Construction and Measurement of High Quality Livelihood Security Standards of Multi-level Social Security System in Ethnic Areas under the Goal of Common Prosperity: A Survey Based on Ethnic Areas in Gansu

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Abstract: It is the brand new pursuit of the 20th Party Congress to improve the multi-level social security system that covers all people, integrates urban and rural areas, is fair and uniform, safe and standardized, and is sustainable. Common prosperity is the essential requirement of socialism with Chinese characteristics and the fundamental task to fully build socialism with Chinese characteristics. Based on the survey of ethnic areas in Gansu, this paper constructs the criteria of high-quality livelihood security of multi-level social security system in ethnic areas under the goal of common prosperity, and measures the degree of security accurately, so as to help realize the common prosperity of ethnic areas and even the whole country.

1. The Basis and Content Design of Constructing High-Quality Livelihood Protection Standards of Multi-Level Social Security System in Ethnic Areas under the Goal of Common Prosperity

1.1. The Basis of High Quality Livelihood Security Standards for Multi-Level Social Security System in Ethnic Areas under the Goal of Common Wealth

1.1.1. Construction Basis

For the following reasons, we should build a multi-level social security "high quality" livelihood

protection standard for ethnic areas under the goal of common prosperity from multiple levels. Firstly, the multi-level social security and livelihood protection system in ethnic areas under the goal of common prosperity is an important institutional guarantee to realize "rural revitalization" and suppress poverty in ethnic areas, which is also the essential requirement of socialism with Chinese characteristics. Secondly, the report of the 19th National Congress clearly put forward the goal of "common prosperity", and the comprehensive realization of "common prosperity" requires a social security system to escort the way, and the communiqué of the 5th Plenary Session of the 19th CPC Central Committee clearly put forward the idea of "strengthening the Social security system construction, in accordance with the basic requirements of "cover the bottom line, weave a dense network, build a mechanism", a comprehensive coverage of all people, urban and rural areas, clear rights and responsibilities, moderate protection, sustainable multi-level social security system." The Fifth Plenary Session of the 19th Central Committee of the Communist Party of China (CPC) deliberated and adopted the "14th Five-Year Plan for National Economic and Social Development and the 2035 Visionary Goals", which started a new journey of building a modern socialist country comprehensively. It is the basic task of social security system construction in the next five years to accelerate the realization of the goal of "a more complete multi-level social security system". To implement the spirit of the Central Government's 14th Five-Year Plan, the Ministry of Human Resources and Social Security released the 14th Five-Year Plan for the Development of Human Resources and Social Security in June 2021, which makes clear arrangements for how to "improve the multi-level social security system". "Although China's social security system has basically achieved full coverage, there is still the problem of low quality of participation. For example, the phenomenon of "short participation period, interrupted contribution and insufficient contribution level" still exists in basic pension insurance; in medical security, the difficulties of "seeing a doctor and heavy personal burden" are still prominent; in nursing security, the fledgling long-term care insurance system is still far from being able to meet the needs of a large number of elderly people with disabilities. In terms of nursing care, the fledgling long-term care insurance system is still far from being able to meet the needs of the large-scale elderly disabled population. "The 14th Five-Year Plan is the first five-year period to build a moderately prosperous society, and as people's living standards improve, they demand higher levels of social security rights and interests. "More sound" means that the multi-layered social security system in ethnic areas needs to be more fully developed, more balanced and more reasonable in structure on the basis of the completed framework. To achieve this goal, it is necessary to sort out the overall vision and system concept, base on long-term development, focus on realistic judgment, address the problems of inadequate and unbalanced development of multi-level social security in ethnic areas, focus on "strengthening the foundation, promoting advantages, mending shortcomings, and strengthening weaknesses", and build a social security system that is systematic and complete, scientific and standardized, and effective in operation.

In 2020, China's rural poor population under the current standard will all be removed from poverty, and the goal of building a moderately prosperous society will be achieved as scheduled. Poverty eradication is not the end of the line, as General Secretary Xi Jinping pointed out at the National Poverty Eradication Summit in 2021: "There is still a long way to go to solve the problem of unbalanced and insufficient development, narrow the development gap between urban and rural areas, and achieve comprehensive human development and common prosperity for all people." Inherent to the common prosperity requires that the first rich drive and help the latter rich, and the "latter rich" are the relatively poor, relatively backward and relatively difficult people. China has entered a new stage of building socialist modernization and is committed to achieving the second hundred-year goal in the middle of the 21st century and building a strong, democratic, civilized, harmonious and beautiful modern socialist country. On the way to achieve the second century goal,

the focus and difficulty of poverty management in China will shift to the more hidden relative poverty. The Fourth Plenary Session of the 19th CPC Central Committee proposed to "establish a long-term mechanism to address relative poverty" and the Fifth Plenary Session of the 19th CPC Central Committee proposed to "achieve more obvious and substantial progress in the common prosperity of all people", which provides a political foundation and institutional premise for relative poverty management [1].

The core and key of the multi-level social security system in ethnic areas under the goal of common prosperity is the degree of livelihood protection. After the ethnic regions have been fully eradicated from poverty by 2020, the key element of livelihood security at the current stage is to ensure that urban and rural residents do not suffer from relative poverty and thus achieve common prosperity. Therefore, the measurement of the degree of livelihood security should be based on the multidimensional poverty measurement method, which mainly focuses on whether individuals are deprived of their livelihood, and conversely, whether individual poverty is effectively suppressed, and the degree to which individuals achieve "two worries and three guarantees", but the construction of index dimensions should focus on "high quality". "The reason for raising the weight of this dimension is that the focus here is not on the protection of people's basic livelihood rights in ethnic areas, but on the protection of their own livelihood status.

The first step in sorting out the research on relative poverty in the academic field is the research on the identification and measurement of relative poverty. At present, there are two main methods for identifying and measuring relative poverty: one is the indirect method, i.e., the relative poverty line based on monetary (mainly income) measurement, i.e., income relative poverty; the other is the direct method, i.e., the relative poverty identification method based on multidimensional indicators, and the object of measurement is mainly based on whether a specific set of basic rights, basic needs or basic functions are met, i.e., multidimensional relative poverty. Some scholars support following the monetary (income) dimension of absolute poverty, arguing that the monetary (income) dimension is conducive to policy continuity and saving public resources. Some scholars also propose the use of a multidimensional poverty approach to measurement, arguing that the characteristics of relative poverty are different from absolute poverty, and more dimensions need to be included to be able to measure it in a complete way.

A-F method enables the identification, summation, and decomposition of multidimensional indicators [2]. In subsequent studies, researchers have generally combined the A-F method with the MPI indicator system to measure the level of development with measurable dimensions instead of abstract competencies. It can be seen that multidimensional measures from a single income to health, living conditions and even overall development have gradually received academic attention and social recognition. Liu Xiaoyun and Ma Lingfound through their measurements that poor farmers benefit more from the poverty alleviation process [3], but the lack of education dimension remains serious and the improvement of toilet sanitation lags far behind the improvement of factors such as income and health. Zhang used China's 2016 survey data to measure and compare the development levels of urban [4], rural and mobile populations and their heterogeneity, pointing out that the deprivation of education and health dimensions is particularly prominent in China. Xu Wenqi et al. used comparative static measures to measure the development status in China in 2010 [5], 2012, and 2014, and found that there were urban-rural differences in the factors leading to underdevelopment in each region, and there was a low incidence of deprivation status and high intensity of deprivation.

This paper constructs the criteria for high-quality livelihood security of multi-level social security system in ethnic regions under the goal of common prosperity based on the value logic of striving for common prosperity after the completion of comprehensive poverty eradication in ethnic regions by 2020, and constructs the criteria based on the multidimensional poverty A-F

measurement method, i.e., the construction of the indicator system for high-quality livelihood security of multi-level social security system in ethnic regions under the goal of common prosperity .

1.2. Construction Principles

A complete index system is a prerequisite and basis for measuring and evaluating the effectiveness of the multi-level social security system in ethnic areas under the goal of common prosperity. Following and adhering to certain principles and characteristics is not only the key to ensure the scientific and applicability of the index system, but also an important guarantee for the objectivity and comprehensiveness of the measurement results. Therefore, the following principles should be followed when constructing the index system for measuring the quality of livelihood protection of multi-level social security system in ethnic areas under the goal of common prosperity.

First, the principle of systematicity and flexibility. In the report of the 18th National Congress, the State first proposed to improve the multi-level social security system, and the multi-level social security system ultimately belongs to the social security system, therefore, in terms of logical connection, the multi-level social security system and the social security system have a strong correlation and interaction. Therefore, when selecting indicators, we should pursue the systemic value orientation of comprehensive, coordinated and sustainable development, consider all aspects related to high-quality livelihood security, focus on the correlation and structure of the indicator system, and form a systemic indicator system. In addition, multi-level social security in ethnic areas is a dynamic and constantly changing process, and the focus of measuring multi-level social security system in ethnic areas of Gansu Province under different time span and spatial scale may be deviated. Therefore, the construction of the indicator system must follow the principle of flexibility: on the one hand, the selection of indicators should be able to fully reflect and measure the present and future development trends, on the other hand, we should choose as long as possible the data of the time period, in order to better grasp the "high quality" oriented multi-level social security system in ethnic areas of Gansu Province sound and perfect. The change pattern. To achieve the same scale of different regional development status of the spatial and temporal dynamic monitoring, so as to enhance the adaptability and timeliness of the index system.

Second, the principle of feasibility and comparability. As a management tool to improve the performance of the system, the purpose of the multi-level social security system performance evaluation is not to evaluate itself, but to propose policy recommendations on ways and means to improve the level of livelihood protection and promote common prosperity based on the results obtained from the evaluation activities [6]. The improvement of the indicator system must be used as an assessment tool to enhance the effectiveness of governance in improving livelihood security in ethnic areas. Some indicators can better reflect the high quality of livelihood security, but due to the limitation of statistical factors, long-term consistent data cannot be obtained, and some indicators are too abstract and cannot be quantified, so these indicators can only be abandoned. Therefore, the construction of indicators should adhere to the principle of fewer and more precise, strive to be concise and practical, avoid overly large indicator systems, ensure that data can be collected conveniently and easily quantified, make comparisons between regions and statistical analysis easily, and improve the applicability of the indicator system. In addition, ensuring the comparability of indicators is another principle under the premise of feasibility. The unit, meaning and year of each indicator are unified in order to conduct dynamic comparability studies under different regions, so as to ensure that the index can not only reflect the horizontal spatial differences of changes in the status of high-quality livelihood security, but also reflect the vertical development trajectory of the

same region at different time points [7].

2. Design Content of High Quality Livelihood Security Standards for Multi-Level Social Security System in Ethnic Areas under the Goal of Common Wealth

Scientific Determination of Dimensions and Indicators. Under the policy goal achievement assessment model, policy performance is reflected in the measurement of the degree to which policy outcomes achieve the policy goals. Accordingly, the study will follow the steps of "decomposition of policy objectives - doctrinal analysis - preliminary selection of indicators" to initially construct a high-quality livelihood protection indicator system of multi-level social security system in ethnic areas under the goal of common prosperity [8].

Step 1: Decomposition of policy objectives. In order to plan and forecast the quality livelihood security of multi-level social security system in ethnic areas under the goal of common prosperity, the first thing to clarify is what aspects of the quality livelihood security of multi-level social security system in ethnic areas under the goal of common prosperity and what multi-level social security indicators can contribute to the realization of the goal of common prosperity, which involves the selection and determination of indicators.

Step 2: Theoretical analysis. On the one hand, the construction of the indicator system of high-quality livelihood security of multi-level social security system in ethnic areas under the goal of common prosperity should put scientific political philosophy in an important position, especially taking the theory of common prosperity and social security in Xi Jinping's social security thought with Chinese characteristics in the new era as the fundamental basis.

Step 3: Initial selection of indicators. Based on the analysis and grasp of the decomposition of the goal of high-quality livelihood protection of multi-level social security system in ethnic areas under the goal of common prosperity and the theoretical level, we can find that the dimension of high-quality livelihood protection of multi-level social security system in ethnic areas under the goal of common prosperity should include "covering the bottom line", "weaving a tight net" and "building a mechanism". We can find that under the goal of common prosperity, the quality livelihood protection dimension of multi-level social security system in ethnic areas should incorporate the values of "covering the bottom line", "building a tight network" and "building a mechanism" into the construction of the index system. The system starts with the basic protection, and progresses to the extended protection, and then to the supplementary protection.

The dimensions and indicators of the multi-level social security system in ethnic areas under the goal of common prosperity are determined: not only the basic social security dimension, but also the supplementary social security dimension, commercial social security dimension, common prosperity, subjective perception of livelihood security and the degree of achieving a good life are selected. Based on field research, expert interviews and social surveys in ethnic areas of Gansu Province, this study sets up a system of indicators in six dimensions, namely, basic social security, supplementary social security, commercial social security, common prosperity, subjective perception of livelihood security and degree of realization of good life [9]. As for the indicators, the basic social security dimension involves the coverage rate of basic pension insurance and basic medical insurance; the supplementary social security dimension involves the participation of respondents in corporate pension or occupational pension and the knowledge of respondents' basic medical insurance contribution subsidy; the commercial social security dimension involves respondents' commercial pension insurance and respondents' commercial medical insurance; the common affluence dimension involves the basic pension Under the dimension of common prosperity, the income gap adjustment, basic medical insurance income gap adjustment and low income insurance system income gap adjustment are involved; under the dimension of subjective

perception of livelihood protection, the satisfaction of basic pension insurance needs, pressure of basic pension insurance contributions, subjective evaluation of basic pension insurance, pressure of basic medical insurance access, subjective evaluation of basic medical insurance, perception of fairness of low income insurance system and subjective evaluation of low income insurance system are involved; under the dimension of realization of good life, the degree of trust in social security [10].

3. Systematic Setting of Indicator Thresholds and Weights

Through the selection of dimensions and indicators, the criteria of livelihood protection of multi-level social security system in ethnic areas under the goal of common prosperity can be basically determined, but for each indicator of multi-level social security system in ethnic areas under the goal of common prosperity, the threshold value of each indicator is defined differently. Therefore, in this paper, we refer to the relevant researches in the academic field and combine the actual situation after the elimination of absolute poverty in China, and try to avoid setting the threshold value of indicators too high or too low, and try to be scientific and reasonable [11]. Drawing on the multidimensional poverty index and related research results in the field, this paper adopts the equal weighting method to set the weights of each dimension and each indicator within the dimension, i.e., each dimension is given equal weight and each indicator within the dimension is given equal weight. Giving equal weight to each dimension means that each dimension is equally important for family welfare. However, because the number of indicators within each dimension varies, the weights of indicators within each dimension are usually different. Although this approach is somewhat subjective, it is easy to understand and simple to implement.

In summary, the criteria for livelihood protection of multi-level social security system in ethnic areas under the goal of common prosperity constructed in this study include 6 dimensions and 17 indicators, and the critical values and weights of each indicator are set as shown in Table 1.

Table 1. Dimensions, indicators, critical values and weights of livelihood protection of multi-level social security system in ethnic areas under the goal of common prosperity

Dimensionality	Indicators	Threshold value	Weights
Basic Social Insurance	Basic pension insurance coverage	Residents' basic pension insurance participation is assigned a value of 1, otherwise it is 0	1/12
	Basic medical insurance coverage	Resident basic medical insurance participation is assigned a value of 1, otherwise 0	1/12
Supplementary social insurance	Respondents' participation in corporate or occupational pensions	Respondents with a corporate or practice annuity are assigned a value of 1, otherwise 0	1/12
	The degree of understanding of the basic medical insurance contribution subsidies by the interviewees	Respondents are clearly assigned a value of 1, otherwise 0	1/12
Business Social Insurance	Respondents Business pension	Respondents were assigned a value of 1 for business pension insurance,	1/12

	insurance	otherwise 0	
	Respondents' commercial health insurance	Respondent's commercial health insurance is assigned a value of 1, otherwise 0	1/12
Degree of achievement of common prosperity	Basic health insurance income gap adjustment	Respondents believe that the current basic health insurance reduces the income gap between households by assigning a value of 1, otherwise 0	1/18
	Low-income insurance system income gap adjustment	Respondents believe that the new low income insurance system reduces the income gap between households by assigning a value of 1, otherwise 0	1/18
	Basic pension insurance needs are met	Respondents believe that the basic pension insurance can meet the basic needs of old age is assigned a value of 1, otherwise 0	1/42
Subjective perception of people's livelihood protection	Pressure on basic pension insurance contributions	Respondents believe that there is pressure to pay basic pension insurance contributions is assigned a value of 1, otherwise 0	1/42
	Subjective evaluation of basic pension insurance	Respondents believe that the basic pension insurance to carry out the evaluation, the rating of satisfaction and satisfaction assigned to 1, the rest is 0	1/42
	Basic medical insurance access pressure	Respondents' basic medical insurance can relieve the pressure of medical treatment is assigned a value of 1, otherwise 0	1/42
	Subjective evaluation of basic health insurance	The respondents' basic medical insurance is evaluated, and the value of satisfied and very satisfied is 1, otherwise it is 0.	1/42
	Perception of Fairness in the Low-Income Security System	Evaluation of the fairness of the process of identifying the interviewed low income families, fair and very fair is assigned a value of 1, otherwise 0	1/42
	Subjective evaluation of the low income system	Respondents' evaluation of the low income security system, rated as satisfied and very satisfied with the value of 1, the rest is 0	1/42
Social Security Trust	Social Security Trust	Respondents' trust in social security, rated 1 for trust and 1 for very trust, and 0 for the rest	1/6

This study proposes the following innovations in the criteria of high quality livelihood security of multi-level social security system in ethnic areas under the goal of common prosperity: First, by drawing on the multidimensional poverty identification method, the criteria of high quality livelihood security of multi-level social security system under the goal of common prosperity are

proposed for the first time in domestic academic research. In addition, we introduce the multidimensional construction of subjective and objective indicators in the design of the index system. Secondly, the selected indicators reflect the orientation of livelihood protection of multi-level social security in ethnic areas, and have a strong anti-poverty and multi-dimensional social security value orientation. Thirdly, the index weights are set with equal weights, and the threshold values of the indicators are adjusted and controlled, which are basically set to 0-1.

3.1. Measurement of High Quality Livelihood Security of Multi-Level Social Security System in Ethnic Areas under the Goal of Common Prosperity: A Survey Based on Ethnic Areas in Gansu

3.1.1. Sample Point Selection and Data Sources

In order to measure the degree of high quality livelihood protection of multi-level social security system in ethnic areas under the goal of common prosperity, this study takes ethnic areas in Gansu Province as the sample point to conduct measurement analysis. Gansu Province is a multi-ethnic region, with 55 ethnic minorities in the province and a population of 2,410,500, accounting for 9.43% of the total population of the province. There are ten ethnic minorities with large populations and living in Gansu, namely: Hui, Tibetan, Dongxiang, Baoan, Yugur, Mongolian, Salar, Kazakh, Tu, and Manchu, among which Dongxiang, Baoan, and Yugur are the unique ethnic minorities in Gansu Province. Ethnic areas in Gansu Province, including two autonomous prefectures (Gannan Tibetan Autonomous Prefecture and Linxia Hui Autonomous Prefecture), seven autonomous counties (Zhangjiachuan Hui Autonomous County, Tianzhu Tibetan Autonomous County, Su Bei Mongol Autonomous County, Su Nan Yugu Autonomous County, Aksai Kazakh Autonomous County, Dongxiang Autonomous County and Jishi Mountain Security Dongxiang Salar Autonomous County), with a total population of 3.331 million, accounting for 13.02% of the total population of the province. 13.02%, including 1.993 million people of ethnic minorities, with a land area of 180,000 square kilometers, accounting for 39.8% of the province's total area. In addition, the province also has 35 ethnic townships (towns), including 16 Hui townships, 8 Dongxiang townships, 7 Tibetan townships, 1 Yugur township, 2 Mongolian townships, 1 Tu township, with a total population of 311,000 people, including 206,000 people of ethnic minorities [12].

From the distribution, Hui mainly in Linxia Hui Autonomous Prefecture and Zhangjiachuan Hui Autonomous County, scattered in Lanzhou, Pingliang, Dingxi and other cities; Tibetans mainly in Gannan Tibetan Autonomous Prefecture and the Qilian Mountains in the eastern and central part of the Hexi Corridor; Dongxiang, security, Salar mainly in Linxia Hui Autonomous Prefecture; Yugu, Mongolia, Kazakhs mainly in the Qilian Mountains in the western part of the Hexi Corridor In addition to the 21 counties and cities where ethnic minorities live, the remaining 65 counties, cities and districts in the province have a few scattered ethnic minorities in 86 counties, cities and districts.

The data for this study were obtained from the household survey conducted by the research group of the general project of Gansu Provincial Philosophy and Social Sciences "Research on the improvement of multi-level social security system in ethnic areas of Gansu Province under the guidance of "high quality"" in July-September 2022 in ethnic areas of Gansu Province. To ensure that the questionnaire design accurately reflects the multi-level social security, a multi-regional sample survey was conducted. During the formal survey, questions covering basic social security, second-level social security, and supplementary social security were designed to cover the structure of the multi-level social security system, and to measure whether the multi-level social security system in ethnic areas of Gansu Province has achieved livelihood protection in high quality,

subjective evaluation questions were set, i.e., whether the basic livelihood of urban and rural residents in ethnic areas of Gansu Province has been truly protected and achieved. The question reflects the extent to which the multi-level social security system in ethnic areas of Gansu Province has achieved a high quality of livelihood protection under the goal of common prosperity.

In order to ensure the representativeness and authenticity of the research data, the sample villages/communities were selected in accordance with the principle of stratified sampling, based on a comprehensive analysis of geographical location, accessibility, socio-economic development level and village/community attributes; the interviewed households were selected by stratified sampling method, with a 95% confidence interval and 1% sampling error, and the sample size was determined according to the population size of each region. The research sites were selected from two states, Linxia Hui Autonomous Prefecture and Gannan Tibetan Autonomous Prefecture in the deep poverty area of three districts and three states, as well as Tianzhu Tibetan Autonomous County in Wuwei City. The areas involved in Linxia Hui Autonomous Prefecture include Linxia City, Guanghe County and Jishishan County, and the areas involved in Gannan Tibetan Autonomous Prefecture include Cooperation City, Xiahe County and Luqu County, covering 21 administrative villages and urban communities in 8 townships (see Table 2). The questionnaire was distributed to 400 households in this thematic survey, and 18 households with invalid questionnaires were excluded, and a total of 382 valid samples were obtained. Among them, there were 150 Han respondents, accounting for 39.27%; 3 Mongolian respondents, accounting for 0.79%; 2 Manchu respondents, accounting for 0.52%; 30 Dongxiang respondents, accounting for 7.85%; 81 Hui respondents, accounting for 21.20%; 5 Salar respondents, accounting for 1.31%; 11 Baoan respondents, accounting for 2.88%; 91 Tibetans, accounting for 23.82%; the other nationalities are all Tu 9 people, accounting for 2.36%. Education level, 19 people did not go to school, accounting for 4.97%; elementary school culture 31 people, accounting for 8.12%; junior high school culture 51 people, accounting for 13.35:%; general high school 31 people, accounting for 8.12%; secondary school 29 people, accounting for 7.59%; university college 126 people, accounting for 32.98%; university undergraduate 92 people, accounting for 24.08%; graduate students 3 people, accounting for 0.79%.

Table 2. Sample distribution of the test for high-quality livelihood protection of multi-level social security system in ethnic areas of Gansu Province

Research Area	Number of townships	Number of villages/communities	Number of samples	Percentage
Linxia City	1	3	63	16.49%
Guanghe County	1	3	53	13.87%
Jishishan County	1	3	60	15.71%
Hezuo City	1	3	53	13.87%
Xiahe County	1	3	48	12.57%
Luqu County	2	3	64	16.75%
Tianzhu County	1	3	46	12.04%
Total	8	21	382	100%

3.1.2. Measurement Methods

According to the multidimensional poverty theory, the adoption of multidimensional poverty measurement method is more able to reflect fairness and rationality. The A-F method is the most widely used mainstream method among various multidimensional poverty measures, and this study uses this method to measure the effect of quality livelihood protection of ethnic areas under the goal

of common prosperity based on the survey data of ethnic areas in Gansu Province. For example, the main idea of the traditional A-F method is that if three indicators are reached in the constructed index system, it is judged as multidimensional poverty, but the subject of this study is to study the effect of poverty suppression and anti-poverty and high quality livelihood protection of multi-level social security system in ethnic areas under the goal of common prosperity. If the basic social security of multi-level social security is not realized, it is difficult to realize the multi-dimensional social security system of supplementary social security and commercial social security. Therefore, in this study, it is still necessary to ensure the realization of basic social security in the research sample, which is a prerequisite and basic condition to some extent. Therefore, the traditional method of measuring multidimensional poverty needs to be appropriately modified to meet the research needs, but the main method is still based on the mainstream A-F research method, i.e., by taking the connotation of the A-F method, selecting several dimensions as multidimensional indicators for determination, and then Then, we select the eligible samples from the research data and determine the degree of achievement of the multi-level social security system in terms of quality livelihood security in each dimension of the sample, so as to statistically determine the degree of achievement of the multi-level social security system in ethnic areas in terms of quality livelihood security under the goal of common prosperity. Further, the incidence of high-quality livelihood security (H), the average share of realization (A) and the index of high-quality livelihood security (C) are measured by the following equations

$H=q/n$

Where q denotes the number of multilevel social security population in ethnic areas and n denotes the number of all research samples. The incidence of high-quality livelihood security, H, reflects the breadth of livelihood security occurrence, but does not reflect the increase or decrease of high-quality livelihood security dimensions.

$A=|c(k)|/qd$

Where, $c(k)$ is the total number of dimensions achieved by the multi-dimensional protection of the research individual multi-level social security system in ethnic areas of Gansu Province when the critical value of high-quality livelihood protection is k, q indicates the number of people with multi-level social security, and d indicates the number of dimensions. The average multi-dimensional protection A reflects the depth of multi-dimensional livelihood protection.

$C=H \times A$

The high quality livelihood security index C adjusts the incidence of high quality livelihood security H with the average multidimensional security share A, thus overcoming the problem that the incidence of high quality livelihood security is insensitive to the reflection of the increase or decrease of high quality livelihood security dimensions.

The biggest advantage of using the A-F method to measure the degree of high quality livelihood security of multilevel social security system in ethnic areas under the goal of common prosperity is that it can decompose the degree of livelihood security and analyze the contribution rate of different regions and different dimensions to the livelihood security index. In this way, it is possible to analyze where there are serious shortcomings in livelihood security, and then to carry out targeted assistance and formulate precise countermeasures for assistance. The dimensional decomposition formula is as follows.

Contribution of regional high-quality livelihood security population to the total index = ni/n Ci/C. Where C and Ci denote the overall sample and the number of population in region i, respectively.

Dimension d indicates the contribution of high-quality livelihood security index = $Wd \times CHd/C$. Where,Wd indicates the weight value of the dimension d and CHd indicates the rate of population secured on the indicator d, i.e., under the multi-level social security system, the indicator d indicates the proportion of high-quality livelihood security population.

4. Results of Measuring the Indexes of High Quality Livelihood Security of Multi-Level Social Security System under the Goal of Common Affluence between Han and Ethnic Minorities

4.1. The Results of Measuring the Quality Livelihood Security of Multi-Level Social Security System under the Goal of Common Prosperity with a Single Index

Table 3 presents the incidence of the multi-level social security system for urban and rural residents in ethnic areas of Gansu Province under the goal of common prosperity under 17 indicators of high-quality livelihood security.

Table 3. The degree of high quality livelihood security of the people surveyed on a single indicator (%)

Dimensionality	Indicators	Full sample	Han Chinese	Ethnic Minorities
Basic pension insurance	Basic pension insurance coverage	99.74%	100%	99.57%
Basic Medical Insurance	Basic medical insurance coverage	86.13%	81.33%	89.22%%
Supplementary pension insurance	Respondents' participation in corporate or occupational pensions	23.04%	21.33%	24.14%
Supplementary Medical Insurance	The degree of understanding of the basic medical insurance contribution subsidies by the interviewees	46.34%	46%	46.55%
Commercial Pension Insurance	Respondents' commercial pension insurance participation	12.30%	17.33%	9.05%
Commercial Medical Insurance	Respondents' commercial medical insurance coverage	14.92%	21.33%	10.76%
Basic pension insurance income gap adjustment	Respondents believe the current basic pension insurance narrows the income gap between households	44.76%	49.33%	41.81%
Basic health insurance income gap adjustment	Respondents believe the current basic health insurance narrows the income gap between families	44.09%	50.67%	39.83%
Low-income insurance system income gap adjustment	Respondents believe the new insurance system reduces the income gap between households	44.24%	50.67%	40.09%
Basic pension insurance pension needs are met	Basic pension insurance pension needs are met	88.22%	87.33%	88.79%
Pressure on basic pension insurance contributions	Respondents believe there is pressure on basic pension insurance contributions	42.21%	43.33%	41.81%
Basic pension insurance evaluation	Evaluation of basic pension insurance work carried out by interviewees	41.36%	42%	40.95%

Basic medical insurance access pressure	Respondents' basic health insurance access pressure eased	73.04%	74.00%	72.41%
Basic medical insurance evaluation	The interviewees' evaluation of the work of basic medical insurance for urban and rural residents	42.67%	42%	43.10%
Perception of Fairness in the Low-Income Security System	Respondents believe the current process of identifying low-income families is fair	40.58%	32.67%	45.69%
Evaluation of the low insurance system	Interviewees' evaluation of the current implementation of low income security work	86.39%	84%	87.93%
Trust in Social Security System	Respondents' trust in government social security development	56.28%	50%	60.34%

First, in terms of the whole sample, the relatively high incidence of the degree of livelihood security of the multi-level social security system under the goal of common prosperity is found in the indicators of basic pension insurance coverage, basic medical insurance coverage, satisfaction of basic pension insurance needs for old age, pressure on respondents to seek medical treatment in basic medical insurance, and subjective evaluation of respondents' current low income security work. The degree of livelihood protection of the multi-level social security system is relatively low in the dimensions of respondents' participation in corporate or occupational pensions, respondents' participation in commercial pension insurance, and respondents' participation in commercial medical insurance, among which the degree of livelihood protection of respondents' participation in commercial pension insurance is the lowest (12.30%), and the other indicators are, in descending order, respondents' participation in commercial medical insurance ((14.92%), and the participation in corporate or occupational pensions (23.04%) [14].

Second, the high incidence indicators of high quality livelihood security of multi-level social security system under the goal of common prosperity for Han and ethnic minorities are basically the same in terms of categories. Both Han and ethnic minorities, the high incidence indicators of high quality livelihood security are several indicators such as basic pension insurance coverage, basic medical insurance coverage, basic pension insurance retirement needs satisfaction, pressure on respondents' basic medical insurance access to medical care and respondents' subjective evaluation of current low security work. Comparing and analyzing these high incidence indicators, the overall degree of protection for ethnic minorities is higher, such as the basic medical insurance coverage rate, basic old-age insurance pension needs to meet, the subjective evaluation of the current low insurance work of the interviewees are three indicators in which the proportion of ethnic minorities exceeds that of Han Chinese, while the basic old-age insurance coverage rate and the basic medical insurance medical pressure of the interviewees are two indicators in which Han Chinese are slightly higher than those of ethnic minorities, but the degree of difference is not large. It indicates that the multi-level social security system in ethnic areas of Gansu Province has reached a high level of livelihood protection for ethnic minorities [15].

Third, there are differences between Han and ethnic minority groups in terms of the categories of indicators of the low level of quality livelihood security. For Han Chinese, the indicators of low level of high quality livelihood security are commercial pension insurance and commercial medical insurance for respondents, but both exceed 15%, while for ethnic minorities, they are less than 15%, reflecting that Han Chinese in ethnic areas of Gansu Province are significantly more aware of commercial insurance than ethnic minorities.

4.2. Results of Measuring High-Quality Livelihood Protection of Multi-Level Social Security System under the Goal of Common Prosperity with Multiple Indicators

Table 4 presents the degree of high quality livelihood security of residents in ethnic areas of Gansu Province on several indicators. c is the number of indicators of high quality livelihood security of residents in ethnic areas of Gansu Province, i.e., the number of indicators whose status is below the critical value among 17 indicators of the multilevel social security system. For example, c=1 means that the interviewed residents meet the standard of high quality livelihood security on one indicator, and c=4 means that the interviewed residents meet the standard of high quality livelihood security on four indicators. In particular, c=0 means that the interviewed residents in ethnic areas of Gansu Province have not achieved high quality livelihood security on all 17 indicators.

Table 4. Incidence of multiple indicators of high quality livelihood security among the interviewed people (%)

Multiple indicators of high quality livelihood protection	Full sample	Han Chinese	Ethnic Minorities
1/17	100%	100%	100%
2/17	99.48%	100%	99.14%
3/17	96.86%	96.00%	97.41%
4/17	92.41%	92.67%	92.24%
5/17	78.27%	79.33%	77.59%
6/17	63.35%	61.33%%	64.66%
7/17	49.21%	48.67%	49.57%
8/17	36.65%	40.67%	34.05%
9/17	25.13%	30.67%	21.55%
10/17	16.23%	17.33%	15.52%
11/17	8.12%	8.67%	7.76%
12/17	2.62%	2.67%	2.59%
13/17	0.79%	0%	1.29%
14/17	0.79%	0%	1.29%
15/17	0.26%	0%	0.43%
16/17	0.26%	0%	0.43%
17/17	0.26%	0%	0.43%

The results show that there is a decreasing index of high quality livelihood security for each indicator among the interviewed residents in ethnic areas of Gansu Province, and similarly, there is a decreasing index of high quality livelihood security for both Han Chinese and ethnic minorities.

4.3. The Results of Measuring the High Quality Livelihood Security of Multi-Dimensional Multi-Level Social Security System

Table 5 presents the quality livelihood security index of multi-level social security system in ethnic areas of Gansu Province under the goal of common prosperity. c is the number of indicators of quality livelihood security for residents in ethnic areas of Gansu Province under the goal of common prosperity, i.e., the number of indicators whose status reaches the critical value among 17

indicators of multi-level social security system for the interviewed residents. For example, c=1 refers to the index of high quality livelihood security of the interviewed residents on one indicator, and c=4 refers to the index of high quality livelihood security of the interviewed residents on four indicators.

Table 5. Respondents' multi-dimensional and multi-level quality livelihood protection index

Degree of livelihood security	Full sample	Han Chinese	Ethnic Minorities
1/17	0.5258	0.5311	0.5224
2/17	0.5252	0.5311	0.5214
3/17	0.5215	0.5254	0.5189
4/17	0.5157	0.5216	0.5119
5/17	0.4977	0.5046	0.4931
6/17	0.4693	0.4662	0.4713
7/17	0.4334	0.4349	0.4327
8/17	0.3883	0.3843	0.3910
9/17	0.3470	0.3449	0.3483
10/17	0.2812	0.2965	0.2713
11/17	0.2232	0.2593	0.1999
12/17	0.1771	0.2093	0.1478
13/17	0.1258	0.1604	0.1034
14/17	0.0656	0.0711	0.0620
15/17	0.0388	0.0370	0.0399
16/17	0.0129	0.0190	0.0090
17/17	0.0055	0	0.0090

The results show that there is a phenomenon of decreasing quality livelihood security index for each indicator for the interviewed residents in ethnic areas of Gansu Province, and similarly, there is a decreasing quality livelihood security index for both Han Chinese and ethnic minorities.

Funding

Data Availability

Data sharing is not applicable to this article as no new data were created or analysed in this study.

Conflict of Interest

The author states that this article has no conflict of interest.

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