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Analysis of Batik Value Chain in Ethnic Minority Areas

—A Case Study of Danzhai County in Guizhou Province

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Abstract Based on value chain analysis method, we surveyed and interviewed interest groups of batik industry in Danzhai County. From raw material production, product processing, marketing, organization and management, we discussed the supply chain of batik products in ethnic minority areas, and analyzed favorable factors of batik industry development and obstacles to interest groups developing batik industry. Finally, we put forward corresponding policy suggestions, including strengthening farmers' ability in batik production section, enhancing capability construction of batik cooperatives and associations, increasing cultural value added of batik products, bolster policy and financial support of government departments, and promoting establishment of cooperative mechanism for handicrafts.

Key words Batik, Value chain, Policy suggestions, Danzhai County of Guizhou Province

Batik is a traditional manual wax-resist dyeing technique in ancient China. It is one of the three printing techniques (the other two are tie dyeing and reticulated printing). As an important branch in three largest batik systems in Guizhou Province, the batik of Danzhai County has formed a complete batik product supply chain from raw material, processing to finished product, then to consumption terminal. This promotes development of local economy to a certain extent. However, there are many problems in the course of Danzhai batik products entering the market, and many complex limiting and incentive factors in the sections from production to marketing. Based on value chain analysis methods, we analyze sections of batik industry in Danzhai County of Guizhou Province. We find out limiting and favorable factors for development of batik industry. In line with these factors, we put forward suggestions for batik industrial development, to increase cash earnings of participants of the industrial chain, and to bring more economic return for batik producers.

1 Methods for analysis of value chain

Since the 1980s, many scholars have presented the theory of value chain. In 1985, Professor Michael Porter from Harvard Business School firstly introduced the analysis method of value chain. The value chain is a higher level of logistics model. All value adding activities are parts of the value chain, from input of raw materials to sales of product to customers. The scope of the value chain forward extends to suppliers from inside of kernel enterprises, and backward extends to distributors, service providers and customers. This forms various connections be-

tween operations of the value chain, between internal departments of the company, between company and customers and between company and suppliers, making these parts interdependent and then influencing performance of the value chain. Therefore, it is of utmost importance to coordinate, manage and control such interdependence relationships between node enterprises, and to improve operation efficiency and performance of node enterprises in the value chain.

2 Analysis on value chain of batik industry in Danzhai County

Danzhai County is situated in southeast of Guizhou Province and formed by Danjiang and Bazhai. It borders on Leishan County in the east, neighbors on Sandu Shui Autonomous County, has common boundary with Duyun City and Majiang County, and is adjacent to Kaili City in the north. Danzhai County has a total population of 161 400, in which the Miao people take up 78.78% of the ethnic minority population. The ethnic culture has a long history in this County, especially simple and unsophisticated Miao culture, which is the representative of culture in southeast of Guizhou Province. Danzhai batik is one of the most representative batiks in Guizhou Province. It is mainly distributed in southeast of Danzhai County, particularly in Paimo Village and Paidao Village of Yangwu Township. As one of the birthplaces of the batik art in China, it is a place where the southern ancient batik art was relatively passed on, and the batik is the typical representative of batik art in Danzhai County.

Since the production and processing time of raw material in batik industry is relatively long, the global value chain shows that the support section and operating section can be separated in the space, the operating section is relatively concentrated on geography, so the industrial value chain is shorter. The specific operating section can be divided into raw material production, product processing and sales sections (shown in Fig.1).

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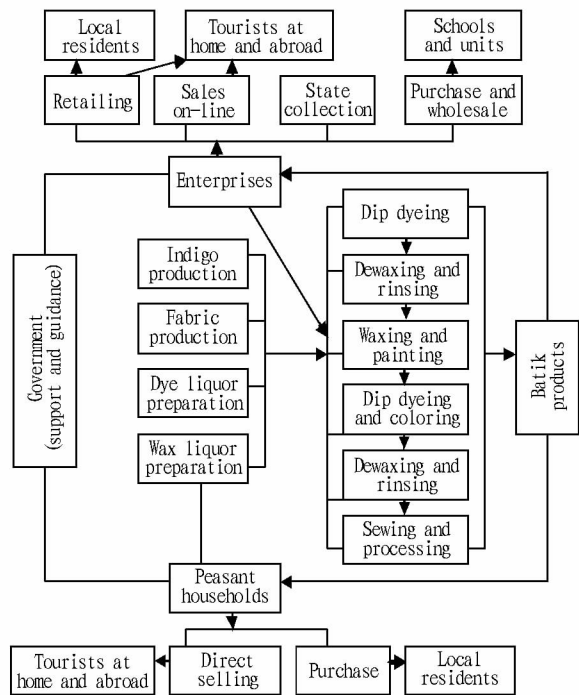


Fig. 1 Diagram for analysis of value chain of Danzhai batik

2.1 Raw material production

Indigo must be manually planted and produced and shall not be replaced by chemicals or industrial production. This course needs policy and technical support in agricultural production, to cultivate specialized indigo planting households and produce high quality indigo dye. According to survey and statistics, all batik producers in Paidamo Village of Danzhai County manually plant indigo and prepare dye liquor. Since the fabric processing takes much time, 60% batik producers purchase fabric to save time, but this may reduce the quality of batik products to some extent.

2.1.1 Indigo production. Linking up batik production and agricultural production, this section is generally completed by farmers. The indigo planting has a long history in Guizhou. The Annals of Liping Prefecture has records of indigo preparation method: "There are two types of indigo in Liping Prefecture, large leaf ones like arbor, and fine leaf ones like Chinese scholartree. In September and October, put leaves into indigo ground, soak for three days, the blue color will come out, then put proper quicklime, the entire color will be taken into the lime, those with purple color are top grade"^[3].

2.1.2 Fabric production. In the past, the distribution areas of Danzhai batik have the tradition of planting cotton, spinning and weaving. At present, although there is cotton planting, most farmers purchase threads and spin and weaving by themselves. A few farmers buy fabrics produced by modern factories, but the fabrics are loose, so there are few users.

2.1.3 Dye liquor preparation. Put the indigo leaves into vat or wooden barrel, fill proper amount of cold water, and stir every three days. After soaking 6 to 7 days, take indigo leaves out, put lime into the vessel, keep it overnight, the indigo will precipitate, and ladle out the clean water, the dye liquor is

formed. About 5 kg indigo leaves need 1 kg lime, and 1 kg dry indigo can be produced.

2.1.4 Wax liquor preparation. Danzhai batiks generally adopt beeswax. Due to wide use of pesticide, bees become less and less, price of beeswax rises accordingly. However, the beeswax can be used repeatedly.

2.2 Batik product processing In this section, participants include peasant households, associations and companies. No matter who is the participant, the process flow is the same. For peasant households, farmers basically will do batik in busy farming season, they only draw batik pictures in leisure time, and some farmers go to associations or companies to draw batik pictures. In Danzhai County, Miao women are fond of batik clothes, so the quality of batik product processing becomes an important criterion for judging whether a girl is clever or not, which is very similar to Indonesian style^[4-5]. Generally speaking, the batik product processing includes following steps.

2.2.1 Dip dyeing. Before batik product processing, firstly dip with dye, to remove lipid in fiber, so as to make it easy to wax and color.

2.2.2 Waxing. Put proper amount of beeswax into ceramic bowl, and place ceramic bowl on hot charcoal. When beeswax is heated and melted to solution, we can draw waxing picture on the cloth. When waxing, some producers arrange master copy on starched white cloth. For simple patterns, use nails to draw outline; for complex patterns, use fine needle to portray; for round patterns, face the bowl down to form the shape. Some producers use bamboo strips or straw as ruler, use bamboo tube as compasses, to clip birds and flowers into paper-cut, and use paper-cut as master copy, then use fine needle to draw.

2.2.3 Dip dyeing and coloring. The cloth for waxing flower should be soaked with warm water, and put into indigo dyeing vat and dipped for several times.

2.2.4 Dewaxing and rinsing. Once the cloth is well dyed, take it to rinse in the river, wash out floating color with clean water, then boil in the pot, to make the beeswax melt and float on surface of water, and recover for future use. Later, repeatedly rinse the batik, remove the residual beeswax, then the process is completed.

2.2.5 Splicing. Generally, batik products are prepared by pieces. After completion, splice the batiks into beautiful batik products.

2.3 Product sales In this section, participants are mainly peasant households and various large and small companies and associations. Farmers sell batik products in the form of retailing. For companies and associations, apart from retailing, they also adopt on-line selling, wholesale and state collection, etc. According to survey and statistics, there are considerable differences in marketing channels for different participants in the course of batik product selling.

2.3.1 Small family enterprises with peasant household as unit. Although the batik skill is handed down from age to age, the batik products are mostly used for family life, so marketing channel is not established. About 77.75% batik products pro-

duced by peasant households are used by themselves, 16.25% peasant households occasionally sell batik products, and 6.25% peasant households sell batik products. Customers are mainly tourists (72.22%), local villagers (22.22%) and companies (5.56%).

2.3.2 Associations. Through interview with Batik Cooperative of Yangwu Township and general manager of Guizhou Phoneyoung's Sister Batik Square, we know that the marketing channel is not the problem, because most batik products they produce are sold to domestic and foreign tourists, schools, organizations and local residents through retailing or group purchase/team buying.

2.3.3 Companies. From interview and analysis of Jincai Company, Ninghang Batik Company and Ayong Miao People Batik Cultural Tourism Company, we know that they sell batik products to domestic and foreign tourists, local residents, schools and organizations through retailing, on-line sales, and wholesale, *etc.* The works value ranges from tens of yuan to thousands of yuan.

2.4 Organization and management of batiks

2.4.1 Small family enterprises with peasant household as unit. In all the peasant households we interview, 76.25% have once received relevant training of batik production. For those who fail to receive training, about 88.75% want to receive such training, because they believe that they can exchange ideas at the training and promote their batik products. Training contents include waxing, pattern design, dyeing cloth, traditional skills, and sales.

2.4.2 Associations. Batik associations are community organizations founded independently by peasant households. Through organizational mechanism, batik associations can produce batik products on a large scale. Our survey indicates that the ability of batik cooperatives is low. They have no perfect organization system and incentive mechanism, no clear division of labor, and the production efficiency is low. Members of cooperatives are low at educational level, which influences product quality. The channel for obtaining information is not smooth, and marketing methods are not effective, so it requires providing more training for members.

2.4.3 Companies. Nearly all companies have village-level purchase places, but the management cost is too high. Original works are often sold by villagers. Employees at rural production base should be trained. To meet the demands of market orders and work out more modern patterns, there are less and less traditional patterns. This is a great challenge for traditional batik culture as the base of core of market value. When batik products focus on meeting demands of modern mass market, it is possible to receive commercial return. However, such return is short-term. It may result in loss of core value of culture and core market competitive power in the long-term development.

2.4.4 Government. Danzhai government has already provided great support for development of batik industry, but it fails to form overall planning. To apply for inscription on the National List of Intangible Cultural Heritage, Danzhai government once invited famous expert to come to Danzhai and offer advice for

its declaration scheme, finally it successfully included the Danzhai batik product into the National List of Intangible Cultural Heritage, making the Danzhai batik have higher market competitive power.

3 Favorable and limiting factors for development of Danzhai batik industry

3.1 Favorable factors

3.1.1 Factors of production. Danzhai batik industry has great productive potentialities because the raw materials are abundant and Miao women are good at batik production. Miao women in Paidaomo Village from 11 or 12 years old to 60 or 70 years old are good at batik production.

3.1.2 Artistic value. Batik products feature primitive simplicity, elegance, boldness, and attractiveness. They have strong national color, unique national artistic style. The batik art is a unique national flower of art.

3.1.3 Policy factors. Danzhai government offers great support for development of batik industry. Some batik enterprises get policy support from the government, and skilled batik artists also can receive encouragement from government.

3.2 Limiting factors

3.2.1 Limiting factors from small family enterprises with peasant household as unit. The development of Danzhai batik industry is subject to many limiting factors, such as market, time, information, price, educational level, and organization and management (shown in Table 1). These are mainly manifested in following aspects. Firstly, the market is still narrow, it is still self-sufficient, lack of opportunity to communicate with outside. Market links are basically vacant. Secondly, the market identification of batik products leads to their low price, consequently failing to arouse enthusiasm of Miao women for taking batik products to market. Thirdly, it lacks knowledge and skills to respond to the market. Nearly all batik producers are Miao women who do not understand Chinese, so it is difficult to communicate with customers.

Table 1 Factors influencing development of batik industry in Paidaomo Village

Factors	Number of households	Percentage // %
No time	21	26.20
No market	66	82.50
Blocked information	13	16.25
Educational level	3	3.75
Unreasonable price	1	1.50
Inconsistent specification	2	2.50
No organization	1	1.50
Unclear	1	1.50

3.2.2 Limiting factors from batik associations and companies. Batik associations and companies agree that the obstacles to development of Danzhai batik industry can be summarized as follows. To begin with, manual production takes much time and effort, so the time cost is high. Traditional handicraft art of villagers also needs improvement through training. Next, educational level of employees is low, and skills are varied. For ex-

ample, some words on the pattern are conversely written, leading to serious economic loss. Other problems include loss of orders and product quality resulted from unacceptable quality control and standardized production. Employees do not know market, so they just produce batiks based on their imagination. Batiks produced in this way are beautiful but fail to meet market demands, thus they fail to be turned into market value. Thirdly, it lacks funds, and processing shops are small and processing equipment is out of date. For many enterprises, capital mainly comes from self-raising or loaning. Once there is market bottleneck or capital turnover is impossible, enterprises will be faced with bankruptcy. Government provides policy support, but not offers capital support. Fourthly, marketing channel of enterprises is single and not stable. Fifthly, environmental pollution. Small family enterprises have little impact on environment due to small scale and use of pure plant materials. However, large enterprises will create certain pollution, which, if not properly treated, will become an important factor limiting development of batik industry. Sixthly, the cognition degree of batik culture is low. Blindly following market orders may repeat the failure in Anshun batik industry, consequently leading to entry to strange circle of low end market.

3.2.3 Limiting factors from government. Firstly, the economic development of Danzhai County lags behind, so it is impossible to input necessary funds for development of batik industry. Secondly, there is little opportunity of popularization and exchange of batik culture, so external world has little knowledge of Danzhai batik products. Thirdly, it lacks the publicity. Danzhai batik is the representative of batik art, but it is not known to the external world, so the promotion of Danzhai batik is difficult.

4 Countermeasures and suggestions for development of batik industry

4.1 Strengthening farmers' ability in batik production section Farmers are the most important parts in the production of Danzhai batiks. Planting of indigo and batik picture drawing are carried out by farmers. These activities are closely related with their production and living, and it is also a kind of cultural continuity. Therefore, government should attach great importance to strengthening farmers' ability in batik production. In the first place, it should provide economic subsidy and technical guidance for indigo planting farmers. In the second place, it should introduce the peer education. Specifically, women teach children how to draw batik pictures, and children teach women how to read, write and use modern tools to obtain information. Thirdly, it should provide information of training for farmers, to help them strengthen the recognition of cultural value of their products. Fourthly, it is recommended to invite women to Guiyang to hold various activities, such as drawing batik pictures, evaluation and auction, media communication, *etc.*

4.2 Enhancing capability construction of batik cooperatives and associations Batik associations are community organizations founded independently by peasant households. The annual sales amount of these associations is up to 1.2 million

yuan. They can produce batik products on a large scale. We have found that the ability of batik cooperatives is low. They have no perfect organization system and incentive mechanism, no clear division of labor, and the production efficiency is low. Cooperative members are low at educational level, which influences product quality. The channel for obtaining information is not smooth, and marketing methods are not effective, so it requires providing more training for members. In line with these situations, it is proposed to take following measures. Firstly, all relevant parties should participate in discussion of articles of association, system, and cooperation of community members, to work out collective cooperative mechanism and form formal specifications suitable for local conditions. Secondly, the same type of cooperatives and associations should regularly exchange experience, visit each other, learn from each other and invite experts to give lectures or provide training. Thirdly, clear division of labor should be carried out on the basis of skills and ability of members of cooperatives, to establish proper type of work and set up the incentive mechanism. Fourthly, it is recommended providing basic computer and network facility to access to effective market information.

4.3 Increasing cultural added value of batik products As the most important carrier of Miao people culture, the value of batik art is also manifested in traditional culture. Through the ages, batiks have been used as artistic representation of production and living of Miao people, instead of commodities for exchange. Under the condition of market economy, the cultural attribute of batik products determines their economic attribute, so high value added batiks depend on accumulation of cultural tradition. Large-scale production of batik products results in loss of traditional value, and high-added value cultural products just become common commodities. Therefore, it is essential to increase the added value of batik products.

4.4 Bolstering policy and financial support of government departments At present, Danzhai County government supports production and development of national handicrafts mainly through promoting development of cultural industry. However, it lacks specialized talents and channels in specific operating conditions. It is proposed to take following measures. Firstly, government works out plans for development of national culture and provides financial and technical support. Secondly, relevant departments can hold photographic exhibition, publish books, and set up cultural product website to publicize batik products and traditional culture. Thirdly, it is recommended encouraging and rewarding excellent batik production artists. Fourthly, it is proposed to cooperate with education departments to set up courses or hold matches for passing on national culture. Fifthly, it should energetically develop the tourism industry^[6]. Tourists are major consumers of Danzhai batik products, so the development of tourism industry is an important approach to promoting development of Danzhai batik industry.

4.5 Promoting establishment of cooperative mechanism for handicrafts The promotion of handicrafts should be started from following two aspects. One is strengthening the cooperation between sales companies and peasant households. Although there are many large batik sales companies in Guiyang

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wants from the agricultural bank, to enhance customers' confidence in the agricultural bank.

3.2 Establish and improve the internal management mechanism

The credit management mechanism of the agricultural bank should protect the independence and professionalism of the organizational setting, and establish specialized agency to be responsible for the management, approval, examination and marketing of consumer credit. And without violating the relevant provisions, all links of consumer credit should also maintain flexibility to some extent. The establishment of an effective personal enquiry system is the guarantee for the banks to control consumer credit risk. The scale of loans object of personal consumer credit is large, with complex situation, and the bank lacks comprehensive statistical method on consumers' income and payment situation, therefore, based on reality, the bank should use modern electronic network technology, learn from the management measures of the loan card implemented by the People's Bank on enterprises and institutions, and implement the network management of personal consumer credit.

3.3 Establish and improve risk assessment system

Sound evaluation system and excellent reward and punishment system can help achieve effective control after the event^[7]. In terms of the quality management of credit assets in branches, the agricultural bank must adhere to the principle of using the experience of a selected spot to promote the work in the entire area, carry out rotation on the the leading bodies, and conscientiously implement strict reward and punishment management measures. In terms of the evaluation system, it should improve and perfect the allocation coefficient of economic capital that can reflect the risk of loan customers. In the KPI assessment, it is recommended to optimize the quality indicators of new loans; strengthen the management of existing loans; take some indicators as the assessment indicators, such as non-performing rate of new loans, the cost of credit, the non-performing loans, and risk-based management; encourage various branches of agricultural bank to optimize the structure of the existing loans, improve risk identification capacity, preserve assets timely, enliven non-performing loans, and improve the quality of loans. Furthermore, it should improve the risk management system of consumer credit, to gradually achieve online queries, graded review and approval, and concentrated

check. In the links of pre-loan investigation, loan examination and inspection, and post-loan check, it should make responsibilities clear, regulate operations, and strengthen re-inspection and supervision.

3.4 Improve consumer credit legal system

At present, in China, channels of transacting and collecting the personal letters of credit of consumer credit are not smooth, the specific regulatory systems are not perfect, and especially the punishment of dishonesty, breach of contract is not specific. In the process of transacting consumer credit business, it is necessary to comply with financial regulations, ensure the safety of funds, try to simplify procedures, strictly implement the loan review and approval procedures; strictly inspect and examine the credit history of surety or the guarantee units; strictly limit the mutual guarantee between the borrowers; strictly check, examine and assess the mortgage loans, establish a set of effective incentive and restraint mechanisms, and reduce and manage the risk of assets to the extreme. The government and relevant departments should formulate appropriate policies to abolish all unreasonable charges restricting the consumption, promulgate the policies conducive to consumer credit encouraging consumer spending, arrest local protectionism, and further establish and perfect the legal system of consumer credit, to provide reliable legal protection for consumer credit.

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and Danzhai, they have not involved all sections of batik production, so it is required to establish cooperation mechanism of companies and peasant households. The other is combination of production of traditional handicrafts with modern technologies. Even though the high value batik products are manually produced, it does not repel application of modern technologies in some sections. Thus, it is proposed to invite experts to study the application of modern technologies in production of traditional handicrafts.

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