committee cadres affect their behavior, thus affecting the effectiveness of a region in crisis response. It can be seen that the spirituality of the village committee is of great significance for disaster risk governance. Based on the above situation, our research selects Xindu District in Hebei Province as the research area, an area seriously affected by the agricultural drought. On the basis of a field survey and 30 drought-resistant deeds, we established a spirituality index system to quantitatively evaluate the spirituality of local village committees. In addition, we tried to further understand the main ideological laws in the process of risk governance, expanded the depth of consilience research with "reaching consensus (soft power) and forming joint force (hard power)" as the core, and provide a comprehensive and scientific reference for improvements in drought risk governance capability.

2. Data and Methods

2.1. Overview of the Study Area

Xindu District is located in the southern part of Hebei Province and the eastern foot of Taihang Mountains, which is a relatively typical irrigated agricultural area. The district is located between 113°45′ E and 114°38′ E, 36°58′ N and 37°22′ N (Figure 1). Xindu District has 17 townships and more than 530 administrative villages. The total area of Xindu District is 1983 km^2, with a high topography in the west and a low topography in the east, divided into mountains, hills, and plains from west to east, of which 1286 km^2 is mountainous, accounting for 67% of the total area of the district. Xindu District is a warm temperate continental monsoon climate, the average annual temperature is 13–15 °C, and the average precipitation is 521.77 mm. Agriculture is based on grain production, and it accounts for about 84% of the total sown area of crops, among which winter wheat and summer corn are the main crops, accounting for about 86% of the sown area of grain. Other crops include chestnut, walnut, apples, and so on.

Although Xindu District is an irrigated agricultural area, with a trend of warm and dry climate in the past 70 years (Figure 2a), droughts are frequent, especially in many towns and villages located in hilly areas, which are more severely affected by drought than plain areas once the plots are scattered and lack large water conservancy projects and irrigation facilities. As can be seen from the figure, the average annual temperature has increased by 1.1 °C compared to 50 years ago, with an average increase of 0.22 °C per decade; the

average annual precipitation has decreased by about 116 mm compared to 50 years ago, with an average decrease of up to 23.3 mm per decade. Generally speaking, the average annual precipitation has shown a significant decreasing trend during 1954–2020, while the average annual temperature has shown an increasing trend. With the average annual precipitation from 1971 to 2000 as the control value, the percentage of precipitation anomaly was calculated, and the seasonal regularity of regional drought was analyzed (Figure 2b). The average annual precipitation is about 500 mm, but the average annual evaporation is more than 1600 mm, which is more than three-times the precipitation, so the region is very sensitive to drought. Moreover, due to the influence of a monsoon climate, the precipitation fluctuates significantly from year to year.

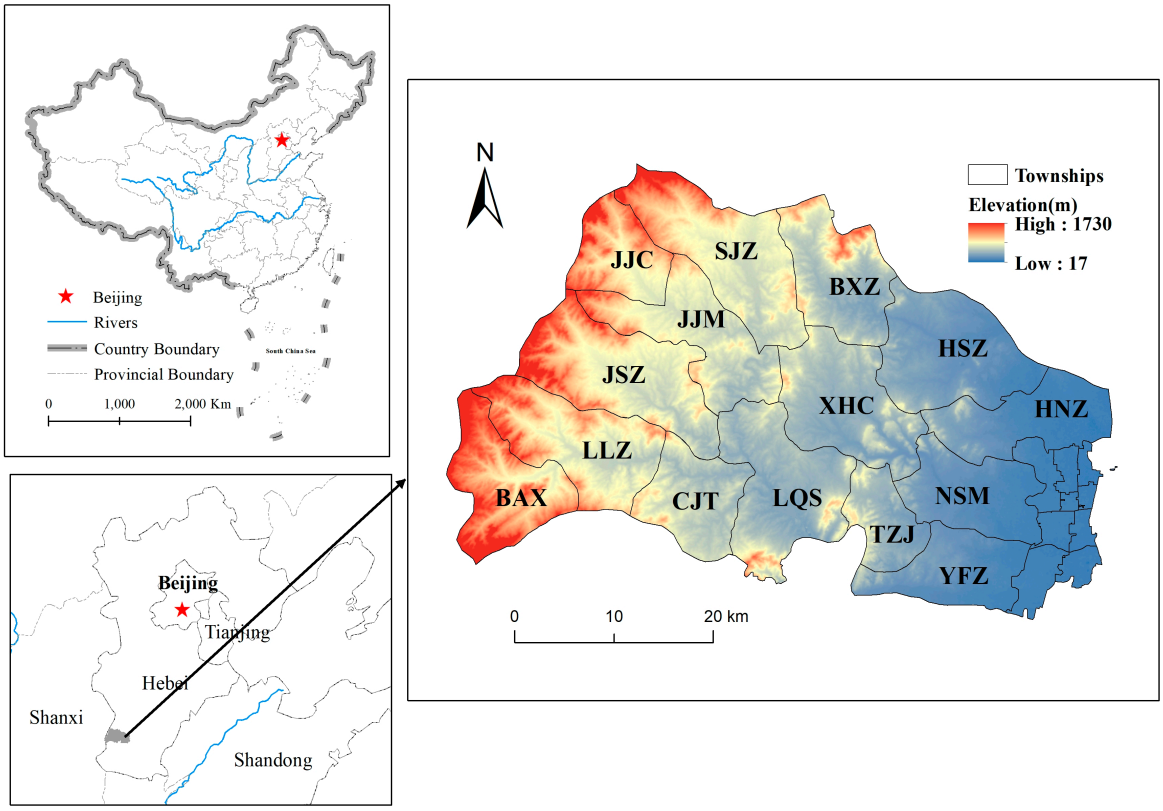
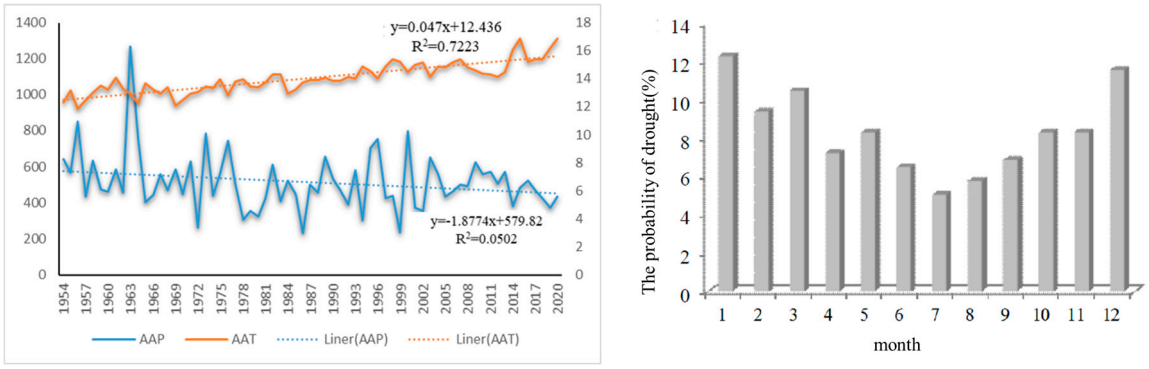


Figure 1. Location and administrative division of Xindu District.



(**a**) (**b**)

Figure 2. (**a**) Changes in meteorological indicators in Xindu District from 1954 to 2020, where AAP is average annual precipitation and AAT is average annual temperature; (**b**) the probability of drought in different months.

2.2. Field Research

Administrative villages are the most grassroots component unit in China's governmental management system, and village committees are the lowest-level organizers of national agricultural policies and play an important role in agricultural drought management. Survey interviews for village committees are a key way to obtain village-level information. In this paper, a questionnaire on spirituality was designed for the village committees, and the main contents of the questionnaire included: (a) the basic personal information of the interviewees, i.e., their natural and socio-economic attributes; (b) their spirituality attributes in drought response, including the performance of drought response work in terms of dutifulness, perseverance, and selflessness (Table 1). For the questions, five levels of responses were set up and scored 1–5, respectively, and the more positive the option, the higher the score. Using the fixed-base ratio method Formula (1), the maximum value was used as the base, and the scores were normalized to eliminate the scale. X' is the normalized value, X_i is the questionnaire score, and X_{max} is the questionnaire maximum score.

$$X' = \frac{X_i}{X_{max}} \quad (1)$$

The sample of village committees in the research has the following significant features: (1) the proportion of male respondents is much higher than that of female, reaching 10:1, maybe because rural grassroots cadres are mainly held by men and few women are engaged in the work; (2) in terms of age distribution, respondents aged 41–60 account for a large proportion, and there is no sample over 60 years old, mainly because, now, grassroots cadres are being "rejuvenated", and cadres above 60 are gradually retiring; (3) in terms of working years, most of them have worked for less than 5 years, accounting for 2/3, mainly because of the periodic election of cadres; (4) the overall education level is high, with 87.87% of the sample having high school education or above.

Table 1. Evaluation index system and weights for the spirituality of village committees on integrated risk governance of agricultural drought.

	First-Level Indicators (Weighting)	Second-Level Indicators (Weighting)	Specific Questions
Spirituality(S)	Responsibility (R,0.31)	Inspection of disaster situation (R1,0.17)	During the drought, how did you inspect the situation?
		Report a disaster (R2,0.08)	How timely was the reporting of the disaster during the drought?
		Drought participation (R3,0.06)	How did you respond to the drought during the drought?
	Enterprise (E,0.32)	Water allocation E1 (E1,0.03)	During the drought, in the case of limited water, if there are conflicts of grabbing water among the masses, how would you handle it?
		Manpower shortage (E2,0.19)	What do you do during a drought when there is not enough manpower to deliver water?
		Insufficient equipment (E3,0.10)	What do you do if there is a shortage of drought equipment such as pumping, pipes or irrigation equipment during a drought?
	Devotion (D,0.37)	Material contribution (D1,0.10)	If you need to lend your own pumping equipment and pipes to the public during a drought, how would you arrange it?
		Financial contribution (D2,0.15)	What will you do if there are people in need of relief during the drought?
		Mindfulness contribution (D1,0.12)	How would you organize your drought efforts if you were seriously ill during the drought?

Through questionnaire research, we surveyed 66 village committees in 15 townships, and the statistical characteristics of specific research samples are shown in Table 2.

Table 2. Characteristics and descriptive statistics of samples.

Catalog	Gender		Age				Work Experience				Education			
Indicators	Male	Female	≤40	41–50	51–60	>60	<5	5–10	10–15	>15	I	II	III	IV
Num.	60	6	20	26	20	0	44	16	6	0	0	8	28	30

Note: Education level I (elementary school), II (junior high school), III (high school), IV (college and above).

2.3. Research Methodology

2.3.1. Research Framework

In this paper, through the analysis of 30 model individual deeds in China, drought case summaries, literature reviews, and field research, we explore the spiritual qualities of the stakeholders in the face of crises, establish their perseverance in the face of difficulties, and feel their selflessness of "A heart of gold for the society", and further appreciate the important role of the spirituality of "concentration with willpower" in the process of risk resistance.

Based on the above work, firstly, we constructed a spirituality index system for village committees on integrated risk governance of agricultural drought, which mainly includes three parts: the spirit of doing one's duty, the spirit of overcoming difficulties, and the spirit of selflessness. Secondly, we designed a corresponding questionnaire according to the index system and obtained basic data on the basic characteristics of village committees, administrative villages, and spirituality-related issues through a questionnaire. Thirdly, we used three objective weighting methods, such as entropy method, information quantity method, and CRITIC, to obtain the weights, and the average value was used as the corresponding weight of each indicator. To construct a preliminary spirituality calculation model, and then normalize the data, we quantitatively evaluated the spirituality of the village committees through the model. Finally, we analyzed the characteristics of the indexes and compared the regional differences of spirituality from the perspective of different geomorphology types, drought risk levels, and economic levels (Figure 3). The analysis was carried out to improve the understanding and knowledge of the spiritual quality of "concentration with willpower" of the stakeholders.

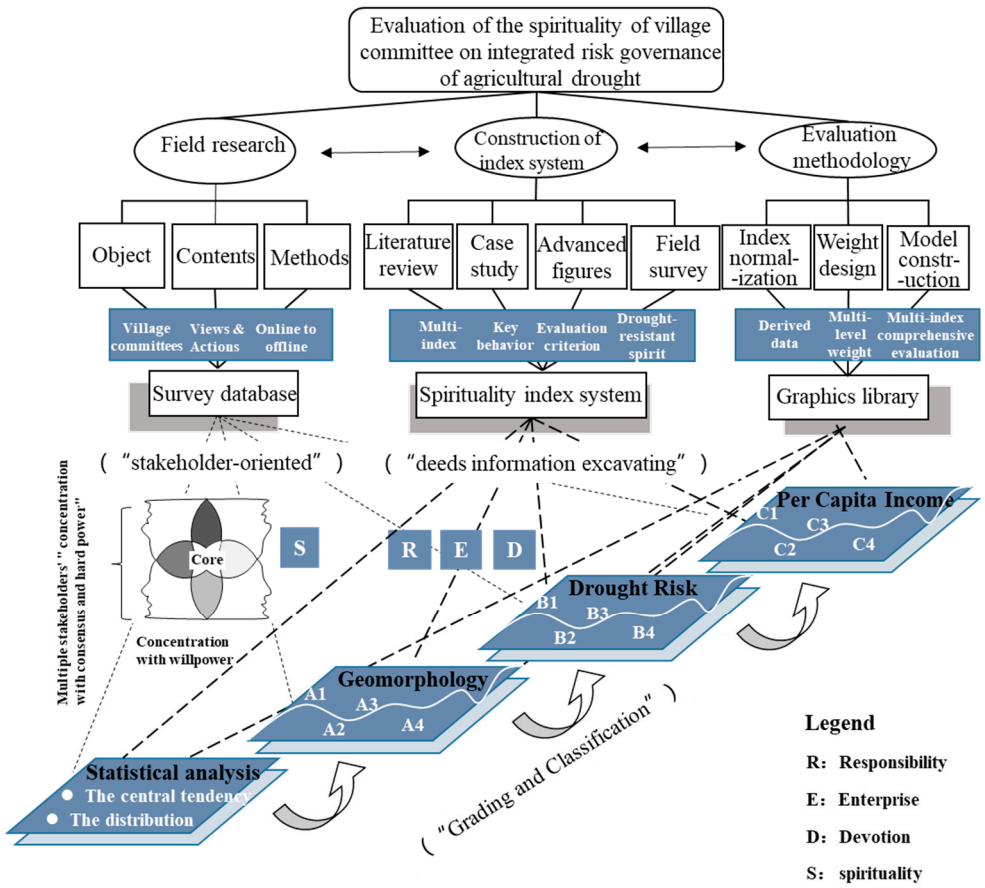


Figure 3. Framework of spirituality research of village committee on integrated risk governance of agricultural drought.

2.3.2. Integrated Risk Evaluation of Agricultural Drought

According to hazard system theory [27], the disaster-inducing factor, the disaster-breeding environment, and the disaster-bearing body are the three elements that constitute the risk of a hazard. The intensity of the disaster-inducing factor, the instability of the disaster-breeding environment, and the vulnerability of the disaster-bearing body jointly affect the magnitude of the hazard. In this paper, we adopt the classical disaster risk evaluation model [28] (Formula (2)), where R is the drought risk, H is the intensity of the drought disaster-inducing factor (standardized precipitation index of 1 km grid), V is the vulnerability and exposure of the disaster-bearing body, and E is the instability of the disaster-breeding environment.

The study area is located in an irrigated agricultural area in Northern China, and the uneven spatial and temporal distribution of precipitation makes it difficult to meet the needs of crop growth in most years; insufficient precipitation is also the main cause of local drought. Therefore, in this paper, the Standardized Precipitation Index is selected as an indicator to characterize the disaster-inducing intensity; in terms of disaster-breeding environment, four factors, namely topography, climate, soil, and vegetation, are selected as the main factors to assess the disaster-breeding environment of agricultural drought; in terms of disaster-bearing body, the vulnerability and exposure are mainly evaluated in this paper. Four factors, namely agricultural irrigation level, agricultural production level, local financial income, and people's living level, are selected to evaluate vulnerability, and exposure is evaluated in terms of land use type, density of agricultural population, and GDP per land.

$$R = f(H, V, E) \tag{2}$$

2.3.3. Quantitative Model of Spirituality

(1) Spirituality index system construction. Based on the literature and the summary analysis of the individual deeds in drought resistance, the spirituality indicators of different levels and their performance were summarized, and then the primary indicators were refined and questionnaires were designed based on them. Through the above steps, the spirituality indicator system for village committees on drought risk governance was established, which included a total of three secondary indicators and nine tertiary indicators.

(2) Determination of weights of spirituality indicators and construction of quantitative model. Three objective assignment methods, such as entropy method, information quantity method, and CRITIC (Criteria Importance Through Intercriteria Correlation) [29], were used to obtain the weights, and their average values were used as the corresponding weights of each indicator (Formula (3)). The entropy method is used to determine the weight of each indicator based on the information entropy of each indicator, where the greater the dispersion of the indicator value, the greater the amount of information provided by the indicator, and the greater the weight should be. The main idea of CRITIC lies in the calculation of two indicators, namely volatility and conflict indicators. The former is expressed by standard deviation; if the standard deviation of the data is larger, it means more volatility, and the weight will be higher. The latter is expressed by the correlation coefficient; if the correlation coefficient between indicators is larger, it means less conflict, and then the weight will be lower. When calculating the weights, the volatility indicators are multiplied with the conflicting indicators and normalized to obtain the final weights. The information weight method, also known as the coefficient of variation method, is also an objective weighting method, which essentially uses the coefficient of variation of the data to assign weights. If the coefficient of variation is larger, the weight will be larger. The quantitative model of the spirituality is constructed according to the multi-indicator synthesis method (Formula (4)).

$$W_{\mathrm{i}} = \frac{1}{3}(W_a + W_b + W_c) \tag{3}$$

$$S = \sum_{i=1}^{5} W_i N_i \quad (4)$$

where S is the spirituality of the village committee, W_i indicates the integrated weight of the ith indicator, W_a is the weight obtained by the entropy method, W_b is the weight obtained by the CRITIC method, W_c is the weight obtained by the information weight method, and Ni indicates the score of the ith indicator.

3. Results

3.1. Analysis of Spirituality Indicators on Integrated Risk Governance

R is the "direct performance" of the village committee's spirituality of risk governance, which is characterized by three indicators: inspection of the disaster situation (R1), report of the disaster situation (R2), and drought participation (R3). The mean values of the three indicators are more than 0.8, indicating unimodal distribution (Figure 4a). R3 has the highest average value, reaching 0.98, while R2 has the lowest average value, reaching 0.86. Ranges of each indicator are between [0.2 and 0.4], with R1 having an enormous range at 0.4. The attitude of village committees participating in drought relief work is more active. However, there are significant discrepancies in the actions when inspecting the disaster situation.

E is the "heart" of the village committee's spirituality of risk governance. Only by studying diligently in the face of obstacles may "a sudden glimpse of hope" emerge from adversity. This study provides three indicators: water allocation (E1), manpower shortage (E2), and insufficient equipment (E3). The mean value of each indicator is greater than 0.8, E1 and E3 are concentrated, and E2 is dispersed (Figure 4b). The average value of E1 is the highest at 0.99, while the average value of E2 is the lowest at 0.86. Each indicator has a range between [0.2 and 0.6], with E2 having the biggest range at 0.6. When confronted with difficulties in drought resistance, the village committee demonstrates a high level of initiative in water resource allocation and actively considers alternatives but does not think deeply enough about issues, such as inadequate people and equipment.

D is the "soul" of the village committee's spirituality of risk governance. That is, when confronted with adversity, they sacrifice their own interests to aid others, filling the social environment with the warmth of "silently moistening things", which is the sublimation of spirituality. There are three indicators used to illustrate material contribution in this paper, which includes material contribution (D1), financial contribution (D2), and mindfulness contribution (D3) (Figure 4c). Average value of each indicator lies between [0.75 and 1], where D1 is concentrated but D2 and D3 are dispersed. The average value of D1 is the highest at 0.98, while the average value of D2 is the lowest at 0.78. Each indicator has a range between [0.2 and 0.6], with D1 and D2 having the most extensive range of 0.6. In the face of adversity, the willingness of village committees to contribute their own equipment is high. However, when it comes to the contribution of economic resources and involving the devotion of physical health, there are specific difficulties in practice, and there are significant differences between village committees.

The spirituality of disaster risk governance (S) comprises R, E, and D, which collectively express the "concentration with willpower" when encountering disasters. S follows a normal distribution, with a mean value of 0.90 and a standard deviation of 0.32. The average values of its sub-indicators of R, E, and D fall between [0.85 and 0.95], present R > E > D, and R with a more concentrated distribution than E and D (Figure 4d). R has the most significant average value among them, reaching 0.93, but its range is highest, reaching 0.49. The range of E is 0.42, with an average of 0.90. The curve shows a skewed distribution, indicating that they differ greatly in overcoming difficulties. D has the smallest mean, with a range of 0.37, and it shows a normal distribution. Overall, the village committee performed admirably throughout the drought, but its capacity to overcome obstacles and altruism should be enhanced.

This section may be divided by subheadings. It should provide a concise and precise description of the experimental results, their interpretation, as well as the experimental conclusions that can be drawn.

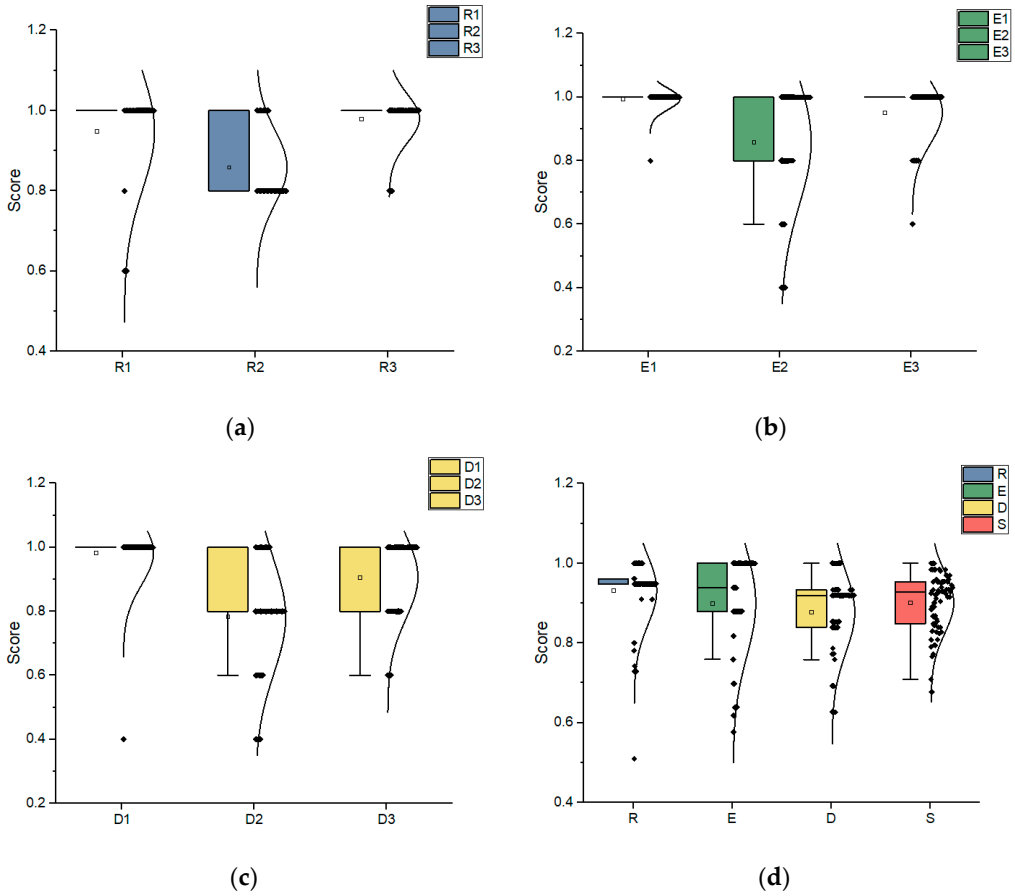


Figure 4. The distribution of village committees' spirituality. (**a**) is for responsibility (R), (**b**) is for enterprise (E), (**c**) is for devotion (D), and (**d**) is for spirituality (S).

3.2. Regional Regularity Analysis of Spirituality Based on Geomorphology

This section analyzes the spatial distribution of village committee spirituality in Xindu District from the perspective of geomorphology: mountain, hill, and plain. The average value of R is as follows: mountain area > plain area > hilly area. The average value of R in mountainous regions is higher than 0.9, with the highest values in Baian town and Jiangshui town, where the proportion of towns with high R grade is also the highest at 66.67%. The average value in hilly areas is more than 0.85, and the average value of Taizhijing town is the highest; the percentage of towns with medium grade and above is high. The average value in plain areas is more significant than 0.85, with Huangsi town having the highest value and the share of towns with medium R grade approaching 50% (Figure 5a, Table 3).

The average value of E is hilly area > plain area > mountain area. The average value of E in the mountain area ranges between [0.7 and 1.0], with Luluo town having the highest value and Jijia town the lowest. The proportion of towns with high E grade is the highest, reaching 50 percent. The average value in the hilly area ranges between [0.8 and 1.0], with Beixiaozhuang town having the highest value, Chengjitou town having the lowest, and the proportion of towns with high E grade is the highest at 80%. The average value in the plain area is between [0.8 and 1.0], the average value of Yangfan town is the highest, and the average value of Huangsi town is the lowest; the proportion of towns with medium E grade is the highest, at 75% (Figure 5b, Table 3).

The average value of D indicates that the plain area is superior to the mountain and hilly areas. The average value of D in the mountain area falls between [0.75 and 0.95], with Baian town having the highest value and Luluo town having the lowest. The highest percentage of towns with a low D grade is 50 percent. The average value of D in the hilly area is between [0.75 and 0.9], with Beixiaozhuang town having the highest value and

Taizhujing town having the lowest. The highest proportion of towns with a low grade is 60 percent. The average value in the plain area is between [0.85 and 0.95], the average value of Yangfan town is highest, the average value of Huining town is lowest, and the fraction of towns with medium D grade and above is the highest (Figure 5c and Table 3).

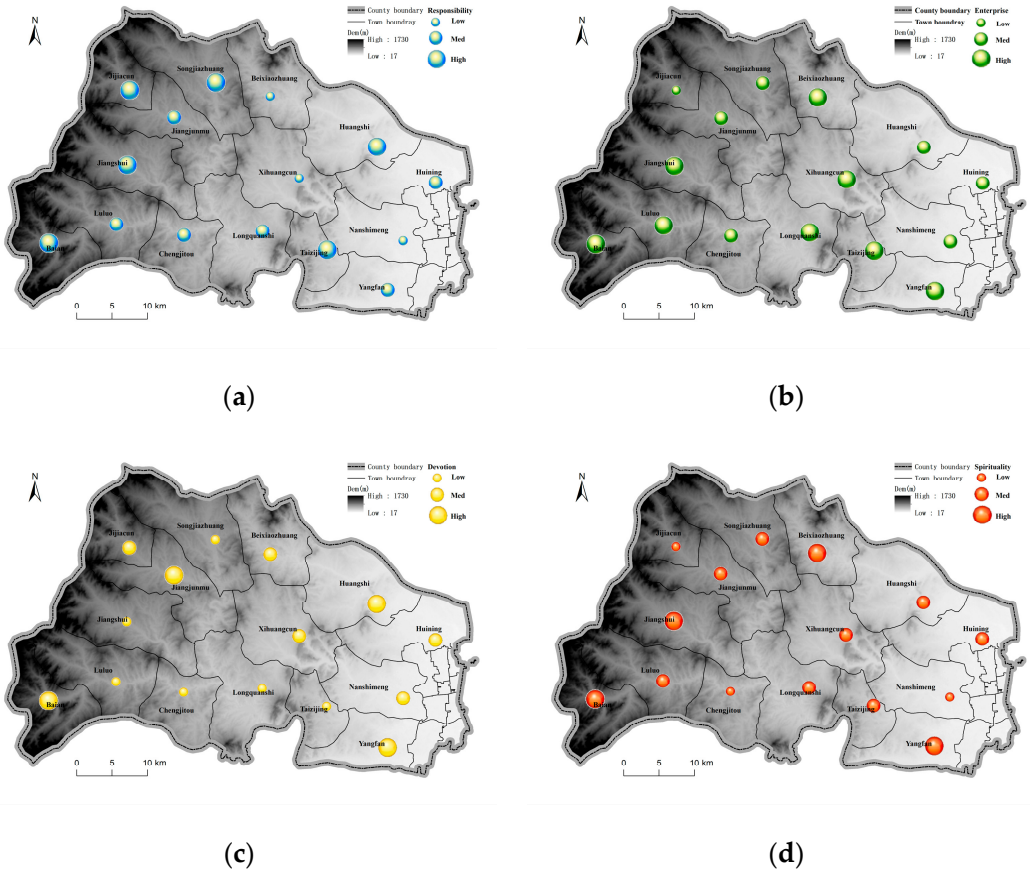


Figure 5. Spatial distribution of spirituality of village committees in different geomorphic areas. (**a**) is for responsibility (R), (**b**) is for enterprise (E), (**c**) is for devotion (D), and (**d**) is for spirituality (S).

Table 3. The proportion of spiritual indicator grade in different geomorphic areas.

R	Mountain	Hill	Plain	E	Mountain	Hill	Plain
high	4(66.67%)	2(40%)	1(25%)	high	3(50%)	4(80%)	1(25%)
medium	2(33.33%)	2(40%)	2(50%)	medium	2(33.33%)	1(20%)	3(75%)
low	0(0%)	1(20%)	1(25%)	low	1(16.67%)	0(0%)	0(0%)
D	**Mountain**	**Hill**	**Plain**	**S**	**Mountain**	**Hill**	**Plain**
high	2(33.33%)	0(0%)	2(50%)	high	2(33.33%)	1(20%)	1(25%)
medium	1(16.67%)	2(40%)	2(50%)	medium	3(50%)	3(60%)	2(50%)
low	3(50%)	3(60%)	0	low	1(16.67%)	1(20%)	1(25%)

Plain areas have an average S value greater than the mountain and hilly regions. The average value of S in mountainous regions is larger than 0.85, with Baian town having the highest value and Jijiacun town having the lowest. The share of towns with a medium grade of S is the highest, reaching 50 percent. The average value of S in hilly areas lies between [0.85 and 0.95], with Beixiaozhuang town having the highest value and Chengjitou town the lowest. Further, 60% of towns have a medium grade level of S. The average values of S in the plain area are all larger than 0.85, the average value of Yangfan town is the highest, the average value of Nanshimen town is the lowest, and the fraction of towns with medium

grade is the highest (Figure 5d, Table 3). The survey revealed that village committees in mountainous regions were engaged actively in carrying out their responsibilities. Due to the challenging conditions in hilly areas, village committees performed best in limited water resource allocation, insufficient drought-fighting labor, and insufficient drought-fighting equipment. They demonstrated their sense of responsibility during the period of drought. Village committees in the plain areas were better able to contribute their own drought relief goods, funds, and more dedication in the process of drought resistance. There is still potential for improvement, as indicated by the low number of towns with a high spirituality grade in diverse geomorphologic regions.

3.3. Regional Regularity Analysis of Spirituality Based on Agricultural Drought Risk Level

This section analyzes the spatial distribution of the spirituality of village committees in light of various agricultural drought risk levels (high, medium, and low risk). In terms of average value of R, it presents medium-risk area > high-risk area > low-risk area. The average value of R in the high-risk area is larger than 0.85, and the average value of Taizhijing town is the highest, as is the fraction of towns with R values of medium grade and above. The average value of R in the medium-risk area is larger than 0.9, with the highest average value in Jiashui, and the proportion of towns with R of medium grade is high, at 60%. The average value of R in the low-risk area is greater than 0.85, and the average value of Huangsi town is the highest, as is the fraction of towns with an R-value of medium grade or above (Figure 6a, Table 4).

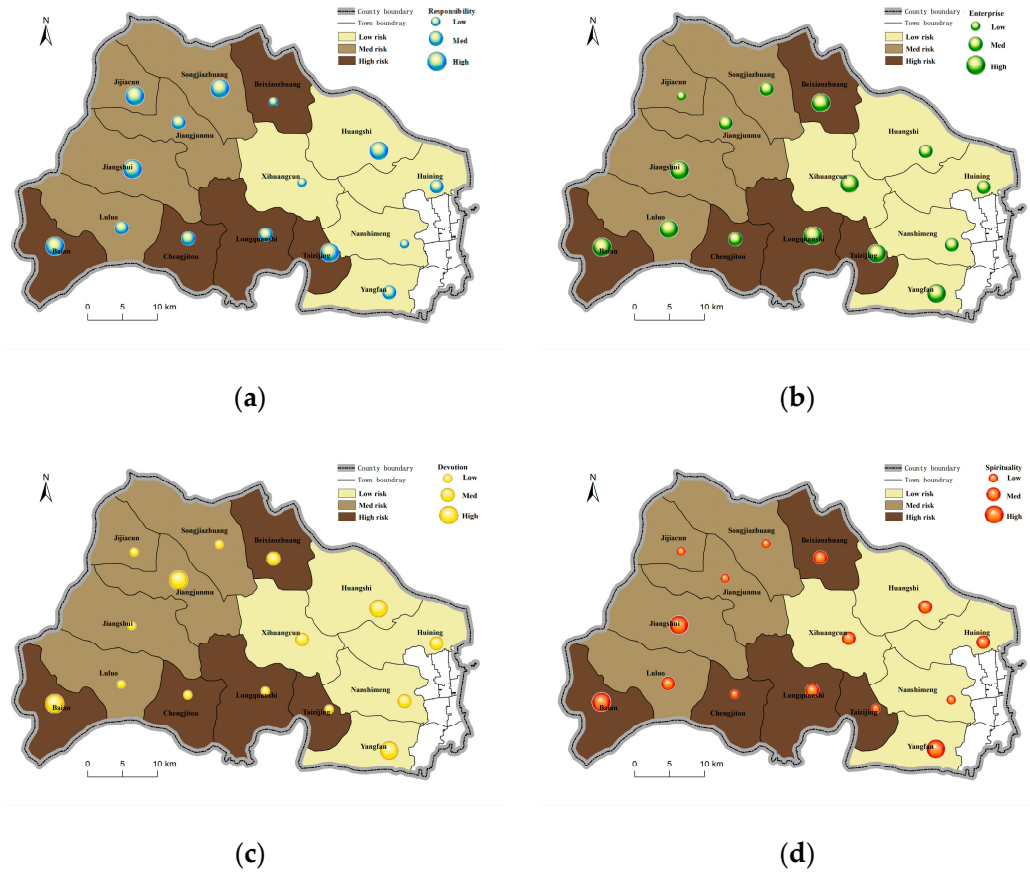


Figure 6. Spatial distribution of spirituality of village committees in different drought risk areas. (**a**) is for responsibility (R), (**b**) is for enterprise (E), (**c**) is for devotion (D), and (**d**) is for spirituality (S).

The average value of E is as follows: high-risk area > low-risk area > medium-risk area. Bexiaozhuang town had the highest average value, and Chengjitou town had the lowest. The highest percentage of towns having a high grade E was 80 percent. The average value of E in the medium-risk area is larger than 0.7, with Luluo town having the highest value and Jijiacun town having the lowest. The percentage of towns with E of medium grade is 80%. The average value of E in low-risk areas is more than 0.8, the average value of Yangfan town is the highest, the average value of Huangsi town is the lowest, and 60% of townships have a medium E grade (Figure 6b, Table 4).

Table 4. The proportion of spiritual indicator grade in different drought risk areas.

R	High Risk	Medium Risk	Low Risk	E	High Risk	Medium Risk	Low Risk
high	2(40%)	3(60%)	2(40%)	high	4(80%)	0(0%)	1(20%)
medium	2(40%)	2(40%)	2(40%)	medium	1(20%)	4(80%)	3(60%)
low	1(20%)	0(0%)	1(20%)	low	0(0%)	1(20%)	1(20%)
D	**High risk**	**Medium risk**	**Low risk**	**S**	**High risk**	**Medium risk**	**Low risk**
high	1(20%)	1(20%)	2(40%)	high	1(20%)	1(20%)	1(20%)
medium	1(20%)	0(0%)	3(60%)	medium	2(40%)	1(20%)	3(60%)
low	3(60%)	4(80%)	0(0%)	low	2(40%)	3(60%)	1(20%)

The average value of D is as follows: low-risk area > high-risk area > medium-risk area. The average values of D in the high-risk area were all larger than 0.8, with Baian town having the highest value and Taizhijing town having the lowest. The highest proportion of towns getting a low grade was sixty percent. The average value of D in the medium-risk area falls between [0.75 and 0.95], with Jiangjunmu town having the highest average value and Luluo town having the lowest. The percentage of towns with a low grade is high, reaching 80%. The average value of D in the low-risk area is between [0.85 and 0.95], the average value of Yangfan town is the highest, and the average value of Huining town is the lowest; the percentage of towns with D of medium grade is the highest, at 60% (Figure 6c, Table 4).

On the whole, the situations of S in three risk districts are comparable. The average values of S in the high-risk area were all more than 0.85, with Baian town having the highest average value and Chengjitou town having the lowest, with a large majority of townships having S values at or above the medium grade. The average values of S in the medium-risk area fall between [0.85 and 0.95], with the highest average value in Jiangshui town, the lowest in Jijiachun town, and the highest percentage of towns with low grade of S reaching 60%. The average values of S in the low-risk area are larger than 0.85, with Yangfan town having the highest value and Nanshimen town having the lowest. The share of towns with a medium grade of S is the highest (60%) (Figure 6d, Table 4). The village committees in the medium-risk area performed admirably in their responsibilities, the village committees in the high-risk area offered more ideas for overcoming difficulties, and the village committees in the low-risk area demonstrated the most altruism.

3.4. Regional Regularity Analysis of Spirituality Based on per Capita Income Level

This section analyzes the spatial distribution of spirituality of village committees based on varying levels of per capita income (high income, medium income, and low income). The average value of R is as follows: medium-income area > high-income area > low-income area. The average values of R in high-income areas are larger than 0.85; the average value is highest in Jiangshui and Huangsi, and the proportion of towns with R of medium grade and above is highest. The average values of R in the medium-income area are larger than 0.85, and the average value of Taizijing town is the highest, with 60% of towns having a low R grade. The average values of R in low-income areas are larger than 0.85. The average value is highest in Jijiacun town, along with the highest proportion of towns with R of medium grade or below (Figure 7a, Table 5).

The average value of E is middle-income area > high-income area > low-income area. The average values of E in high-income areas are greater than 0.85, the average value of Yangfan town is the highest, the average value of Huangsi town is the lowest, and the proportion of towns with E of medium grade or above is the highest. The average values of E in the medium-income area are greater than 0.85, with Luluo town having the highest average value and Songjiazhuang town having the lowest. The percentage of towns having E of medium grade is high, at 80%. In low-income areas, the average values of E are larger than 0.7, Longquansi town has the highest average value, Jijiacun town has the lowest, and the proportion of E of medium grade is the highest, at 60% (Figure 7b, Table 5).

The average value of D is high-income area > low-income area > middle-income area. The average values of D in high-income areas are greater than 0.85, the average value in Yangfan town is the highest, the average value in Jiangshui town is the lowest, and the fraction of towns with D of medium grade and above is the highest. The average values of D in the middle-income area fall between [0.75 and 0.95], with Baian town having the highest value and Luluo town having the lowest. Further, 60% of the towns have a low grade. The average values of D in the low-income area are between [0.8 and 0.95], with the highest average value in Jiangjunmu and the lowest average value in Longquansi. The proportion of towns with a low grade is the highest, at 60% (Figure 7c, Table 5).

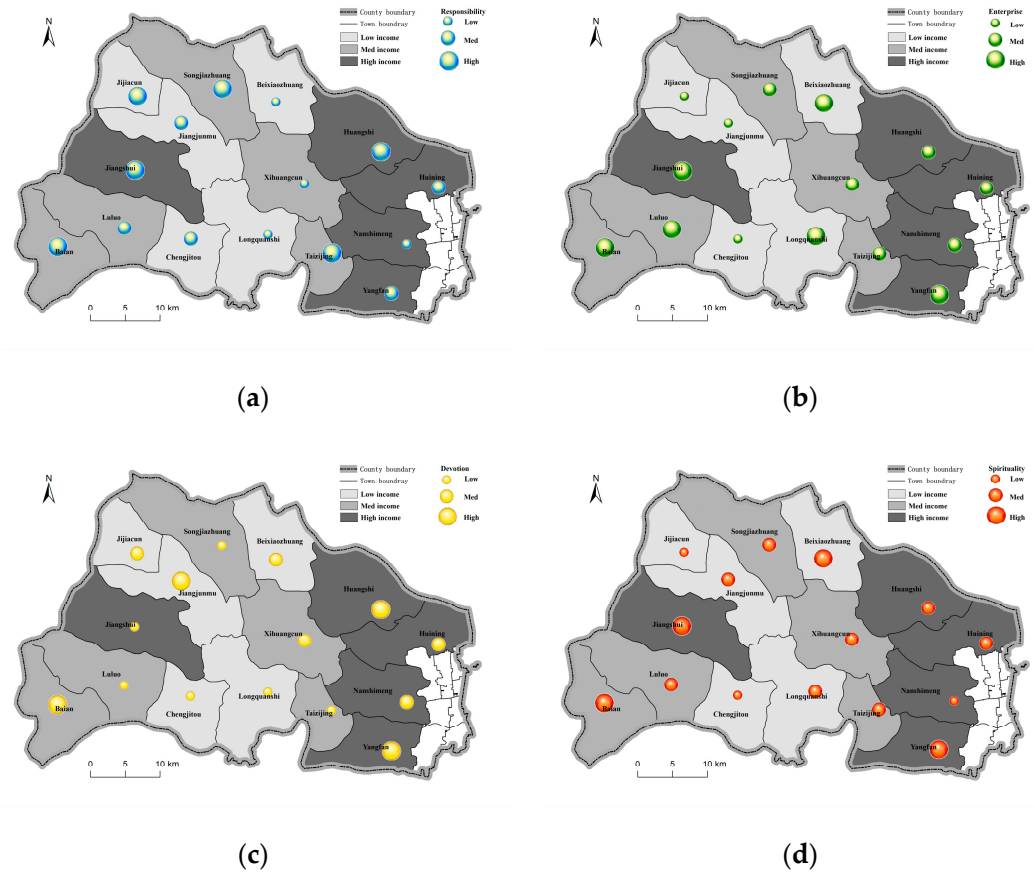


Figure 7. Spatial distribution of spirituality of village committees in different income areas. (**a**) is for responsibility (R), (**b**) is for enterprise (E), (**c**) is for devotion (D), and (**d**) is for spirituality (S).

Above all, the average value of S is high-income area > medium-income area > low-income area. The average values of S in high-income areas are greater than 0.85, the average value of Yangfan town is the highest, the average value of Nanshimen town is the lowest, and the proportion of towns with S of medium grade and above is the highest. The average values of S in the medium-income areas are greater than 0.85, the average value of Baian town is the highest, the average value of Songjiazhuang town is the lowest, and the

percentage of townships with S of medium grade is the highest, at 80%. The average values of S in low-income areas fall between [0.85 and 0.92], with Beixiaozhuang town having the highest value, Jijiachun town having the lowest, and the fraction of towns with S of medium grade and above being the highest (Figure 7d, Table 5).

Table 5. The proportion of spiritual indicator grade in different income areas.

R	High Income	Medium Income	Low Income	E	High Income	Medium Income	Low Income
high	2(40%)	1(20%)	1(20%)	high	2(40%)	1(20%)	0(0%)
medium	2(40%)	1(20%)	2(40%)	medium	2(40%)	4(80%)	3(60%)
low	1(20%)	3(60%)	2(40%)	low	1(20%)	0(0%)	2(40%)
D	**High income**	**Medium income**	**Low income**	**S**	**High income**	**Medium income**	**Low income**
high	2(40%)	1(20%)	1(20%)	high	2(40%)	1(20%)	1(20%)
medium	2(40%)	1(20%)	1(20%)	medium	2(40%)	4(80%)	2(40%)
low	1(20%)	3(60%)	3(60%)	low	1(20%)	0(0%)	2(40%)

In general, there is a correlation between spirituality and financial level, with higher degrees of responsibility, overcoming obstacles, and altruism in places with higher incomes.

4. Conclusions

Integrated risk governance for agricultural drought is a complex process, influenced by both natural and human conditions. As the understanding of human factors continues to deepen, the importance of the spirituality of stakeholders continues to be highlighted. This paper condenses the concept and connotation of the spirituality of village committees for drought risk governance, constructs an index system and quantitative model of the spirituality of stakeholders on drought risk governance, reveals the state of spirituality of village committees (the core stakeholders) in response to disaster and the pattern of regional regularity, provides a perspective to understand the subjective initiative of stakeholders, and opens up a new and quantifiable way to study the "concentration with willpower" of multi-stakeholders for integrated drought risk governance.

(1) Based on the theory of consilience for integrated disaster risk governance, the concept and connotation of spirituality of village committees are condensed, including the core elements of benevolence, dedication, optimism, overcoming difficulties and mutual assistance, etc. Individual spirituality can help people perceive risks more deeply and have a positive impact on individual disaster-reduction actions. Further, the relationship between spirituality and consilience is explored, and it is clear that spirituality focuses on expressing the spiritual state of individuals, and it is a portrayal of each stakeholder's "concentration with willpower" in the consilience of the system. The cognition of consilience was improved via the expression of "concentration with consensus and hard power" of multiple stakeholders to the quantification of "concentration with willpower" of individual stakeholders.

(2) The spirituality evaluation framework of "deeds information excavating → stakeholder-oriented survey → grading and classification" is formed. Deeds information excavating: Based on the background of Chinese traditional culture, through the summarization of drought cases, analysis of the characteristics of advanced figures in various industries and literature review and other multi-method integration approaches, the connotation of spirituality is mined, and a spirituality index system, including responsibility, enterprise, and devotion, is established. Stakeholder-oriented survey: Based on the characteristics of the Chinese administrative system, we focused on the grassroots organization managers who play a leading and central role in the process of risk governance; that is, the village committees establish a survey database by conducting field research. Grading and classification: constructing quantitative models of spirituality, carrying out regional analysis of different levels and types of spirituality based on different geomorphology,

drought risk levels and socio-economic development levels, and further promoting visual expression and research of spirituality.

(3) The spirituality index (S) of village committees is normally distributed, and the result of average value of all secondary index is Responsibility (R) > Enterprise (E) > Devotion (D). R has the highest mean value of 0.93 and a range of 0.49, and the village committee has a more positive attitude to participate in the drought, but there is a greater difference in the work of inspecting the disaster; E has a mean value of 0.90 and a range of 0.42; the village committee has a greater difference in its performance in overcoming difficulties and has a high initiative in water allocation, while it does not think deeply enough in solving problems, such as the lack of human and equipment resources. The mean value of D is the lowest with a range of 0.37. The willingness of village committees to contribute their own equipment is high, while the willingness to contribute financial help and physical health is lower than that to contribute equipment. On the whole, the committee is able to do the job well during the drought, while it needs to improve in terms of overcoming difficulties and selflessness and should better solve the problems of water shortage, lack of manpower and materials, and also needs to better help villagers in need of relief.

(4) There are some regional differences in the average value of S. In terms of geomorphology, the mean values of each area are greater than 0.85, showing a trend of plain area > mountain area > hilly area, and village committees are active in performing their duties in the mountain area, while village committees in the hilly area perform the best when they encounter insufficient water, manpower, and equipment because of the harsh conditions, and village committees in the plain area can better contribute their goods and funds during drought and are more dedicated. In terms of drought risk areas, village committees in medium-risk areas performed better in their duties, while village committees in high-risk areas had more ideas on drilling challenges, and village committees in low-risk areas performed the best in terms of dedication. From the perspective of income, S shows the trend of high-income area > medium-income area > low-income area. In the high-income area, the degrees of dutifulness, overcoming difficulties, and selflessness are higher.

5. Discussion

5.1. Coupling Study of Spirituality and Consilience

Spirituality is closely related to another concept that focuses on the ideology of the stakeholders, namely consilience. Consilience is the expression of multiple stakeholders' "concentration with consensus and hard power", while spirituality can be seen as the portrayal of one stakeholder's "concentration with willpower". Both consider the role of consciousness in risk governance, while the "consensus" in consilience focuses on the consistency of consciousness among multiple stakeholders in the crisis response process, while spirituality focuses on the individual's own mental state.

On 20 July 2021, severe flooding occurred in Zhengzhou, Henan Province, and this disaster highlighted the need for the coupling of spirituality and consilience. The disaster response process further expands the understanding of consilience: the risk consciousness, attitude, and mindfulness of stakeholders facing a crisis greatly influence their response behavior and the degree of synergy and cooperation (State Council Survey Group, 2022), so the key parameter in consilience (consensus) refers not only to the degree of agreement between different stakeholders, but should also include the individual mental state. The stakeholders' own spirituality, coupled with the unity of all with others in response to the crisis, is what maximizes consensus. Based on this, the author's team proposes that spirituality can be portrayed by constructing indicators, such as self-awareness and self-reflection, and the degree of consensus can be portrayed by constructing indicators, such as willingness to cooperate, tolerance, and constraint; the former can be quantified with reference to Hooke's law and the latter can be quantified with reference to the cosine function, combining the above two parts to couple spirituality and consilience. The method is still to be carried out for practice and verification. The coupling of spirituality and

consilience can more comprehensively reflect the psychological condition of stakeholders in the disaster response process, and the coupling method of both should be further explored in the future, with a better serving of collaborative work of multiple stakeholders in resisting drought.

5.2. Exploration of Spirituality Influence Factors

This paper focuses on the statistical and regional regularity of spirituality. When someone encounters a crisis, the mental state is also influenced by many factors; for example, some studies point out that the characteristics of the personal attributes affect their spirituality, which, in turn, affects a series of behavioral changes, including cognition and management [30]. The exploration of the factors influencing spirituality has become one of the key directions for future research.

In order to further understand the influence factor of spirituality, this paper tries to analyze the relationship between the natural attributes, social attributes, and spirituality of the stakeholders, and the preliminary results show that, in terms of age, committees in the 41–50 age group have the highest average score, and those over 50 have the lowest average score of spirituality. With regard to education, the highest spirituality scores were obtained by village committees with high school education, and their scores were significantly higher than the scores of village committees with junior high school education. In terms of years of work, the highest spirituality scores were for village committees with less than 5 years of work and the lowest were for village committees with more than 10 years of work.

In our research, it was found that committees aged 41–50 embodied more responsibility and dedication in the drought work, committees with higher education treated the daily drought work more seriously, and those with shorter working years embodied greater work drive. Combined with the above exploration, we can further consider the attributes of personality, economic status, and soft factors, such as perception of drought risk, and combine different methods, such as correlation analysis, principal component analysis, factor analysis, multiple linear regression analysis, logistic regression analysis, spatial autoregressive modeling, and structural equation modeling (SEM), to conduct a more comprehensive analysis of spirituality influencing factors, so as to provide a scientific reference for improving the level of stakeholders' "concentration with willpower" on drought risk governance.

Further, Xindu District has jurisdiction over 17 towns (15 related to agriculture), 8 street offices, and 530 administrative villages. Each township selects 4–5 villages as samples but our sample size is only 66. Actually, it will affect the reliability of the statistical analysis results.

5.3. The Influence of Local Administrative System

Relevant laws stipulate the level of guidance, assistance, and assistance between the township government and the villager committee in the work. The state grassroots political power is the township government, which has the function of exercising according to law. The villagers' committee is an autonomous organization of villagers, which accords with the characteristics of the law itself. In terms of policy, the relationship between township and village committee is the "guidance relationship". Therefore, in the process of drought fighting, village committees will implement the relevant policies of the government and carry out drought fighting according to the requirements, so as to improve their enthusiasm for drought fighting. Our study did not consider the effect of its administrative system.

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References

1. Compilation group of China Flood and Drought Disaster Prevention Bulletin. Summary of China Flood and Drought Disaster Prevention Bulletin 2021. *China Flood Drought Manag.* **2022**, *32*, 38–45. (In Chinese) [CrossRef]
2. Brunner, M.I.; Slater, L.; Tallaksen, L.M.; Clark, M. Challenges in modeling and predicting floods and droughts: A review. *Wiley Interdiscip. Rev. Water* **2021**, *8*, e1520. [CrossRef]
3. Sarker, M.N.I.; Wu, M.; Alam, G.M.M.; Shouse, R.C. Administrative resilience in the face of natural disasters: Empirical evidence from Bangladesh. *Pol. J. Environ. Stud.* **2020**, *29*, 1825–1837. [CrossRef]
4. Jamroni, M.; Sukesi, K.; Yuliati, Y.; Purnomo, M. Village Community Resilience in Handling the COVID-19 Pandemic. *Multicult. Educ.* **2021**, *7*, 155–170.
5. Garg, N. Workplace spirituality and employee well-being: An empirical exploration. *J. Hum. Values* **2017**, *23*, 129–147. [CrossRef]
6. King, S.M. Religion, spirituality, and the workplace: Challenges for public administration. *Public Adm. Rev.* **2007**, *67*, 103–114. [CrossRef]
7. O'Brien, M.E. *Spirituality in Nursing: Standing on Holy Ground*; Jones & Bartlett Publishers: Burlington, MA, USA, 2021.
8. Paloutzian, R.F.; Park, C.L. The psychology of religion and spirituality: How big the tent? *Psychol. Relig. Spiritual.* **2021**, *13*, 3–13. [CrossRef]
9. Koenig, H.G. Concerns about measuring spirituality in research. *J. Nerv. Ment. Dis.* **2008**, *196*, 349–355. [CrossRef]
10. Ashmos, D.P.; Duchon, D. Spirituality at work: A conceptualization and measure. *J. Manag. Inq.* **2000**, *9*, 134–145. [CrossRef]
11. Milliman, J.; Czaplewski, A.J.; Ferguson, J. Workplace spirituality and employee work attitudes: An exploratory empirical assessment. *J. Organ. Chang. Manag.* **2003**, *16*, 426–447. [CrossRef]
12. Wang, T.-M.; van Witteloostuijn, A.; Heine, F. A Moral Theory of Public Service Motivation. *Front. Psychol.* **2020**, *11*, 517763. [CrossRef] [PubMed]
13. Lee, Y.-H.; Salman, A. Evaluation of using the Chinese version of the spirituality index of well-being (SIWB) scale in Taiwanese elders. *Appl. Nurs. Res.* **2016**, *32*, 206–211. [CrossRef] [PubMed]
14. Li, S.; Pan, Q.; Frey, B.B. Development of a Chinese and American scale for measuring spirituality. *Cogent Psychol.* **2018**, *5*, 1501934. [CrossRef]
15. Bednarczuk, M. God in the workplace: Religiosity and job satisfaction among US public servants. *J. Public Nonprofit Aff.* **2019**, *5*, 261–276. [CrossRef]
16. Lawson, E.J.; Thomas, C. Wading in the waters: Spirituality and older Black Katrina survivors. *J. Health Care Poor Underserved* **2007**, *18*, 341–354. [CrossRef]
17. Captari, L.E.; Hook, J.N.; Aten, J.D.; Davis, E.B.; Tisdale, T.C. Embodied spirituality following disaster: Exploring intersections of religious and place attachment in resilience and meaning-making. In *The Psychology of Religion and Place*; Palgrave Macmillan: Cham, Switzerland, 2019; pp. 49–79.
18. Wamsler, C. Stakeholder involvement in strategic adaptation planning: Transdisciplinarity and co-production at stake? *Environ. Sci. Policy* **2017**, *75*, 148–157. [CrossRef]
19. Wamsler, C.; Brink, E. Mindsets for sustainability: Exploring the link between mindfulness and sustainable climate adaptation. *Ecol. Econ.* **2018**, *151*, 55–61. [CrossRef]
20. Jiang, Y.; Wu, Y.Y.; Guo, H.; Zhang, G.M.; Wang, J.A. Consilience Researches of Agricultural Drought Integrated Risk Governance. *J. Hebei Norm. Univ. (Nat. Sci.)* **2021**, *45*, 410–417. (In Chinese) [CrossRef]
21. Ke, J.L.; Sun, J.M.; Wang, J. Development and Validation of the Workplace Spirituality Scale. *Chin. J. Clin. Psychol.* **2014**, *5*, 826–830. (In Chinese) [CrossRef]
22. Guo, H.; Jiang, Y.; Wang, J.A.; Liang, Q.O. Consistency of farmers' planting strategies and government objectives fordrought risk governance: A case study of Xinghe County of Inner Mongolia. *Resour. Sci.* **2021**, *43*, 1889–1902. (In Chinese) [CrossRef]
23. Wu, Y.; Guo, H.; Wang, J.A. Quantifying the Similarity in Perceptions of Multiple Stakeholders in Dingcheng, China, on Agricultural Drought Risk Governance. *Sustainability* **2018**, *10*, 3219. [CrossRef]
24. Yang, D.G.; Zhou, Z.T.; Song, Y.Y.; Zhang, G.W.; Yang, G.L. Contemporary National Cohesion Study. *Bull. Chin. Acad. Sci.* **2016**, *31*, 1215–1223. (In Chinese) [CrossRef]

25. Johnson, J. Social Cohesion: An Investigation into Post-Earthquake Christchurch. Bachelor's Dissertation, Lincoln University, Lincoln, New Zealand, 2015.
26. Townshend, I.; Awosoga, O.; Kulig, J.; Fan, H. Social cohesion and resilience across communities that have experienced a disaster. *Nat. Hazards* **2015**, *76*, 913–938. [CrossRef]
27. Shi, P.J. Theory and practice on disaster system research in a fourth time. *J. Nat. Disasters* **2005**, *6*, 1–7. (In Chinese)
28. Okada, N.; Tatano, H.; Hagihara, Y.; Suzuki, Y.; Hayashi, Y.; Hatayama, M.; Hartman, J.; Nagae, T.; Shimizu, H. Integrated research on methodological development of urban diagnosis for disaster risk and its applications. *Annu. Disaster Prev. Res. Inst. Kyoto Univ.* **2004**, *47*, 1–8.
29. Diakoulaki, D.; Mavrotas, G.; Papayannakis, L. Determining objective weights in multiple criteria problems: The critic method. *Comput. Oper. Res.* **1995**, *22*, 763–770. [CrossRef]
30. Zang, D.; Luo, Y. The heterogeneity of village cadres and poverty reduction. In Proceedings of the International Conference on Economic Management and Green Development (ICEMGD 2018), Beijing, China, 30 July 2018; pp. 1–5.