

Economic Analysis of Pursat Orange Production in Cambodia: A Qualitative Case Study

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ABSTRACT

Economics is crucial in all countries, with no exception in Cambodia. There are different factors contributing to economic development. The current study thoroughly analyses the economic factors of Pursat orange production in Cambodia, including production expenses, income generation, profits, and the broader economic impacts on households and the national economy. By gathering a wide range of information from Pursat orange growers, the study uses various economic principles and approaches to assess the economic viability and possibility of Pursat orange cultivation as a long-term revenue stream. The current study employed a qualitative design to identify and analyse the primary components of production costs, evaluate the impact of revenue generation mechanisms, and determine the key determinants of profitability and economic sustainability in Pursat orange farming, elucidating their contributions to the overall financial landscape and informing decision-making processes among stakeholder. The results emphasise Pursat oranges' importance for increasing household income and promoting economic development in Cambodia. Additionally, the research provides opportunities for future investigations, indicating possible areas for further exploration, like the influence of technological progress on production effectiveness, the significance of market trends in determining profit, and the potential socio-economic advantages of value-added activities in the Pursat orange supply chain. The research provides valuable insights for policymakers, stakeholders, and farmers by illuminating the economic aspects of Pursat orange production. It emphasises opportunities to improve the sector's resilience and its beneficial effects on livelihoods and overall economic growth.

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1. INTRODUCTION

Pursat oranges are significant in Cambodia's agricultural sector, impacting the country's economy and rural well-being. Pursat oranges are crucial in supporting rural communities and increasing household incomes, with 74.2% of the population relying on subsistence farming [1]. Despite its essential role, there is a noticeable lack of thorough

economic studies detailing Pursat orange production in Cambodia. Therefore, this study aims to close the gap by conducting a comprehensive economic analysis of Pursat orange farming [2]. Critical to this effort are analyses of manufacturing expenses, income generation, financial viability, and overall economic effectiveness. The study aims to understand the economic factors influencing Pursat orange farming, highlighting its importance as a viable source of income for rural families [3]. Furthermore, the study aims to address a crucial lack of information by providing real-life data that can be used to shape policy choices and strategic measures to improve the resilience and productivity of the Pursat orange industry. This research adds to the academic conversation on agricultural economics and has practical implications for promoting inclusive growth and rural development in Cambodia [4].



Figure 1. A farmer collects oranges on a farm in Battambang province, Source: [Chhut, \(2019\)](#).

1.1. Pursat Oranges

The Ministry of Rural Development highlights the essential importance of Pursat oranges in Cambodia's agricultural landscape, stating their crucial role in supporting rural livelihoods and increasing household incomes [5]. The growing of Pursat oranges is a long-standing tradition and an essential economic activity for rural survival in Cambodia, where most of the population relies on subsistence farming [6]. Additionally, this feeling is reflected in more extensive discussions about development, where agricultural practices such as growing Pursat oranges are seen as essential tools for reducing poverty and boosting economic empowerment. Pursat oranges play a crucial role in the socio-economic structure of Cambodia by offering rural communities a stable income and livelihood security. Additionally, growing these oranges helps to vary agricultural output, decreasing reliance on one crop and strengthening the ability to withstand external pressures like climate change and market changes. Therefore, examining the economics of Pursat orange farming reveals not just the financial aspects of one crop but also provides information on more

comprehensive approaches for encouraging lasting rural livelihoods and all-encompassing growth strategies [7].

លេខកូដស្រុក	ឈ្មោះជាអក្សរខ្មែរ	ឈ្មោះជាអក្សរឡាតាំង	ចំនួនឃុំ	ចំនួនភូមិ
១៥០១	បាកាន	Bakan District	៩	១៣១
១៥០២	កណ្តៀង	Kandieng District	៩	១១០
១៥០៣	ក្រគរ	Krakor District	១១	១០៥
១៥០៤	ភ្នំក្រវាញ	Phnom Kravanh District	៦	៤៤
១៥០៥	ក្រុងពោធិ៍សាត់	Pursat Municipality	៧	៦៦
១៥០៦	វាលវែង	Veal Veng District	៥	២០
១៥០៧	តាលោសែនជ័យ	Talo Sen Chey District	២	៣៥
សរុប			៤៩	៥១១

ប្រភព៖ មន្ទីរផែនការខេត្តពោធិ៍សាត់ ឆ្នាំ២០២៣

Figure 2. Number of villages, communes, and districts in Pursat province

1.2. Closing the Gap

Even though these factors are acknowledged, there remains a notable absence of comprehensive economic research on Pursat orange cultivation. These evaluations are crucial for understanding the complicated forces influencing agricultural enterprises, particularly in assessing Pursat orange farming programs' viability and enduring prosperity [8]. Insufficient economic evaluations are not just a concern in the academic realm but also present challenges for individuals in the Pursat orange sector. The lack of in-depth economic data and analysis leaves policymakers, farmers, and investors without crucial information on Pursat orange farming's financial status, profit potential, and future sustainability. Insufficient information inhibits stakeholders' decision-making, hindering resource optimisation and potentially impeding the sector's growth. Stakeholders must thoroughly comprehend production costs, revenue sources, market trends, and profit margins to create effective strategies for addressing challenges, capitalising on opportunities, and fostering innovation in the Pursat orange value chain. Therefore, there is a pressing need for research studies that elucidate the economic factors of Pursat orange farming, providing stakeholders with valuable data to enhance the industry's resilience, competitiveness, and influence on rural areas and the national economy. By tackling this critical information gap, these evaluations can serve as vital tools for guiding policy interventions, investment decisions, and agricultural practices to optimise the advantages of Pursat orange farming in Cambodia [9].

1.3. Empowering Pursat Orange Cultivation

Therefore, this study aims to address this gap by thoroughly investigating the economic aspects of Pursat orange farming. This study aims to fill the current gap in

empirical research on Pursat oranges in Cambodia by acknowledging the critical role of thorough economic analyses in decision-making and resource allocation within agricultural sectors [10]. Through careful analysis of production expenses, examining income sources, and assessing profitability indicators, this study provides stakeholders with valuable information regarding the economic feasibility and endurance of Pursat orange farming enterprises in Cambodia. This study aims to understand the various factors influencing the performance of Pursat orange production by analysing aspects like input costs, labour expenses, yield variability, market prices, and income generation in detail. Through robust methodologies and analysis of primary data sources like surveys and interviews with Pursat orange farmers, this study aims to give a detailed insight into the obstacles, advantages, and possible strategies for improving the competitive edge and durability of the Pursat orange sector [11]. In addition, this research aims to contribute to academic knowledge and practical initiatives by placing its results in broader developmental frameworks and policy discussions. It seeks to support sustainable farming methods, enhance rural livelihoods, and stimulate inclusive economic growth in Cambodia [12].

By using solid economic analyses, this study aims to provide policymakers, farmers, and other parties with practical information to help make informed decisions and support the overall growth of Pursat orange farming in Cambodia. This study aims to bring about transformative change in Cambodia by exploring the economic complexities behind Pursat orange production, leading to improved prosperity and sustainable agricultural development. The findings from this study could help shape the development and execution of specific policies, initiatives, and interventions to tackle important issues and maximise opportunities in the Pursat orange industry. Furthermore, this study aims to improve risk management, resource allocation efficiency, and innovation in Pursat orange farming by giving stakeholders a thorough understanding of the factors affecting economic performance and sustainability in the industry. Additionally, disseminating research findings via academic papers and policy summaries and engaging with stakeholders will enhance knowledge dissemination and strengthen capacity-building initiatives, fostering a more inclusive and participatory strategy for agricultural advancement in Cambodia. This study aims to support sustainable livelihoods, reduce poverty, and ensure food security in rural areas of Cambodia by fostering cooperation and communication among different groups to develop synergies and alliances for beneficial transformation [11].

1.4. Unveiling the Economic Impact of Pursat Oranges in Cambodia

Pursat oranges, an essential agricultural product in Cambodia, have garnered attention from researchers and policymakers due to their significant contribution to rural livelihoods and economic development. Despite the lack of comprehensive financial analyses, existing literature sheds light on various aspects of Pursat orange production, including production costs, revenue generation, profitability, and the overall economic impact on households and the economy [13].

1.4.1. Driving Economic Growth and Rural Prosperity in Cambodia

Researchers and policymakers have shown keen interest in Pursat oranges due to their significant impact on Cambodia's rural livelihoods and economic development. Although there may be a shortage of detailed economic studies, the existing literature provides valuable information on various aspects of Pursat orange production, including costs, revenue, profitability, and their overall financial impact on households and the country's economy [14].

In Pursat province, known for its good weather and productive land, growing oranges has become a vital part of the farming industry, offering jobs and financial benefits to many rural families. Research conducted by Ly et al. [13] found that Pursat oranges play a significant role in the province's agricultural production and are vital to the local economy [15].

Production expenses are crucial in Pursat orange cultivation, impacting the industry's profitability and long-term viability. The research emphasises the costs of growing oranges, such as labour, inputs like fertilisers and pesticides, land leasing, and irrigation. Farmers and policymakers must comprehend these cost dynamics to make informed choices about resource allocation and agricultural policies [16].

Additionally, the income earned from selling Pursat oranges is crucial for the financial stability of rural families. Research highlights the significant role of orange cultivation in boosting family earnings, especially for small-scale farmers [17]. The income acquired from selling oranges not only supports people's way of living but also helps protect against unexpected economic difficulties, strengthening the ability of households to withstand challenges [18].

Evaluating the profitability of producing Pursat oranges is essential to guarantee the industry's long-term sustainability. The study uses economic modelling methods to assess the profit potential of cultivating oranges in Pursat province, considering variables like yield fluctuation, selling prices, and production expenses. These analyses offer valuable information for farmers looking to enhance their production methods [19].

1.4.2. Economic Dynamics of Pursat Orange Farming

Agricultural economists continually emphasise the need for cost-benefit analysis as a fundamental tool for evaluating agricultural production systems. Understanding the complexities of production costs is crucial when assessing the financial viability and profitability of Pursat orange farming. Multiple elements, such as cash costs, resource expenses, labour costs, and long-term farmland investments, interact complexly to influence the economic sustainability of Pursat orange farming [20].

Cash costs represent direct monetary outlays incurred throughout the production cycle, encompassing expenses related to inputs such as fertilisers, pesticides, seeds, and fuel. These costs constitute tangible financial investments to maintain optimal orchard conditions and ensure satisfactory yields. Understanding the composition and dynamics of cash costs enables farmers to make informed decisions regarding input utilisation and expenditure management, enhancing cost-effectiveness and overall profitability [21].

Resource costs extend beyond monetary considerations, encompassing the implicit value of resources utilised in orange cultivation, such as land and water. As a finite and essential resource, land carries implicit opportunity costs associated with its alternative uses, including the potential for alternative crops or land development. Similarly, water, a critical input in orange farming, holds implicit costs related to its scarcity and competing demands, particularly in regions susceptible to water stress. By incorporating these resource costs into the economic analysis, farmers and policymakers gain insights into the broader implications of Pursat orange production on resource allocation and land-use dynamics [22].

Labour costs represent a significant component of production expenses in Pursat orange farming, particularly in labour-intensive activities such as planting, pruning, harvesting, and post-harvest handling. Labour wages influence production costs and impact rural livelihoods and income distribution within local communities. Moreover, labour availability and wage rates may fluctuate seasonally, affecting production costs and profitability. Understanding the labour dynamics and associated costs is crucial for devising strategies to optimize labour utilization and enhance efficiency in orange production [23].

Moreover, the costs associated with owning farmland over an extended period include expenses for purchasing land, improving it, and keeping it in good condition, illustrating that growing oranges requires significant capital. These expenses go beyond yearly spending, covering costs throughout the orchard's lifetime, such as land preparation, building infrastructure, and soil conservation efforts. Considering the enduring expenses of farmland, farmers can evaluate the viability of orange production systems and decide on land management practices and investment priorities [24].

Moreover, in agricultural economics, cost-benefit analysis is critical for assessing the effectiveness and sustainability of different farming methods. Understanding production costs is crucial for determining the financial viability of Pursat orange farming. Cash costs, resource costs, labour costs, and long-term farmland costs all play a part in determining the profitability of Pursat orange production [25].

Expanding upon the financial considerations, capital expenditure analysis unveils crucial insights into the initial investment prerequisites entailed by Pursat orange farming. The capital-intensive nature of orange cultivation becomes apparent through significant investments in seeds, labour, equipment, and infrastructure [26]. Despite the upfront costs associated with establishing and maintaining an orange orchard, the promise of substantial returns from orange sales presents an enticing proposition for farmers, mitigating concerns regarding initial investment burdens. This dynamic underscores the interplay between investment outlays and anticipated gains, shaping the decision-making landscape for prospective and existing orange farmers in Pursat province [27].

1.4.3. Unlocking Prosperity

The revenue generated from Pursat orange sales significantly contributes to farm income, constituting a substantial portion of the overall revenue stream. Analysis of net profit margins offers valuable insights into the profitability of Pursat orange farming enterprises, with positive margins indicating a sustainable business model and efficient resource allocation strategies. Furthermore, turnover period analysis is a pivotal tool for

understanding the financial dynamics of Pursat orange production, elucidating the duration required for farmers to recoup their initial investment and achieve profitability milestones [26].

Given the significance of Pursat orange farming for rural livelihoods and economic growth, it is essential to implement policies that support small-scale agriculture and improve farmers' access to financial resources. Through implementing specific policy measures, policymakers can support the development and sustainability of the Pursat orange industry. This involves encouraging investment in agricultural infrastructure, easing market entry for small-scale farmers, and offering technical support to improve productivity and quality levels [28].

Indeed, the success of Pursat orange farming hinges not only on individual farm-level practices but also on the broader institutional support and policy frameworks that shape the operating environment for farmers. By aligning policy objectives with the needs and aspirations of Pursat orange producers, policymakers can contribute to sustainable agricultural development, rural prosperity, and food security objectives in Cambodia [29].

To sum up, previous research highlights the significant economic importance of Pursat oranges in Cambodia, emphasising their crucial role in boosting rural household wealth as a valuable cash crop. By conducting in-depth economic evaluations and enforcing favourable policies, individuals involved can tap into the complete capabilities of Pursat orange cultivation, consequently promoting real impacts on poverty reduction and long-lasting economic development in rural regions. Using findings from studies and implementing specific measures, leaders and professionals can create a favourable setting for the growth of Pursat oranges, benefiting local communities and promoting overall development goals.

1.5. Research Objectives

There are three research objectives to this study.

1. To identify and analyse the primary components of production costs in Pursat orange farming, elucidating their respective contributions to the overall financial landscape of agricultural operations.
2. To evaluate the impact of revenue generation mechanisms on the financial viability and income-generating potential of Pursat orange cultivation, exploring variations in revenue across production cycles and identifying influencing factors.
3. To determine the key determinants of profitability and economic sustainability in Pursat orange farming, as indicated by metrics such as net profit margin, and to assess how these factors inform decision-making processes and resource allocation strategies among stakeholders.

1.6. Research Questions

This study aims to answer the following questions to meet the above objectives.

1. What are the primary components of production costs in Pursat orange farming, and how do they contribute to the overall financial landscape of agricultural operations?
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2. How do revenue generation mechanisms impact the financial viability and income-generating potential of Pursat orange cultivation, and what factors influence variations in revenue across production cycles?
3. What are the key determinants of profitability and economic sustainability in Pursat orange farming, as indicated by metrics such as net profit margin, and how do these factors influence stakeholder decision-making processes and resource allocation strategies?

2. RESEARCH METHODOLOGY

2.1. Research Design

This study adopts qualitative data analysis insights [30] from interviews with Pursat orange farmers.

2.2. Data Collection Methods

Data collection interviews were conducted among 10 of 80 Pursat orange farming households who completed the questionnaires.

Table 1. Interviewed Participants' Profiles

Codes	Jobs	Sex	Education Levels	Experience
F1	Farmer	M	High School	Ten years
F2	Farmer	F	Secondary School	Eight years
F3	Farmer	F	High School	Seven years
F4	Farmer	M	High School	Six years
F5	Farmer	F	High School	Five years
F6	Farmer	M	Secondary School	Six years
F7	Farmer	F	Secondary School	Five years
F8	Farmer	F	Secondary School	Five years
F9	Farmer	F	Secondary School	Six years
F10	Farmer	M	High School	Eight years

Table 1 provides a snapshot of ten participants interviewed for the study; all engaged in Pursat orange farming. The participants, categorised as farmers, reflect a gender-diverse group, with six females and four males. Their educational backgrounds vary, with most having completed either high or secondary school education. Experience in Pursat orange farming ranges from 5 to 10 years among the participants, showcasing a breadth of knowledge and expertise within the industry. These profiles offer diverse perspectives, ensuring comprehensive insights into Pursat orange cultivation from various demographic and experiential standpoints.

2.3. Ethical Consideration

Ethical considerations are emphasised in all research projects, particularly those involving human participants. In this study, moral principles were carefully followed

throughout the entire research process. Before starting the interviews, all participants were given a consent form to ensure they voluntarily agreed to participate and fully understood the study's goals. Strict methods were enforced to uphold confidentiality, with all personal data being anonymised to safeguard the participants' identities. Furthermore, participants were free to exit the study without facing any negative consequences. Moreover, measures were implemented to guarantee that the research methods did not cause harm or discomfort to the participants. In short, the research took place while upholding participants' dignity, rights, and welfare, following ethical norms in social research.

3. FINDINGS AND DISCUSSION

3.1. Findings

Examining production costs within the Pursat orange farming industry underscores the multifaceted nature of expenses associated with agricultural operations. These costs encompass a spectrum of financial outlays, including but not limited to cash expenditures, resource allocations, labour remuneration, and the enduring investment in farmland. The determination of capital expenditure per annum reveals the substantial financial commitments requisite for the successful cultivation of Pursat oranges, with notable investments allocated towards procurement of seeds, remuneration of labour, and acquisition of requisite equipment. (F2, F3, F6)

Moreover, evaluating revenue generation mechanisms elucidates the total income derived from selling oranges during each production cycle. This assessment offers crucial insights into Pursat orange farming endeavours' financial viability and income-generating potential. Furthermore, calculating the net profit margin is pivotal in discerning Pursat orange cultivation initiatives' profitability and economic sustainability. A positive net profit margin indicates a viable and resilient business model, which reflects the ability to generate surplus income beyond operational costs. (F1, F4, F5, F8, F10)

In addition to profitability metrics, the analysis thoroughly examines the turnover period, providing valuable insights into the temporal dynamics of investment recoupment within the Pursat orange farming sector. This assessment enables stakeholders to gauge the efficacy of their investment strategies and discern the timeline for realising returns on initial capital outlays. Such insights are instrumental in informing strategic decision-making processes and optimising resource allocation strategies within the agricultural domain. (F1, F2, F9).

The comprehensive economic analysis of Pursat orange farming elucidates the intricate interplay between production costs, revenue generation, profitability metrics, and investment turnover dynamics. By leveraging a multifaceted analytical framework, this research offers nuanced insights into Pursat orange cultivation's financial landscape, facilitating informed decision-making processes and fostering sustainable agricultural practices in Cambodia. (F7, F5, F6).

3.2. Discussion

The results of this study emphasise the economic importance of Pursat orange cultivation in Cambodia's agricultural scene, highlighting its potential profitability for rural families. This research explores how Pursat oranges reduce poverty and promote economic development in rural areas by thoroughly analysing production costs, revenue, profitability, and financial efficiency.

Even though starting and running a Pursat orange farm involves costs, the study shows that the potential profits make it a worthwhile investment. The successful analysis shows that Pursat orange cultivation is a profitable and sustainable business model based on the positive net profit margins found. Pursat orange farming helps improve the livelihoods of rural households by offering a consistent income, which strengthens the local community's economic resilience.

Additionally, the research highlights the significance of supportive policies specifically designed for small agricultural businesses. Measures focusing on enhancing financial accessibility, encouraging technological advancements, and enhancing market connections are crucial in supporting the expansion of the Pursat orange sector. Policymakers can foster the growth of Pursat orange farming by tackling obstacles like lack of capital and poor infrastructure for farmers.

Furthermore, efforts to improve agricultural extension services and advocate for sustainable farming methods can also boost the productivity and profitability of Pursat orange farming. By equipping farmers with the requisite information and expertise, extension initiatives can enable them to embrace optimal methods in crop management, pest management, and post-harvest processing, resulting in increased yields and reduced losses.

In essence, the research highlights the significance of Pursat orange cultivation in promoting rural development and economic growth in Cambodia. By utilising the potential of this valuable crop, policymakers can create chances for reducing poverty, improving food security, and promoting inclusive growth in rural regions. By implementing focused actions and smart financial allocations, the Pursat orange sector has the potential to become a driving force for long-lasting progress, bringing advantages to both farmers and the overall economy.

4. CONCLUSION

To sum up, the production of oranges in Pursat offers a potential opportunity for rural families in Cambodia to increase their earnings and contribute to overall economic growth. By examining the economic factors, this study has revealed the complex financial workings of Pursat orange farming, highlighting its importance in supporting countryside incomes and boosting economic development. The study's findings provide essential direction for policymakers, agricultural experts, and stakeholders to develop strategies and interventions to enhance the productivity and profitability of Pursat orange farming in Cambodia. The results of this study highlight the various advantages of Pursat orange cultivation, from reducing poverty to fostering inclusive economic development. Pursat orange farming helps reduce poverty and improve food security in local communities by creating income opportunities for rural households. Additionally, growing Pursat oranges in rural areas

boosts economic activity by creating job opportunities and aiding industries like transportation, packaging, and marketing.

Building upon the insights garnered from this study, policymakers are encouraged to devise targeted interventions to bolster the Pursat orange industry. Key policy measures may include initiatives to improve access to agricultural finance, strengthen extension services, and enhance market linkages for small-scale farmers. Additionally, investments in infrastructure development, irrigation systems, and post-harvest facilities can help mitigate production constraints and improve the overall competitiveness of Pursat orange farming.

Moreover, it is recommended that those involved in agriculture prioritise implementing sustainable farming methods and new technology to increase crop yield and reduce environmental harm. Utilising integrated pest management, soil conservation techniques, and efficient irrigation methods can improve the resilience of Pursat orange production systems and reduce risks from climate change and resource shortages.

Given the changing landscape in the agricultural industry, upcoming research must focus on exploring various components of Pursat orange production, such as market factors, value chain assessment, and socio-economic effects. Furthermore, long-term research monitoring the sustainability and resilience of Pursat orange farming systems can offer valuable information on how rural communities adapt to evolving environmental and economic circumstances.

Through thorough research and promoting cooperation among various parties, Cambodia can unleash the complete potential of Pursat orange farming as a driver for rural development and economic change. With focused actions and careful financial backing, the orange industry in Pursat has the potential to become a leading force in sustainable farming, bringing long-lasting prosperity and health to future generations.

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APPENDIX

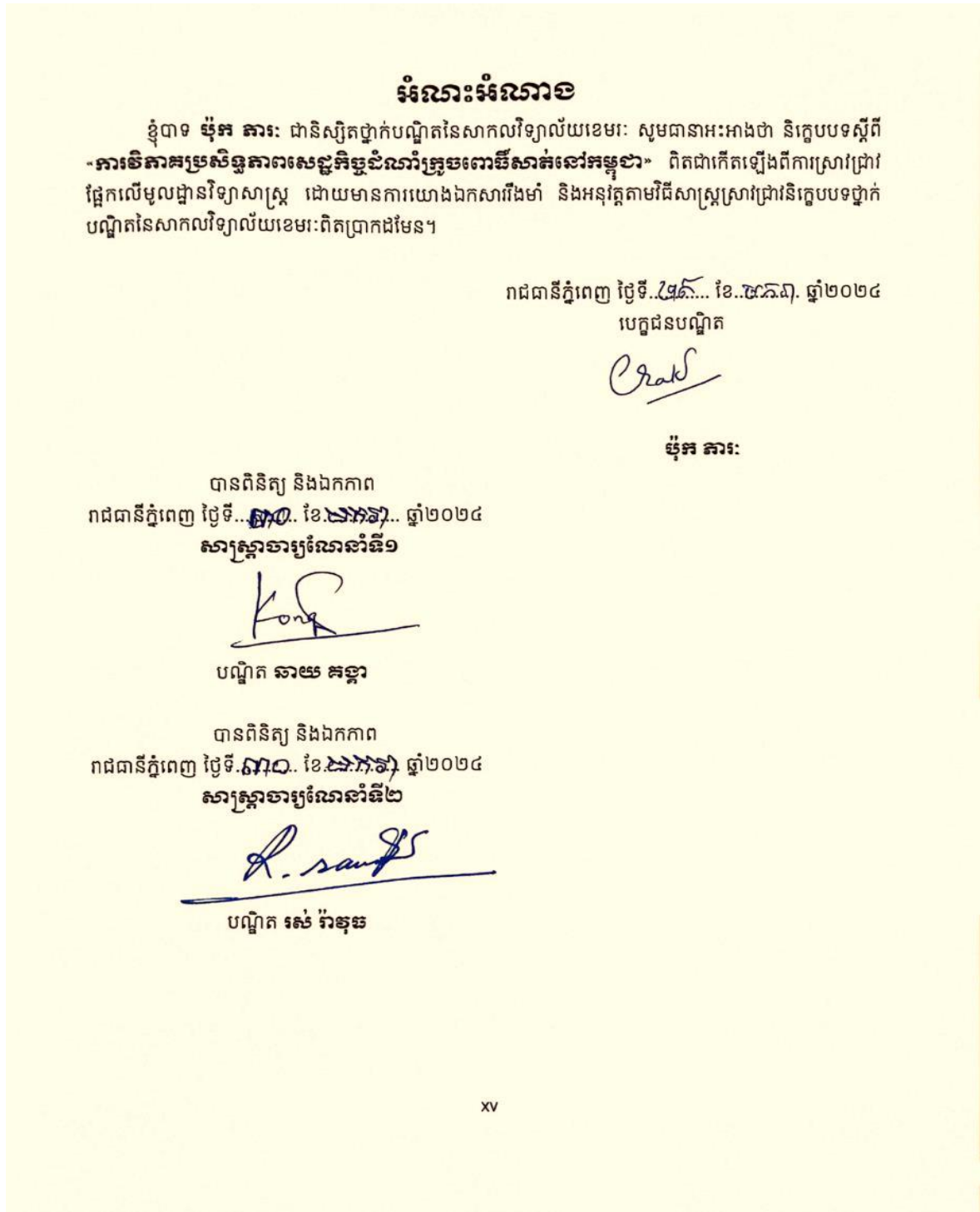


Figure 3. Research Declaration and Acceptance by Advisors and Khmemak University, Cambodia