

# Community Economic Development of Indigo-Dyed Cotton Productions to be Sustainable in Lahanam Village, SongKhone District, Savannakhet Province, Lao People's Democratic Republic

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Received: August 2, 2023; Revised: October 12, 2023; Accepted: November 15, 2023

## Abstract

This research focused on the community economic development of indigo-dyed cotton producers in the Lahanam Village, Songkhone District, Savannakhet Province in the Lao People's Democratic Republic. The purposes of the study were to identify factors related to farmers, production processes, and factors driving the community economy, to gather opinions about policies and guidelines for community economic development, to identify needs and obstacles to sustainability and find ways to develop the community economy of indigo-dyed cotton producers in Lahanam Village. The study used a mixed research methods. The target group consisted of 154 families who produced indigo-dyed cotton in Lahanam village. Descriptive statistics were used to analyze data. Results showed that 100 percent of indigo-dyed cotton producers were females. The activity was passed down through generations using traditional methods. The focus was not solely on development for profit, but also on development from old wisdom and developed to create career for people in the community, promoting self-reliance, economic and social development, and conserving culture and local wisdom. To promote sustainability and economic development while maintaining cultural heritage and local wisdom. guidelines for community economic development of indigo-dyed cotton producers in Lahanam village were suggested, including developing knowledge and skills, manufacturing process improvement, marketing development, promoting cultural tourism, forming groups or cooperatives, increasing bargaining power, reducing production costs, and adding value to products.

**Keywords:** Indigo-Dyed Cotton, Household economy, Wisdom

## Introduction

Savannakhet Province, located in the south-central region of Laos, is renowned for its superior cotton production, with various villages producing cotton. Among these villages, Lahanam stands out for its production of indigo-dyed cotton, a traditional textile that is held in high esteem due to its cultural significance and intricate weaving. Lahanam's indigo-dyed cotton is renowned for its natural dyes and traditional patterns, earning it the distinction of being an ODOP (One District One Product) product supported by the public sector for its continued development. (Laos, 2021)

However, the hand-weaving process utilizing natural dyes is beset by challenges in procuring materials from nature that provide color. The color fermentation process and cloth processing require natural materials that are becoming increasingly scarce. This has led to difficulties in maintaining the quality and authenticity of the product, which is crucial for its continued success. Another challenge is the lack of knowledge and resources for implementing sustainable practices in the production of indigo-dyed cotton. The traditional methods of indigo dyeing and weaving have been passed down from generation to generation, but the lack of innovation and adaptation to changing circumstances has put the industry at risk. There is need for the community to adopt sustainable practices that protect the natural environment and ensure the long-term viability of the industry. Moreover, the production of indigo-dyed cotton in Lahanam Village faces challenges in terms of marketing and distribution. While the product is highly valued for its cultural significance and intricate weaving, there is a limited market

for the product. The lack of access to modern marketing channels and the absence of a comprehensive marketing strategy have hindered the industry's growth potential.

Development that is governed by the economy and politics centered on the market is considered to be a trend that challenges current practices and is expected to continue indefinitely. This is because various communities stand to benefit from developing their local economies and receiving helpful advice from external sources to ensure their sustained growth. The purpose of this study was to examine the factors that contribute to the success of a community of indigo-dyed cotton producers in LahaNam Village, SongKhon District, Savannakhet Province, Lao People's Republic. The study sought to gather opinions on the customs and community development governance of this community, which has the ability to govern itself effectively.

Therefore, the study of the indigo-dyed cotton producers in LahaNam Village, SongKhon District, Savannakhet Province, Lao People's Democratic Republic serves as a valuable guideline for achieving efficient, effective, and sustainable economic development in other communities. As a result, the researcher specifically chose to study this community to gain insights and recommendations that can be applied to other areas seeking to enhance their economic development strategies.

## Literature Review

### *Guidelines for community economic development*

In order to develop a sustainable community economy, there are three crucial factors and processes that must be

considered: the driving factors of the community economy, the processes involved in building the community economy, and the surplus profits generated from the community economy.

In order to ensure successful community economic development, it is important to understand the driving factors that will propel the economy forward. There are four main factors that must be considered:

**1. Human resource development:**

This involves developing three groups of people - community economic leaders, villagers interested in community economic activities, and relevant officials who have the knowledge and ability to analyze needs, mobilize resources, and manage production and transformation.

**2. Development of community groups/organizations:** Group formation and group activities with village leaders and those involved working together is the heart of the community economy. This is consistent with Thai culture where rural people support each other and corresponds to the economic limitations of rural people.

**3. Basic economic development:** This includes the acquisition of funds through fundraising in the village and the reasonable use of those funds to ensure continuity and prevent corruption. Capital may also be obtained through savings activities, raising shares, fundraising, or setting up a village bank.

**4. Basic physical development:** This involves ensuring access to water sources for consumption and production, as during the dry season or rainy season when rain falls intermittently, villagers may spend a lot of time looking for water, preventing them from performing community economic activities continuously.

### ***Household Economic Approach***

Household economy encompasses the economic activities of the entire household and is distinguished from the business, government, and international sectors by the term "household sector". Transactions between households and markets resemble international trade between two economies more than transactions between different industrial sectors within one economy. The two primary types of trade between economies are the sale of household labor time and the sale of household goods and services in the market.

Unfortunately, economics textbooks often overlook households as producers who utilize their labor and capital. Instead, they focus on households as consumers and their behavior in purchasing goods. Household production, allocation of time, and investment in capital equipment are rarely mentioned. Charlotte Perkins Gilman and Margaret Reid were among the first authors to examine household production and question the traditional gendered division of labor. Reid's book, *The Economics of Home Production*, played a critical role in the development of home economics as a discipline. She was also the first to identify frequently used third-party criteria to distinguish between productive and unproductive activity (consumption). According to Reid (1934), an activity is considered effective if it can be assigned to a paid employee.

### ***Sustainable Development***

The Brundtland Report stated that sustainable development is development that meets the needs of the present without harming future generations. Besides, there are many different concepts and definitions of sustainable development, such as "sustainable development is a policy that meets the needs of people in the present

without destroying resources that will be needed in the future" or "a sustainable society is a society that can satisfy its needs without making other animals and future generations of people compromise their needs. (Development, Annual Report, 2007)

Sustainable development indicators are tools used to provide direction and monitor change, indicating the country's success in achieving the goals of sustainable development, which aims to create balanced development in economic, social, and environmental aspects.

Sustainability indicators help identify the most problematic issues in economic, social, and environmental aspects and determine the importance of goals in the sustainable development model. The United Nations Commission on Sustainable Development (UNCSD) has set indicators to create a conceptual framework consisting of Themes and Sub-themes for understanding sustainability and supporting policymakers in making decisions at the national level, as summarized in the **Table 1**.

**Table 1: Indicators in various aspects of sustainability**

Indicators	Examples
<b>Economic Indicators</b> include - Income Volatility - Income Diversification - Income Distribution	- Income per household - Income per person/year - Income in cash and non-cash, Income source diversification across income levels relative to the poverty line
<b>Social Indicators</b> include - Security of arable land rights - Food security - Poverty - Employment - Security of assets and debts - Social status - The strength of the organization in the community	- Proportion of arable land under various rights documents - Food expenses per family member - Food source - Proportion of households with income below the poverty line - Proportion of hired labor to total labor - Value of property of farmer households - Amount of debt and ability to repay debt - social position in the community - Organizational performance results - Cooperation between organizations in the community - Participation in various community activities - Providing assistance to the community Acceptance of people in the community
<b>Physical indicators</b> include - Infrastructure such as roads, electricity, schools, health centers - Access to news information	- Road conditions - Number of households with electricity - Number of households that have tap water for use - Distance and time from home to schools and health centers - Quality of health center services - Irrigation system, irrigation pond - Number of telephones per household/community

Indicators	Examples
<b>Natural resource and environmental indicators</b> include: - Soil resources - Water resources - Forest resources - Biological diversity - Environmental risks to farmers - Risk of natural disasters (floods, droughts), etc.	- soil erosion - Planting system for soil conservation - Farmers' methods of soil conservation - Water consumption in the cultivation system - Quality and quantity of water for consumption - Cultivation area under irrigation system - Proportion of income that comes from forest products - Size and abundance of forests - Amount of chemical use and illness from chemical use - Frequency of receiving damage from natural disasters

## Research Methodology

### Research Framework

This study uses a mixed-methods research design, combining quantitative and qualitative data collection and analysis. Quantitative data were collected using questionnaires, and qualitative data were collected through field visits, in-depth

interviews, and focus group discussions with academics, experts, and knowledgeable individuals. Quantitative data were summarized using tables, frequencies, percentages, and arithmetic means. Qualitative data were analyzed using principles and theoretical concepts to identify key themes and patterns.

### Identifying Sample

- The population in this study is 154 indigo-dyeing cotton producers living in the LahaNam Village, Song Khon District, Savannakhet Province, Lao People's Democratic Republic.
- The sample in this study was the 154 households participating in the ODOP project, using purposive sampling

resource development, group/community organization development, basic development of the community economy, and physical basic development, are associated with the community economic development needs of indigo-dyeing cotton producers in the LahaNam Village, SongKhon District, Savannakhet Province, Lao People's Democratic Republic.

### Research Hypotheses

**Hypothesis 1 (H1):** Factors related to indigo-dyeing cotton farmers are associated with the community economic development needs of indigo-dyeing cotton producers in the LahaNam Village, Song Khon District, Savannakhet Province, Lao People's Democratic Republic.

**Hypothesis 2 (H2):** Factors driving the community economy of indigo-dyeing cotton producers, including human

### Research Instruments

The questionnaire is a tool for collecting quantitative data. It consists of five parts:

- **Part 1:** General information about indigo-dyed cotton producers in LahaNam Village, SongKhon District, Savannakhet Province, Lao People's Democratic Republic (PDR). This part includes questions about the production process (e.g., production costs, production income, marketing), and is

composed of closed-ended questions and a checklist.

- **Part 2:** Factors driving the community economy of indigo-dyed cotton producers in the LahaNam Village, SongKhon District, Savannakhet Province, Lao PDR. This part includes questions about human resource development, group/community organization development, basic development of the community economy, and basic physical development. It is composed of closed-ended questions and a rating scale.
- **Part 3:** Opinions on policies and guidelines for community economic development of indigo-dyed cotton producers the LahaNam Village, SongKhon District, Savannakhet Province, Lao PDR. This part includes questions about the perceived effectiveness and feasibility of different policies and guidelines. It is composed of closed-ended questions, a checklist, and a rating scale with 5 levels based on the Likert scale.
- **Part 4:** General opinions on policies and guidelines for community economic development in Lao PDR. This part is composed of closed-ended questions and a rating scale with 5 levels based on the Likert scale.
- **Part 5:** Challenges and obstacles faced by indigo-dyed cotton producers in Ban Laha Nam, Mueang Song Khon District, Savannakhet Province, Lao PDR. This part consists of open-ended questions.

#### ***Data collection***

This research involves the collection of two main categories of data:

1. Primary data: This will be first-hand information obtained through questionnaires, focus group discussion, and

in-dept interviews with farmers who produce indigo-dyed cotton in Lahanam village, Songkhone district, Savannakhet province, Lao PDR. This primary data will provide valuable insights into the current situation of indigo-dyed cotton production in the village.

2. Secondary data: This will be second-hand data obtained from related research documents, such as previous studies on indigo-dyed cotton of Lahanam village, development strategic plans, target village development activities, and relevant journals. The secondary data will provide additional information to support and complement the primary data gathered in the study.

#### ***Data analysis***

##### ***Quantitative data analysis***

The researcher used a statistical software package to analyze the questionnaire data. The following methods were used:

- **Descriptive statistics:** This method was used to summarize the data and provide insights into the characteristics of the sample.
- **Inferential statistics:** This method was used to test the research hypotheses and draw conclusions about the population from which the sample was drawn.

##### ***Qualitative data analysis***

To achieve the research objectives, the following qualitative data analysis methods were used:

- **Content analysis:** This method was used to analyze the interview data by identifying and grouping common themes and patterns.
- **Document analysis:** This method was used to analyze the documentary evidence (e.g., tables, books, research reports, theses, academic articles,

annual reports, government and private agency meeting minutes, news articles, and government laws and regulations)

by identifying relevant information and interpreting its meaning.

Results

Lahanam village’s income from indigo-dyed cotton weaving products

The result of income achieved per month of indigo-dyed product weaving is significant, generating a total average income of 13,767,532 Kip from selling a total of 202 pieces of weaving products per month. It is important to note that the Sinh

(Body part) is the most popular and highest-priced weaving product, generating the highest income per piece. The total income generated by selling Sinh (Body part) is 7,155,844 Kip, which is almost 40% of the total income achieved per month from all indigo-dyed cotton weaving products. (Table 2)

Table 2 Income received per month from all indigo-dyed cotton weaving products.

No.	Products	Average selling amounts per month (pieces)	Average income per month (Kip)
1	Sinh (body part)	72	7,155,844
2	Shirt Fabric	39	983,766
3	Tablecloths	45	1,342,208
4	Shawl	16	1,885,714
5	Sinh (bottom part)	30	2,400,000
Total		202	13,767,532

Lahanam village’s data (2023)

Lahanam’s Village Expense on indigo-dyed cotton weaving products

The given information in (Table 3) suggests that the total average monthly expense of indigo-dyed cotton weaving in Lahanam Village is approximately 11,687,204 Kip. This expense is comprised of several cost components, which are weaving tools, material cost, direct labor cost, produce cost, and activity cost. The largest cost component is weaving tools, which accounts for 75% of the total expense, at 8,775,133 Kip. Material cost is the second-largest component, representing

14% of the total expense at 1,685,117 Kip. The direct labor cost is the third-largest component, accounting for 6% of the total expense at 741,234 Kip. Produce cost, including water and electricity, represents 4% of the total expense at 463,383 Kip. Lastly, activity cost, such as transport, accounts for less than 1% of the total expense at 22,338 Kip. Overall, the total expense per month reflects the financial resources necessary to produce indigo-dyed cotton weaving in Lahanam Village and is driven primarily by the cost of weaving tools and materials.

**Table 3 Expenditure per month of indigo-dyed cotton weaving products**

No.	Description	Average Expense per month (Kip)
1	Weaving tools	8,775,133
2	Material Cost	1,685,117
3	Direct Labor Cost	741,234
4	Production Cost	463,383
5	Activity Cost	22,338
<b>Total</b>		<b>11,687,204</b>

*Lahanam village's data (2023)*

### Result Hypotheses Testing

**H1:** Hypothesis testing revealed that the level of education and weaving experience of farmers who produce indigo-dyed cotton are factors related to the needs of community economic development in LahaNam Village, SongKhon District, Savannakhet Province, Lao People's Democratic Republic. This is statistically significant at the 0.05 level.

Farmers with higher education and weaving experience are more likely to have the knowledge and skills necessary to contribute to community economic development. This suggests that developing groups of cotton producers could be a beneficial strategy for promoting community economic development in regions where indigo-dyed cotton is produced as shown in **Table 4**.

**Table 4: Results of Hypothesis 1 Testing**

Factors	Community economic development needs of indigo-dyed cotton producers		
	r	P-value	Interpret
1. Genders	0.211	0.124	Uncorrelated
2. Age	0.426	0.222	Uncorrelated
3. Status	0.111	0.078	Uncorrelated
4. Educational Levels	0.321*	0.001	Moderate Correlation
5. Occupation	0.099	0.365	Uncorrelated
6. Weaving Experience	0.345*	0.000	Moderate Correlation

**Remarks:** \*Statistical significance at 0.05 level

\*\*Statistical significance at 0.01 level

**H2:** From the hypothesis testing, it was found that the factors driving the community's economic development of Indigo-dyed cotton producers in the LahaNam Village, Songkhon District, Savannakhet Province, Lao People's Democratic Republic, including human resource development, community organization development, economic

infrastructure development, and physical infrastructure development, are correlated with the need for the economic development of the silk and dyed cotton producers. This suggests that the indigo-dyed cotton producers attach significant importance to the development of their community, thus having a high demand for it as shown in **Table 5**.



**Table 5: Results of Hypothesis 2 Testing**

Factors	Community economic development needs of indigo-dyed cotton producers		
	r	P-value	Interpret
1. Human Resource Development	0.645* *	0.000	Moderate Correlation
2. Group/Community Organization Development	0.680* *	0.000	Moderate Correlation
3. Basic Community Economic Development	0.741* *	0.000	Moderate Correlation
4. Basic Physical Development	0.666* *	0.000	Moderate Correlation

**Remarks:** \*Statistical significance at 0.05 level

\*\*Statistical significance at 0.01 level

## Discussion

The indigo-dyeing producers in the LahaNam Village, Savannakhet Province, Lao People's Democratic Republic, are all women, totaling 154 individuals. These women, mostly aged between 40 and 57, are primarily involved in domestic tasks and farming. The majority have completed only primary education.

The primary profession is weaving silk, a skill passed down through generations. Average monthly production costs are around 11,687,204 kip, with equipment costs being the largest component (75.08%). The monthly revenue from selling fabrics is approximately 13,767,532 kip, with the body part of Sinh is being the most profitable product category. This suggests that this profession does not require higher education but relies on the transfer of traditional skills.

The analysis reveals a statistically significant relationship between the level of education and weaving experience of indigo-dyed producers in this community of LahaNam Village, Songkhone District, Savannakhet Province, Lao People's Democratic Republic, and the economic development needs of these fabric producers at a significance level of 0.05. This connection is rooted in the fact that individuals with higher

educational backgrounds and weaving experience tend to possess greater knowledge and an increased inclination to foster the development of the indigo-dyed cotton production group, thereby influencing the economic development requisites of the community.

In addition, factors related to the indigo-dyed production process, encompassing production costs, income generated from production, various stages of the production process, and the marketability of the fabric, are intricately tied to the economic development needs of indigo-dyed cotton producers in the community. An elevation in economic development needs is poised to result in transformations within the production process, subsequently leading to heightened development.

As for the challenges and impediments encountered in the pursuit of sustainable development in LahaNam Village, Songkhone District, Savannakhet Province, Lao People's Democratic Republic, they encompass issues such as resource scarcity, limited access to financial resources, deficiencies in knowledge and production skills, challenges in market management, quality control, competition in the international market, environmental

preservation, and complications related to transportation. These challenges collectively pose hurdles in the path towards sustainable development.

## **Conclusion**

The textile industry, particularly silk and dyeing, in Laos, faces challenges in accessing raw materials and foreign markets due to factors such as local cultivation of silk and dyeing materials, limited availability of these materials at times, and challenges in international market access, including high tax rates and other trade barriers. Nevertheless, this industry remains a significant source of income and employment for rural households in Laos. With effective management of these challenges, it has the potential for growth and success in the future. This is consistent with a study by Nareerat (2014), which examined the knowledge transfer of local practices in silk weaving in Songkhla province and Nakhon Si Thammarat province, finding that both provinces sell their products through both retail and wholesale channels, with the wholesale channel being more popular. It is also more efficient, allowing weavers to access a wider market and sell their products at competitive prices. The study also found that the unique weaving styles, quality, and marketability of their silk products are critical to their success. Weavers in these two provinces have a long tradition of silk weaving and have developed unique and intricate patterns highly demanded by consumers. They also use high-quality materials and traditional dyeing methods that give their products a distinctive appearance and feel.

The development of community-based economics in the cotton dyeing industry of LahaNam Village, Songkhone District,

Savannakhet Province, Lao People's Democratic Republic, involves various factors and processes. It begins with the development of human resources, including training local economic leaders in the area and transferring knowledge and technology in silk dyeing to household members. Furthermore, community groups are formed to promote participation and mutual learning within the community. This results in better resource sharing, knowledge and skill aggregation, and more efficient marketing of their products, ultimately leading to economic growth and income distribution. This aligns with the 9th National Socio-Economic Development Plan (2021-2025), which emphasizes the importance of creating new economic and social development initiatives in the coming years. By upgrading and expanding their productive capacity and services, the country is aiming to strengthen the local economy and create a stable, sustainable community.

## **Acknowledgement**

This thesis research would not have been possible without the invaluable conceptual and technical support extended by the esteemed faculty members of the Faculty of Agricultural Production at Mae Jo University, particularly those who specialize in management and resource development. I am deeply grateful for the guidance and assistance provided throughout my PhD program. Furthermore, I extend my heartfelt appreciation to all the young researchers at Savannakhet University, Lao PDR, who have contributed to this research, although it is not feasible to mention each individual. Their contributions have been instrumental in the development and completion of this thesis.

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