

Construction and Cultivation of Rural Tourism Supply Chain from the Perspective of Poverty Alleviation under the Background of Rural Revitalization

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Abstract:

In 2020, COVID-19 outbreak in China near the Spring Festival, the tourism industry was pressed "pause key". The tourism suppliers have been affected to varying degrees, especially in poor rural areas with a single industrial structure and high tourism dependence, the risk of deepening poverty or returning to poverty has increased dramatically. This paper aims to explore and expands the diversified income increasing space to the rural poor, help to realize the effective connection of the poverty alleviation achievements and rural revitalization, to ensure the sustainable development of rural tourism, besides, to providing experience and reference to other poor rural areas and even the world's poverty reduction. Literature review method, case study and field survey method, brainstorming method, supply chain reverse tracing methods are used to collect and analyze data. We take a diachronic field survey of the rural TSC in north western Yunnan, China. This paper build a complete TSC system under the framework of "industry-element-channel-mechanism-guarantee", and explores the operation mechanism of rural TSC guiding rural poverty reduction, discovering the ways in which the rural poor mainly participates in the TSC, which can further clarify and expand the diversified income increasing space to the rural poor population. Then we summarizes the current difficulties faced by the chain in the practice of poverty reduction; finally, based on the perspective of the poor, the rural TSC extension, sharing, customization, localization, talent cultivation and green supply chain countermeasures are proposed.

Keywords: Rural tourism, rural tourism supply chain, tourism poverty alleviation, rural revitalization.

I. INTRODUCTION

In 2019, the total number of rural tourism in China was 3.09 billion with total income 1.81 trillion yuan, accounting for more than half of the total number of domestic tourism. becoming the fastest growing sector in the entire tourism industry in China. However, after the outbreak of COVID-19, since the highly connected and deeply integrated of the TSC, related industries in tourism destinations have been badly impacted, especially in poor rural areas with a single industrial structure where the tourism industry is highly dependent, the risk of returning to poverty has increased sharply, which greatly threatens the results of poverty reduction.

Rural tourism supply chain, with its own advantages of natural integration with primary, secondary and tertiary industries, and the characteristics of high relevance and strong driving force, strongly promoted the realization of rural poverty reduction effect, which was of great significance to the realization of China's targeted poverty alleviation goals during the 13th Five-Year Plan period, and the realization of the next national strategic goals of Rural Revitalization and building a well-off society in an all-round way.

At the initial stage of rural tourism, scholars at home and abroad generally hold a positive attitude towards the development of tourism in rural areas. Researches such as Mathieson & wall [1], Stephen [2], Ashley [3] and Lin Hong have shown that tourism plays a significant role in promoting infrastructure construction, promoting employment and income of residents, increasing government revenue and promoting local GDP development in poor areas. However, with the further development of rural tourism, although the total tourism income continues to increase, the negative impact of tourism is increasingly prominent, the "trickle-down effect" and "spillover effect" is weakened, the tourism enclave forms, the economic leakage is serious, the relationship between the original rural traditional culture and the harmonious society is declining, and the ecological environment is polluted and degraded. The object and core of rural tourism poverty alleviation --- poor residents are gradually marginalized due to various reasons, such as education level, resource location, technical ability, capital possession, business experience, etc., it is difficult to have the opportunity to participate in tourism activities in depth, which leads to the evolution of rural tourism poverty alleviation into "developing tourism in rural areas", the goal of poverty reduction is replaced, the polarization between the rich and the poor is more obvious, the sense of deprivation of the poor increases, and the hidden dangers of re-poverty and conflict are buried. Finally, the sustainable development of rural tourism is difficult to achieve.

The supply chain theory, which originated from the manufacturing industry, has been widely introduced into many industries due to its emphasis on the correlation and interaction

within or between different enterprises, trade, industries and market environments. Supply chain theory emphasizes the division of labor, association and coordination between different upstream and downstream links, attaches importance to the flow of factors, and advocates the core competitiveness. Its concepts of integration, coordination, sharing, flexibility and green are consistent with the "Five Development Concepts", and meet the requirements and goals of Beautiful Rural Construction and Rural Revitalization, thus become a hot topic in tourism research. Rural TSC provides tourists with a package of goods and services produced by multiple industries, such as "food, housing, travel, shopping and entertainment", "health, education and leisure sports". Its "many to one" supply and demand mode determines the natural symbiosis between tourism supply chain and tourism industry. It can vigorously drive the rural poor to participate in income-growth activities with its strong correlation function and strong driving effect, meanwhile, its sharing, coordinating, and green concepts also focus on the social and ecological benefits of rural development, and promote rural tourism to take the road of sustainable development.

During the 14th Five -Year Plan period, the countryside is still the key and difficult point in the new journey of socialist modernization in China. In the supply chain composed of government, investors, tourism enterprises and other stakeholders, in order to continuously improve the income of rural poor residents, ensure the quality of poverty alleviation, reduce relative poverty, realize "common prosperity", and make tourism really become a "social justice industry" [4],the most direct and effective way is to apply the concept of tourism supply chain, take the rural TSC as a new engine and starting point of Rural Revitalization ,to make amends for the rural short board in building a moderately prosperous society in all respects, and solve the main contradiction of unbalanced and inadequate development.

This paper takes the supply chain theory as the basic theoretical framework, based on the perspective of poverty reduction, constructs a complete rural tourism supply chain system, with a view to supplementing and expanding the TSC theory, and analyzes the dilemma and optimization paths of the rural tourism supply chain in the practice of poverty reduction, so as to provide a new perspective and source of motivation for the practice of rural revitalization, promote the effective connection between poverty alleviation achievements and rural revitalization, and provides experience and reference for poverty reduction in other poor rural areas and even in the world.

II. LITERATURE REVIEW

2.1 Tourism Poverty Alleviation

In 1999, the concept of PPT (pro-poor tourism) was proposed by department for International Development (DFID). In 2002, WTO put forward STEP (Sustainable tourism-eliminating poverty), both aimed to promote local people to participate in tourism through the development of tourism, increase employment opportunities and labor income, and emphasize that the poor can obtain comprehensive net benefits from tourism development, including environment, economy, society and culture, and obtain sustainable poverty alleviation and development in tourist destinations. Since then, scholars at home and abroad have carried out rich research on the theory and practice of tourism poverty elimination.

The purpose of most theoretical research is to clarify the correlation mechanism between tourism development and tourism poverty reduction. By combing the existing literature we found that, scholars believe the development of tourism has three mechanisms on poverty reduction: direct effect, indirect effect and dynamic effect. Direct effect is that the direct consumption of tourists can create employment and income opportunities for the local poor [5]; indirect effect is through the tourism multiplier effect and correlation effect, drives the poor people to participate in the extension of the industrial chain or other industries to obtain redistribution benefits; the dynamic effect refers to the "trickle-down effect" and "spillover effect" that rely on tourism capital accumulation and social development, make contributions on optimizing the local industrial structure, stimulating consumption, attracting funds, improving employment, and increasing profile, so that the poor can obtain the external effects by tourism development. At the same time, many scholars have carried out empirical research on tourism poverty reduction in some underdeveloped countries or regions with rich tourism resources as case study areas in Africa, Latin America, and Asia, and proposed the exploration of Community-Based Tourism (CBT), Responsible Tourism Poverty Alleviation, Precision Tourism Poverty Alleviation, Sustainable Poverty Alleviation and other diversified rural tourism poverty alleviation countermeasures and suggestions.

In an overall view, foreign research on rural tourism poverty reduction has mature theory and extensive content, which can provide useful reference for China's rural tourism poverty alleviation, but it lacks contextual adaptability and cannot be completely copied. Domestic related researches mostly use micro perspective to analyze the practice of poverty reduction practices in specific rural areas, and show geographic concentration. There are fewer macro perspectives based on the integrity of rural areas, it is even rare to explore from the linkage and collaboration of primary, secondary and tertiary industries. Besides, existing research on rural tourism poverty reduction mostly starts from the etic standpoint of institutions and policy, but lacks the emic standpoint of the poor.

2.2 TSC and Rural TSC

In 1975, UNWTO (United Nations World Tourism Organization) released a report on the development of the tourism distribution channel industry. Although the distribution channel is only a component of the supply chain [6], it can still be regarded as the earliest research on TSC. From then on, until the beginning of the 21st century, Yilmaz & Bititci, Scavarda, Page, Tapper and Fond pioneered the descriptive research on TSC or similar concepts (such as Tourism Value Chain, Tourism Industry Chain), TSC researches are gradually enriched.

The research content of TSC at home and abroad mainly includes the following aspects: ① Concept research, trying to define and describe TSC, establish a TSC model. The research hot topic is the network structure [7]. ② Supply chain management, which is the most fruitful research field of TSC. The hot topic is the study on the relationship between two parties on the TSC, including travelling suppliers and middlemen / agents, scenic spots and travel agencies [8], hotels and third-party websites [9], hotels and travel agencies [10], airlines and travel agencies [11]. Game theory models are commonly used to analyze the competition and cooperation relationship of adjacent supply chain bodies under the distribution channel. There are few researches on rural TSC, scattered in the integration and optimization, green supply chain, rural tourism + (agriculture, accommodation, internet), etc., with little influence.

To sum up, although the topic of TSC is increasingly becoming a hot spot pursued by relevant scholars, compared with the traditional manufacturing industry, the study in the field of TSC is still immature. The existing TSC models are short and narrow, and most of the researches focus on the supply chain network structure and competition -cooperation relationship between downstream distribution channel, lacking a comprehensive understanding of TSC. In the few researches on the supply chain of rural tourism poverty alleviation, the fundamental question of "what is a rural tourism supply chain" has not been clarified, the rural tourism supply chain model as the theoretical basis is not clear, and a complete supply chain system has not been established.

III. METHODS

3.1 Research Design and Data Collection

Firstly, based on the literature review method, this paper summarizes the existing research achievement of tourism poverty reduction and tourism supply chain, and tries to build an "Industry-Factor- Channel- Mechanism- Guarantee" model in combination with the characteristics of new technologies, new concepts and new trends of rural tourism development in this new era, and explores the theoretical and operational mechanism of rural tourism supply

chain to guide rural decreasing poverty; Next, the case study method was used to conduct a diachronic field survey on the tourism supply chain in rural areas such as Xizhou, Shuanglang, in DaLi city, LaShi, Liming, in Lijiang city, and Yubeng Village in Shangri-La city, which are all located in northwestern Yunnan, China. By using the reverse tracking method of rural TSC, this paper clarify the main ways for rural residents to participate in the TSC, and summarizes the current difficulties faced by the rural TSC in the practice of poverty reduction; Finally, this article uses the brainstorming method of project team members to put forward the cultivation countermeasures of rural TSC from the perspective of poverty alleviation.

The data collection is divided into two stages. The first stage is from 2015.07 to 2018. 10, the project team members conducted investigations on the above cases in different groups and stages. In order to ensure the authenticity and objectivity of the survey, our members use the non-participatory observation method only, visiting the destination villages as tourists and observers, entering scenic spots, restaurants, B&B or inns, shopping stores, etc. like other tourists, participate in the experience and consumption, and take field notes.

In the second stage, from 2019.01 to 2021.02, in order to obtain more holistic and in-depth information, our team further adopted a semi-structured interview method to conduct face-to-face interviews with different participants in the TSC, such as government personnel, enterprise managers and employees, local residents and tourists. For the sake of facilitating the inquiry record and cross prompt and verification, the project team adopted two-to-one approach to obtain true and detailed first-hand information. Throughout the whole research period, team members kept using the periodic brainstorming method to analyze and discuss specific issues, so as to form a clearer and innovative opinion; meanwhile, we kept gathering relevant government information, work reports, archival documentation, media reports and other public information to improve and verify the initial conclusion of this paper.

3.2 Research Context

Xizhou and Shuanglang are both historical ancient towns in DaLi city, Yunnan province, China. Xizhou Town, located in the north of Dali City, covers an area of 167.81 km², has 13 villages, with a permanent population of 64000 which mainly composed of Bai nationality; Shuanglang town is located in the northeast of Dali city and on the northeastern shore of Erhai Lake. The total area of the town is 218 km², with 19000 residents scattered in 39 villages. Benefitted by the better historical and cultural resources and the longer tourism history, rural tourism here is relatively mature.

Lashi township is located in the west of Yulong County, Lijiang City, Yunnan Province,

China. There are 28 villages with a total area of 159.7 km² and a total population of 16000, with Naxi, Han, Bai, Tibetan, Yi and other ethnic groups live in concentrated communities. Liming Village, located in the alpine mountainous area, is the settlement of Lisu ethnic group, with more than 800 rural households and 3000 population. Compared with Shuanglang and Xizhou in Dali City, Lashi and Liming are restricted by location, transportation, resources and environment, infrastructure and so on, the development of rural tourism is average. Due to the lack of land resources in mountainous areas, it is difficult for traditional agriculture and animal husbandry to form industries. Local residents have a single income channel and slow income growth.

Yubeng Village is located in Deqin County, Diqing Tibetan Autonomous Prefecture, Yunnan Province. It is a Tibetan village in the hinterland of Meili Snow Mountain, surrounded by mountains on all sides. In ancient times, there was only one post road leading to the outside world. Until today the transportation is still underdeveloped. There are only more than 20 families in the village. Still retaining the original ecology and the most mysterious veil of rural tourism, it is the real "Shangri La" in the eyes of Chinese and foreign tourists.

IV. CONSTRUCTION OF RURAL TSC

Tapper & Font believe that the TSC includes all (including direct and indirect) suppliers of goods and services that meet the needs of tourists in the tourism product supply system [12]. In addition to basic services such as transportation, accommodation, scenic spots, catering, tourism commodities (tourist souvenirs and handicrafts), upstream supplier services such as infrastructure construction, water and electricity supply, food production, garbage disposal and laundry services are also considered. It is a classic TSC. However, after decades of rapid development of tourism industry, new technologies, new concepts, new trends and new features are constantly updated, the TSC continues to evolve. It is necessary to re-examine the TSC mode on the basis of new era characteristics and social contradictions.

From the perspective of poverty reduction, the significance of constructing rural TSC is to regard the rural poor's profit and development as the goal of the supply chain, make full use of the natural integration of rural tourism and the primary, secondary and tertiary industries, extend the horizontal span and vertical depth of the supply chain, and provide a broader space for the poor to participate. Fig 1 constructs a complete rural tourism supply chain model covering the production field, supply field and consumption field.

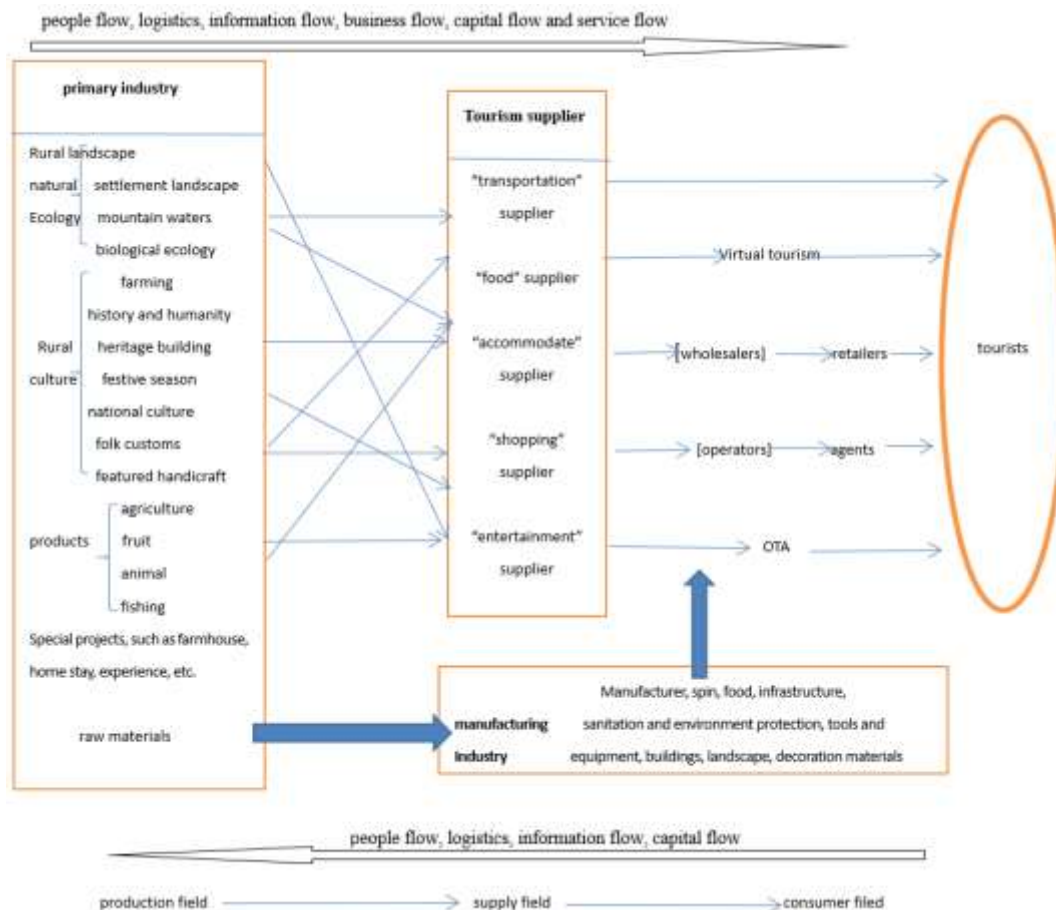


Fig 1: the whole supply chain mode of rural tourism

In the following, we will construct a rural TSC system under the framework of "industry-element-channel-mechanism-guarantee" from five levels: industrial foundation, channel path, resource elements, dynamic mechanism, and service guarantee, exploring the theory and operation mechanism of rural TSC in guiding rural poverty reduction.

4.1 Industrial Foundation

The rural TSC is rooted in agricultural and rural areas. Rural natural cultural environment is not only a complex of functions such as sightseeing and experience, sports and leisure, ecological and livability, but also an important carrier of the origin and inheritance of Chinese culture, and the resource support of rural tourism poverty reduction, including natural ecology, rural culture, agricultural products and special activities, see Figure 1 for details; on the other hand, the countryside is the source of tourism products, is the raw material supplier of tourism suppliers, which undertakes the national basic production and diversified functions, ecological conservation and species protection for instance, and increasingly transformed into

comprehensive spaces such as agricultural production, culture, society, and ecology.

Rural tourism production system is an organic combination of agricultural resources, production means and production technology; improving the utilization rate of rural tourism resources, tourism participation, land output rate and labor productivity determines the effective expansion of the production scale of rural tourism products, which is conducive to changing the single rural economic structure and improving the employment and income of rural residents. At the same time, agriculture is the foundation of the countryside and the general rear of the country's food supply. Rural tourism should adhere to the foundation of "agriculture +", build an effective production system of rural tourism products with diversified structure, powerful guarantee and green ecology, to consolidate the stability and anti-risk ability of rural and even national development.

4.2 Channel Path

4.2.1. Traditional distribution channels

Traditional tourism distribution channels are based on tourism products. It emphasizes the use of intermediary agents (including tour operators and tourism retailers) to overcome the distribution barriers caused by low concentration of tourists. It can be divided into direct channel and indirect channel. Direct channel refers to the tourism suppliers directly provide tourism products to tourists without going through any tourism intermediaries; indirect channel is that the tourist operators (or tourism wholesalers) order hotel rooms, transportation and scenic spots in large quantities, combine them into package tourism routes, and provide tourists with ready-made tourism products and services through travel agents (or travel retailers). Tourists may also buy only part of the tourism products from agents, that is, half -package tour.

4.2.2. Modern Distribution Channels

Modern distribution channels are established on the basis of information integration, mainly referring to OTA (Online Tourism Agency), including ① self-built channels of tourism suppliers (self-built websites and business platforms); ② vertical tourism networks (vertical integration of tourism products, as Cheng, tuniu, donkey Mama, Fliggy, Mafengwo, etc.); ③ Travel channels of integrated e-commerce websites (such as Taobao, Tmall, JD), etc.; ④ Meituan department : Food, drink, play, entertainment; ⑤ Cooperative distribution of short-term rentals (such as Airbnb, piggy Short-term Rental).

4.2.3. Virtual Tour

Virtual tourism is the use of VR (Virtual Reality) technology for tourists to obtain personal travel experience in a virtual three-dimensional environment by simulating real tourist landscapes or surreal scenes, realizing travel without leaving home. Virtual tourism is an imitation of real tourism in a virtual space, transcending the time and space of tourism, adding a new TSC to the realization of tourism, and may expand the channels for rural tourism participation in the future.

4.3 Resource Elements

The development of rural tourism has brought new elements and new kinetic energy to the vast rural areas. Focusing on the core goal of meeting the needs of tourists, a large amount of information, logistics, information, business, capital, and service elements flow rapidly in both directions in the TSC, bringing new scarce elements such as foreign capital, information, talents, technology, and management. This injection has greatly made up for the shortage of traditional elements such as labor force, land, capital in rural areas, improve the long-term lack of transportation, water, electricity, medical treatment, sanitation and other tourism infrastructure, revitalizes the original elements such as idle land, housing, labor, etc. in the village. and becomes an important engine that stimulates rural endogenous momentum, further affects the spatial reconstruction of rural production, life, ecology, promotes the continuous differentiation and evolution of primary, secondary and tertiary industries, lengthens and widens supply chains, and promotes rural economic transformation.

In the meantime, the rural TSC drives the reverse flow of rural labor force and agricultural products, so that rural advantageous elements flow smoothly to cities. Through the supply chain price mechanism, distribution mechanism, and organization mechanism, the value-added of agricultural products can be realized, residents' income can be increased, and villagers have multiple channels of employment. Villagers can use the new knowledge, advanced technology and experience and capital accumulation that they have earned to feed back the countryside, forming a virtuous hematopoietic circle.

4.4 Dynamic Mechanism

Dynamic refers to the motivation and internal or external forces that push or attract tourists to leave their source area. Cohen (1974) believes that the pursuit of novelty and strangeness is the motivation of modern tourism; Turner (1978) uses "transitional etiquette" and "intermediary bewilderment" to analyze the pilgrimage phenomenon, which are used by scholars to explain tourists' motivation of temporarily leaving their usual place of residence in order to get rid of their daily social responsibilities and obligations; According to Jafari's (1987) "springboard"

theory, tourists pursue the release and incentive in the process of pursuing "extraordinary exile" and then return to normal life; Urry (2002) thinks that tourists are for the experience of gazing at the "other". In short, scholars recognized that travel is to pursue a kind of transformation of human life experience, the longing of urban people for rural life experience is the root driving force of rural TSC. Modern urban life is facing huge pressure, environmental problems such as congestion, pollution, epidemics spread, and unfamiliar and indifferent neighborhood relationships lead to different degrees of alienation and escape from urban life.

Rural or rural placeality is the power source of rural tourism. Rural natural and cultural resources are rich, with rural pastoral style and customs, production and life, slow pace and warm atmosphere of neighborhoods, which are completely different from the cold style of urban steel and concrete. This "reverse" feature is the fundamental driving force of rural tourism market. Recent years, the "government-led + market operation" model has greatly promoted the vitality and innovation of rural tourism, various rural tourism marketing activities and media reports have emerged one after another. The rural infrastructure has been continuously improved, the environment has become more beautiful and livable, the next-door location and more convenient traffic, all have triggered a nationwide trend of rural tourism, attracting more and more urban residents to make frequent short trips on weekends and holidays.

4.5 Service Guarantee

The World Tourism Organization (UNWTO) classifies the main stakeholders of tourism poverty alleviation into local residents, governments, enterprises, non-governmental organizations, educational institutions and some tourists [13]. The local government is a service unit providing support policies, supervision and management mechanism for rural tourism development. It is not only a top-level designer, planning, regulating, supervising and guiding , regulating tourism development, but also an escort for specific implementation, providing funds, publicity, infrastructure, training, guidance and other assistance and guarantee for policy implementation. Enterprises are attracted to invest by rural tourism development opportunities, providing funds, knowledge, experience, management etc. to support the tourism supply chain, which is the carrier to realize the transformation of rural tourism resources into social and economic benefits.

Community residents are not only the owners and providers of tourism resources, but also directly or indirectly participate in rural tourism services as employees and even establish related enterprises to become entrepreneurs. They are the target of the rural revitalization strategy and the core of rural tourism pro-poor supply chain. Tourists are the terminal of the

rural TSC, enjoying rural tourism products or services, and also the source of tourism benefits. In addition, organizations, associations and the public such as non-governmental organizations, domestic experts and volunteers who are concerned about rural issues, are also part of the rural TSC environment, affecting various mechanisms of the supply chain, and playing an indispensable role.

Based on the above, we establish the rural TSC system: taking the rural economy, culture, society, and environment as the background, aiming pro-poor and rural revitalization, relying on rural tourism resources, with government-led, community (especially the poor) as the main body, and various micro-markets body (including tourism enterprises, the public, non-governmental organizations, educational institutions, tourists, etc.) actively participating, to meet the needs of tourists for goods and services through multiple channel. It has the following characteristics①the spatial concept rooted in the countryside; ②across the primary, secondary and tertiary industries, with strong industrial relevance and driving force; ③ complexity, dynamics and sensitivity; ④the dual purpose in economy and politics of tourism + poverty alleviation, ⑤government Leading, multi-party participation.

V. FINDINGS

5.1 Rural TSC Reverse Tracking System

Drawing lessons from Guo Shu's industrial chain tracking method, this paper builds the rural TSC reverse tracking system(Fig.2) adopting the reverse tracking method, using observation and interview, it carries out the tracking of all the branches of the tourist consumption in the destination mentioned above, combing the ways that rural residents can participate in the TSC, discovering the relationship between tourism economy and various local industries, understanding the poverty mechanism, and finding out the matching relationship between the resources owned by the poor and employment positions, and determine the value entry point suitable for the participation of the poor. By tracing the whole industry and multi-industry supply chain to agricultural and tourism auxiliary enterprises, not only the TSC is lengthened vertically, but the division of labor is refined and the missing links of TSC can be filled in, so as to discover new poverty reduction opportunities and broader employment and entrepreneurship space, realize the value-added of the entire supply chain, finally get rid of the stickiness of poverty, ensure the long-term sustainability of employment by using the stability of supply chain, and guarantee that the vast rural areas move towards a balance of prosperity [14].

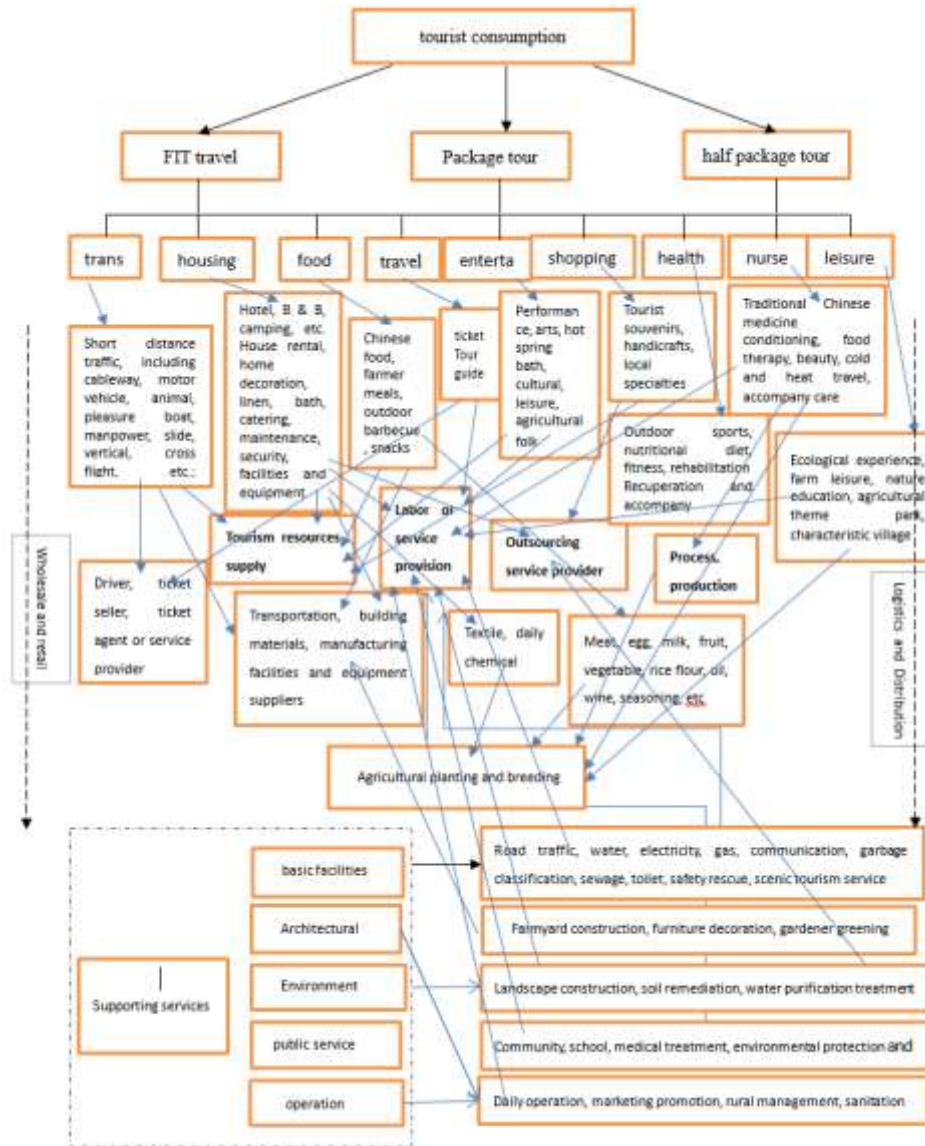


Fig 2: rural TSC reverse tracking system

5.2 Practical Dilemma of Poverty Reduction in Rural TSC

During the process we building rural TSC reverse tracking system, we sort and find out the following problems generally exist in the current rural TSC in the practice of poverty reduction:

5.2.1 Insufficient extension of supply chain

The rural poor are constrained by their original production and lifestyles, the transformation of their identity and role consciousness is sluggish. The participation of TSC focuses on the

cultivation and breeding of the primary industry and the supply of tourism resources, labor and service in the tertiary industry. The existing service scale is small, and low in quality, single in projects. The poor havelittle involvement in the "two connected" secondary industry, not enough participation in the primary processing, deep processing, comprehensive processing, undertaking outsourcing services, manual workshops, individual operation and other ways of agricultural products. Their innovative spirit and entrepreneurial consciousness need to be improved.

"We've been living like this for decades, I am only capable of dealing with land, and don't want to go out for a work. I don't have the brain to do self-employed business, either... It's not easy to make money. Just wait till getting old. "—R (local resident) 023.

5.2.2 Lack of supply chain coordination

There is information separation among tourism designers, providers, suppliers and tourists, which leads to information distortion. It is difficult for tourists to transfer their real demand between the design side and the end of the supply chain, so customer satisfaction reduced, while uncertainty and risks increased. Due to the imperfect trust mechanism of supply chain, each subject only pays attention to the maximization of their own interests, unwilling to share customers, information and technology, and lacks the spirit of cooperation and mutual assistance, resulting in "double marginal effect", damaging the overall reputation and common profits of the supply chain. In the end, the market is divided, each fights his own battle, the market response is inefficient, and it is difficult to achieve win-win.

For a long time, China's TSC enterprises have been facing fierce competition. The integral constraints established by contracts among travel agencies, hotels, scenic spots and shopping shops are easily replaced by the temptation to reduce their own marginal costs. Asymmetric information breeds moral hazard. In the absence of policy supervision and guarantee mechanism, it is difficult to maximize the overall interests of the supply chain.—G (government official) 01.

5.2.3 Insufficient flexibility of the supply chain and widespread homogeneity

Limited by its own geographical and capacity constraints, the rural areas hardly have the design capabilities at the source of the TSC, but can only imitate each other's tourism model, which leads to the superficial and symbolic of the village's appearance and the construction style of the villages, while ignoring the connotation expression and characteristic representation. Farmhouse seems to be synonymous with rural tourism, tourism products are singularized and homogenized, and lack of core competitiveness. It is difficult to gain a long-term foothold in the competition with the surrounding market, increasing the income of the poor has become water without a source.

It feels (rural tourism) everywhere is the same, similar farmhouse, similar food, similar experience activities, riding and boating, seeing flowers in spring and picking fruits in autumn, there is not much difference. Lacking of somewhat countryside soul. The rural tourism that I imagined should be like Yubeng village, natural, pure, which can make people look down on everything. ——T (tourist) 08.

5.2.4 Non-localization of the supply chain

In the tourism community with high resource endowment, foreign investors generally enter into the operation. Their advantages in capital, management and marketing will squeeze the endogenous development of rural tourism and reduce the independent operation space of local residents. Most of the rural residents participate in the supply of tourism products or services by providing labor force, such as drivers, catering attendants, security guards, and so on. However, their own resources, such as land, housing, crafts, culture, are underutilized, resulting in a single form of participation and limited income.

The best source of income for our locals is renting out houses, then you must have a well-located house. Those who have the strength and ability also manage their own business, but after all, they are minority, and still may not be able to make money. What do you compare with foreign bosses? They have more money, knowledge, brains and integrity than you. Without education and skills, we can only do coolies to make ends meet. ——R (local resident) 16.

5.2.5 Outstanding talent problems

Talent problem is the root of restricting the development of rural tourism. The poor people in rural areas always have the phenomenon of low education level of the old generation and "three low and one high" (low enrollment rate, low graduation rate, low consolidation rate and high dropout rate) of the new generation. Restricted by various factors such as economic level, geographical location, medical and health conditions, development opportunities, etc., the talent improvement plan has failed. There is a shortage of professional and high-quality talents with knowledge, technology, and sufficient experience, knowledge poverty is transmitted from generation to generation, the level of human capital will greatly limit the degree and level of poor people's participation in tourism development and operation in a long run.

The status quo of rural talents can be summed up as two sentences: "the old have no education, the new will not come back", "the foreign talents cannot be attracted, those attracted cannot be retained." Without talents, the supply-side reform of rural tourism is struggling.——V (village cadres) 01.

5.2.6 Insufficient attention to the green supply chain.

The unidirectional linear model of "resource mining--raw material input--processing and

manufacturing--product consumption--waste disposal" in the production and manufacturing of traditional rural tourism products is "anti-ecological". The sharp increase in tourism demand has triggered unprecedented demand and destruction from nature, which led to environmental degradation such as water pollution, land poisoning, garbage spreading, and air quality degradation in rural areas. This endless dumping of the environment will eventually lead to resource exhaustion, ecological degradation, rural production and life are unsustainable. Tourism development is even more out of the question.

(Developing tourism) these years, I have seen the surrounding environment getting worse day by day. The water in the (Lashi) lake is getting less and less, the wetlands are shrinking bit by bit, and all kinds of water birds in the past are gone now. Rubbish is thrown everywhere, the grass on the shore has become sparse, which is a far cry from the beautiful scenery with plenty of water and lush grass ten years ago... Fortunately, the government has begun to control it. – S (enterprise staff) 10.

5.3 The Cultivation of Rural TSC From the Perspective of Poverty Reduction

5.3.1 Rural tourism supply chain extension

Give full play to the natural advantages of rural TSC industry, develop "tourism+" and "+tourism", and realize the integrated development of primary, secondary and tertiary industries. On the one hand, we should step up our involvement in the "two-end connection" secondary industry, involving into the primary processing, deep processing, and comprehensive processing of agricultural products, undertaking the outsourcing business of production or service, building manual workshops, and individual operation , as well as flexibly filling the market vacancy in the supply chain by self-employment, refining the division of labor, lengthen-deepen-strengthen the rural TSC, and creating added value; on the other hand, we should break the existing level of sightseeing, eating and drinking, deeply cultivate the leisure experience, change the single focus on vision into the satisfaction of tourists' multisensory experience of seeing, smelling, touching, tasting, speaking, listening and leisure, realize the overall body or multisensory shift of the tourism supply chain , and promote the length of the tourism supply chain in time and space. In terms of distribution, we should make a variety of distribution channels go hand in hand, increase OTA, smart tourism, virtual tourism and other diversified distribution platforms to help upgrade the TSC with scientific and technological elements.

5.3.2 Cooperation and sharing of TSC

The terminal customers of TSC are tourists, and the travel process of tourists is also a comprehensive consumption process of all elements, seasons and spaces of tourism such as food, housing, traveling, shopping and entertainment. In the "FIT Era", the satisfaction of each

tourist's personalized and refined needs cannot be satisfied without the quick response to orders within the tourism supplier and between the upstream and downstream enterprises in the supply chain [15]. Through the rapid multi-directional transmission and sharing of product supply and demand, orders, customers and other information among chain members, they can cooperate with each other and jointly produce different product combinations, complete "perfect orders" one by one, create tourist value and achieved win-win among TSC enterprises.

Conversely, the trust crisis and immoral behavior of any party hindering information sharing in TSC will lead to the destruction of the sound development of the whole supply chain, damage to the interests of all parties and even collapse the chain due to the irreplaceable, difficult to compensate and high relevance between the main bodies of the supply chain.

5.3.3 Mass flexible customization supply chain

Rural tourism often has problems such as the scattered layout of attractions, the lack of scale, and the difficulty of displaying folk culture, which restricts the tourists' experience and evaluation. Based on the multiple modes and paths of local characteristics[16], the tourism resource such as rural pastoral scenery, cultural sites, agricultural festivals, folk performances, sports, special catering, etc. can be "mix and match", thus to innovatively plan tourism routes; and it is also possible to design a number of tourism sub-modules in combination with rural resources and tourist types, such as rural nature and cultural customs sub-module, rural leisure and vacation sub-module, big health and sports sub-module, agricultural parent-child science sub-module, local specialty e-commerce sub-module, extreme sports and adventure sub-module, check-in and live broadcast sub-module, and tourists can customize personalized travel routes according to their preference. Fully rely on the differences in natural landscape, ethnic characteristics, history and culture in different rural areas to create "one village, one product" attraction.

5.3.4 Cultivating local TSC

Excessive foreign aid will cause the phenomenon of "tourism enclaves", not only limited local residents' benefits from tourism development, but also easy to overlook social and environmental benefits. Therefore, it is necessary to support the TSC based on community participation in policy and concept, and create opportunities to improve the participation of local residents in the supply, procurement, sales, and logistics of rural tourism products or services. IT is also necessary to establish a trading market for the management rights of rural tourism resources, for poor people who have insufficient participation capabilities that are limited by funds, skills, knowledge, health, etc., to rely on family land, homesteads, houses, forests, skills, cultural exhibitions and other resources to obtain benefit distribution, or integrate into TSC through dividend withdrawal and ecological compensation, and continuously share

the benefit distribution of the supply chain.

Firstly, the localization of the TSC is conducive to the direct flow of tourists' consumption to the community and increase the economic benefits of local residents; second, it can give full play to the residents host's awareness and consciously protect the local culture, ecological environment, and ethical relationships; third, in the process of contacting with investors and tourists, community residents could cultivate more local tourism entrepreneurs, pioneering business and tourism elites, improve the self-development ability of the local population by the talent cultivation model referring next, and transform external engines into endogenous power.

5.3.5 Endogenous spiral training of rural talents

Ability poverty is the root of income poverty. We should give full play to the leading role of community elites, village talents, young entrepreneurs, etc., and cultivate rural tourism talents with dots, lines, and multipliers. ① Starting from the personal growth cycle, follow the model of "initial stage, participatory learning - medium stage, shared promotion - late stage, elite driven", the poor people "learn by doing" from jobs at the initial stage of employment, and gradually master basic skills through consultation and discussion with excellent employees, foreman, directors, etc., share and improve business capabilities, and finally grow into a local tourist elite, acting as a leader; ② The collective growth cycle begins, the trade elites lead the collective knowledge and skills progress. Each member of the collective repeats the individual growth cycle as ①, more and more villagers grow into local tourism elites; ③ The radiation effect increases exponentially, and the acceleration promotes the improvement of talents in all villages and towns, showing an endogenous spiral growth path.

5.3.6 Constructing a green rural TSC

Rural tourist destinations are always ecologically fragile areas, and the ecological environment is the basic resource for the development of rural tourism. Rural tourism, whether it is agricultural landscape development, tourism project construction, tourism management, residents' life, and tourist consumption, must ask for resources from the ecological environment. Scrambling for resources and power is easy to stage a tragedy of the commons, causing a vicious circle of continuous deterioration of the environment and continuous loss of tourists [17]. Rural tourism should not only relies on the advantages of rural ecological environment, but also feedback the ecology, creating more green wealth and ecological welfare.

Drawing lessons from the "front and back stages" theory of Goffman's social structure, this paper proposes to build a spatial structure of island-like circle distribution that decouples the front and back stage of rural tourism: the tourism core area is placed at the front stage of tourism operating to receive tourists and display the landscape; the production and living of residents are located in the background, restricted the contact to maintain social distance. An

isolation zone is formed between the core area and the residential area, and a supply chain cluster functional area far away from the ecologically fragile area is established. It can not only increase the poor's involvement in the secondary industry, give play to the scale benefits of industrial agglomeration, increase the profits of suppliers at all levels, but also facilitate the centralized control of the ecological quality of the supply chain, protect the ecological environment and realize the sustainable development of rural tourism.

VI. CONCLUSIONS

The construction and cultivation of rural TSC can not only further seek income increasing space for the rural poor, but also effectively avoid various negative effects brought by the development of tourism, which is an effective way for the sustainable development of rural tourism. The academic implications of this paper is that we clarify the rural TSC model under the modern background, constructs the rural tourism supply chain system under the framework of "industry-element-channel-mechanism-guarantee", and explores the theory and operation mechanism of rural TSC guiding rural poverty reduction. In practice, we take a diachronic field survey of the rural TSC in north western Yunnan, China, by case studies and supply chain reverse tracing methods, exploring the ways in which the rural poor mainly participates in the TSC, and summarizes the current difficulties faced by the chain in the practice of poverty reduction; finally, based on the perspective of the poor, the rural TSC extension, sharing, customization, localization, talent cultivation and green supply chain countermeasures are proposed.

In the future, deep and detailed analysis in the rural TSC is needed, for example, the reconstruction of TSC under tourists' embodied turn, the specific operation and guarantee of collaboration and sharing between upstream and downstream enterprises, the module design of flexible mass customization, the exploration of localization and endogenous power, and the spatial layout of front and back stage decoupling, etc., will all become interesting and meaningful topics.

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