WEAVING THE MATRIARCHAL ECONOMY:

Multiple Value Creation in Indigenous Women-Led Weaving Communities

A CROSS-CASE STUDY USING THE CIRCULAR VALUE FLOWER IN INDONESIA AND THE PHILIPPINES



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MSc Industrial Ecology

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Cover Image: Own image and design

DEDICATION

To my mamala, Priscilla, my great-grandmother,
who made sure her great-granddaughter would carry Asuncion in her name.

To her daughter, my grandma, Maria Luisa,
who crossed continents to build a better future for her family.

To her daughter, my mama, Elke Marie,
who has always put her little girl first.

And to that little girl, Lyka Marie Asuncion—
You carry their names, their sacrifices, and their strength.

You made it.
The first woman in the family to pursue a master's degree.

Keep going.

Remember where you come from,
and honour the women who came before you.

This is yours, too.

PREFACE

TO WEAVE IS TO BRING TWO THINGS INTO RELATION.

To weave is to bring two things into relation. On the backstrap loom, the warp is held under tension — the lengthwise foundation, in many of these traditions kept taut by the weaver's own body — while the weft is carried across it, over and under, row after row. Neither set of threads is cloth on its own. Fabric comes into being only where they cross, and it is in that crossing that pattern, strength, and meaning appear.

This thesis is woven from a similar meeting. It sits where Indigenous and Western ways of knowing about value, land, and sustainability cross one another — not to dissolve one into the other, but to let something emerge in the encounter that neither holds alone. The Mi'kmaq elders Albert and Murdena Marshall call this Etuaptmumk, or Two-Eyed Seeing: learning to see with one eye through the strengths of Indigenous knowledge and with the other through the strengths of Western knowledge, and to use both together for the benefit of all (Bartlett et al., 2012).

The understanding offered here was drawn from fieldwork in the weaving communities of East Kalimantan and the Philippine Cordillera, from the stories the women chose to share, and from conversations with the researchers and academics who made this work possible. Even so, it is a partial account. Living knowledge resists being set down on a page, and no thesis can stand in for the women who hold these practices, carry their meanings, and will decide for themselves how they are told. What I offer is one weaving among the many that are possible.

I share it as a beginning rather than a conclusion — an invitation to these communities to take up, correct, and continue the work on their own terms. With that in mind, and with deep gratitude for the time I was welcomed into these places, I am glad to present what I have made.



Figure 1: Guinsadan weaver demonstrating the backstrap loom to Lyka and Myra. Photo taken by Leah Schneiders.

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First and foremost, I wish to acknowledge the Dayak and Igorot peoples — the weavers, elders, and knowledge keepers who opened their homes and their worlds to me. I pay respect to your sacred knowledges, your stories, and your dreams. It is an honour to be welcomed into your homes. It is an honour to be introduced to the tapestry of your knowledge. This thesis exists because of your generosity, and I carry the weight of that responsibility with me in every word.

To the weavers of Pokant Takaq, your threads hold more wisdom than any academic framework I brought with me. To the Bless Weavers of Quirino Hill Baguio, and the community of Guinsadan in Mountain Province, maraming salamat po for allowing me to sit with you, to listen, and to learn. And to the land itself — the forests of East Kalimantan, the mountains of the Cordillera — which taught me, more than any text, what it means for knowledge to be alive. I will carry these lessons with me long after this thesis is finished.

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To Prof. Rudi, Ibu Wiwin and Eva Brouwer — our teamwork in Indonesia made the impossible feel possible. Eva, our ongoing conversations and study sessions have sharpened this work in many ways. To my LDE group, thank you for the company and laughs through those weeks in Indonesia.

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To the friends I found during this master's — my IE people. Thank you for making these two years so much more than lectures and deadlines. I am so grateful that this master's gave me not only an education, but also friendships I hope to carry far beyond it.

To my GSS family — the people I started this academic life with and my best friends. From introduction week (group 17), to our first lectures, the sleepless nights, deadlines, and all the chaos and parties in between, I am so grateful that I got to grow and figure things out alongside you. So much of who I became as a student started with you, and it feels only right to have you here at the end of this journey too. Yoshi and María, you have both been my anchor. Te quiero mucho.

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To my parents, thank you for raising me to ask questions and to keep going. Thank you for every sacrifice, opportunity and every quiet way in which you made it possible for me to get here. So much of the determination that carried me through these years comes from what you taught me, and I hope you know how deeply grateful I am.

To my grandparents, who helped raise me and shaped so much of who I am. Thank you for your care, your patience, your stories, and for the countless ways you showed up for me growing up. So much of what I understand about family, responsibility, perseverance, and love began with you.

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Salamat. Agyamanak. Terima kasih. Dank jullie wel. Thank you.



Figure 2: The mountains of Cordillera. Photo taken by author.

EXECUTIVE SUMMARY

Circular economy (CE) is commonly framed around reducing resource use, extending product lifetimes, and closing material loops. Yet Indigenous communities have long practised forms of production in which materials, knowledge, culture, livelihoods, land, and generations are sustained together. These forms of circularity are not always fully recognised within dominant CE and Industrial Ecology (IE) frameworks, particularly where value is relational, culturally embedded, and sustained through women's labour and knowledge.

This thesis examines three Indigenous women-led weaving communities in Southeast Asia: Pokant Takaq, a Dayak Benuaq Ulap Doyo weaving community in East Kalimantan, Indonesia; the Bless Weavers of Quirino Hill in Baguio City; and the weavers of Guinsadan in Mountain Province, Philippines. It asks:

How do Indigenous women-led weaving communities in Southeast Asia create multiple forms of value, and what do these practices reveal about the principles needed to sustain matriarchal craft economies?

The term matriarchal craft economy is used as a bounded analytical lens. It does not imply female rule, the exclusion of men, or necessarily matrilineal descent. Instead, it draws attention to women's economic and epistemic centrality and to economic practices organised around reciprocity, provisioning, continuity, and relational value.

An asymmetric multiple-case study was conducted using the Circular Value Flower (CVF) as the main analytical framework. Pokant Takaq formed the in-depth case and was studied through a community workshop, stakeholder interviews, participatory mapping, and validation. Quirino Hill and Guinsadan served as comparative narrative cases studied through storytelling sessions. The research was guided by Two-Eyed Seeing, bringing the CVF's analytical structure into dialogue with Indigenous and relational ways of knowing. During fieldwork, the structured CVF workshop also evolved into a more open storytelling-based approach, highlighting the importance of trust, local facilitation, positionality, and methodological flexibility.

Across the three cases, weaving creates ecological, social, cultural, economic, and aesthetic value simultaneously. Spirituality emerged not as a separate sixth value, but as a cross-cutting relational quality. The findings further show that material practice shapes vulnerability. Pokant Takaq's dependence on Doyo fibre connects weaving directly to forest conditions and land security; Quirino Hill's use of commercial and recycled materials shifts vulnerability toward supply chains and markets; and Guinsadan faces particular pressure around intergenerational knowledge transmission. Market integration similarly ranges from externally imposed modernisation pressures to community-led adaptation and, in some cases, support for traditional practice.

EXECUTIVE SUMMARY

The cases support a bounded interpretation of these weaving economies as matriarchal economic formations, although the evidence differs across them. Across the cases, women's knowledge, labour, and cultural authority are central to the reproduction of weaving and its multiple values.

Two main conceptual contributions emerge. First, land as circular intelligence describes land not merely as a source of materials, but as part of the relational conditions through which knowledge, identity, livelihood, ecological responsibility, and practice are regenerated. Second, four principles describe how these economies sustain multiple value: Remembering, Relating, Recognising, and Reclaiming. Remembering concerns intergenerational knowledge transmission; Relating concerns value created through relationships rather than extraction; Recognising concerns making women's labour, knowledge, and authority institutionally visible; and Reclaiming concerns maintaining authority over the conditions through which these economies continue.

The findings also extend the CVF by making three dimensions more explicit: the relational roots through which enabling capacities are reproduced; spirituality as a cross-cutting relational register across interconnected value dimensions; and the 4Rs as sustaining principles that shift attention from what value is created toward how it continues over time.

For IE, the central implication is that circularity cannot be understood through material flows alone. A circular system also depends on the continued circulation of knowledge, memory, responsibility, relationships, and authority. Supporting these weaving economies therefore requires more than preserving or marketing textiles: it requires sustaining the conditions through which the practices themselves can continue.

Ultimately, this thesis argues that circularity is not only about keeping materials in circulation, but about keeping the relationships that make those circulations possible alive.

CONTENTS

Dedication 3
Preface 4
Acknowledgements 5
Executive Summary 7
List of Abbreviations 11

Chapter One: Introduction 12

1.1 Background 13
1.2 Problem 16
1.3 Questions 17
1.4 Objective 18
1.5 Relevance 18
1.6 Approach 20
1.7 Structure of the Report 21

Chapter Two: Historical Context 23

2.1 The Dayak Benuaq and East Kalimantan 24
2.2 The Igorot and the Cordillera 28
2.3 A Shared Historical Pattern 31

Chapter Three: Literature Review 34

3.1 Context 35
3.2 Matriarchal Economies 38
3.3 The Political Economy of Gendered Dispossession 42
3.4 Circular Economy and its Limitations 45
3.5 Circular Communities and the Circular Value Flower 46
3.6 Indigenous Craft and Circular Practice 49
3.7 Two-Eyed Seeing (Etuaptmumk) 50
3.8 Land as Pedagogy 52
3.9 Research Positionality and Decolonial Methodology 53
3.10 Towards a Conceptual Synthesis 55

Chapter Four: Methodology 57

4.1 Research Design 57
4.2 Case Selection 58
4.3 The Role of Local Facilitator 58
4.4 Co-researcher: Eva Brouwer 60
4.5 Data Collection 60
4.6 The CVF Adaptation: From Workshop to Story 63
4.7 Data Analysis: Directed Analytical Mapping 66
4.8 Research Phases 67
4.9 Ethical Considerations 68
4.10 Limitations 69

CONTENTS

Chapter Five: Results 70

5.1 Pokant Takaq, East Kalimantan (Indonesia) 70
5.2 Quirino Hill, Baguio City (Philippines) 80
5.3 Guinsadan, Mountain Province (Philippines) 83
5.4 Cross-case Comparison 87
5.5 The CVF as Method: From Structured Workshop to Storytelling 90

Chapter Six: Discussion 92

6.1 Reading the Cases as Matriarchal Economies 92
6.2 Land as Circular Intelligence 97
6.3 Four Principles for Sustaining Matriarchal Craft Economies 99
6.4 Implications for Circular Economy Thinking 103
6.5 Extending the Circular Value Flower: A Two-Way Bridge 105
6.6 Practical and Policy Implications 109
6.7 Limitations and Implications for the Findings 110

Chapter Seven: Recommendations 112

7.1 Recommendations for the Weaving Communities 111
7.2 Recommendations for the CVF Method 117
7.3 Recommendations for Policy and Institutional Actors 120
7.4 Recommendations for Future Research 120

Chapter Eight: Conclusions 122

Personal Reflection 126
References 128

Appendix A: Printed CVF Materials Indonesia 135
Appendix B: Stakeholder Interview Guide 137
Appendix C: Printed CVF Materials Philippines 138
Appendix D: Guinsadan Weaving Materials and Local Terminology 140
Appendix E: Consent Forms 141
Appendix F: The Terumun Oral Tradition (Translated) 144
Appendix G: The Story of the Sleeping Dragon of Mahakam 145
Appendix H: Conceptual Social-Media Visibility Prototype for Quirino Hill 146
Appendix I: Research Positionality 147

LIST OF ABBREVIATIONS

4Ps — Pantawid Pamilyang Pilipino Programme
4Rs — Remembering, Relating, Recognising and Reclaiming
AMAN — Aliansi Masyarakat Adat Nusantara
BIR — Bureau of Internal Revenue
BRWA — Badan Registrasi Wilayah Adat (Customary Territory Registration Agency)
CARE — Collective Benefit, Authority to Control, Responsibility and Ethics
CE — Circular Economy
CEFIES — Circular Economy Framework for Inclusive and Embedded Sustainability
CSR — Corporate Social Responsibility
CVF — Circular Value Flower
DepEd — Department of Education
FAIR — Findable, Accessible, Interoperable and Reusable
HPH — Hak Pengusahaan Hutan (forest/timber concession rights)
HTI — Hutan Tanaman Industri (industrial timber plantations)
IE — Industrial Ecology
ITC — Office of Industry, Trade and Cooperatives
LDE — Leiden–Delft–Erasmus
MSME — Micro, Small and Medium-sized Enterprise
MVC — Multiple Value Creation
NGO — Non-Governmental Organisation
PGIS — Participatory Geographic Information System
PTRI — Philippine Textile Research Institute
SME — Small and Medium-sized Enterprise
SQ — Sub-question
UNESCO — United Nations Educational, Scientific and Cultural Organization
UNMUL — Universitas Mulawarman

CHAPTER ONE

INTRODUCTION

Circular economy (CE) is often presented as a contemporary response to the failures of linear production: a way to reduce waste, close material loops, and keep resources in use for as long as possible (MacArthur, 2013; Friant et al., 2020). Yet circularity itself is not new. Indigenous communities have long practised regenerative production, redistribution, low-waste resource management, and forms of economic organisation grounded in cultural and ecological relationships rather than formal CE policy (Arjaliès et al., 2024; Beamer et al., 2023; Bhanage et al., 2025; Vecoli, 2023). Long before CE became a policy language in Europe, Indigenous weaving practices were already sustaining relationships between materials, knowledge, land, culture, and generations (Dillon, 2024; Salvador-Amores et al., 2021; Vecoli, 2023).

This thesis begins from that observation. It examines three Indigenous women-led weaving communities in Indonesia and the Philippines: Pokant Takaq, a Dayak Benuaq Ulap Doyo weaving community in East Kalimantan; the Bless Weavers of Quirino Hill in Baguio City; and the weavers of Guinsadan in Mountain Province. These communities differ in material practice, ecological connection, organisational form, and degree of market integration. Pokant Takaq works with Doyo fibre, a forest-based material connected to Dayak Benuaq land, knowledge, and identity. Quirino Hill is an urban weaving community working predominantly with commercial thread and recycled wagwag textiles. Guinsadan continues a backstrap weaving tradition in a rural mountain setting, where weaving remains closely tied to intergenerational transmission, farming, and everyday relations with land.

Despite these differences, the three cases share a central condition. They create multiple forms of value through weaving, while the relationships that sustain this value are under pressure. Similar pressures have been documented across Indigenous craft

contexts in Southeast Asia: extractive land-use change can undermine women's ecological knowledge and economic agency; market integration can create tensions between cultural continuity and commercial viability; and embodied weaving knowledge can disappear when intergenerational transmission is interrupted (Elmhirst et al., 2019; Milgram, 2020; Salvador-Amores et al., 2021; Vogeley & Oetojo, 2025). What is at stake is therefore not only the survival of craft as a cultural product, but the continuation of the relationships that make these craft economies possible: relationships between women and land, elders and younger generations, material and meaning, livelihood and identity.

This thesis analyses these weaving economies as matriarchal craft economies: women-centred economic formations in which women's knowledge, labour, and cultural authority are structurally important to how value is created, circulated, and sustained. Matriarchal does not mean female rule, the exclusion of men, or necessarily matrilineal descent. Men may participate within a matriarchal economy, as they do in Pokant Takaq. Following modern matriarchal studies, the distinction concerns where economic and epistemic authority is centred and whether economic life is organised around provisioning, reciprocity, balance, collective continuity, and the circulation rather than accumulation of value (Goettner-Abendroth, 2017, 2018). The claim made in this thesis therefore concerns the organising logic of the weaving economies, rather than a classification of the communities as matriarchal as a whole.

Weaving is consequently not treated here as a decorative craft or marginal livelihood. Indigenous textile and craft scholarship shows how weaving can simultaneously hold ecological knowledge, cultural identity, economic activity, social relationships, and intergenerational knowledge transmission (Bhanage et al., 2025; Gavin, 2024; Salvador-Amores et al., 2021). In this thesis, it is analysed as an economic practice through which materials circulate, but also through which knowledge, meaning, memory, and responsibility are reproduced. Understanding this broader circularity therefore requires looking not only at how materials move, but also at the relationships that allow materials, knowledge, and value to continue.

1.1 BACKGROUND

The CE has become an increasingly influential framework in sustainability scholarship and policy. In its dominant form, it is concerned with shifting away from linear systems of extraction, production, consumption, and disposal toward systems that reduce resource use, extend product lifetimes, and close material loops (MacArthur, 2013; Friant et al., 2020). Within Industrial Ecology (IE), circularity is commonly analysed through material- and energy-oriented approaches concerned with understanding and redesigning the metabolism of industrial and urban systems.

CE scholarship has, however, also been criticised for its narrow techno-economic framing. Much of the field remains rooted in

European, industrial, and urban contexts, where circularity is often understood primarily through efficiency, optimisation, waste prevention, and technical loop closure (Palm et al., 2024; Friant et al., 2020; Corvellec et al., 2022). Such approaches are less equipped to recognise practices embedded in Indigenous knowledge systems, gendered and reproductive labour, cultural transmission, spiritual meaning, and relationships with land (Beamer et al., 2023; Vecoli, 2023; Sobeng et al., 2025). As a result, communities whose practices already embody circular principles may remain analytically invisible within the very frameworks that claim to promote circularity.

The Circular Value Flower (CVF), developed by Leclercq and Smit (2023), offers one way to address this limitation. The CVF is more than a tool for mapping different forms of value. It connects five layers of a circular community initiative: the activating capital available within a community; the resource cycles involved; the stakeholders required for collective action; the spatial interventions through which circularity is realised; and the ecological, social, cultural, economic, and aesthetic values that result (Leclercq & Smit, 2023). The accompanying Value Flower Field Map connects these layers as part of a circular process of multiple value creation.

This broader understanding of value makes the CVF relevant for studying community-based circular practices beyond its original European neighbourhood context. Rather than focusing only on what materials circulate, the framework allows attention to be given to the capacities, relationships, places, and forms of value through which circular initiatives function.

This thesis applies and adapts the CVF to Indigenous women-led weaving communities in the Global South. In doing so, it asks not only what values these communities create, but also whether a framework developed in a Western circular-community context can be ethically and methodologically translated into Indigenous craft contexts. The thesis therefore has an empirical, methodological, and conceptual concern: it studies multiple value creation in three weaving communities; reflects on how the CVF had to change when brought into fieldwork settings shaped by storytelling, relationality, translation, trust, and researcher positionality; and examines what these encounters reveal about the structure of the framework itself.

The first case is Pokant Takaq, a Dayak Benuaq Ulap Doyo weaving community in Indonesian Borneo. This community is located in the Tenggarong area and works with Doyo fibre, a forest-based material connected to Dayak Benuaq land, cultural identity, ecological knowledge, and textile heritage (Valerisha & Yanti, 2020). Among the three cases, Pokant Takaq forms the primary in-depth case study of this thesis.

The second and third cases are located in the Cordillera region of Northern Luzon, Philippines, a mountainous region with a long history of Indigenous land-based livelihoods and weaving traditions (Calabias, 2026). The first Philippine case is the Bless Weavers of Quirino Hill in Baguio City, an urban weaving association of Igorot women

who work with commercial and recycled materials. The second is Guinsadan in Mountain Province, a rural community where women continue to practise backstrap weaving and where weaving remains closely connected to intergenerational knowledge transmission, farming, and everyday relations with land. The importance of embodied and intergenerational knowledge transmission within Cordillera textile traditions has also been emphasised in previous research (Salvador-Amores et al., 2021).

These three communities differ in geography (Figure 3), material practice, ecological connection, organisational form, and degree of market integration. Pokant Takaq is strongly connected to a forest-based fibre system. Quirino Hill represents a more urban and market-coupled weaving economy. Guinsadan sustains a more traditional backstrap weaving practice in a rural mountain context. These differences make the cases analytically valuable: together, they show how Indigenous women-led weaving communities create multiple forms of value under different ecological, social, and economic conditions.

At the same time, the communities share a central condition. They sustain circular and relational economic practices that are under pressure from land-use change, extractive industries, urbanisation, market demands, supply insecurity, institutional neglect, and generational discontinuity. What is at stake is therefore not only the survival of weaving as craft, but the survival of the relationships that make these practices possible: relationships between women and land, elders and younger generations, material and meaning, livelihood and identity.

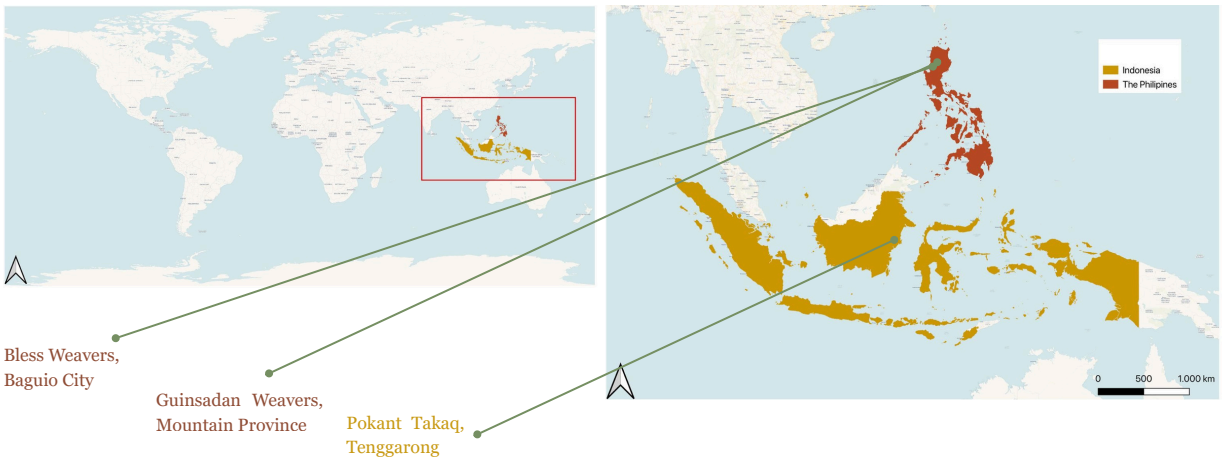

Figure 3: Geographical Locations of this thesis.

1.2 PROBLEM

The central problem addressed in this thesis is that Indigenous women-led weaving communities create multiple forms of value that are not adequately recognised by dominant CE and Industrial Ecology frameworks. These communities sustain ecological knowledge, cultural identity, social relations, economic livelihoods, aesthetic meaning, and spiritual connection through weaving. Yet these forms of value are difficult to capture through frameworks that privilege quantifiable material flows, technical efficiency, and formal economic productivity (Beamer et al., 2023; Corvellec et al., 2022; Vecoli, 2023). This creates a double invisibility.

First, the circularity of these communities is overlooked because it does not always appear as industrial loop closure or formal waste reduction (Marotti de Mello et al., 2022; Rubis et al., 2020). Their circularity is relational: it lies in the regeneration of knowledge, the maintenance of land-based practices, the reuse and adaptation of materials, the continuity of intergenerational learning, and the sustaining of community relationships. Indigenous-informed CE scholarship similarly shows that circularity can be organised through regeneration, redistribution, cultural relations, and stewardship rather than through technical resource loops alone (Beamer et al., 2023; Vecoli, 2023).

Second, the labour that makes these systems possible is gendered and often institutionally undervalued. Feminist economics has long shown that women's reproductive, relational, subsistence, and care-based labour is systematically excluded from mainstream economic measurement (Carlin & Federici, 2014; Waring & Steinem, 1988). This thesis argues that a similar exclusion occurs in CE thinking when Indigenous women's craft economies are treated as heritage, livelihood, or cultural expression, but not as sophisticated circular economic systems.

The CVF provides a promising analytical bridge because it expands circular value beyond the economic and material (Leclercq & Smit, 2023). However, its original workshop-based format also raises questions. In Indigenous craft contexts, value may be communicated through story, memory, embodied practice, and relational exchange rather than through structured workshop categories (Iseke, 2013; Vecoli, 2023). Applying the CVF in these contexts therefore requires more than simply transferring a method from one setting to another. It requires methodological adaptation, ethical reflection, and attention to the knowledge systems through which value is expressed.

The findings of this thesis also raise a broader conceptual question. If land, spirituality, intergenerational transmission, and relational forms of value do not fit neatly within the existing structure of the CVF, what does this reveal about the framework itself? This thesis therefore considers not only how the CVF can be adapted as a research method, but also how its encounter with matriarchal craft economies can extend what the framework makes explicit about the



Figure 4: Guinsadan weaver sharing her story with Myra and the author during the field visit. Photo taken by Leah Schneiders.

relational conditions, forms of value, and sustaining principles through which circular economies are reproduced over time.

This thesis addresses this gap by examining how three Indigenous women-led weaving communities create multiple forms of value, how their different material and organisational conditions shape these value profiles, and what principles are needed to sustain matriarchal craft economies without reducing them to market products, heritage objects, or CE case studies.

1.3 QUESTIONS

Main research question:

How do Indigenous women-led weaving communities in Southeast Asia create multiple forms of value, and what do these practices reveal about the principles needed to sustain matriarchal craft economies?

To answer this, four sub-questions guide the research:

SQ1: What are the value chains and multiple values (ecological, social, cultural, economic, aesthetic, and spiritual) identified in three Indigenous weaving communities across Indonesia and the Philippines?

SQ2: How do different material practices, organisational structures, and ecological contexts shape the value profiles of each community?

SQ3: What methodological adaptations to the CVF are needed when working with Indigenous craft communities in the Global South, and what does this reveal about the researcher's positionality?

SQ4: What principles are needed to sustain multiple value creation in Indigenous women-led weaving communities?

1.4 OBJECTIVE

This thesis has three interconnected objectives.

The empirical objective is to identify and analyse the multiple forms of value created by three Indigenous women-led weaving communities in Indonesia and the Philippines. This includes examining how each community's material practice, ecological context, organisational structure, and market position shape its value profile.

The methodological objective is to adapt and critically reflect on the CVF as a research method for Indigenous craft contexts. Rather than applying the CVF as a fixed workshop protocol, this thesis explores how it can function as a storytelling-based analytical framework that is more responsive to relational, oral, and situated forms of knowledge (Iseke, 2013; Vecoli, 2023).

The theoretical objective is to contribute to CE and IE scholarship by developing the concept of land as circular intelligence and by proposing four principles for sustaining matriarchal craft economies: Remembering, Relating, Recognising, and Reclaiming. These principles are not imposed from outside the cases, but derived from the patterns, fears, values, and urgencies identified across the communities. Bringing these findings back into dialogue with the CVF further allows the thesis to examine how the framework can be conceptually extended to make relational roots, cross-cutting meanings, and the temporal reproduction of multiple value more explicit.

1.5 RELEVANCE

1.5.1 Relevance to Industrial Ecology

This thesis contributes to IE by expanding the field's understanding of circular systems beyond industrial material flows and techno-economic optimisation. IE takes a systems perspective on the material and energy basis of society and on the design and evaluation of sustainability solutions. This study aligns with that ambition by studying circularity as a socio-ecological and cultural system.

The cases show that circular value creation can occur through land-based knowledge, gendered labour, cultural continuity, social organisation, and spirituality. Indigenous-informed CE scholarship similarly demonstrates that circularity may depend on cultural, social, and relational processes that remain weakly represented in dominant CE approaches (Beamer et al., 2023; Vecoli, 2023). By applying and adapting the CVF in Indigenous women-led craft communities, this thesis therefore contributes to a broader and more plural understanding of what circularity can mean within IE.

The matriarchal-economic lens extends this contribution by asking not only how resources circulate, but also what economic ogic organises that circulation.

lModern matriarchal studies foreground economic principles such as reciprocity, redistribution, balance, and non-accumulation (Goettner-Abendroth, 2017, 2018), while feminist economics makes visible forms of labour and value excluded from conventional economic measurement (Waring & Steinem, 1988). In the cases studied here, women sustain ecological knowledge, household livelihoods, cultural continuity and social relations through practices organised around reciprocity, sufficiency and intergenerational transmission. Examining these logics is therefore not a search for a premodern or idealised social form. It is a way of identifying already-existing economic principles that challenge accumulation-led models and can inform a more relational and socially grounded CE.

Bringing these perspectives into dialogue with the CVF allows this thesis to explore whether circularity requires not only different resource flows, but also a different understanding of the purpose and organisation of economic activity. The thesis also contributes methodologically. It demonstrates that existing CE frameworks cannot always be transferred directly into Global South or Indigenous contexts without adaptation. The movement from a structured CVF workshop toward storytelling-based value mapping offers a practical and methodological contribution for researchers working with communities whose knowledge is relational, oral, embodied, and situated (Iseke, 2013; Smith, 2021; Wilson, 2020).



Figure 5: Pokant Takaq weaver showing embroidered textile work during the field visit. Photo taken by author.

1.5.2 Societal Relevance

The communities in this study are not abstract research subjects. They are women whose livelihoods, cultural heritage, and ecological relationships are under immediate pressure. In East Kalimantan, the forests that sustain the Doyo plant, the material foundation of Ulap Doyo cloth, are affected by mining, palm oil expansion, and wider land-use change (Elmhirst et al., 2019; Valerisha & Yanti, 2020). In Baguio, the Bless Weavers navigate urban conditions, changing material supply, and market pressures. In Guinsadan, the continuation of weaving depends increasingly on whether younger generations continue to learn the practice. What is at risk is not only a craft, but a way of holding ecological knowledge, cultural identity, livelihood, and relationships across generations together in a single act of making.

This thesis aims to make these economic practices visible and legible to institutional frameworks that currently overlook them: sustainability policy, conservation governance, CE strategy, and development programming. These are frameworks that already claim to value many of the outcomes these communities sustain — ecological stewardship, resource circularity, cultural continuity, and local livelihoods — while the labour and relationships through which those outcomes are produced can remain insufficiently recognised.

The four principles proposed in this thesis are offered as a beginning of that language; not imposed from theory, but distilled from what the communities themselves say, fear, and value.

Learning from these economies does not mean removing Indigenous practices from their cultural and territorial contexts and turning them into a universal template. Rather, the thesis asks what their organising principles can reveal about the assumptions embedded in dominant CE thinking, while recognising that Indigenous knowledge remains situated within the communities and relationships through which it is held (Smith, 2021; Wilson, 2020).

1.6 APPROACH

This research employs an asymmetric multiple case study design. Three Indigenous women-led weaving communities were studied across two countries.

Pokant Takaq (Dayak Benuaq, East Kalimantan, Indonesia) serves as the primary, in-depth case, studied through a community CVF workshop, six stakeholder interviews, participatory mapping, and a validation session. This is the only case in which full triangulation was achieved.

Quirino Hill / Bless Weavers (Baguio City, Philippines) serves as a comparative narrative case, studied through an impromptu storytelling session facilitated by a trusted local collaborator.

Guinsadan (Mountain Province, Philippines) serves as a second comparative narrative

case, studied through a similar storytelling session.

The original CVF is applied as the initial analytical framework across all three cases, but through a storytelling-based adaptation rather than solely through its original multi-stakeholder workshop format. This distinction is important: the revised interpretation of the CVF developed later in the thesis emerged from the findings and was not imposed on the cases in advance.

The adaptation is both a practical response to fieldwork conditions and an ethical position grounded in decolonial research methodology (Smith, 2021; Tuck, 2012; Wilson, 2020; Wright et al., 2019). Indigenous storytelling can provide a relational form of knowledge production that differs from structured Western analytical categorisation (Iseke, 2013; Smith, 2021). The research is epistemologically guided by Two-Eyed Seeing Etuaptmumk (Bartlett et al., 2012), holding the CVF's Western analytical structure and Indigenous knowledge systems in productive dialogue rather than collapsing one into the other. The full methodology is detailed in Chapter 4.

1.7 STRUCTURE OF THE REPORT

This thesis is structured as follows.

Chapter 2 provides the historical context of the two geographical and cultural settings examined in this research: East Kalimantan in Indonesia Borneo and the Cordillera in Northern Luzon, Philippines. It situates the Dayak Benuaq and Igorot weaving communities within longer histories of Indigenous land relations, colonial disruption, resource extraction, resistance, and recognition. This chapter establishes the historical conditions through which the communities' present-day challenges and forms of value creation must be understood.

Chapter 3 presents the literature review and theoretical framing of the thesis. It first discusses the structural pressures facing Indigenous women-led weaving communities, including ecological threats, market pressures, generational discontinuity, and institutional invisibility. It then develops the central analytical concepts of the thesis: matriarchal economies, feminist political ecology, CE and its limitations, the Circular Communities framework and Circular Value Flower, Indigenous craft as circular practice, Two-Eyed Seeing, land as pedagogy, and decolonial research positionality. The chapter concludes by synthesising these bodies of literature into the conceptual foundation used to guide the analysis.

Chapter 4 describes the methodology. It explains the multiple case study design, the selection of Pokant Takaq, Quirino Hill, and Guinsadan, and the role of local facilitators and co-researchers in shaping the fieldwork. It outlines the data-collection process in each case, including the CVF workshop in East Kalimantan and the storytelling-based sessions in the Philippines. The chapter also explains how the CVF was adapted from a structured workshop method into a more

narrative and relational research approach, and details the analytical strategy, research phases, ethical considerations, and methodological limitations.

Chapter 5 presents the results of the empirical research. The findings are first organised by case, documenting the value chains, CVF value profiles, enabling capital, stakeholders, and urgencies of each weaving community. The chapter then brings the cases together through a cross-case comparison, identifying key patterns such as the tradition–market tension spectrum, the role of material practice in shaping value profiles, spirituality as a relational charge across value dimensions, and shared fears and urgencies. The chapter closes by discussing the CVF as a method and the shift from structured workshop to storytelling.

Chapter 6 discusses the findings in relation to the theoretical framework. It develops a bounded interpretation of the cases as matriarchal craft economies and develops the thesis's main conceptual contributions: land as circular intelligence and the four principles for sustaining matriarchal craft economies — Remembering, Relating, Recognising, and Reclaiming. The chapter then brings these findings back into dialogue with the CVF, considering how the cases extend its treatment of enabling capital, spirituality, and the temporal reproduction of value, and what this reveals about the relational economic logics underlying multiple value creation. It also reflects on implications for CE thinking, policy and practice, and revisits the limitations of the research.

Chapter 7 sets out the recommendations that follow from the research. It provides community-specific recommendations for Pokant Takaq, Quirino Hill, and Guinsadan, as well as broader recommendations for the CVF framework and methodology, policy and institutional actors, the IE programme, and future research. These recommendations translate the analytical findings into practical directions for supporting Indigenous women-led weaving communities without undermining the relationships, knowledge systems, and cultural authority on which they depend.

Chapter 8 concludes the thesis by returning to the main research question and sub-questions. It summarises the central findings, clarifies the theoretical, methodological, and practical contributions of the research, and reflects on what Indigenous women-led weaving communities reveal about circularity, value creation, matriarchal economic logics, and the further development of the CVF. The thesis then closes with a personal reflection on the research process, followed by the references and appendices.

CHAPTER TWO

HISTORICAL CONTEXT

The three communities at the centre of this thesis did not arrive at their present circumstances by chance. The problems introduced in Chapter 1 are the sediment of long histories, and they cannot be read clearly without those histories in view. This chapter sets out the historical context of the two regions the thesis studies: the Mahakam basin of East Kalimantan, home of the Dayak Benuaq, and the Cordillera of northern Luzon, home of the Igorot peoples. The two places are separated by more than two thousand kilometres of sea; they belong to different language families and were claimed by different colonial empires, and the cases are geographically and historically distinct, and this study does not assume direct historical contact between them. Yet their histories rhyme. In each, communities sustained sophisticated, land-based economies and held a long autonomy from outside rule. In each, that autonomy was eroded by successive waves of extraction and colonisation that bore down with particular weight on women's authority and knowledge. And in each, the descendants of those communities now press claims for recognition that remain only partly answered.

This chapter brings together fieldwork and literature. It presents what was observed, shared, and mapped across the three weaving communities, while situating these findings within the theoretical discussions on circular value creation, matriarchal economies, Indigenous knowledge, and land-based circularity. But it attends throughout to one thread in particular — the economic one. Before colonisation, and in many respects still, these were not merely communities that happened to have economies; they were organised economically in a way fundamentally unlike the market capitalism later imposed on them. Land was held and worked in common rather than owned and traded; production was oriented towards subsistence, reciprocity, and the reproduction of community rather than the accumulation of capital; and the forest, the

river, and the mountain were treated as living participants in economic life rather than as inert stocks of resource. Reading these histories economically is what makes the later chapters legible: what extraction dismantled was not only land and livelihood but a distinct way of organising economic life, and what the weavers sustain today is its inheritance.

The conceptual apparatus for interpreting these histories — the embedded economy, matriarchal economies, feminist political ecology, accumulation by dispossession, and the political economy of recognition — is developed in the literature review that follows (Chapter 3). The purpose here is to give the case communities an economic past, so that the values documented later in the thesis are understood as the achievements of living traditions with deep roots rather than as practices without context.

2.1 The Dayak Benuaq and East Kalimantan

2.1.1 People of the River: Benuaq society and the forest

The Dayak Benuaq are one of more than two hundred Indigenous groups collectively known as Dayak who inhabit the interior of Borneo (Baier, 2007). "*Dayak*" is itself an outsiders' term, derived from a word meaning "upriver" or "inland" — a reminder that belonging in Borneo has long been organised around river valleys and watersheds rather than fixed ethnic borders (Lindblad, 1988). The Benuaq are an Austronesian people of the Barito language grouping, concentrated today in the regencies of Kutai Barat (West Kutai) and Kutai Kartanegara in East Kalimantan, along the Mahakam River and its tributaries (Elmhirst et al., 2019).



Figure 6: Dayak performers during a cultural performance as a part of the LDE Thesis Labs field excursion in East Kalimantan. Photo taken by author.

CHAPTER TWO

Benuaq livelihood was, and in places remains, built on an intricate relationship with the forest. Households practised swidden rice cultivation — *umaq*/*ladang* — alongside the tending of managed forest gardens known as *simpukng*: plots that blur the line between cultivated and wild and that hold generations of botanical knowledge about which species grow where and how they should be cared for (Mulyoutami et al., 2009). Studies of Benuaq and neighbouring Tunjung gardens have recorded dozens of useful species growing in a single simpukng, their use and inheritance regulated through customary law to prevent over-exploitation, and the Benuaq themselves describe their forest-and-fallow cycle as a form of "cyclical cultivation" (Mulyoutami et al., 2009).

The way this livelihood was organised matters as much as its content. Land in the Benuaq world was not owned in the sense familiar to capitalist economies but held and used under customary law (*adat*): forest, swidden, and garden were governed by community claims and inherited use-rights rather than by individual title and sale, and the same customary order that regulated who could clear, harvest, and inherit a simpukng functioned at once as an ecological brake on over-exploitation (Mulyoutami et al., 2009). Production was oriented in the first instance towards subsistence and the obligations of kinship — feeding a household, meeting ritual duties, sustaining reciprocal ties between families — with surplus forest products such as rattan, resin, and aromatic woods moving outward into the riverine and coastal trade networks discussed below (Lindblad, 1985). Exchange of this kind sat inside a web of social relationship rather than standing apart from it as a separate, self-regulating sphere. The contrast with the market economy that colonialism would later introduce is therefore not one of scale or sophistication but of kind: where capitalism treats land as a commodity, labour as a cost, and the forest as a stock of resource to be drawn down for profit, the Benuaq economy treated land as a commons, labour as an expression of kinship and reciprocity, and the forest as a living partner whose continued health was the precondition of the economy itself (Lindblad, 1988).

Benuaq cosmology was historically animist, belonging to the broad relational order of Dayak belief often named *Kaharingan*, in which forests, rivers, ancestors, and the living are bound in mutual obligation and mediated by ritual (Baier, 2007). Although many Benuaq are now Christian, elements of this older order persist, and they bear directly on the economy this thesis studies: in a world ordered this way, the forest is not external to economic life but a party to it, owed respect and care, and weaving — historically bound to ritual and carrying spiritual as well as practical significance — is one of the practices through which that relationship is maintained (Valerisha & Yanti, 2020; Gavin, 2024).

It is within this world that *Ulap Doyo* weaving belongs. Ulap Doyo is an ikat textile made from the leaf fibre of the Doyo plant (Curculigo latifolia), a forest species of the Kutai interior; its production runs from forest harvest through the hand-separation of fibre to natural dyeing and weaving on a backstrap loom, the gedogan (Valerisha &

Yanti, 2020). The craft has been carried overwhelmingly by women and transmitted from mother to daughter through observation and daily practice rather than formal instruction — a mode of transmission so embodied that, as one Benuaq weaver has observed, those without a weaving mother find the skill very difficult to acquire (Valerisha & Yanti, 2020). Women's authority in the Benuaq world is therefore in part an authority over this knowledge, and over the forest relationships on which it depends; it is one of the senses in which the weaving economy examined in this thesis may properly be called matriarchal.

2.1.2 Hindu Kingdoms and the Kutai Sultanate

The Mahakam basin is one of the oldest sites of state formation in the Indonesian archipelago (Sellato, 2002). The kingdom of Kutai Martadipura, centred at Muara Kaman on the Mahakam, is known from the Yupa stone inscriptions of King Mulawarman, conventionally dated to around the fourth or fifth century Common Era and counted among the earliest dated Hindu inscriptions anywhere in Indonesia (Burhanudin et al., 2025). The university that hosted this thesis's Indonesian fieldwork, Universitas Mulawarman, bears that king's name. From roughly the thirteenth and fourteenth centuries a second polity, Kutai Kartanegara, rose near the river mouth; in the seventeenth century its rulers adopted Islam and the title of sultan, and the seat of the sultanate settled at Tenggarong (Burhanudin et al., 2025) — the town that remains the administrative centre of Kutai Kartanegara today, and one of the bases of the Pokant Takaq weaving community.

The relationship between the riverine sultanate and the interior Dayak was an unequal one (Sellato, 2002). The Kutai themselves are understood to descend from Mahakam Dayak groups that adopted Islam and Malay culture and ceased to identify as Dayak; those who remained in the interior, the Benuaq among them, occupied a subordinate position in the sultanate's order, supplying forest products into trade networks that the coast controlled (Sellato, 2002, 2024). Ulap Doyo is old enough to belong to this world: accounts trace it at least to the era of the Kutai reign, and its motifs historically marked social rank, with particular cloths reserved for nobility and others for commoners (Valerisha & Yanti, 2020). The textile was thus already woven into hierarchy and trade long before the colonial period. What this integration did not do, however, was take the land: the interior economy was drawn into wider exchange on unequal terms, yet the Benuaq continued to hold and work their forest under their own customary order. What colonialism added was a deeper and more extractive logic — and, in time, a claim on the land itself rather than only on its products (Elmhirst et al., 2019).

2.1.3 Dutch Colonialism and the Opening of the Interior

European interest in the Mahakam followed its resources. British and Dutch traders sought footholds in the first half of the nineteenth century, and Dutch authority over

the sultanate was formalised by treaty in this period — the beginning of a colonial relationship that endured until the Japanese occupation of 1942 (Lindblad, 1988). The colonial economy turned the interior into a supply zone: coal mining began in the Kutai region in the late nineteenth century, and rubber, forest products, and minerals were drawn into world markets through structures in which Dayak communities occupied a subordinate position (Lindblad, 1988). The pattern that runs through the rest of this history — value extracted from Dayak land while the decisions about it were made elsewhere — was, in its essentials, laid down in these decades. It was also in this period that land itself began to be treated, by the colonial administration, as something the state could allocate and concede — a logic the independent state would later carry much further (Lindblad, 1988).

2.1.4 Extraction Under the New Order and After

Colonial extraction prefigured a far more intense post-colonial version. From the late 1960s the New Order government opened Kalimantan's forests to large-scale logging through timber concessions (Hak Pengusahaan Hutan, HPH); industrial timber plantations (Hutan Tanaman Industri, HTI) followed, then coal, and from the 1990s the rapid expansion of oil palm that has made Indonesia the world's largest palm-oil producer (Li & Semedi, 2021). Each wave pushed further into Dayak land, and each was accompanied by the state-sponsored transmigration of settlers from Java and elsewhere, reshaping the region's demography (Sellato, 2024). In economic terms, each concession completed a shift the colonial period had begun: forest that had been held and used in common under adat was converted into state-allocated, privately exploited resource — a commons reworked into a frontier opened for accumulation (Mulyoutami et al., 2009).

These transformations were not gender-neutral. In the most detailed feminist political ecology of oil palm in East Kalimantan, Elmhirst and colleagues (2019) show how plantation expansion reorganises access to land and labour along gendered lines, eroding the autonomy that Indigenous women had held through their relationship with forest and garden — and they note that these gendered effects have been consistently overlooked. For a weaving economy like that of the Benuaq, the consequence is direct: the Doyo plant grows best under healthy forest cover, so the advance of mining and oil palm threatens not merely a raw material but the forest relationship on which the weaving economy, and women's authority within it, rests (Valerisha & Yanti, 2020). The newest chapter in this long history is the relocation of Indonesia's national capital into East Kalimantan, which places Indigenous land in the region under a further and still-unfolding pressure.

2.2 The Igorot and the Cordillera

2.2.1 The Unconquered Highlands

"*Igorot*" — from a root meaning "people of the mountain" (Scott, 1974) — is, like "*Dayak*," a collective term that flattens real diversity. It encompasses several distinct ethnolinguistic groups of the Gran Cordillera Central of northern Luzon, among them the Kankanaey, Ibaloi, Ifugao, Bontoc, Kalinga, and Isneg; before colonisation these peoples did not regard themselves as a single group, organising identity instead around the ili, the home community and its territory (Finin, 2005; Molintas, 2004; Santiago, 2013; Tanabe et al., 2026). Their economies were varied and sophisticated. The Ibaloi and Kankanaey of Benguet built part of their social order around gold mining; others maintained the wet-rice terraces that remain among the most remarkable agricultural landscapes in the world; and a durable trade network linked highland gold to the lowland communities of Ilocos and Pangasinan (Santiago, 2013; Scott, 1974).

What made these economies distinctive was less the activities themselves than the principles by which they were organised. The basic unit was the ili — the home settlement and its territory — which held land, water, and forest as common resources governed by customary law rather than as individual property to be bought and sold (Calabias, 2026; Finin, 2005; Molintas, 2004). The rice terraces and their irrigation systems were built and maintained through pooled, reciprocal labour, and agricultural work was tied to a ritual calendar that bound the community's prosperity to its obligations towards ancestors and spirits (Acabado et al., 2019). Wealth, where it accumulated, was characteristically turned back into social standing rather than hoarded: prosperous families gained prestige by hosting feasts that redistributed meat, rice, and rice-wine to the wider community, so that surplus circulated outward as obligation and status rather than compounding as private capital. Even gold, the region's most coveted export, moved within this relational order — worn as ornament, exchanged in trade, folded into ritual and rank — rather than functioning as the abstract, accumulable money it would become in the colonial economy that coveted it (Russell, 1983; Scott, 1974).

Here, as in Borneo, the difference from market capitalism was one of kind. Land was a commons rather than a commodity; labour was reciprocal and communal rather than waged; surplus was redistributed through feasting and obligation rather than accumulated as profit; and the mountain, the terrace, and the forest were treated as relations to be sustained rather than resources to be drawn down (Prill-Brett, 1994; Tanabe et al., 2026). It was precisely the autonomy of this economic order — its self-sufficiency, and its control of land and gold — that outside powers spent centuries trying, and largely failing, to break (Acabado et al., 2019; Russell, 1983).

Weaving belonged to this world as both craft and economy. Cordillera women wove on the backstrap loom the cloths that carried each community's identity — among them the red-

and-black (Figure 7) blankets of the Bontoc and Kankanaey and the cloths reserved for ritual and burial — their geometric motifs encoding social rank and cosmology, and the skill passing from mother to daughter (Regpala et al., 1992; Salvador-Amores et al., 2021). As in Borneo, women were central economic actors: as cultivators, as traders, and as the keepers of textile knowledge.

2.2.2 Three Centuries of Spanish Failure

The Cordillera is one of the few parts of the Philippines that Spain never subdued. Spanish interest was fixed from the outset on Igorot gold: word of northern gold had reached the colonisers by the 1560s, expeditions were sent north from the 1570s, and across the seventeenth century a series of armed entradas tried and failed to seize the Benguet mines — most famously the expedition of 1601, turned back by a force of Igorot warriors, and the declaration of war on the Benguet Igorots in 1620 (Acabado et al., 2019; Scott, 1974). Missionary efforts fared no better than military ones. For more than three centuries the highlanders kept their autonomy, their land, and their own institutions, while their gold continued to move to the lowlands along trade routes that endured into the mid-eighteenth century (Acabado et al., 2019; Scott, 1974). The economic self-sufficiency of the highlands was not incidental to this resistance but its material basis: a people that fed itself from its own terraces and drew wealth from its own mines had little need of the colonial economy and much to lose by submitting to it. Paradoxically, it was this very history of resistance that consolidated "*Igorot*" as a category: the name came to denote precisely those peoples defined by their distance from colonial and Christian incorporation (Scott, 1974; Finin, 2005).



Figure 7: Igorot weaver in Guinsadan. Photo taken by author.

2.2.3 American Colonialism: Baguio, Dispossession, and the Cariño Doctrine

American rule, which began in 1898, accomplished in a few decades what Spain had not — less through pitched battle than through administration, infrastructure, and law (Jenista, 1987; McKenna, 2019). The clearest case is the founding of Baguio. The upland meadow the Ibaloi knew as Kafagway — grazing land held under customary tenure, much of it by the chieftain Mateo Cariño — was chosen by the American regime as the site of a hill station, the only one the United States built in Asia, intended as a cool summer capital away from the heat and disease of Manila (Delina, 2020; McKenna, 2019). On 11 November 1901 the colonial government moved to expropriate the land; the Ibaloi were required to secure documentary titles to holdings they had occupied for generations, and were pressured to sell (McKenna, 2019). In requiring the Ibaloi to produce written title to land they had always held in common, the colonial state was not only taking ground; it was imposing an entire conception of land — as alienable, individually owned property — onto an economy that had never treated it that way. The architect Daniel Burnham designed the new city from 1904 on the principles of the City Beautiful movement, and the Benguet Road was cut through the mountains to reach it — a landscape of dispossession recast as benevolent improvement (Delina, 2020; McKenna, 2019). The transformation displaced Ibaloi families into the surrounding hillsides, producing the urban geography in which weaving communities such as Quirino Hill now live. In the same years the colonial state put the Igorot on display: at the 1904 world's fair in St. Louis, dozens of Cordillera people were exhibited as living specimens of "savagery," a spectacle that lodged a demeaning image of the Igorot in the American and lowland-Filipino imagination even as it served the administration's narrative of civilising tutelage. In the remoter interior, the Americans established a separate administrative regime for the highlands — the system of "non-Christian" provinces, and from 1908 the Mountain Province — which at once shielded these communities from lowland incorporation and subjected them to a paternalistic governance that undercut indigenous authority (Jenista, 1987).

Yet the same legal order produced an extraordinary counter-current. Mateo Cariño pursued his claim to the Baguio land through the courts until his death in 1908, and in 1909, in Cariño v. Insular Government, the United States Supreme Court held that land held by an individual since time immemorial must be presumed never to have been public land of the colonial state — the first judicial recognition of native title in the Philippines (Cariño v. Insular Government, 1909). The Cariño doctrine would lie largely dormant for most of the twentieth century, but it became the legal seed from which later indigenous-rights law grew.

2.2.4 Martial Law, The Chico River and the Defence of the Cordillera

The most consequential episode in the modern history of the Cordillera came under

the martial-law regime of Ferdinand Marcos. In 1974 the government advanced a World Bank–funded plan to build a cascade of hydroelectric dams on the Chico River, which would have flooded the rice terraces, villages, and ancestral burial grounds of Kalinga and Bontoc communities (Delina, 2020; Doyo, 2015). The communities refused. Drawing on the bodong, the indigenous peace-pact institution, villages that had historically managed their own rivalries united against the dams (Doyo, 2015). The Butbut pangat (elder) Macli-ing Dulag of Bugnay became the most articulate voice of the resistance; offered money to abandon his opposition, he is remembered for sending it back — a refusal that distilled the principle the whole struggle defended: that ancestral land is not a commodity to be priced and sold. On 24 April 1980 he was assassinated by soldiers of the Philippine Army — a killing that, rather than breaking the movement, galvanised it and drew national and international condemnation, and the dam project was shelved (Doyo, 2015; Finin, 2005). His death is commemorated each year as Cordillera Day, and the broad alliance that grew from the struggle, the Cordillera Peoples Alliance, carried the defence of ancestral land into a wider movement for regional autonomy (Finin, 2005). The Chico struggle is now treated as a landmark case in the history of indigenous land rights in the Philippines (Delina, 2020; Doyo, 2015; Finin, 2005).

2.2.5 Recognition after Marcos

The fall of Marcos in 1986 opened political space for the recognition the Cordillera movement had demanded. The 1987 Constitution committed the state to protect the rights of indigenous cultural communities to their ancestral lands, and in the same year the Cordillera Administrative Region was created as an administrative grouping of the highland provinces — though successive plebiscites on a fuller, autonomous Cordillera region did not pass (Finin, 2005). The most significant legislative outcome came in 1997 with the Indigenous Peoples' Rights Act (Republic Act No. 8371), which codified the long-dormant principle of native title, recognised indigenous peoples' rights to their ancestral domains, and created instruments to give those rights effect: the Certificate of Ancestral Domain Title, the requirement of free, prior and informed consent, and a National Commission on Indigenous Peoples (Republic Act No. 8371, 1997). In practice, recognition on paper has run well ahead of recognition in fact: ancestral-domain titling is slow, enforcement is weak, and the Act sits in unresolved tension with mining and other extractive law. The Cordillera weaving traditions central to this thesis — the backstrap-woven burial cloths of Guinsadan and the urban practice of the Bless Weavers in Quirino Hill — are sustained within this still-incomplete settlement, in which cultural recognition is offered more readily than the protection of land and livelihood.

2.3 A SHARED HISTORICAL PATTERN

Set side by side, the two histories reveal a common structure, and it is this structure that makes a cross-case comparison between Borneo and the Cordillera analytically

analytically productive rather than merely additive. In both regions, Indigenous communities entered the colonial era with long traditions of autonomy and with economies built on intimate, sustaining relationships to particular forests and mountains. In both, outside power arrived in pursuit of what the land could yield — gold in the Cordillera; coal, timber, and palm oil in Kalimantan — and advanced through a combination of force, law, market, and administration that converted relational, often women-held land into extractable or saleable space. In both, the assault on land was simultaneously an assault on women's authority, because that authority was grounded in the very ecological relationships that extraction dismantled.

Beneath these particulars lies a single economic transformation: the replacement of one way of valuing land with another. The economies described at the start of this chapter were embedded economies in the sense Polanyi (1944) gave the term — the production and exchange of goods inseparable from kinship, ritual, and ecological relationship, and land not a commodity but the living ground of social life (a reading developed in Chapter 3). Colonialism and the capitalism it carried did not merely compete with these economies; they disembedded them, prising land, labour, and forest loose from their web of relationship so that each could be priced, owned, and sold. Amitav Ghosh (2021) traces this transformation to an origin in this very part of the world. His account opens in the Banda Islands of Maluku, where in 1621 the Dutch East India Company massacred, enslaved, and deported almost the entire population in order to monopolise the nutmeg trade — an act he reads as paradigmatic of how European empire approached the lands it conquered: as inert matter to be subdued, its peoples and its non-human life alike "muted" and reduced to resource. The conquest of the Indies, in Ghosh's telling, was not only territorial and economic but ontological — the imposition of a worldview in which the Earth is brute, silent, and mechanical, set against the indigenous understanding of a world that is alive, animate, and bound by obligation. The coal pits of Kutai and the hill station at Baguio belong to the same project as the nutmeg plantations of Banda: the conversion of a living, relational world into extractable, saleable space.

Seen this way, the difference between these Indigenous economies and the capitalism that displaced them is not a difference of degree along a single line of "development" but a difference of kind. Where capitalism treats land as alienable property, the Benuaq and the Igorot held it as a commons under customary law. Where capitalism orients production towards accumulation and growth, these economies oriented it towards subsistence, reciprocity, and the reproduction of community, redistributing surplus through obligation and feast rather than compounding it as capital. Where capitalism abstracts value into money and price, these economies kept value embedded in relationship — in the cloth that carries lineage, the gold worn as ornament, the garden inherited with its obligations. And where capitalism treats the forest and the

mountain as inert stocks of resource, these economies treated them as living participants whose continued health was the precondition of economic life itself — the relationship that the rest of the thesis takes as its central concern.

In both regions, finally, the present is defined by a struggle over recognition. Each tradition has won acknowledgement in the register of culture — Ulap Doyo (Figure 8) as Indonesian national Intangible Cultural Heritage (Permendikbud No. 106/2013), Cordillera weaving as celebrated national heritage — while the recognition that matters most for the survival of these economies, the recognition of rights to land, remains partial and contested. This is the predictable outcome of the transformation just described: a system that has reduced land to resource finds it easy to celebrate a craft as heritage and hard to return the ground on which the craft depends.

The work of organisations such as Aliansi Masyarakat Adat Nusantara (AMAN) and the Customary Territory Registration Agency (BRWA) in Indonesia, and of ancestral-domain titling under the Indigenous Peoples' Rights Act in the Philippines, are alike attempts to convert symbolic recognition into material right.

These parallels are not coincidences but the local expressions of a wider logic, and naming that logic in full is the work of the chapter that follows. The literature review reads the histories narrated here through the embedded economy and the matriarchal-economies framing, feminist political ecology, accumulation by dispossession, and the political economy of recognition, and sets them alongside the CE scholarship that together form the analytical architecture of the thesis.



Figure 8: Ulap Doyo weaving at Pokant Takaq, East Kalimantan. Photo taken by author.

CHAPTER THREE

LITERATURE REVIEW

This chapter develops the theoretical framework used to analyse the three weaving communities. Building on the historical context established in Chapter 2, it brings together literature on Indigenous craft economies, feminist political ecology, CE, MVC, and decolonial research methodology. The purpose of the chapter is not only to review existing scholarship, but to identify the conceptual gap that this thesis addresses: the limited capacity of dominant CE and IE frameworks to recognise the relational, gendered, cultural, ecological, and land-based forms of value created in Indigenous women-led weaving economies.

The chapter begins by outlining the main pressures facing Indigenous women-led weaving communities: ecological threat, market pressure, generational discontinuity, and institutional invisibility (Section 3.1). It then introduces matriarchal economies as the central analytical lens for understanding these communities as women-centred systems of relational value creation (Section 3.2). Section 3.3 deepens this analysis through feminist political ecology and the political economy of gendered dispossession, showing how land loss, extraction, and institutional recognition shape the conditions under which these economies survive.

The chapter then turns to CE literature and its limitations (Section 3.4), before introducing the Circular Communities framework and the CVF as the main analytical framework used in this thesis (Section 3.5). This is followed by a discussion of Indigenous craft as circular practice (Section 3.6), which positions weaving not as a marginal cultural activity, but as an existing form of circular value creation. Sections 3.7 and 3.8 introduce Two-Eyed Seeing and land as pedagogy, which together provide the epistemological grounding for analysing value without reducing Indigenous knowledge to Western categories. Finally, Section 3.9 discusses research positionality and decolonial methodology, including the

role of storytelling, local facilitation, and relational accountability. The chapter closes with a conceptual synthesis that explains how these bodies of literature inform the research questions and guide the analysis that follows (Section 3.10).

3.1 Context

Indigenous women-led weaving communities in Southeast Asia sit at the intersection of multiple crises. These are not abstract sustainability challenges but lived realities that threaten the material, cultural, and spiritual foundations of practices sustained for centuries (Carlin & Federici 2014; Hamilton et al., 2007; Kreps, 2012; Maxwell, 2012; Milgram, 2020). Across the region, women who weave are simultaneously knowledge holders, ecological stewards, economic agents, and cultural transmitters. Yet the economies they sustain — economies that predate western conceptions of circularity by millennia — are under compounding pressure from extractive industries, market integration, generational discontinuity, and institutional neglect. Understanding this problem context requires attending to four intersecting dimensions.

3.1.1 Ecological Foundations Under Threat

The ecological basis of Indigenous weaving is inseparable from the health of specific ecosystems (Gavin, 2024). Across Southeast Asia, Indigenous textile traditions are embedded in particular ecological relationships: natural dye plants, bast and leaf fibres, locally sourced materials whose harvesting practices encode ecological knowledge accumulated over generations (Hamilton et al., 2007; Maxwell, 2012; Milgram, 2020). Novellino (2006) documents how ethnobotanical knowledge is woven into fibre-craft traditions across Borneo and the Philippines, creating ecological literacies that exist nowhere else. When these ecosystems are degraded, the knowledge they sustain disappears with them, often irreversibly.

This ecological embeddedness distinguishes Indigenous weaving from commercial textile production. The relationship between weaver and ecosystem is not one of resource extraction but of reciprocal dependence: harvesting practices are governed by seasonal rhythms, spiritual protocols, and intergenerational knowledge about ecological limits (Gavin, 2024). Palm oil expansion and mining operations across Indonesian Borneo threaten not merely raw materials but entire knowledge systems, spiritual traditions, and community identities bound to specific forests and plants (Elmhirst et al., 2019). In the Cordillera region of the Philippines, urban land constraints eliminate the possibility of cultivating natural fibres locally (Regpala & Reyes-Boquiren, 1992; Salvador-Amores et al., 2021), while in rural mountain communities, the connection between weaving and farming sustains an ecological grounding that commercial thread supply chains cannot replicate.

These patterns reflect what political ecologists describe as the entanglement of ecological destruction with gendered dispossession: when extractive industries

destroy the ecosystems in which Indigenous women's knowledge is embedded amd simultaneously undermine women's economic agency, cultural authority, and ecological stewardship (Elmhirst et al., 2019; Carlin & Federici, 2014).

3.1.2 Market Pressures and the Tradition-Market Tension

Market integration creates a complex tension that manifests differently across communities. Milgram (2020) examines how social entrepreneurs in the Philippine Cordillera work with Indigenous weavers to develop innovatively designed but indigenously inspired textiles, showing how weavers navigate between what she terms static authenticity and economic viability. Vogeley and Oetojo (2025), in a study of women weaver communities in West Timor and Bali, identify three distinct relationship types between Indigenous and entrepreneurial values, demonstrating that the tension between tradition and market is neither uniform nor inevitably destructive.

The key insight from the literature is that market pressures are not a single story of cultural erosion. They range from externally imposed modernisation demands, through pragmatic community-driven shifts toward commercial materials, to rare moments where market forces actually support traditional practice. Understanding where a community sits on this spectrum is essential for any intervention that claims to support Indigenous craft economies. As Vogeley and Oetojo (2025) demonstrate, the women weavers themselves are active agents in negotiating these tensions, not passive recipients of market forces.

Palm et al. (2024), in a recent literature review on gender and the CE, identify a significant gap: women's roles as producers, innovators, and knowledge holders in circular systems remain under-researched, with existing scholarship focused predominantly on consumption. This gap is particularly acute for Indigenous women, whose productive activities operate outside formal economic measurement and whose contributions to ecological stewardship are rendered invisible by the very market systems that threaten them.

3.1.3 Generational Discontinuity

The most widely shared fear across Indigenous weaving communities is the loss of the next generation. Salvador-Amores et al. (2021), through the CordiTex project at UP Baguio, found that many Cordillera textile patterns can no longer be woven because the master weavers who held this knowledge have died and oral transmission was not completed. This is not a gradual fading but an abrupt disappearance: knowledge that existed for centuries can vanish within a single generation when the transmission chain breaks.

Buckley (2017), based on conversations with 26 weavers from Flores, Solor, and Lembata in Indonesia, documents how the intergenerational contract for knowledge transmission is changing under economic pressure. Young women increasingly seek wage employment rather than learning to



Figure 9: Guinsadan Weaver. Photo taken by author.

weave, a pattern driven not by cultural disinterest alone but by the economic precarity that makes weaving an insufficient livelihood. The gendered dimension is critical: in communities where weaving is transmitted from mother to daughter, the absence of daughters in the weaving space is simultaneously an economic, cultural, and gendered crisis.

This pattern of generational discontinuity is compounded by the embodied nature of weaving knowledge. Unlike codified technical skills, weaving expertise is transmitted through observation, practice, and physical proximity: sitting beside one's mother or grandmother, learning through the body rather than through instruction (Gavin, 2024; Hamilton et al., 2007). When this embodied transmission chain breaks, the knowledge cannot be recovered from archives. It is gone.

3.1.4 Institutional Invisibility

Perhaps the most structurally damaging dimension is that these communities remain invisible to the institutions designed to support sustainability transitions (Beamer et al., 2023; Hill et al., 2020; Rubis et al., 2020). Conservation frameworks designed to protect biodiversity often fail to recognise the human communities whose practices sustain that biodiversity. UNESCO recognition of specific weaving traditions as Intangible Cultural Heritage represents a starting point, but it does not translate into the land protection, market support, or institutional advocacy that communities identify as their primary needs (Dillon, 2024; Tanyag, 2017).

Government policies can inadvertently compound the threats these communities face (Maxwell, 2012; Mulyoutami et al., 2009). In the Philippines, the Pantawid Pamilyang Pilipino Programme (4Ps), a conditional cash transfer programme, disincentivises craft income by penalising supplementary earnings (Aguado, 2021). In Indonesia, Indigenous communities report that government bodies do not take their land protection concerns seriously, leaving them without the institutional lobbying support they urgently need (Hasanah et al., 2025; Sardjono et al., 2001). The result is that communities practising some of the most sophisticated and longstanding forms of circular value creation in the world remain invisible to the very frameworks designed to support sustainability transitions.

These four intersecting dimensions — ecological destruction, market pressure, generational discontinuity, and institutional invisibility — constitute the practical problem that motivates this research. They are not merely contextual background; they are the structural conditions within which Indigenous women-led weaving economies must sustain themselves, and against which any proposal for supporting these economies must be evaluated.

3.2 Matriarchal Economies

The communities examined in this thesis are not simply craft businesses or cultural-preservation projects. Rather, this thesis uses the concept of the matriarchal economy as an analytical lens for understanding economic practices in which women's knowledge, labour, and cultural authority are central to the creation and continuation of value. Naming these practices in this way is a deliberate analytical choice. It requires showing why mainstream economics struggles to recognise such economies, clarifying what "matriarchal" does and does not mean, and establishing that these practices can be understood as functioning economic alternatives in the present rather than as remnants of a pre-modern past.

Feminist economists have long shown that mainstream economic theory renders many of the activities on which social and economic life depends invisible. Waring & Steinem (1988), in If Women Counted, demonstrated how national accounting systems exclude large amounts of unpaid and reproductive labour from conventional measures of economic productivity. This creates a structural blindness to forms of work that sustain households and communities but do not necessarily appear as formal market transactions. Polanyi's (1944) account of the "great transformation" similarly challenged the idea that the economy exists as an autonomous, self-regulating sphere. He argued that economic activity has historically been embedded within social relations and institutions rather than separated from them. Raworth (2018) develops this embedded understanding further by positioning the economy within society and the living world. Read together, this scholarship makes it possible to understand Indigenous weaving economies not as incomplete or informal versions of a "real" economy, but as embedded economies whose social, cultural,

and ecological relations are themselves economically significant.

Feminist economics also provides a different understanding of what economic activity is for. The concept of social provisioning shifts attention from profit maximisation toward the processes through which human needs are met and life is sustained over time (Nelson, 2008; Power, 2004). Economic activity therefore includes not only producing commodities but also caring, maintaining relationships, transmitting knowledge, and reproducing the social and ecological conditions on which livelihoods depend. This provides a particularly relevant lens for weaving, where the production of goods can simultaneously generate income, transmit knowledge, sustain cultural identity, and maintain relationships within communities and with land.

The term matriarchal, however, requires careful definition. In popular usage, matriarchy is often imagined as the inverse of patriarchy: a social system in which women rule over or dominate men. Modern matriarchal studies explicitly reject this interpretation. Goettner-Abendroth (2017, 2018) conceptualises matriarchy as a different organising principle based on balance rather than gender domination. Her framework examines matriarchal societies across interconnected economic, social, political, and cultural-spiritual dimensions. Economically, emphasis is placed on reciprocity, redistribution, and the circulation of wealth rather than unlimited accumulation. Socially, attention is given to kinship, inheritance, intergenerational transmission, and the position of women within these systems. Politically, decision-making is associated with consensus rather



Figure 10: Ibu Hamida weaving at Pokant Takaq, East Kalimantan. Photo taken by author.

than coercive hierarchy. Cultural and spiritual relations, particularly relationships with land, ancestry and the living world, provide an integrating worldview through which these dimensions acquire meaning.

Sanday's (2003) study of the Minangkabau of West Sumatra provides an important empirical illustration of this distinction. The Minangkabau are a matrilineal society in which maternal principles structure important areas of social and cultural life without producing a system based on the domination of men. Sanday's (2003) case is used here to illustrate how matriarchy can be conceptualised differently from female rule. It is not used as ethnographic evidence that the Dayak Benuaq, Kankanaey, or weaving communities examined in this thesis share the same social organisation.

This distinction is especially important because the cases examined here do not conform to a simple matrilineal model. The Dayak Benuaq have a bilateral kinship system (Haug, 2017), while Kankanaey kinship is likewise organised bilaterally rather than through exclusively maternal descent (Sumeg-ang, 2005). Men can also participate in the economic activities surrounding weaving, including within Pokant Takaq. Matrilineality and matriarchy are therefore not treated as synonymous in this thesis. Matrilineality refers specifically to the organisation of descent and inheritance through the maternal line (Sanday, 2003), whereas the matriarchal-economic lens used here asks the broader question of where economic and epistemic authority is centred and according to what principles value is organised.

The presence of men consequently does not contradict the possibility of a matriarchal economy. Conversely, the presence of women or even female leadership is not, by itself, sufficient evidence of one. What matters analytically is how knowledge, authority, production, distribution, decision-making, and economic continuity are organised (Goettner-Abendroth, 2013). This distinction is particularly relevant to Southeast Asian contexts, where women have historically exercised comparatively significant economic autonomy despite the prevalence of bilateral rather than strictly matrilineal kinship systems (Reid, 2017). In Borneo, weaving has also historically constituted an important domain of female knowledge and prestige. Gavin (2024), for example, describes how mastery of weaving could confer status on women parallel to forms of prestige historically associated with men. Weaving should therefore not be understood merely as "women's work" in a diminutive sense, but as a possible domain through which women exercise economic, cultural, and epistemic authority.

For the purposes of this thesis, Goettner-Abendroth's framework (2013) is used as an analytical grid for examining the organising principles of the weaving economies. Four interconnected dimensions guide the later interpretation of the empirical findings (Table 1):

Table 1: Analytical dimensions of modern matriarchal studies used in this thesis, adapted from Goettner-Abendroth (2013).

Analytical Dimension	Characteristics Foregrounded in Modern Matriarchal Studies
Economic	Gift, redistribution, balance, circulation rather than accumulation
Social	Kinship, inheritance, intergenerational transmission, women's economic and epistemic centrality
Political	Consensus, participation, non-coercive decision-making
Cultural-spiritual	Relationships with land, ancestry, the sacred, and the living world

These dimensions are not treated as four independent criteria that each case must satisfy equally. In particular, the cultural-spiritual dimension can be understood as a relational register that runs through the others: relationships with land, ancestry, and the sacred may shape how resources are used, how knowledge is transmitted, how responsibilities are distributed, and how collective decisions are understood. This distinction becomes important later in the thesis, where spirituality similarly emerges from the empirical findings not as an isolated form of value, but as a relational quality.

Matriarchal economic thinking also connects to broader scholarship on economic diversity. Gibson-Graham's (2008) diverse-economies framework challenges the assumption that capitalism encompasses the whole economy. Their well-known iceberg metaphor places formal wage labour and market exchange above the waterline, while gift, reciprocal, household, subsistence, cooperative, and communal activities remain comparatively less visible below it. From this perspective, economic practices that conventional accounting labels "informal" or leaves uncounted can instead be recognised as coherent forms of provisioning with their own systems of value.

This resonates with social and solidarity economy scholarship and its emphasis on reciprocity, collective organisation, redistribution, participation, and collective benefit. Sobeng et al. (2025) similarly argue that CE scholarship should engage more substantially with social and solidarity economy, political ecology, and Indigenous standpoint theory. Their Circular Economy Framework for Inclusive and Embedded Sustainability (CEFIES) brings these perspectives together to foreground justice, inclusion, reciprocity, collective organisation, and Indigenous agency within CE thinking (Figure 11).

The matriarchal-economic lens adds a specifically gendered economic dimension to this conversation. It asks not only what resources circulate, but also whose labour and knowledge enable that circulation, where authority is located, how value is distributed, and what purpose economic activity ultimately serves.

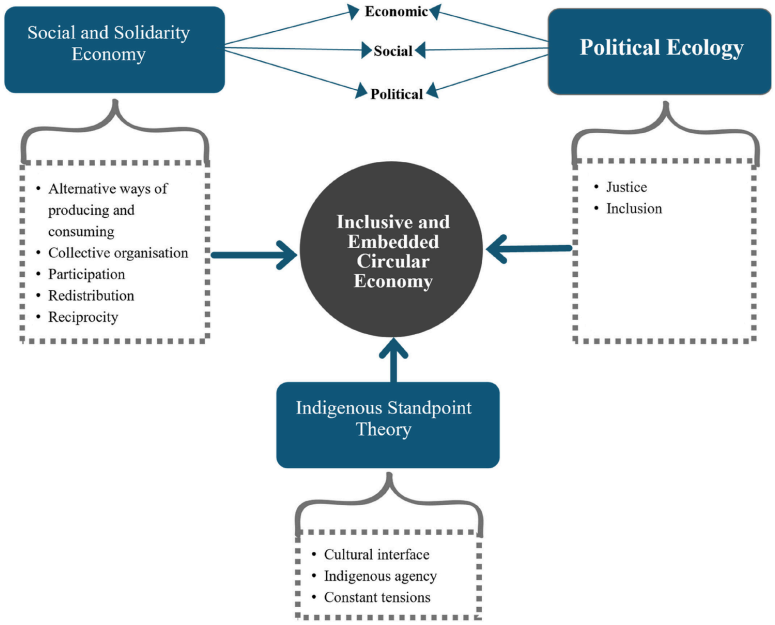

Figure 11: A Circular Economy Framework for Inclusive and Embedded Sustainability (CEFIES) (Sobeng et al., 2025).

This is particularly important for CE scholarship because material circularity does not operate independently from the social relations through which materials are produced, maintained, exchanged, and regenerated.

The marginalisation of these economic practices is also historically and politically produced. Feminist and decolonial scholarship shows how colonial and capitalist systems have transformed gender relations and devalued reproductive, subsistence, and community-based labour (Carlin & Federici, 2014; Lugones, 2010). These perspectives caution against treating women-centred Indigenous economic practices as remnants of a pre-modern past. Their limited visibility within formal economic frameworks may instead reflect the categories through which dominant economic systems determine what counts as productive, economically valuable, and worthy of recognition.

The concept of the matriarchal economy is therefore used in this thesis neither as a claim of female rule nor as a romantic description of Indigenous society. It is used as an analytical lens for examining already-existing economic principles centred on reciprocity, redistribution, sufficiency, relationality, intergenerational continuity, and women's economic and epistemic authority. Whether, and to what extent, these characteristics are supported by the empirical evidence from Pokant Takaq, Quirino Hill, and Guinsadan is examined in Section 6.1. This separation between theoretical definition and empirical interpretation is important: the communities are not assumed to be matriarchal in advance, but are read through this lens on the basis of the evidence generated in the field.

3.3 The Political Economy of Gendered Dispossession

If matriarchal economies are the affirmative subject of this thesis, the structural forces ranged against them are its political backdrop. These economies are not fading of their own accord; they are being dismantled by processes that are simultaneously economic, political, and gendered. Moving from feminist economics — which explains what is rendered invisible — to feminist

political ecology and political economy makes those processes legible: not as a series of local misfortunes, but as the predictable local expression of a wider logic of accumulation.

Harvey's (2003) concept of accumulation by dispossession describes how capital expands not only through production but through the enclosure of commons and the seizure of resources from the people who depend on them. Carlin & Federici (2014) give this a gendered edge: the commons being enclosed are frequently the subsistence base that women manage, so dispossession falls first and hardest on them. Both case contexts bear this out. In East Kalimantan, successive waves of extraction — colonial logging, then timber concessions, coal, and the oil-palm expansion that now makes Indonesia the world's largest palm-oil producer — have pushed ever further into Dayak forests (Li & Semedi, 2021; Elmhirst et al., 2019), and for the Pokant Takaq weavers the most immediate threat is the loss of the forests where the Doyo plant grows. In the Philippine Cordillera the dispossession is older and urban: the founding of Baguio as an American colonial hill station required the legal removal of Ibaloi landholders (McKenna, 2019), producing the hillside geography in which urban weaving communities such as Quirino Hill now operate. Different in form, these are the same logic — the conversion of relational, women-held land into extractable or saleable space.

Feminist political ecology supplies the analytical engine for seeing why these losses are gendered. Building on Elmhirst's (2019) formulation, the field argues that access to land, resources, and environmental knowledge is differentiated by gender, so that ecological change reshapes men's and women's lives unequally. Elmhirst et al. (2017), in the most detailed feminist political ecology of oil palm in East Kalimantan, show how plantation expansion reorganises gendered land access and labour in ways that erode women's autonomy — and note that these gendered effects have been consistently overlooked. The implication for this thesis is direct: when extractive industry destroys the forest, it does not only remove a raw material; it dismantles the ecological relationships through which women hold economic agency, cultural authority, and knowledge. Ecological dispossession and the unmaking of matriarchal authority are, in these contexts, the same event.

The threat is not only extraction but also the form that "help" takes. Li's (2007) account of the will to improve shows how development interventions characteristically render political problems technical — recasting questions of land, power, and dispossession as matters of training, productivity, or market access that experts can manage. This is visible in how state and market actors approach weaving: support is offered through enterprise development, product innovation, and eco-branding, framing the sustainability of weaving as a problem of competitiveness while leaving the land question untouched. Li's (2014) Land's End, a study of an Indigenous highland frontier in Sulawesi, shows where such logics lead: the gradual enclosure of Indigenous producers into capitalist relations they did not choose. Two everyday mechanisms in this study fit

the pattern. The Philippine conditional cash-transfer programme (4Ps) deters supplementary craft earnings, disciplining women away from the very economic activity that sustains their communities; and curatorial pressure to "modernise" traditional motifs for market appeal subordinates cultural meaning to saleability. Both are improvement logics: well-intentioned, technical in form, and corrosive of matriarchal economic autonomy.

Because these forces operate across both national contexts, a framework attuned to Southeast Asia as a whole is useful. Hall, Hirsch and Li's (2011) Powers of Exclusion identifies four mechanisms through which people are kept from land — regulation, force, the market, and legitimation — and shows that exclusion is rarely the work of any one of them alone. Across the three communities, all four appear: zoning, concession law, and conditional welfare (regulation); the advancing frontier of plantation and mine (force and market); and the authority of curators and heritage bodies to define what counts as legitimate craft (legitimation). The same grammar of exclusion plays out in Borneo and the Cordillera, which is precisely what makes cross-case comparison analytically productive rather than merely additive.



Figure 12: Myra, Lyka (author) and the Quirino Hill Weavers. Photo taken by Leah Schneiders.

Finally, the political economy of recognition explains why even sympathetic institutional attention so often fails these communities. Fraser (2003) distinguishes recognition — the granting of cultural status and visibility — from redistribution — changes to the material distribution of resources and power. Indigenous weaving attracts recognition readily: Ulap Doyo holds Indonesian national heritage status (Permendikbud No. 106/2013), and weaving traditions across the region are celebrated as intangible cultural heritage. But recognition without redistribution leaves the economy as precarious as before, because it does not touch the land, income, or institutional advocacy that communities identify as their real needs. The contemporary struggle is therefore over redistribution: the work of organisations such as AMAN and Perempuan AMAN, and of ancestral-domain registration through BRWA, is an attempt to convert symbolic recognition into material right. This sharpens the problem of institutional invisibility introduced earlier: these communities are not entirely unseen — they are seen in the register of culture and unseen in the register of power.

Taken together, these structural forces are gendered in their incidence, shared in their logic across both countries, and largely invisible to the techno-economic frameworks that dominate sustainability practice. This is the context any framework claiming to support these economies must be able to read. As the following section argues, the CE, rooted in technical material flows and an attachment to growth, is poorly equipped to see either the dispossession described here or the matriarchal authority being dispossessed.

3.4 Circular Economy and its Limitations

The circular economy (CE) is broadly defined as an economic model aimed at eliminating waste and maintaining the circulation of products and materials at their highest utility (MacArthur, 2013). While influential, the CE concept carries significant limitations for this research. Friant et al. (2020), in the most comprehensive typology of CE discourses to date, classify 72 CE-related concepts into four discourse types: Technocentric CE, Reformist Circular Society, Transformational Circular Society, and Fortress CE (Figure 13). Their analysis reveals that Indigenous and radically pluralistic discourses remain insufficiently connected to CE scholarship, despite embodying the most genuinely circular practices.

Corvellec et al. (2022), in the most cited CE critique article of recent years, demonstrate that the CE has diffuse conceptual limits, unclear theoretical grounds, structural implementation obstacles, and an ideological attachment to neoclassical economics that depoliticises sustainable growth. For Indigenous communities, the CE's predominant focus on technical and material flows, its relative neglect of social and cultural dimensions, and its tendency to reproduce Eurocentric assumptions about economic value represent fundamental blind spots (Sobeng et al., 2025). As Vecoli (2023) argues in her thesis on Indigenous-inspired CE in Australia, the CE genealogy is

predominantly European, and its analytical frameworks are not equipped to engage with knowledge systems that predate it by millennia.

This is not to dismiss the CE concept entirely. Rather, following Marotti de Mello et al. (2022), who called for research exploring how Indigenous epistemologies dovetail with CE thinking, this thesis takes the position that CE scholarship needs to learn from Indigenous communities at least as much as it might offer them analytical tools. The CE provides a common vocabulary; the communities provide the living proof that circularity can be relational, spiritual, and matriarchal rather than merely technical.

3.5 Circular Communities and the Circular Value Flower

The Circular Communities framework (Leclercq & Smit, 2023) responds to the CE's limitations by shifting the scale of circular analysis to the community or neighbourhood level and broadening value to encompass ecological, social, cultural, aesthetic, and economic dimensions simultaneously. The Circular Value Flower (CVF) is the method at the heart of this framework (Figure 14).

		Approach to social, economic, environmental and political considerations	
		Holistic	**Segmented**
Technological innovation and ecological collapse	**Optimist**	**Reformist Circular Society** • *Assumptions:* reformed form of capitalism is compatible with sustainability and socio-technical innovations can enable eco-economic decoupling to prevent ecological collapse. • *Goal:* economic prosperity and human well-being within the biophysical boundaries of the earth. • *Means:* technological breakthroughs, social innovations and new business models that improve ecological health, resource security, and material prosperity for all.	**Techncentric Circular Economy** • *Assumptions:* capitalism is compatible with sustainability and technological innovation can enable eco-economic decoupling to prevent ecological collapse. • *Goal:* sustainable human progress and prosperity without negative environmental externalities. • *Means:* economic innovations, new business models and unprecedented breakthroughs in CE technologies for the closing of resource loops with optimum economic value creation.
	Sceptical	**Transformational Circular Society** • *Assumptions:* capitalism is incompatible with sustainability and socio-technical innovation cannot bring absolute eco-economic decoupling to prevent ecological collapse. • *Goal:* a world of conviviality and frugal abundance for all, while fairly distributing the biophysical resources of the earth. • *Means:* complete reconfiguration of the current socio-political system and a shift away from productivist and anthropocentric worldviews to drastically reduce humanity's ecological footprint and ensure that everyone can live meaningfully, and in harmony with the earth.	**Fortress Circular Economy** • *Assumptions:* there is no alternative to capitalism and socio-technical innovation cannot bring absolute eco-economic decoupling to prevent ecological collapse. • *Goal:* maintain geostrategic resource security and earth system stability in global conditions where widespread resource scarcity and human overpopulation cannot provide for all. • *Means:* innovative technologies and business models combined with rationalized resource use, imposed frugality and strict migration and population controls.

Figure 13: Four Discourse Types of CE (Friant et al., 2020).

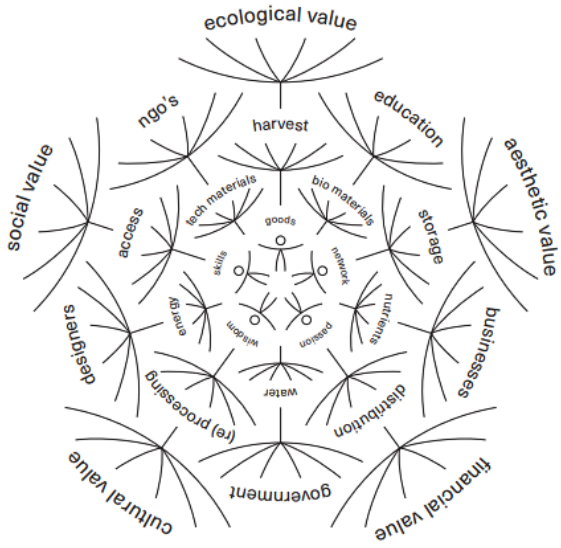

Figure 14: Circular Value Flower (Leclercq & Smit, 2023)

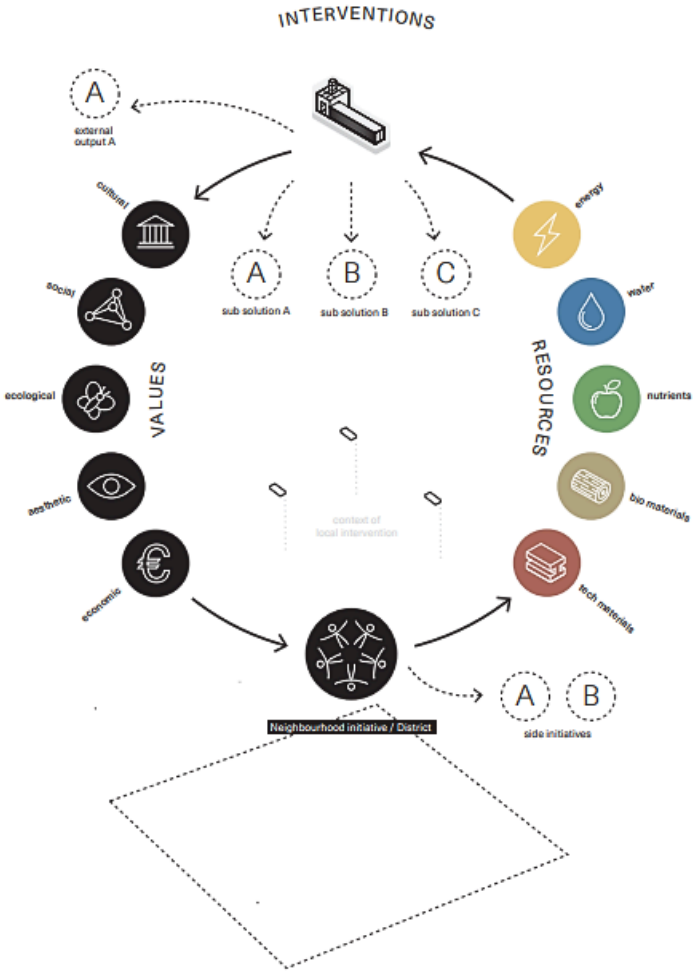

Figure 15: The Value Flower Field Map (Leclercq & Smit, 2023)

The CVF is not only a value-mapping diagram. It is a five-layer analytical and design method that links a community's ambition to the conditions and interventions through which circular value is created. The first layer identifies activating capital, including passion, skills, wisdom, goods and networks. The second maps the resource cycles addressed by the initiative: water, energy, nutrients, biological materials and technical materials. The third identifies the public, private, civic, design and knowledge actors required to realise the ambition. The fourth locates the spatial interventions through which circularity becomes material, including buildings, infrastructure, public space, gardens and objects. The fifth and outer layer maps the resulting ecological, social, cultural, economic and aesthetic values. The method therefore connects ambitions, capacities, resource flows, collaborations and spatial change to multiple value creation; the Value Flower Field Map (Figure 15) visualises these relationships as a process rather than as a static inventory of values.

Multiple Value Creation (MVC) theory, developed by Dembek et al. (2018) and extended by Jonker and Faber (2018, 2021), provides the theoretical basis for the CVF's multi-dimensional approach. MVC proposes that sustainable community and organisational activity generates value simultaneously across multiple dimensions, rather than privileging financial return. This makes MVC particularly relevant for examining how different forms of value may coexist within community-based economic practices.

3.5.1 Prior CVF Applications in the Global South

Several master's theses have extended the CVF to Global South contexts, each demonstrating both the method's promise and its limitations outside European settings. Buijsman (2025) applied the CVF in the Galapagos, proposing the 5 R's of Regenerativity (Restore, Relocalize, Reciprocate, Recognise, Resonate) and engaging with Two-Eyed Seeing as an epistemological framework. Working with food systems on Santa Cruz and San Cristobal islands, Buijsman demonstrated how the CVF could surface values invisible to conventional economic analysis while acknowledging the need for methodological adaptation in non-European contexts.

Sierra Gómez (2024) applied the CVF to analyse values generated by a women-led waste management initiative in Buenaventura, Colombia (Guardianas del Manglar), demonstrating how semi-structured interviews and adapted workshops could capture environmental, economic, cultural, aesthetic, and social values in a context of extreme poverty and displacement. Nadhira (2024) applied the CVF in Bali, engaging with the island's own institutional and cultural structures.

This thesis builds on these foundations but extends the CVF in three respects. First, it applies the CVF specifically to Indigenous craft communities operating within matriarchal economic systems, a context none of the prior applications have addressed. Second, it develops and theorises a storytelling-based CVF adaptation that emerged through fieldwork rather than design. Third, it engages with a spiritual dimension that the CVF's current five value categories do not adequately capture — not as a proposed sixth petal, but as the relational quality in which the other five cohere. The distinction is ontological, not presentational: spiritual value is not a further category of the same kind as the ecological or economic, waiting to be added, but the relational register that binds the others together (Avalos, 2024; Goettner-Abendroth, 2017; Murdock, 2024) — which is why a five-petal grid designed to sort value into separate kinds cannot, by its own structure, hold it. This thesis therefore treats spirituality as immanent across the value dimensions rather than additive to them: a position its cross-case evidence bears out (Chapter 5).

3.6 Indigenous Craft and Circular Practice

Indigenous practices have increasingly been recognised in the literature as embodying forms of circularity that predate contemporary CE frameworks (Beamer et al., 2023; Berkes, 2026; Bhanage et al., 2025; Dillon, 2024; Gavin, 2024; Salvador-Amores et al., 2021; Vecoli, 2023). Beamer et al. (2023), drawing on the Indigenous Hawaiian philosophy of aloha ʻāina, introduce the concept of the ancestral CE. They identify regenerative production, minimal-waste resource management, and regular redistribution for equity as central features of Indigenous circular systems (Figure 16). Their analysis also highlights the comparatively limited attention given to social and cultural dimensions within dominant CE approaches.

Similar arguments have emerged across other Indigenous contexts. Bhanage et al. (2025) describe circular practices in Indigenous communities in India as embedded in cultural traditions and everyday practices rather than introduced through formal CE policies. Vecoli (2023), working with Aboriginal Australian knowledge systems, identifies Country, relationality, kinship, reciprocity, and respect as principles through which CE thinking can be reconsidered from Indigenous perspectives. Dillon (2024) likewise connects circularity to the regeneration of land, craft, and biodiversity through cultural ecologies of connection. Together, these studies broaden circularity beyond the circulation of materials alone, drawing attention to the social, cultural, ecological, and relational systems through which resources and knowledge are maintained.

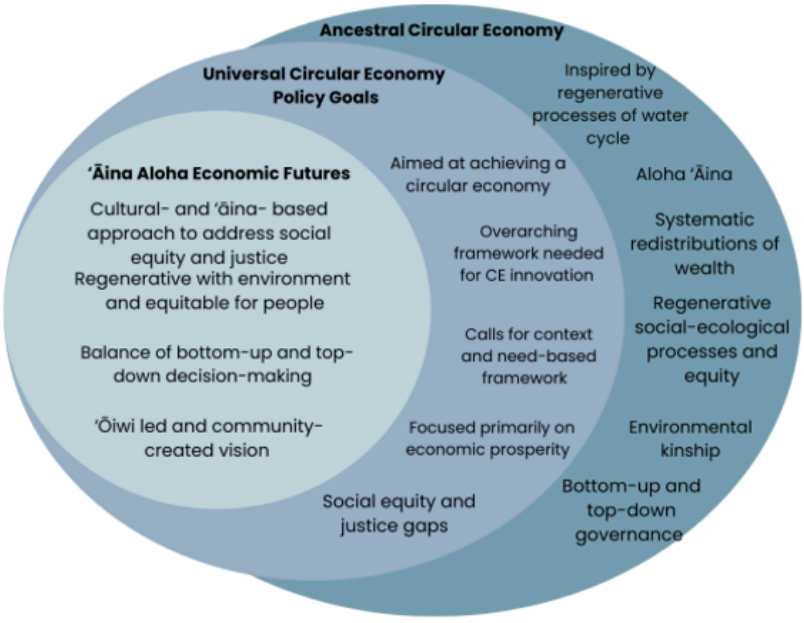

Figure 16: Circular Economy (CE) Policy Goal Gaps and Indigenous Informed Economy (Beamer et al., 2023)



Figure 17: Weaving components of Pokant Takaq. Photo taken by author.

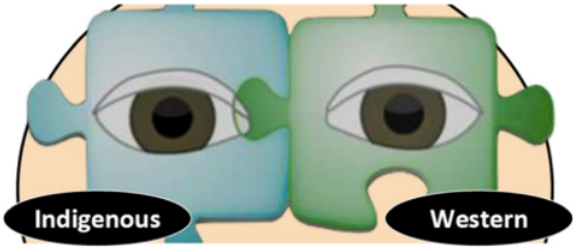

Figure 18: Two-Eyed Seeing. The connection represents an informed vision using both eyes (Bartlett et al., 2012).

Textile and craft scholarship further demonstrates that material production can function simultaneously as a means of cultural and intergenerational transmission. Salvador-Amores et al. (2021), for example, show how knowledge associated with Cordillera textiles is carried through embodied practice, material culture, and transmission across generations. Gavin (2024) similarly emphasises the embodied character of weaving knowledge, which is learned through observation, repetition, and participation rather than solely through formal instruction. From this perspective, continuity concerns not only the reuse or regeneration of material resources, but also the reproduction of knowledge, skills, meanings, and relationships through practice.

Taken together, this literature provides a basis for examining Indigenous craft as a form of circular practice whose functioning may extend beyond the material loops typically foregrounded in CE scholarship. However, the ways in which such practices generate and sustain multiple forms of value, and how these forms of value interact within Indigenous women-led weaving economies, remain underexplored. This provides the point of departure for the empirical analysis in this thesis, which uses the CVF to examine rather than assume how circularity and MVC are expressed across the three weaving communities.

3.7 Two-Eyed Seeing (Etuaptmumk)

Two-Eyed Seeing (Etuaptmumk in Mi'kmaw) is a guiding principle coined by Mi'kmaw Elder Albert Marshall, Elder Murdena Marshall, and Dr. Cheryl Bartlett at Cape Breton University, first articulated in 2004 (Bartlett et al., 2012). Elder Marshall defines it as learning to see from one eye with the strengths of Indigenous knowledges and ways of knowing, and from the other eye with the strengths of western knowledges and ways of knowing, and learning to use both these eyes together, for the benefit of all (Figure 18).

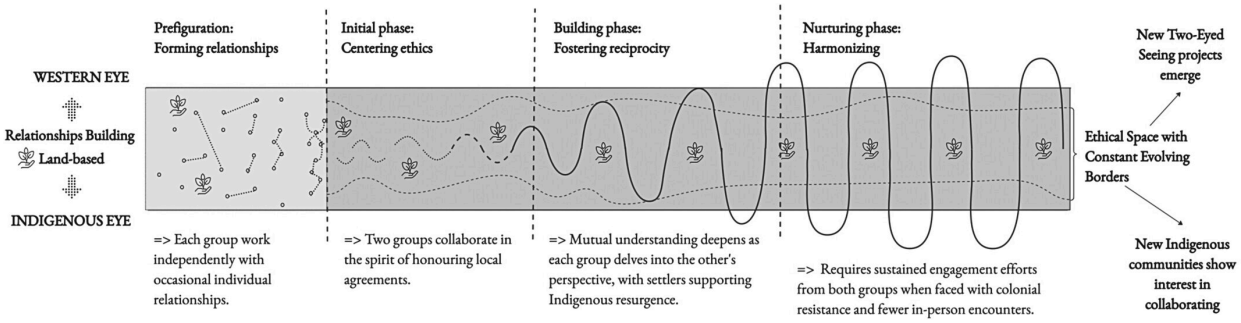

Figure 19: Two-eyed seeing process model (Arjaliès & Banerjee, 2024)

The foundational academic article (Bartlett et al., 2012) outlines eight lessons learned within a co-learning journey, beginning with the recognition that we need each other and must engage in a co-learning journey. Marshall et al. (2018) further articulate Two-Eyed Seeing as the gift of multiple perspectives, emphasising that it is not an academic discipline but a guiding principle covering all aspects of life: social, economic, environmental. Wright et al. (2019), in the integrative review of Two-Eyed Seeing in research, identify significant variation in how the concept is interpreted, from theoretical framework through methodology to guiding principle.

Critically, Broadhead and Howard (2021) offer a productive caution: they reveal the latent tension between fostering dialogue and suppressing fundamental contradictions between holistic Indigenous and reductionist western worldviews. Arjaliès and Banerjee (2024), in a study based on a four-year community-based participatory research project in Canada, propose a Two-Eyed Seeing relationship-building process model for sustainability research (Figure 19), arguing for shifting from extractive to regenerative knowledge production through relational ontology. Their model, which moves through prefiguration, initial, building, and nurturing phases, provides a practical framework for operationalising Two-Eyed Seeing.

This thesis takes the tension identified by Broadhead and Howard (2021). The CVF provides one eye — a western analytical structure for mapping value creation. The storytelling, relational knowledge, and land-based practices of the weaving communities provide the other. The thesis holds both in productive dialogue rather than merging them, acknowledging the tensions that remain. At the time of writing, there is no existing literature explicitly combining Two-Eyed Seeing and CE as a joint framework; this thesis is pioneering in that application.

3.8 Land as Pedagogy

Simpson's (2014) concept of land as pedagogy challenges understandings of land as merely the physical setting in which knowledge is produced. Drawing on Nishnaabeg thought and the story of Kwezens, Simpson describes land as both the process and context through which knowledge, values, skills, and relationships are learned. Learning is therefore not separated from everyday engagement with place, but occurs through embodied participation in relationships with land, community, language, and more-than-human life. Wildcat (2014) similarly argue that Indigenous land-based education reconnects people not only with territory, but with the social relations, knowledges, languages, and responsibilities that arise from land. Land-based knowledge, from this perspective, is not simply knowledge about an environment; it is knowledge generated through continued relationship with it.

This relational understanding is also developed through Salmón's (2000) concept of kincentric ecology. Based on Rarámuri understandings of human–environment relations, kincentric ecology describes humans as participants within an extended ecological family rather than as external managers of nature. Ecological relationships therefore involve reciprocity and responsibility as well as material dependence. Berkes (2017) likewise conceptualises Indigenous and local ecological knowledge as inseparable from practices, institutions, beliefs, and relationships, emphasising knowledge as an evolving process rather than a static body of environmental information. Together, these perspectives challenge a resource-based understanding of human–environment relations in which land, plants, animals, and water are primarily treated as inputs available for human use.

Other Indigenous scholarship extends this argument by questioning the assumption that agency resides exclusively with humans. Watts (2013) develops the concept of Place-Thought, in which place and thought are inseparable and agency circulates through human and more-than-human worlds. Bang et al. (2018) similarly describe Indigenous sciences as fundamentally organised through relationships, reciprocity, and responsibilities, rather than through the observation of an external and objectified natural world. Although these concepts emerge from distinct Indigenous intellectual traditions and should not be collapsed into a single universal Indigenous worldview, they share an important analytical orientation: knowledge is produced through relationships, and these relationships carry responsibilities toward the human and more-than-human worlds of which people are part.

This emphasis on land also has political implications. Tuck and Yang (2012) caution against reducing decolonisation to an epistemological or institutional metaphor, arguing that decolonisation remains materially concerned with Indigenous land and life. Land-based knowledge cannot therefore be separated from questions of dispossession, territorial authority, and the conditions that allow Indigenous

relationships with land to continue. The disruption of land relations is simultaneously capable of disrupting the practices, languages, knowledge systems, and social relations through which those relationships are reproduced (Wildcat, 2014).

Together, these perspectives provide a conceptual basis for examining Indigenous craft practices without assuming that their relationship to land can be understood solely through material inputs or resource flows. They direct attention instead toward how material practice, ecological knowledge, cultural transmission, livelihood, and more-than-human relationships may be interconnected. In this thesis, land as pedagogy and relational ecology therefore function as sensitising concepts for investigating how relationships with land enter into the creation and continuation of value within Indigenous weaving economies. Whether and how these relationships manifest across the three cases is examined empirically in Chapter 5 and interpreted in Chapter 6, where the implications for CE thinking are developed further.

3.9 Research Positionality and Decolonial Methodology

The methodological literature on decolonial research provides essential grounding for this thesis. Smith's (2021) foundational text argues that western research paradigms are inextricably linked to European imperialism and colonialism, and that research is probably one of the dirtiest words in the Indigenous world's vocabulary. Wilson (2020) frames Indigenous research as ceremony built around relational accountability, where researchers must be accountable to all their relations.

The ego-designer to partner spectrum (Garzón Garzón & Delgado Medina, 2025) provides a framework for understanding the researcher's transformation during fieldwork: from ego-designer (methodology pre-planned, researcher at centre) through facilitator (following community rhythm, trusting local facilitators' judgement) toward partner (returning to share findings) (Figure 20). The movement from Me-search to

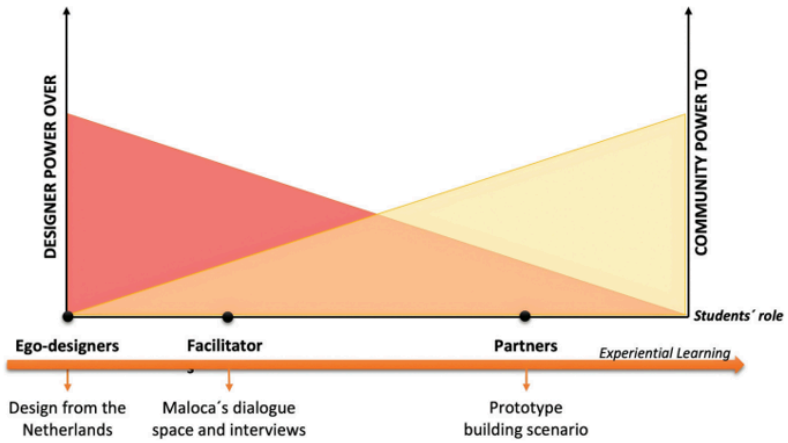

Figure 20: Design Participatory Role Evolution (Garzón Garzón & Delgado Medina, 2025).

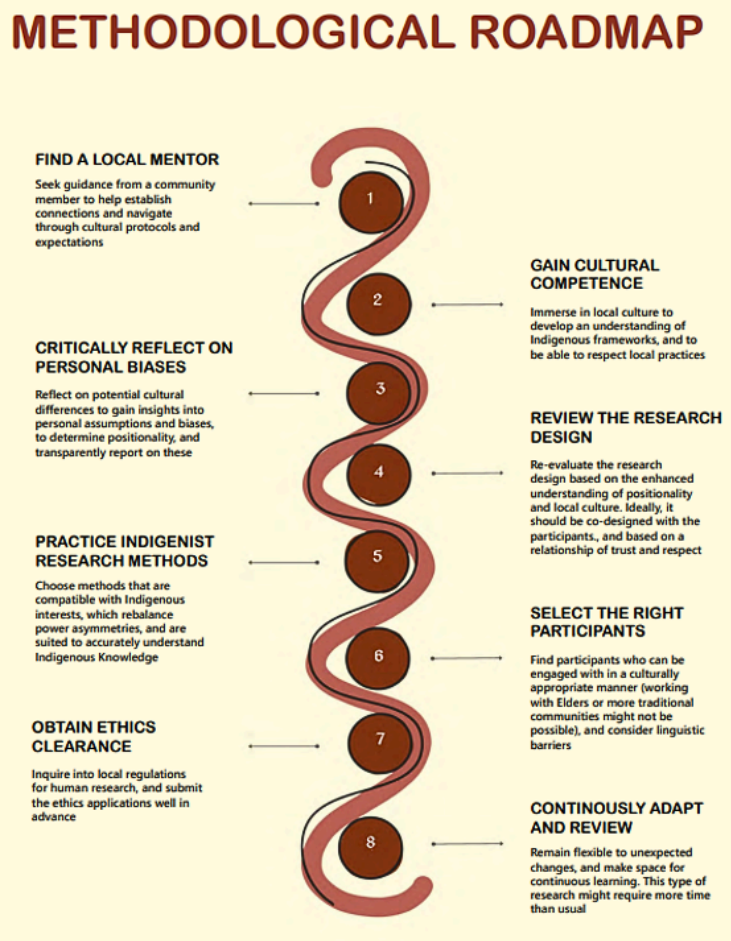

Figure 21: Methodological Roadmap for Indigenous Research (Vecoli, 2023).

We-search (Thai & Grand'Pierre, 2026) complements this by showing how researchers studying their own communities' marginalisation are perceived more positively by those communities, who trust that an ingroup researcher with genuine community commitment will conduct research aligned with community needs.

Vecoli's (2023) methodological roadmap for Indigenous research, developed through her fieldwork with Aboriginal communities in Australia, offers eight practical steps for conducting respectful cross-cultural research: find a local mentor, gain cultural competence, critically reflect on personal biases, review the research design, practise indigenist research methods, select the right participants, obtain ethics clearance, and continuously adapt and review (Figure 21). While developed in an Australian context, these steps resonate with the challenges of Indigenous research in Southeast Asia, particularly the importance of local facilitators, the need for methodological flexibility, and the recognition that academic timelines are often incompatible with the relational temporalities of Indigenous research.

Also, Datta (2018) argues that storytelling links Indigenous worldviews to all aspects of the research process, and that western methods are often inappropriate and ineffective in Indigenous contexts. Iseke (2013) identifies four dimensions of

Indigenous storytelling as research: storytelling types, pedagogical tools, witnessing and remembering, and spirituality as strength. Carroll et al. (2023) establish the CARE Principles for Indigenous Data Governance: Collective Benefit, Authority to Control, Responsibility, and Ethics, complementing the FAIR principles by centring people and purpose. These frameworks collectively inform the storytelling-based CVF adaptation developed in this thesis.

3.10 Towards a Conceptual Synthesis

The theoretical perspectives reviewed in this chapter reveal several areas of literature that are relevant to this thesis but have only partially been brought into conversation. CE scholarship has increasingly broadened beyond material efficiency and technical loop closure, yet the role of Indigenous women as producers, knowledge holders, and practitioners of circular systems remains comparatively underexplored. Feminist and matriarchal economic scholarship provides concepts for examining economic activity organised through care, reciprocity, subsistence, reproduction, and relational forms of value, but these perspectives have received limited attention within CE research. Indigenous scholarship on land, relationality, and more-than-human relations further challenges understandings of sustainability based primarily on resources and human management, while remaining largely outside dominant CE frameworks.

The CVF provides a useful point of connection between these bodies of thought because it makes multiple forms of value visible at the community scale rather than privileging financial value alone. At the same time, its existing applications have predominantly emerged from structured circular-community contexts and provide limited guidance for analysing Indigenous craft economies in which knowledge, value, and ecological relationships may be expressed through different forms of participation and knowledge sharing. Two-Eyed Seeing offers an epistemological principle for approaching this encounter without subsuming Indigenous knowledge within a Western analytical framework, while land as pedagogy and relational ecology sensitise the analysis to relationships that may not be legible through material-flow perspectives alone.

Rather than combining these perspectives into a single theoretical model, this thesis brings them into dialogue around the study of Indigenous women-led weaving economies (Figure 22). Matriarchal and feminist economic thought provides a lens for examining where economic and epistemic authority is situated and how value is organised; the CVF provides an analytical structure for examining MVC; Two-Eyed Seeing informs how Western and Indigenous knowledge systems are approached in relation to one another; and land-based and relational scholarship directs attention to the relationships through which knowledge, materials, and practices are sustained.

Together, these perspectives form the conceptual framework through which the empirical research is approached. They guide the investigation of what forms of value are created through weaving, how these values are related to material practices, land, knowledge, and social organisation, and what conditions support or constrain their continuation. The empirical chapters examine how these relationships manifest across the three cases, while the Discussion (Chapter 6) considers what the resulting patterns imply for CE thinking and for the CVF. The following chapter describes the research design through which these questions were investigated.

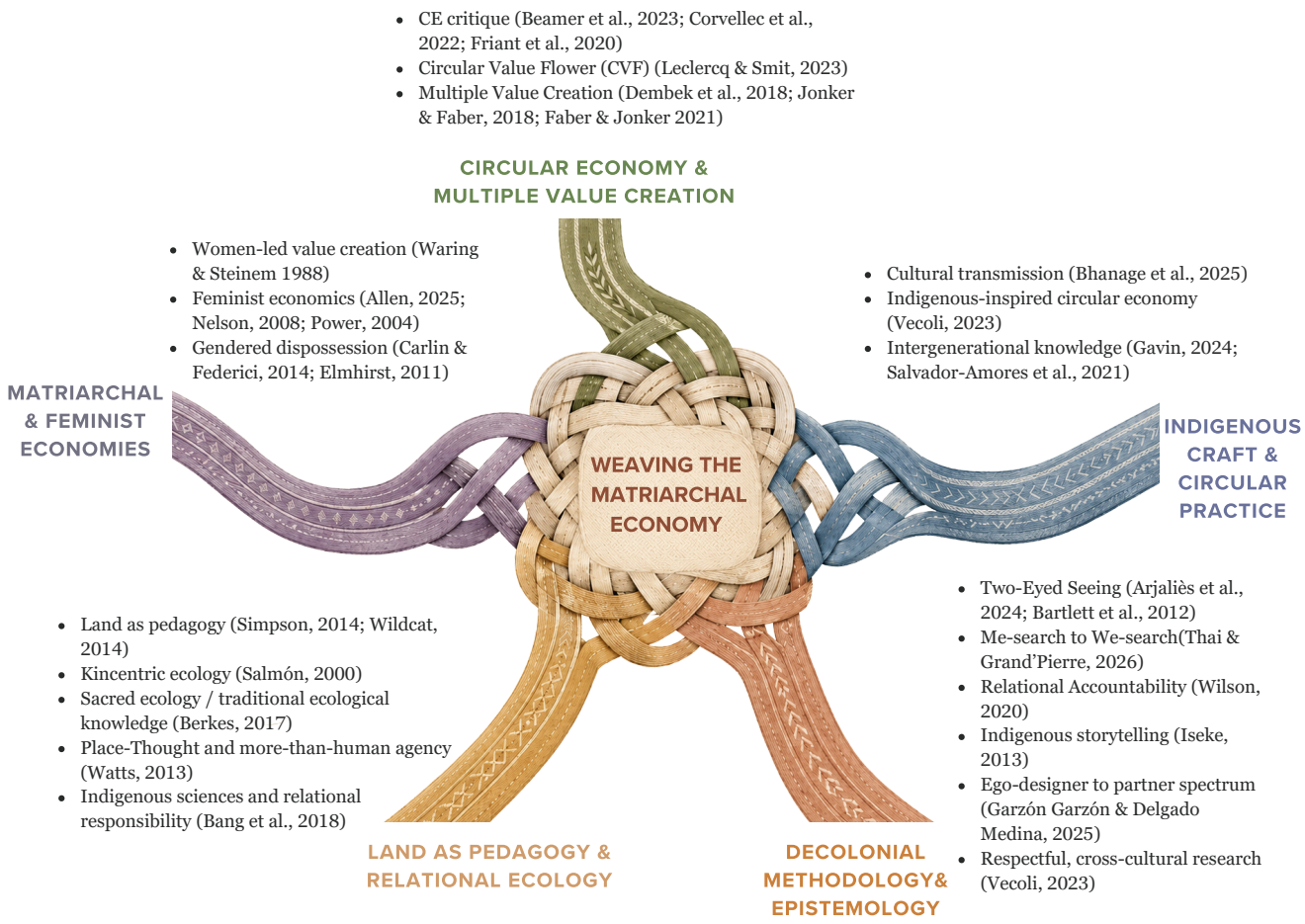

Figure 22: Conceptual synthesis of the literature informing this thesis. Conceptualised and designed by the author; includes visual elements from Canva-AI Elements Lab.

CHAPTER FOUR

METHODOLOGY

This chapter describes the research design, the selection of the three case studies, the role of the local facilitators, the data-collection methods, the analytical approach, and the limitations of the research. It is written so that another researcher could follow the same steps in a comparable context. Where the chapter touches on what the method came to reveal — about the facilitators, the asymmetry between the cases, and the shift from a structured workshop to storytelling — those interpretations are developed as findings in Chapter 5; here the concern is with what was done and how.

4.1 Research Design

This research employs a multiple case study design. A case study approach is appropriate when the phenomenon under investigation — multiple value creation in Indigenous craft communities — is inseparable from its cultural, ecological, and political context (Schoch, 2020). The design is deliberately asymmetric: Pokant Takaq is the primary, in-depth case, studied through multiple data sources and triangulation, while Quirino Hill and Guinsadan are comparative narrative cases studied through single storytelling sessions. This asymmetry was not imposed in advance for its own sake; it follows from the relational nature of the fieldwork, in which the depth of data a community could offer was set by the depth of relationship and trust available. The design is therefore uneven by necessity rather than oversight, and what that unevenness reveals is taken up as a finding in Chapter 5.

The study is epistemologically guided by Two-Eyed Seeing, Etuaptmumk (Bartlett et al., 2012), which holds the CVF's western analytical structure and Indigenous knowledge systems in productive dialogue rather than collapsing one into the other. It draws methodologically on Vecoli's (2023) Roadmap to Indigenist Research and on the CARE Principles for Indigenous Data Governance (Carroll et al., 2023). Two

further frameworks structure the reflection on positionality that runs through the chapter: the movement from Me-search to We-search (Thai & Grand'Pierre, 2026) and the ego-designer to partner spectrum (Garzón Garzón & Delgado Medina, 2025). All four are introduced in Chapter 3 and are applied here as methodological commitments rather than re-explained.

4.2 Case Selection

Case selection followed theoretical relevance rather than statistical representativeness. All three communities share the core characteristics that define the object of study: they are Indigenous, women-led, and sustain weaving traditions that create multiple forms of value while facing cultural-preservation pressure and market integration. They differ on the dimensions that make cross-case comparison productive — material practice (natural fibre, commercial thread, or a mix), organisational form (informal community group, registered association, or individual practice), ecological situation (acute threat, decoupled, or moderate), and market relationship (externally imposed pressure, community-driven shift, or market-supported tradition). These differences were the basis for selection: each case was chosen because it occupies a distinct position on these axes, so that comparing them isolates how material and contextual factors shape value creation. Pokant Takaq additionally serves as the primary case because it was the site at which the deepest fieldwork and fullest triangulation were possible, and because its ecological urgency — a fibre plant under direct threat — makes it a critical case for the relationship between ecological and cultural value. Table 2 summarises the case selection logic.

4.3 The Role of Local Facilitator

In Indigenous "research", access is not a logistical matter, but rather a relational one (Smith, 2021; Wilson, 2020). This study depended on three individuals who made access to, and trust within, the communities possible. Their roles are described here as part of the method; wider significance for what the research found is taken up in Section 5.5.

Pak Rudi — Indonesia

Prof. Rudi, of Mulawarman University, served as the academic facilitator and gatekeeper for the Indonesia fieldwork. His standing and his longstanding relationship with the Pokant Takaq community provided the institutional trust and cultural legitimacy that enabled access. He facilitated introductions, co-organised the community workshop, and provided contextual knowledge of the Dayak Benuaq political and institutional landscape. His role corresponds to the first step in Vecoli's (2023) Roadmap to Indigenist Research: find a local mentor.

Ibu Wiwin — Indonesia

Ibu Wiwin of Mulawarman University also served as the academic facilitator in Pokant Takaq. But where Pak Rudi provided the institutional bridge, she provided the community one: a trusted figure within the weaving community itself, present

Table 2: Case selection and Comparison Dimensions

Dimension	Pokant Takaq (Indonesia)	Quirino Hill (Philippines)	Guinsadan (Philippines)
Location	Tenggarong, East Kalimantan, Borneo	Quirino Hill, Baguio City, Benguet	Mountain Province, Cordillera
Ethnic group	Dayak Benuaq	Igorot (mixed)	Igorot (Kankanaey)
Setting	Semi-rural, forest-adjacent	Urban neighbourhood	Rural mountain village
Weaving method	Backstrap loom (gedogan); Doyo plant fibre	Upright loom; commercial and recycled thread	Backstrap loom; commercial thread for daily, traditional for burial cloth
Organisation	Informal community group (~35 women)	Registered association (Bless Weavers)	Individual practice
Ecological situation	Acute: Doyo plant threatened by palm oil and mining	Decoupled: commercial materials; wagwag upcycling	Moderate: farming maintains land connection
Market relationship	External pressure (curator-driven)	Community-driven pragmatic shift	Market supports tradition (cultural resurgence)
Case role	Primary (triangulated)	Comparative narrative	Comparative narrative

throughout the workshop and fieldwork. She translated between Dayak Benuaq, Indonesian, and the researcher's questions, navigating not only language but cultural register, so that questions were posed in ways that made sense within Dayak Benuaq relational norms.

Myra Colis — Philippines

Myra Colis, an Igorot woman from Baguio and founder of the Mabikas Foundation, facilitated both Philippine encounters. She identified the two communities, arranged the visits, and conducted the storytelling sessions in Filipino and Ilocano. Drawing on her knowledge of both communities, she shaped the CVF materials were used in practice — leading with conversation rather than working through the printed diagram in sequence, and judging when to introduce a prompt and when to let a story run (Chapter 4.6). During these sessions the researcher's role was primarily that of listener and observer: she introduced the research and the CVF method at the outset, but the questions were then put through Myra rather than directly, and the conversation followed the women's lead.

4.4 Co-researcher: Eva Brouwer

Eva Brouwer, a fellow IE master's student at TU Delft and a member of the LDE Thesis Lab, participated as co-researcher during the Indonesia fieldwork. Eva and I collaborated on workshop design, data collection, and the validation session; having two researchers present allowed an in-depth storytelling and thereby strengthened the reliability of the Indonesia data. Eva's own thesis also studies Pokant Takaq through the CVF, but approaches it through a spatial and territorial-recognition lens (participatory and counter-mapping), where this thesis approaches it through cross-case comparison and multiple value creation. Her independent analysis of the shared fieldwork therefore provides a measure of analytical triangulation, and the two accounts are best read as complementary perspectives on the same community.

4.5 Data Collection

Data collection took place across three fieldwork phases. The methods differed across the cases, reflecting both the asymmetric design and the commitment to adapt to each community's context rather than imposing a uniform protocol.

4.5.1 Phase 1: Pokant Takaq, East Kalimantan (Indonesia)

The Indonesia fieldwork comprised four elements.

Community CVF workshop. A modified CVF workshop was held with approximately six community members in Pokant Takaq. The CVF diagram and its accompanying questions were translated into Indonesian. The session had been conceived as a slide presentation, but no projector or reliable power supply was



Figure 23: Phase 1 of Data Collection in Pokant Takaq, East Kalimantan with Eva Brouwer. Photo taken by author.

available at the venue; the materials had also been printed on A1 posters (Appendix A), and it was these that the workshop in fact relied on. The researcher displayed and explained them with translation support from Ibu Wiwin. The conversation opened with the resources and value chain of the textiles the women weave and moved through the CVF's layers from there: the materials, tools, and skills involved; where materials are sourced (which supported the spatial mapping); the stakeholders connected to the practice; the enabling capital the community already holds; the values their weaving creates; and finally their urgencies. The session lasted approximately two hours, was conducted mainly in Indonesian with segments in Dayak Benuaq, and was audio-recorded and photographed with consent.

Stakeholder interviews. Six semi-structured stakeholder interviews were conducted to triangulate and contextualise the community perspective with institutional and expert viewpoints. Interviewees represented the Office of Industry, Trade and Cooperatives (ITC), Bank Indonesia, academia, BRWA (Customary Territory Registration Agency), Perempuan AMAN (the Association of Indigenous Women of the Archipelago), the Bioma Foundation, and a carbon-credits body. The interviews explored issues including land governance, Indigenous rights, environmental management, economic development, and pressures affecting Ulap Doyo weaving practices. Questions were prepared in advance, while additional questions emerged during the conversations; the interview guide is provided in Appendix B. Interviews lasted approximately 45–75 minutes, were conducted in Indonesian or English, and were audio-recorded with consent (Appendix E) and transcribed.

Validation session. A return visit to Pokant Takaq shared preliminary findings with the community, serving both member-checking (allowing members to confirm, correct, or contest the researcher's interpretation) and reciprocity (returning something rather than only extracting data). The team was told this was the first time a research team had returned to the community after conducting research. This step was possible only in Pokant Takaq and is one of the principal differences in depth between the primary and comparative cases.

Additional data. Digital participatory mapping (using phones and laptops) documented the spatial relationships between land use, Doyo plant distribution, and community infrastructure. Photographs and video of the weaving process, materials, tools, and community spaces were taken with consent.

4.5.2 Phase 2: Quirino Hill, Baguio City (Philippines)

A storytelling session was held with eight women of the Bless Weavers association at their weaving space. As in Indonesia, the encounter had first been imagined as a short presentation, but the community had no projector or laptop; drawing on the Indonesia experience, the researcher had instead printed the CVF materials on A4 and brought enough copies for each woman to have her

own (Appendix C). The materials served three purposes rather than structuring a step-by-step workshop. First, they introduced the research: the researcher explained the idea of circularity and gave a short account of the CVF method, and used the completed Pokant Takaq value-chain diagram and booklet — with their photographs — to show concretely what the research was trying to achieve and why she had come. Second, they provided an entry point: rather than beginning with the diagram's first phase, the session opened with the enabling-capital page, because the question it carries — why do you weave? — worked well as an ice-breaker. Third, the printed pages were used as a surface on which to record what emerged, with the women's points written onto the relevant page as they were raised. For example, what they feared losing was noted on the urgencies page. (Figure 24).

The session did not follow the phase sequence set out in the printed materials. Myra and the researcher found that the women's stories flowed across the categories rather than answering them one at a time, and the structured order made less and less sense as the conversation went on. The value questions in particular (Phase 4) were difficult to put directly, because answers to them had already surfaced through the women's storytelling. The session was conducted in Filipino and Ilocano, with Myra translating key moments, lasted approximately 1.5 hours and was occasionally recorded with verbal consent. The CVF therefore functioned during the session as an explanatory frame, an entry point, and a recording device; its application as a full analytical grid across all categories was completed by the researcher afterwards (Section 4.7)

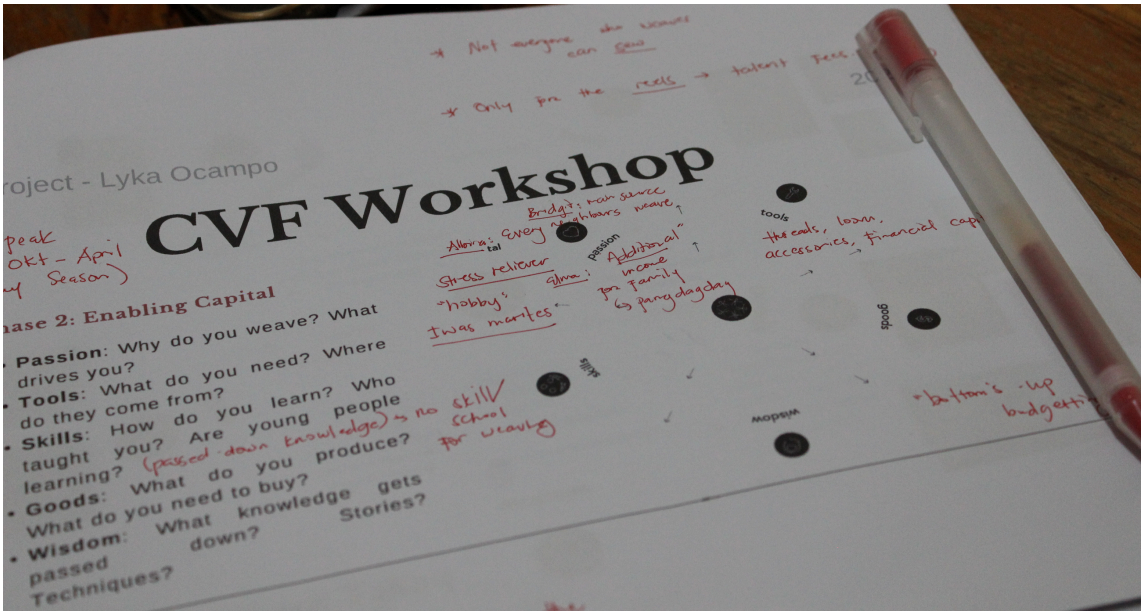

Figure 24: Printed CVF Material on A4 with the women's points written onto the relevant page. Photo taken by author.

4.5.3 Phase 3: Guinsadan, Mountain Province (Philippines)

A second storytelling session was held in Guinsadan with four women, among them an elder weaver of about seventy who had woven since the age of six or seven. The approach was the same as in Quirino Hill: printed A4 CVF materials, one copy per participant; the research and the CVF method introduced with the help of the completed Pokant Takaq example; the enabling-capital question used to open the conversation; and the printed pages used to record what the women raised. As in Quirino Hill, the phase sequence was not followed, and the value questions were largely answered before they could be asked, through the women's own storytelling. Myra facilitated in the local language, inviting the women to talk about their practice, how the knowledge is passed on, what weaving means to their families, and what worries them about the future. In the course of describing their practice, the women also explained the different materials they weave with and gave the local names for each; these are illustrated and listed in Appendix D. The session lasted approximately 1.5 hours and was occasionally recorded with verbal consent. It produced data of a different texture from Quirino Hill — quieter and more reflective, with longer pauses — and several of the things the women raised, including how weaving knowledge is learned in childhood, surfaced without any prompting from a CVF category.

4.6 The CVF Adaptation: From Workshop to Story

The CVF was developed as a participatory co-design method through which community members and other stakeholders collectively map circular systems, multiple forms of value, enabling capital, and shared urgencies (Leclercq & Smit, 2023). As described in Section 4.5, the conditions encountered during fieldwork required this format to be adapted. Rather than constituting three separate methodological departures, these adaptations can be understood as a gradual shift in the role of the CVF: from a framework intended to structure participation in real time to one that supported and subsequently organised a more open-ended process of knowledge sharing.

Two aspects of this shift were particularly important. First, the physical format of the method changed. The CVF moved from presentation-based materials to printed, tangible materials that could be gathered around, held, annotated, and referred to during conversation. This altered not only how the framework was delivered but also how participants could engage with it. Second, and more substantially, the sequential workshop structure became increasingly flexible. The CVF categories remained present throughout the research, but they no longer determined the order in which knowledge had to emerge. Participants could move between materials, values, relationships, memories, concerns, and aspirations as these became relevant within their stories.

The resulting adaptation therefore did not abandon the CVF. Instead, it changed where and when the framework performed its analytical work. During the encounters, the CVF functioned primarily as an explanatory and elicitation frame: it introduced the purpose of the research, provided prompts where useful, and offered a means of recording emerging contributions. The systematic organisation of those contributions across CVF dimensions occurred afterwards through directed analytical mapping (Section 4.7). In this sense, the method shifted from a script for the conversation to a scaffold around it.

This flexibility was also consistent with the methodological commitment of the thesis. Indigenous knowledge is frequently communicated through relationship, practice, oral history, and story rather than through predetermined analytical categories (Datta, 2018; Iseke, 2013). Allowing the conversation to move on participants' terms reduced the risk that an externally developed framework would determine in advance what counted as relevant knowledge. At the same time, this adaptation changed the nature of the resulting data: rather than producing a fully co-created Value Flower Field Map in every case, it generated narrative material that was subsequently interpreted through the CVF by the researcher. The analytical responsibility associated with that shift is therefore made explicit rather than treating the adapted sessions as equivalent to the original co-design workshop.

Figure 25 visualises the movement from a structured workshop toward a storytelling-led application, while Table 3 summarises how the original CVF format was operationalised in this study.

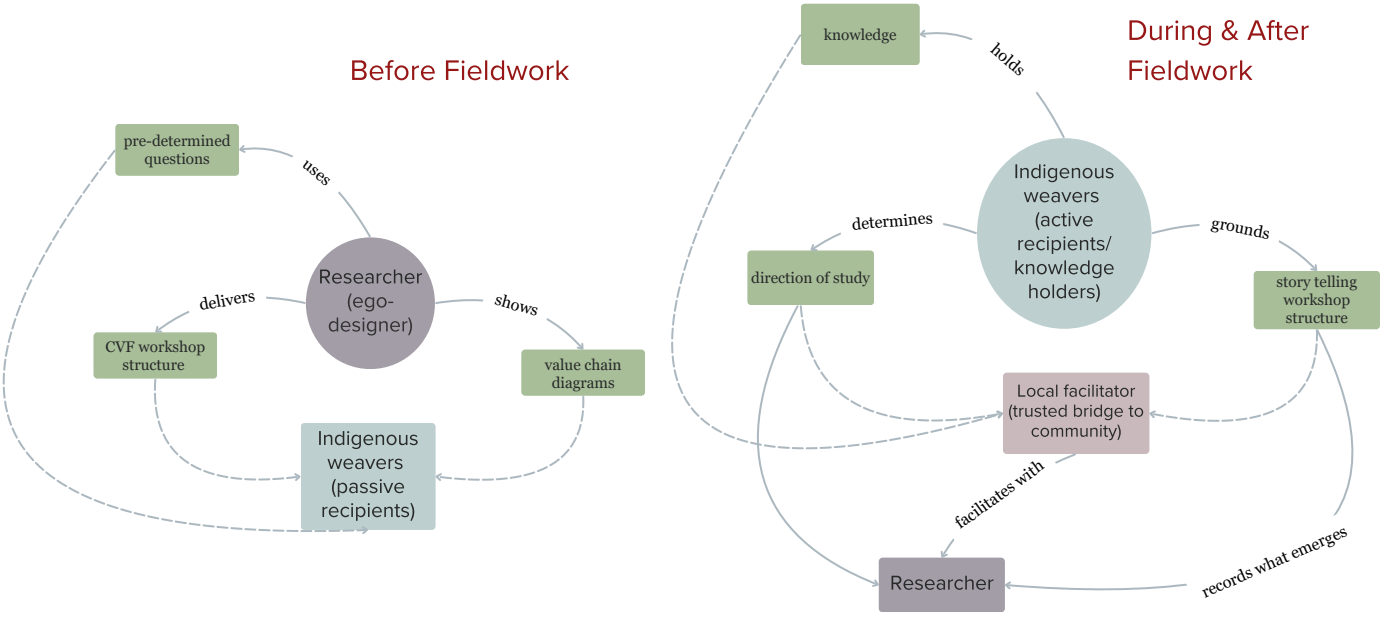

Figure 25: Before and after method adaptation made by author. Inspired by Garzón Garzón & Delgado Medina, 2025.

Table 3: CVF method adaptation - before and after.

Dimension	Original CVF (Leclercq & Smit, 2023)	Storytelling-based adaptation (this thesis)
Format	Multi-stakeholder co-design workshop, fixed phase sequence	Storytelling-led sessions; the CVF phase sequence set aside
Delivery and materials	Slides or shared workshop materials	Printed posters (A1, Indonesia) and A4 copies, one per participant (Philippines); no audio-visual equipment assumed
The CVF in the session	Structures the co-design activity step by step	Frames the research, opens the conversation (enabling-capital prompt), and records what emerges; full analytical mapping done afterwards
Language	Language of facilitator or researcher	Community's own language; translated by the local facilitator
Facilitator role	Researcher leads	Local facilitator leads the conversation; researcher introduces the work and listens
Stakeholder scope	Multiple stakeholders co-present	Community perspective primary; stakeholders interviewed separately (Indonesia only)
Data type	Co-created, participatory output	Narrative, researcher-interpreted output
What it surfaces	Collective vision and intervention matrix	Emotional texture, spiritual meaning, relational values, fears and urgencies
Ethical stance	Participatory co-creation	Community-led story; analytical responsibility with the researcher

4.7 Data Analysis: Directed Analytical Mapping

The analysis followed a process of directed analytical mapping, in which the narrative data from all three cases was systematically mapped onto the CVF's framework. This is not a grounded-theory approach, in which categories emerge from the data; it uses the CVF's existing categories as the analytical structure while remaining open to dimensions the framework does not anticipate. It proceeded in four steps.

Step 1: Transcription and translation. Audio recordings from the workshops and interviews were transcribed. Indonesian and Dayak Benuaq material was translated into English by the researcher with support from Ibu Wiwin; Filipino and Ilocano material with support from Myra. Direct quotations were kept in the original language where translation would diminish their meaning (e.g. kayamanan, makati, iwas marites, pangdagdag).

Step 2: Narrative reading and annotation. Each transcript was read in full several times. Passages in which community members described values, practices, fears, relationships, or urgencies were annotated, and the annotations were then refined and grouped into thematic clusters. Annotation was done by hand, on printed transcripts and in a research notebook, rather than with coding software.

Step 3: CVF dimension mapping. Each annotated passage was mapped onto the CVF's categories. Enabling-capital passages were assigned to passion, skills, wisdom, tools, or goods and networks; value passages to the ecological, social, cultural, economic, or aesthetic dimension. Passages concerning spiritual significance — ceremonies, purity rules, cosmological motifs, sacred burial cloth — were recorded as a quality cutting across the other dimensions rather than as a separate category, following this thesis's decision to treat spirituality not as a stand-alone sixth value but as a relational charge running through all five (Chapters 3 and 5).



Figure 26: Storytelling-led fieldwork session in Guinsadan, with a Guinsadan weaver demonstrating the backstrap loom while author takes field notes alongside local facilitator Myra Colis. Photo taken by Leah Schneiders.

Passages that fit no CVF category — gendered fears about transmission, institutional invisibility, market–authenticity tension — were kept as cross-cutting themes.

Step 4: Cross-case comparison. The mappings from the three cases were brought together into the comparison tables presented in Chapter 5, which set each case against the others across every CVF dimension and enabling-capital category. The patterns, differences, and shared themes that this comparison brought out are reported and interpreted there.

This analysis was carried out by the researcher. In Pokant Takaq, the validation session allowed community members to check and contest the interpretation; in the Philippine cases no such validation was possible within the thesis timeline, which is noted among the limitations (Section 4.10).

4.8 Research Phases

The research unfolded across five phases, summarised in Table 4.

Table 4: Research phases, activities and outputs

Phase	Description	Output
Phase 1: Pre-fieldwork	Literature review; CVF methodology preparation; value-chain diagram development; ethical preparation; workshop materials designed, translated, and printed.	Conceptual framework; adapted CVF workshop materials
Phase 2: Fieldwork Indonesia	Community CVF workshop (Pokant Takaq); six stakeholder interviews; participatory mapping; validation session. Facilitated through Pak Rudi and Ibu Wiwin; co-researched with Eva Brouwer.	Triangulated primary case data
Phase 3: Fieldwork Philippines	Storytelling-led sessions (Quirino Hill; Guinsadan); printed A4 CVF materials used to introduce the research and record contributions; phase sequence set aside. Facilitated through Myra.	Narrative comparative case data
Phase 4: Analysis	Transcription and translation; narrative reading and annotation; CVF dimension mapping across cases; cross-case comparison table construction.	Cross-case analysis; CVF value comparison tables
Phase 5: Writing and synthesis	Discussion; 4R principles framework development; conclusions and recommendations.	Full thesis including conceptual contributions

4.9 Ethical Considerations

This research involved Indigenous communities and required attention to ethics beyond standard institutional protocols. Five principles guided the process.

Informed consent: In Indonesia, written consent (Appendix E) was obtained from workshop participants and interviewees. In the Philippines, verbal consent was obtained at the start of each storytelling session, as the informal and impromptu nature of the encounters made written forms inappropriate and potentially alienating; the completed Pokant Takaq value chain was used to help explain, concretely, what the research involved and what taking part would contribute to. In both countries, participants were told that the research was for a master's thesis, that participation was voluntary, and that they could withdraw at any time.

Anonymity and representation: Community names (Pokant Takaq, Quirino Hill, Guinsadan) are used with the communities' knowledge. Individual participants are not named except where they gave explicit permission, and direct quotations are attributed to the community rather than to individuals unless the speaker requested otherwise.

Reciprocity: The validation session in Pokant Takaq was designed as an act of reciprocity — returning findings rather than only extracting data — and the team was told it was the first time researchers had returned. In the Philippines, reciprocity took the form of the researcher's ongoing relationship with Myra and the communities and a commitment to share the final thesis.

CARE Principles. The research was guided by the CARE Principles for Indigenous Data Governance (Carroll et al., 2023): Collective Benefit (the research aims to make these economies visible and so to benefit the communities), Authority to Control (the structured framework was not imposed as the terms of engagement; communities spoke in their own languages and on their own terms, and the work of mapping their words onto the CVF was the researcher's), Responsibility (the researcher takes responsibility for the analytical interpretation), and Ethics (the storytelling approach was chosen on ethical grounds).

Positionality: The researcher is a Filipina master's student at a Dutch university, and her position differed across the two field sites in a way that matters for how the Me-search to We-search framing (Thai & Grand'Pierre, 2026) applies here. That framing describes research into one's own community's marginalisation; it fits this study only partially, and unevenly. In the Philippines I was a partial insider — sharing Filipino heritage and language, but, as acknowledged (Chapter 8), knowing little of the Igorot communities specifically before the fieldwork. In Indonesia I was a full outsider, with no cultural connection to the Dayak Benuaq and with access wholly mediated by Pak Rudi and Ibu Wiwin. This asymmetry is not a weakness in the claim but a sharpening of it: how far the researcher could move toward the partner end of the ego-designer to partner spectrum (Garzón Garzón & Delgado

Medina, 2025) depended, at each site, on the depth of relationship that insider standing or trusted facilitation made possible. This positionality shaped the fieldwork throughout.

4.10 Limitations

The following limitations (Table 5) apply to the methodology; their implications for the interpretation of the findings are discussed further in Section 6.7.

Table 5: Methodological limitations, their impact, and how they are addressed.

Limitation	Impact on findings	How addressed
Asymmetric case depth	Philippine cases cannot be compared at the same depth as Indonesia	Acknowledged transparently; the asymmetry is treated as a deliberate design choice and examined in Section 6.7.
No stakeholder interviews in the Philippines	Institutional perspective absent from the Philippine cases	Noted in all cross-case claims; Philippine cases framed as community-only perspectives
Translation loss	Nuance in Dayak Benuaq, Filipino, and Ilocano expressions may be lost	Direct quotations preserved in the original language where possible; translations checked with facilitators
Researcher-mediated interpretation (Philippines)	Community members did not validate the Philippine analysis	Acknowledged openly; revisited in the discussion of the storytelling adaptation
No formal coding	Analysis rests on interpretive judgement rather than a coding protocol	The four-step analytical process is documented transparently; the CVF provides a consistent structure across cases
Master's thesis timeline	Insufficient time for a partner-level relationship with all communities	Acknowledged; drives the future-research recommendations
Self-selecting storytelling data	Data reflects what community members chose to share in the time and setting available	Noted as inherent to narrative methods; triangulated with stakeholder interviews in Indonesia
Limited evidence for the matriarchal interpretation	No gender-disaggregated economic data; no systematic interviews with men or elders about authority; no systematic kinship, residence or inheritance analysis; interpretation rests primarily on women's accounts in women-centred sessions	"Matriarchal economy" is treated as a bounded analytical interpretation of the weaving economies rather than a definitive classification of the wider societies; the limitation is addressed in Section 6.7 and translated into future-research recommendations (Chapter 7).

CHAPTER FIVE

RESULTS

This chapter presents the findings of the field research across the three weaving communities. It documents the value chains and the multiple forms of value created in each community, examines how each community's material practices, organisational form, and ecological situation shape its value profile, and draws the three cases together into a cross-case comparison of shared patterns and contextual differences. It closes by reflecting on what the research process itself revealed about the Circular Value Flower as a method (Section 5.5).

The chapter follows the analytical structure set out in Chapter 4. Each case is presented through its value chain, its CVF value profile across the ecological, social, cultural, economic, and aesthetic dimensions — with spiritual significance treated as a relational quality running through these dimensions rather than as a separate category (Chapters 2 and 3) — and its enabling capital. Pokant Takaq, the primary case, is additionally presented through its stakeholder landscape and the re-evaluation that followed the stakeholder interviews.

5.1 Pokant Takaq, East Kalimantan (Indonesia)

Pokant Takaq is a women-led Dayak Benuaq weaving initiative that works across two places roughly around 220 kilometres apart. In Perigiq (Figure 27), in Kutai Barat, the Doyo plant is harvested from forest and garden; in Tenggarong, in Kutai Kartanegara, most of the weaving, finishing and selling takes place. The group comprises approximately 35 weavers organised across three weaving groups, within a wider network of around 100 weavers in the area, and includes both Dayak Benuaq and Bugis (a migrant group) members. Men as well as women take part, though weaving is generally carried out individually within domestic spaces, and the practice's knowledge and leadership sit with its women. The head weaver, Ibu Hamida, comes from Perigiq,

where the harvesting is done and where several weavers still live. The community produces Ulap Doyo, a handwoven textile made from the fibre of the Doyo leaf (Curculigo latifolia), a plant found in the vulnerable forests of East Kalimantan, and turns it into purses, pillowcases, clothing, jewellery, key chains, hats, laptop cases and baskets.

5.1.1 Value Chain: From Doyo Leaf to Finished Textiles

The Ulap Doyo value chain moves through five stages, and each stage is anchored in a specific place that the weavers identified and mapped during the fieldwork (Figure 28; Table 6). In collecting, Doyo leaves are harvested from the community's generational family forest in Perigiq — an area of roughly twenty hectares — and from gardens in Tenggarong. In processing, the leaf fibre is separated by hand, dried into bundles known as sinik (twenty-five leaves make one sinik), and wound into a ball of yarn called buntal (five sinik make one buntal). In dyeing, the yarn is coloured with natural dyes: ulin (ironwood) sawdust collected from a Tenggarong sawmill — a recycled by-product — together with mahogany bark, the *glinggam* flower, masisin and sugar cane as colour fixers, Indian almond (Terminalia catappa) and *ketapang* leaf, most of which are grown in the community's gardens or gathered locally; unbleached cotton and indigo are imported from Java. In weaving and sewing, the fibres are woven on a traditional backstrap loom (*gedogan*) in pure Doyo or a cotton–Doyo blend; weaving alone takes about ten days and the full process roughly one month, so in-house production

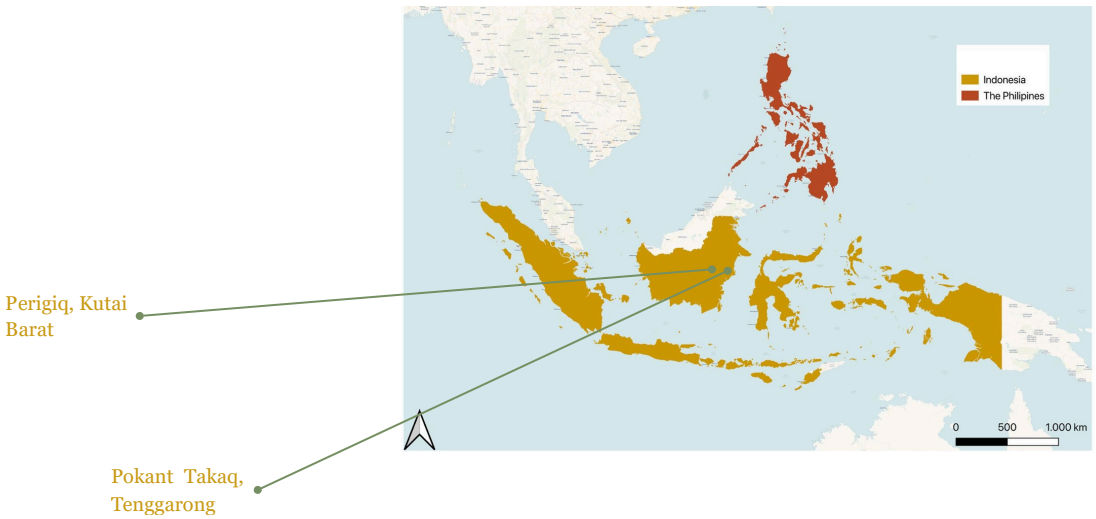

Figure 27: Location of the Perigiq family forest and Pokant Takaq in Indonesia. The two sites are approximately 220 km apart.

yields about one bag per day, while larger orders are outsourced to Java/Yogyakarta (ten to twenty bags every four months). In distribution, products are stored and sold through the community's store in Tenggarong and exhibited at local, national and international events, often with the support of the Bank of Indonesia.

The places behind these stages are not only production sites. Several hold ecological, economic and spiritual meaning at the same time, and mapping them was one way the fieldwork surfaced how tightly the weaving is bound to particular ground. Table 6 sets out the locations the weavers identified and what each one meant to them.



Figure 28: Ulap Doyo Value Chain, created jointly with Eva Brouwer.

Table 6: Places pointed out by Pokant Takaq and the value each holds (done jointly with Eva Brouwer).

Place	Stage in the chain	What it holds
Family forest, Perigiq (~20 ha)	Collecting	The generational forest where Doyo is harvested. It is the ecological value the community most wants to protect, and it also carries a spiritual condition: a weaver must be "clean" and not menstruating to harvest there.
Cemetery and cave, Perigiq	—	Where loved ones are laid to rest, tied to a burial rite in which a cow is sacrificed so the deceased may reach the afterlife. A site that is social and spiritual at once.
Garden, Tenggarong	Collecting / dyeing	Where some Doyo is grown alongside the plants and flowers used for dyeing, splitting the value chain across the two areas.
Sawmill, Tenggarong	Dyeing	Source of ulin (ironwood) sawdust used to dye the fibre — a recycled by-product, so both economic and ecological.
Origin of Ulap Doyo weaving	—	The point the weavers identified as where the practice began, tied to the oral tradition of the Ulap Doyo weavers (Appendix F).
Coal mine and palm oil sites, Perigiq	—	Extraction sites the community named as the main threats to the forest, and therefore to the Doyo plant and to weaving.
Pokant Takaq store, Tenggarong	Distribution	Where products are sold. The community's link to the wider market and the base for the business it wants to grow.

5.1.2 CVF Value Profile

Ecological: For Pokant Takaq, ecological value is fundamentally about survival and resource protection. The Doyo plant is not treated as an isolated raw material but as part of a broader socio-ecological system of forests, water, and traditional land use. The plant grows best in shaded heath-forest conditions; the women explained, in detail, that reduced forest cover produces smaller, less healthy plants, and that the availability of Doyo has declined as the forest has thinned. This ecological knowledge was noticeably gendered. Across the fieldwork, women tended to speak about weaving as part of a living forest — forests, rivers, shade and land use held together — while men more often framed the same practice through business growth and market opportunity. The women's account placed the Doyo plant inside a web of relationships that had to be kept whole for the weaving to continue. The plant has been under pressure since the 1980s through successive waves of land-use change — logging concessions (HPH), monoculture plantations (HTI), and most recently coal and silica mining — and the community named palm oil plantations and mining as the primary threats to both the plant and the continuation of weaving. A corporate social responsibility (CSR) programme cultivated Doyo on a post-mining restoration site, but the plants grown there were markedly smaller than those in the forest, which the community read as confirmation that Doyo depends on a healthy forest ecosystem rather than on isolated cultivation

Social: Social value centres on community cohesion and livelihood security. Pokant Takaq describes itself as a family business — "we are a family business" — and the women weave from their own homes; the group includes single mothers and unemployed community members. A central social



Figure 29: Members of Pokant Takaq waving goodbye at the end of the field visit, East Kalimantan, Indonesia. Photo taken by author.

concern is generational continuity: the youngest active weaver is around fifty years old, and making sure that younger generations continue the practice was repeatedly emphasised as essential not only to livelihoods but to the survival of the cultural knowledge itself.

Cultural: Culturally, Ulap Doyo is a living tradition and a marker of Dayak Benuaq women's identity, and its motifs carry layered meaning. Lizards and palm leaves stand for nature; the black orchid for a beauty associated with princesses and queens; the tiger for the spirit and strength of kings and authority; the boat for fishermen; the dragon for soldiers, protection and strength, connected to the Kutai sacred origin narrative of a dragon sleeping in the Mahakam (its head in West Kutai, its body the river, its tail the delta); and the diamond motif (Tabuk Tohantug) for wisdom and study. Historically, particular cloths were made for particular social classes; today Ulap Doyo is worn by everyone. The craft is recognised as Indonesian national Intangible Cultural Heritage (Permendikbud No. 106/2013).

The origin of the practice is held in an oral history that the weavers pointed to when they located the starting point of Ulap Doyo weaving on the map. In the oral tradition, a weaver in Terumun who could not finish his cloth in time for a buffalo-cutting ceremony wove bamboo strips in its place; shamed when the cloth cracked as he sat, he struck a forbidden drum, and a rain of stone fell that turned those inside the lamin (traditional house) to stone, while those who fled became the ancestors of weavers elsewhere. The full oral tradition is given in Appendix F. It is not only a story: it anchors a rule that still governs the practice, discussed under spiritual value below.

Economic: Economically, Pokant Takaq operates as a premium, small-scale enterprise. Mass production (more than around 2,000 items) is not feasible given the month-long process, so the community focuses on premium products sold through its store and through national and international exhibitions supported by the Bank of Indonesia. Some materials (indigo and cotton) are imported from Java, and larger bag orders are outsourced to Java/Yogyakarta. Market pressure is felt acutely through the Bank of Indonesia's role as curator, which has encouraged product innovations — beads, cotton blends in place of pure Doyo, polyester embroidery (Sulam Tumpar) in place of traditional stitching, and more monotone palettes — that the community experiences as a tension between economic modernisation and cultural authenticity.

Aesthetic: The aesthetic dimension is shaped by the traditional motifs and the slow, manual, one-by-one picking process that produces the cloth. The same curatorial demands that bear on economic value create aesthetic pressure: requests for beadwork, cotton blends, polyester embroidery, and muted colours sit uneasily with the community's sense of what makes an Ulap Doyo textile beautiful and authentic.

Spiritual significance (relational): Spiritual meaning runs through, rather than alongside, the dimensions above, and in Pokant Takaq it is unusually explicit. Several practices tie weaving to the sacred. Ulap Doyo is used for wedding gowns and for burial: the dead are laid in a cemetery and cave in Perigiq, and the burial rite involves the sacrifice of a cow or buffalo so that the deceased may reach the afterlife. A weaver must be "pure" or "clean" when weaving or collecting materials, and does not weave during menstruation — a condition attached even to the forest where the fibre is harvested. And a sacred lineage governs the practice: only descendants of Ulap Doyo weavers may weave, a sacred oath that is believed to bring misfortune on those who break it.

That rule is anchored in the oral tradition of the Ulap Doyo weavers of *Terumun* (Appendix F), in which the weaver who substituted bamboo for cloth and then struck the forbidden drum brought down the rain of stone; those who fled in the four directions became the ancestors of weavers elsewhere, which is why the right to weave is held to pass only through their line. A second sacred origin narrative, of the sleeping dragon of the Mahakam (Appendix G), carries the dragon motif and reads the river itself as a living body — its head near the lakes by Perigiq, its tail at the delta — binding the two places the community works across into a single protected landscape. At the same time, participants identified coal mining and palm oil expansion as key drivers of land-use change in the forests surrounding Perigiq.

These meanings did not arrive in answer to the value questions; they surfaced through story, and they were the hardest to sort into single CVF categories, since a burial cloth or a harvesting rule is ecological, cultural, social and spiritual at once. That difficulty is taken up as a methodological finding in Section 5.5. Read across the profile, spirituality here is best understood not as a separate category but as a relational charge connecting the ecological, cultural and social — the reason this thesis treats spiritual value as embedded across the dimensions rather than added as a sixth.

5.1.3 Enabling Capital

Pokant Takaq holds substantial enabling capital across the CVF's capital categories. Its passion is rooted in Ulap Doyo culture, Dayak Benuaq identity, the bonds of family and community ("we are a family business"), and an explicit connection to the forest. Its skills span weaving, sewing and embroidery, and are open to community members of both genders. Its wisdom lies in generational knowledge, the symbolic repertoire of Dayak Benuaq motifs, and family-business traditions — knowledge the women themselves hold and pass on. Its tools include the Doyo fibre knife, the gedogan loom, sewing machines, and locally gathered natural materials. Its goods and networks comprise its product range, the store building itself, liquid funds and curatorial support from the Bank of Indonesia, and national heritage recognition — set against a notable gap in its network: the absence of a connection to an NGO able to support land and forest protection.

5.1.4 Stakeholders and Competing Framings of Value

Six semi-structured interviews situated the community perspective within the wider institutional landscape. Table 7 lists the interviewees and their positions. While all stakeholders recognised the cultural significance of Ulap Doyo, they framed its value, and the question of how its sustainability should be secured, very differently.

Two contrasting logics emerged. Bank of Indonesia and the ITC framed sustainability through an economic-modernisation logic — export competitiveness, branding, product innovation, and SME performance — in which the natural Doyo fibre figures mainly as a marketable, eco-branding asset.

In contrast, the land-rights professor and the Indigenous-rights NGOs framed sustainability through a territorial-rights logic, arguing that the underlying issue is not the Doyo plant in isolation but land dispossession and the limited recognition of Indigenous territorial rights, and that protecting the plant means protecting the forests and securing community authority over land. Notably, several institutional actors maintained that the Doyo plant is not endangered, directly contradicting the community's own account of declining availability. Table 8 summarises how the two logics diverge from the community's framing across the five CVF value dimensions; a full per-stakeholder value matrix, developed jointly with Eva Brouwer.

Table 7: Stakeholders interviewed and their positionality (Indonesia).

Stakeholder	Positionality
Bank of Indonesia (consultant)	Curator and economic-development partner; supports Pokant Takaq as a small and medium-sized enterprise (SME).
Office of Industry, Trade and Cooperatives (ITC)	Regional government office focused on SME growth and market access in the West Kutai region.
Professor of Land Rights	University law professor specialising in Indigenous land rights and legal recognition.
AMAN & Puti Jaji	Indigenous-rights NGOs; Puti Jaji works on regional territorial certification and government recognition.
Customary Territory Registration Agency (BRWA)	Body working on registration, verification, and certification of Indigenous (customary) territories.
Perempuan AMAN (West Kutai)	NGO working on Indigenous women's empowerment and on territorial-recognition processes.

Table 8: How Stakeholder Framings Of Value Diverge From The Community (Synthesized With Eva Brouwer).

CVF value	Pokant Takaq (community)	Economic-modernisation actors (Bank of Indonesia, ITC)	Territorial-rights actors (Prof. Land Rights, AMAN & Puti Jaji, BRWA, Perempuan AMAN)
Ecological	Forest survival and Doyo protection; survival, not branding	Natural fibre as eco-branding; "green" MSME positioning	Doyo as part of a greater forest ecosystem; ecological knowledge excluded from formal maps; declining availability tied to women's livelihoods
Social	Women's and family livelihood; community cohesion	Job creation; SME strengthening; employment statistics	Indigenous community perspective; community-based territorial recognition; women's empowerment; social and historical data essential for recognition
Cultural	Dayak Benuaq identity; living tradition	Cultural diplomacy and fashion; exportable heritage brand	Culture tied to land; loss of territory means loss of practice; colonial mapping erased cultural specificity; preserve through community education
Economic	Premium small-scale craft; business growth	SME economic growth; export competitiveness; KPIs	Limited land focus in policy; dispossession driven by external economic pressure; power imbalances favour private actors
Aesthetic	Traditional motifs and meanings	Product development; market innovation; curator demands	Traditional materials and motifs carry cultural meaning embedded in territorial identity

The interviews also revealed an asymmetry of power — one the data names more precisely than a communication gap alone. Although Pokant Takaq participates in workshops and product development with institutions such as the Bank of Indonesia, its role is largely consultative rather than decision-making: the community contributes ideas about products, while strategic decisions about branding and market positioning rest with institutional actors. The community thus holds recognition — national heritage status, curatorial support, a celebrated cultural profile — without a corresponding share of the decisions or resources: recognition without redistribution. The CSR restoration site shows the same pattern. Government representatives described the post-mining replanting of Doyo as a success while the community judged it a failure, having found the cultivated plants smaller than those in the forest; when the discrepancy was put to the

ITC, the office acknowledged it had not checked on the programme in several years. Offered as an answer to the loss of Doyo while the mining and plantation expansion that drive that loss continue untouched, and reviewed so rarely, the scheme functions as a symbolic gesture rather than a structural remedy. The asymmetry is gendered, too: it was the women's detailed account of the plant's decline (Section 5.1.2) that several institutional actors overrode in maintaining that the Doyo is not endangered — so that the cloth is recognised while the women's knowledge of the forest that sustains it is set aside. Read together, these divergences are not a neutral misalignment but the political economy set out in Chapter 3 operating in the community's dealings with institutions; Chapter 6 develops what they mean for the matriarchal economy and for circular-economy thinking.

5.1.5 Shared Urgency and Re-evaluation: From Doyo Conservation to Territorial Recognition

The shared urgency the community articulated was unambiguous, captured in their own words:

"We really want to work together with an NGO so they can lobby and push our problems forward, and to protect the Doyo plant."

A validation session returned these findings to the community — by the community's account, the first time a research team had come back to share results rather than only collect them. During this re-evaluation the urgency took on a broader shape. Prompted by the territorial-rights framing from NGOs and the land-rights professor, the discussion shifted from protecting the Doyo plant as such toward territorial recognition and community-based land management as a more structural, longer-term form of protection. Pokant Takaq responded positively but stressed that such a step could not be decided by the weaving group alone: it would require collective deliberation with the wider village in Perigiq, and would still need an NGO partner to navigate the process. Participants also raised concrete barriers, in particular uncertainty over existing land ownership and the prospect that individually owned plots might first have to be purchased by the regional government before being reassigned as collective territory. Alongside recognition, the community described more immediate ecological strategies — establishing a dedicated Doyo plantation and expanding intercropping that combines Doyo with rice farming — while emphasising that cultivation should remain embedded in healthy forest ecosystems rather than reduced to production alone.

Alongside the formal interviews, informal conversations during the fieldwork showed how colonial history still shapes the way land and environmental change are talked about. Community members frequently referred to the Dutch period through humour and storytelling, often measuring it against the later Japanese occupation. In one exchange, the Head of the Neighbourhood described how he explains the impact of mining to his grandchildren:

"Sometimes it is easier to say the Dutch caused the destruction than to acknowledge that Indonesians are now contributing to the destruction themselves."

The remark is telling. It shows that the language of blame reaches back to the colonial period even as the drivers of forest loss have become domestic, and it sits alongside a point made in the BRWA interview: that the Dutch practice of grouping distinct communities together under a single label such as "Dayak" is precisely what the territorial-recognition work now has to undo, one community history at a time. Colonial mapping is not only a matter of the past; it is part of why recognition is slow

5.2 Quirino Hill, Baguio City (Philippines)

Quirino Hill is an urban neighbourhood in Baguio City, Benguet, in the Cordillera Administrative Region. It is home to the Bless Weavers, a formally registered weaving association that provides its members with legal business status and market access. Weaving is done on upright looms — not the backstrap loom of the other two cases — using commercial and recycled thread. This case was studied through a single storytelling session facilitated by Myra, using the printed A4 CVF materials (Appendix C) to introduce the research and to record what the women raised; the structured phase sequence was not followed, and the mapping of the



Figure 30: Upright loom weaving and recycled thread (wagwag) in Quirino Hill. Photo taken by author.

women's narratives onto the CVF dimensions was completed analytically afterwards (Chapter 4). Because the session was narrative rather than a value-chain mapping exercise, quantities and production timings were not systematically recorded.

5.2.1 Value Chain: Commercial Thread and Ukay-Ukay to Products

The Quirino Hill chain is shorter and more market-coupled than Pokant Takaq's (Figure 31). It runs on two input streams. The first is new commercial thread, now largely ordered online from China after the Manila factory that once supplied local weavers closed; the second is second-hand clothing collected as wagwag, or ukay-ukay. Both are worked on upright looms into rugs, wall décor, crochet bags and key chains. The rugs woven from wagwag are the chain's one circular practice: worn-out clothing is cut down and woven back into something new, a real if small material loop. Products are sold both through the Bless Weavers organisation, at 33 pesos — with payment handled by the organisation's treasurer — and by individual weavers, at 35 pesos, with the peak season running roughly from October to April; buyers include strawberry farms and fair-trade networks, and the Philippine Textile Research Institute (PTRI) is pursuing a natural-dyeing revival. The shape of the chain — short, market-coupled, and dependent on imported thread — is what makes its vulnerabilities commercial rather than ecological: when the Manila factory closed, the community's material base effectively moved offshore.



Figure 31: Bless Weavers Value Chain. Created by author.

5.2.2 CVF Value Profile

Ecological: Quirino Hill is the most ecologically decoupled of the three cases, and the only one where that decoupling was the community's own pragmatic choice. The move away from natural fibre was practical rather than ideological: natural materials are "makati" (itchy) and ill-suited to loom weaving, urban Baguio offers no land on which to grow fibre, and the Manila factory that once supplied local materials burned down. The wagwag practice nonetheless restores a real, if partial, circular-ecological value through upcycling, and PTRI's dye revival offers a possible pathway back toward natural materials.

Social: Socially, weaving is a source of community bonding and stress relief — iwas marites, literally avoiding gossip — and of supplementary income (pangdagdag). The organisation matters to the weavers for a concrete, structural reason: one of its members took on the bureaucratic work of registering the group as a formal business with the tax authorities (the Bureau of Internal Revenue, BIR), so that the Bless Weavers operate as a registered enterprise rather than remaining in the informal economy. That formal status is what underwrites the legal standing and market access noted above — it is why fair-trade networks and institutional buyers can deal with the group at all — and it comes with obligations, notably tax, that informal weavers do not carry. The organisation's internal governance is formal too: a treasurer handles the group's money and collects payment on its sales.

But the same structure that confers legitimacy also carries friction. A small tension surfaces around pricing, where the organisation sells at 33 pesos and individuals at 35, a two-peso patong that generates gentle community tension. The organisation is thus genuinely double-edged: it moves the weavers into the formal economy, with the legitimacy and market access that brings, while also carrying tax obligations and low-level internal conflict — a pattern of organisational friction that recurs, more sharply, in Guinsadan, where the weavers left their organisation altogether. Participants identified a clear need for marketing and social-media support.

Cultural: Culturally the picture is the most fragile of the three. Transmission is informal and neighbourly — "there is no school for weaving" — and younger people show declining interest ("only for reels and videos"). Design is customer-responsive and individualised rather than tradition-bound, though place-based pride in a Quirino Hill identity remains a cultural anchor.

Economic: Items sell for 33 to 35 pesos, with thread now bought online from China after the Manila factory's closure. The Pantawid Pamilyang Pilipino Programme (4Ps) was described as disincentivising weaving as supplementary income. There has been real price appreciation — a rug that fetched 3 pesos in the 2000s sells for far more now — and the weavers expressed clear ambition:

"We have the mindset to go big."

Aesthetic: Each weaver has a recognisable personal style, and design adapts to customer preference; commercial thread allows a wider colour range. The work is loom-based rather than backstrap, and no "fine weaving" is practised — an aesthetic shaped by the market and the materials rather than by a fixed traditional repertoire.

Spiritual significance (relational): Spiritual meaning is minimal in this case, surfacing mainly as place-based pride rather than through ceremony or sacred practice — the thinnest expression of the relational charge that is so pronounced in Pokant Takaq.

5.2.3 Enabling Capital and Urgencies

Quirino Hill's enabling capital reflects its market-coupled, organised character. Its passion lies in community belonging, stress relief and Quirino Hill pride; its skills in weaving and some sewing (not every weaver can sew), learned informally rather than through training; its wisdom passed from neighbours, with "no school for weaving"; its tools loom-based; and, as goods and networks, the Bless Weavers organisation — including its registered formal-business status and the market access that follows from it — the PTRI connection, and fair-trade links. The community's primary fears and urgencies are not ecological but commercial and generational: securing supply, gaining marketing and social-media support, and arresting the fading interest of young weavers.

5.3 Guinsadan, Mountain Province (Philippines)

Guinsadan is a rural mountain village in Mountain Province, in the Cordillera, where weaving is practised by Igorot (Kankanaey) women. Work is done on a backstrap loom (Figure 31), using commercial thread throughout, with the grade varying — cheaper or more expensive — depending on the buyer and the individual weaver. Unlike the other



Figure 32: Guinsadan weaver demonstrating the backstrap loom to author and Myra. Photo taken by Leah Schneiders.

two cases, weaving here is an individual practice — but not because no organisation ever existed. The four women interviewed had all belonged to a weaving organisation that lent members simple tools, including basic sewing machines, in return for a small annual contribution; all four had since chosen to leave it, giving as their reason only "*iwas gulo*" — to avoid conflict — and now prefer to weave individually. Among the participants was an elder weaver of about seventy who had woven since the age of six or seven. As in Quirino Hill, the session was a single storytelling conversation facilitated by Myra; the CVF was used to introduce the research and to record what the women raised, and the analytical mapping was completed afterwards.

5.3.1 Value Chain

Guinsadan differs from the other two cases less in its tools than in how it is organised. Like Pokant Takaq, it weaves by hand on a backstrap loom; unlike either other community, the practice is individual. Weavers use commercial thread throughout, with the grade varying — cheaper or more expensive thread, including for the burial cloth that is the community's main product — depending on the buyer and the individual weaver. The burial cloth is sold to established Cordillera weaving enterprises such as Narda's and Easter Weaving, as well as directly to buyers (Figure 33).

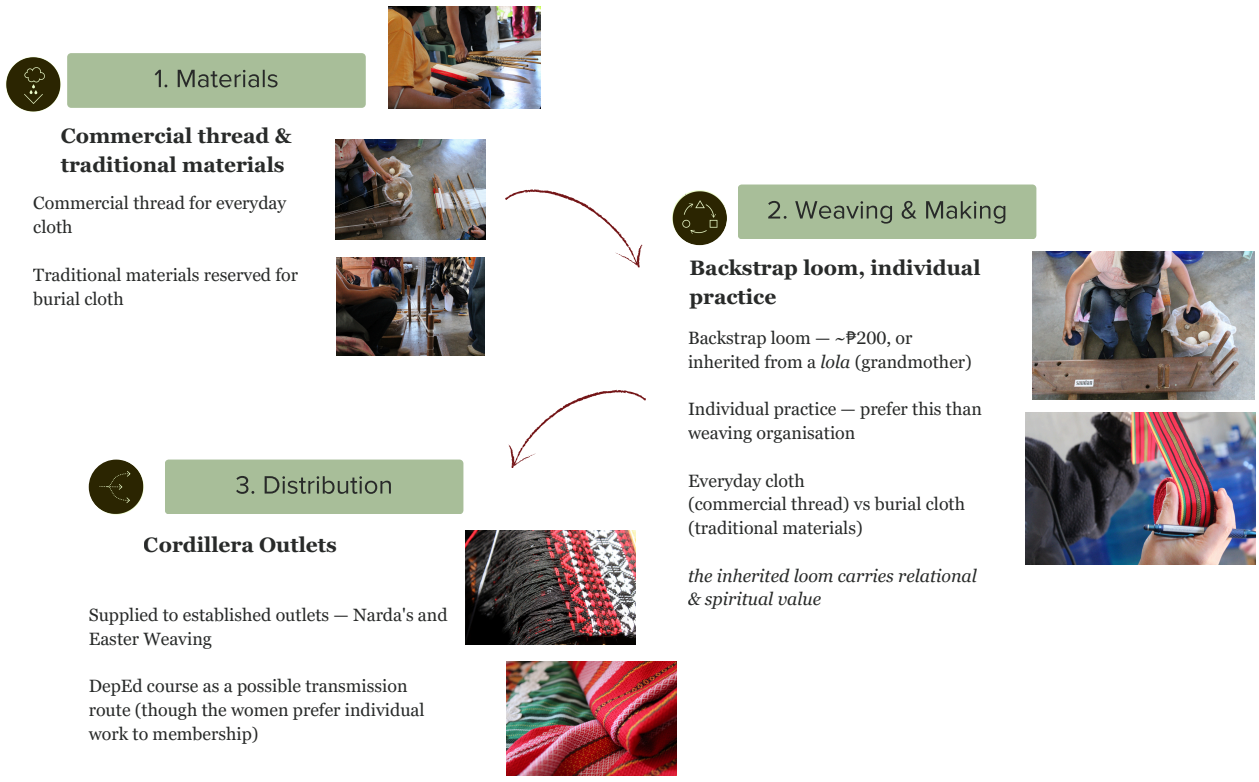

Figure 33: Guinsadan Value Chain. Created by author.

5.3.2 CVF Value Profile

Ecological: Ecological pressure is less acute than in Pokant Takaq. Because the weavers use commercial thread throughout, the practice is materially decoupled from any particular ecosystem, much as in Quirino Hill; what keeps the community grounded in land is not the cloth's materials but the farming that runs alongside weaving and doubles as an economic fallback. There is no acute ecological urgency.

Social: Weaving enables school fees, housing and family support, and the women spoke about this with real feeling: weaving was what had allowed them to provide for their families. Individual practice is now preferred over organisational membership — a preference formed by experience rather than by default. Having left their organisation to avoid conflict (iwas gulo), and without elaborating further, the four now weave alone.

Transactions are trust-based, what Myra characterised as a "principle of Igorots," and the trust is concrete rather than abstract. Weavers are sometimes paid in installments, and sometimes finish and hand over a cloth before the customer has paid. Asked what happens if a customer takes the cloth and never pays, the women were unbothered:

"That never happened — we always trust our customers."

Even professionals such as teachers and engineers weave, and most weavers hold two occupations, weaving alongside farming. The practice is understood as women's work. One weaver, describing weavers she had visited in Palawan, was struck that there the weavers were men — a reaction that says a good deal about how firmly weaving is held as a woman's craft in Guinsadan.

Cultural: Cultural value is deep but at risk. Knowledge is transmitted from the age of six or seven; weaving is understood as kayamanan, treasure; and the sacred burial cloth carries meaning that even current weavers acknowledge exceeds their full understanding — the colours red, white and black whose precise meanings are no longer fully known. Social class is encoded in more than one way. It shows in the designs, as described under aesthetic value below, and it shows in the thread itself: weaving done with fine, expensive thread — as in the cloth one participant described the weaver Nanay producing — is spoken of as pangmayaman, "for the rich," set against the simpler thread of everyday work. Every Igorot region maintains a distinct practice.

Economic: Demand is high and sometimes exceeds supply. The main product is burial wrapping cloth; farming serves as an economic safety net; and the very low capital threshold (inherited or inexpensive tools) keeps the practice accessible. A cultural resurgence aligns with, rather than undercuts, market demand.

Aesthetic: The work is backstrap-woven in the traditional manner. Designs distinguished by 13 versus 15 "eyes" encode class distinction, and some designs are known to only a few weavers — a scarcity that creates value but also fragility. Seeing the finished result is itself an intrinsic reward.

Spiritual significance (relational): Spiritual meaning is present but quiet — carried above all by the sacred burial cloth, whose colour meanings are partly lost. It is a more implicit grounding than the explicit, pervasive spirituality of Pokant Takaq. Some of that quiet charge attaches to the tools themselves: a loom inherited from a grandmother is not only equipment but a relationship, and the women spoke of these inherited things with feeling.

5.3.3 Enabling Capital and Urgencies

Guinsadan's enabling capital reflects its traditional, individual, low-threshold character. Its wisdom, named by the women themselves as their primary capital, is transmitted from mother to daughter from the age of six or seven and embodied in an elder weaver of about seventy, with patience identified as the core skill. Its passion lies in weaving as kayamanan (treasure), in generational tradition, and in the satisfaction of seeing the finished result — as well as in the pride, spoken of with feeling, of having been able to provide for their families through the craft. Its tools are modest: a backstrap loom costing around 200 pesos or inherited from a lola (grandmother), the inherited loom carrying relational and spiritual value as well as practical use. Its goods and networks consist of established buyer relationships, the Department of Education (DepEd) weaving course as a possible route for transmission, and a settled preference — formed after leaving their organisation — for individual practice over organisational membership.

The community's primary fear is losing the younger generation, expressed in uncertainty over whether the DepEd course will actually draw applicants ("will people actually apply?"). Its urgency is correspondingly one of transmission rather than survival: because farming provides a fallback, the existential stakes are lower, but that very safety net risks allowing the community to wait too long before the chain of transmission breaks.



Figure 34: Guinsadan weaver demonstrating backstrap weaving in her home. Photo taken by author.

5.4 Cross-case Comparison

This section answers SQ2 and SQ3 by setting the three cases against one another. The comparison shows how each community's material practice, organisational form, and ecological situation shape its value profile (SQ2), and what shared patterns and contextual differences emerge across the three (SQ3). Tables 9 and 10 compare the cases across the CVF value dimensions and the enabling-capital categories respectively.

Table 9: Cross-case CVF value comparison. Made by author.

CVF dimension	Pokant Takaq (Indonesia)	Quirino Hill (Philippines)	Guinsadan (Philippines)
Ecological	Strongest; Doyo endangered; forest = community survival; threatened by mining and palm oil	Decoupled; commercial and recycled materials; wagwag upcycling; PTRI pursuing dye revival	Moderate; commercial thread throughout; farming maintains land connection; no acute urgency
Social	"Family business"; ~35 women incl. single mothers and Bugis migrants; mutual support	Community bonding to avoid gossips (iwas marites); supplementary income; formal organisation; two-peso patong tension	Individual livelihood; trust-based transactions; professionals weave; dual occupation
Cultural	Living tradition; sacred lineage; deep motif symbolism; sacred origin actively kept; strong	Informal transmission; declining youth interest; customer-driven design; fragile	Transmission from age 6–7; kayamanan; sacred burial cloth; class-coded designs; resilient but at risk
Economic	Premium small-scale; Bank of Indonesia exhibitions; market–authenticity tension; needs NGO lobbying	33–35 pesos; China thread; 4Ps disincentive; seeks marketing support	Demand exceeds supply; burial cloth; farming safety net; low capital threshold
Aesthetic	Deep motif symbolism; manual picking; curatorial pressure toward innovation	Personal style per weaver; customer-responsive; commercial colour range	Backstrap method; class-coded "eye" designs; rare designs at risk
Spiritual (relational, cross-cutting)	Explicit and pervasive; purity rules; ceremonial cloth; cosmological motifs	Minimal; expressed mainly as place-based pride	Present but quiet; sacred burial cloth; colour meanings partly lost

Table 10: Cross-case enabling capital comparison. Made by author.

Enabling capital	Pokant Takaq	Quirino Hill	Guinsadan
Passion	Ulap Doyo culture; Dayak Benuaq identity; forest connection	Stress relief; community belonging; Quirino Hill pride	Kayamanan (treasure); generational tradition; seeing the result
Skills	Weaving, sewing, embroidery; open to all incl. men	Weaving, some sewing; not every weaver can sew	Backstrap weaving; patience as the core skill
Wisdom	Generational knowledge; Dayak Benuaq motifs; family traditions	Passed from neighbours; "no school for weaving"	Named as primary capital; mother to daughter at age 6–7; elder weaver of 70
Tools	Doyo fibre knife; gedogan loom; sewing machine; natural materials	Loom (not backstrap); commercial threading tools	Backstrap loom; ~200 pesos or inherited from a lola
Goods / networks	Store; Bank of Indonesia; national heritage designation; NGO gap	Bless Weavers organisation; PTRI connection; fair-trade links	Supplies Narda's and Easter Weaving; DepEd course; prefers individual to organisation

5.4.1 The Tradition-Market Tension Spectrum

The clearest cross-case finding is that market integration is not a single story of cultural erosion but a spectrum. At one end, Pokant Takaq experiences the market as external imposition: the Bank of Indonesia's curators ask for product innovations the community did not choose and that dilute authenticity. In the middle, Quirino Hill has made a community-driven, pragmatic shift to commercial materials; practical, but culturally consequential. At the other end, Guinsadan occupies the rare position in which the market actively supports tradition, as a cultural resurgence lifts demand for traditional cloth. This three-point spectrum i.e. imposed modernisation, self-driven pragmatic shift, and market-supported tradition, is a key analytical contribution of the cross-case design: it implies that any intervention must first locate where a community sits before presuming to help.

5.4.2 Material Practice Shapes the Value Profile

The comparison also shows how directly material practice shapes the value profile (SQ2). Pokant Takaq's reliance on a forest-dependent fibre makes its ecological value the strongest of the three and ties its survival to the forest, which is precisely why mining and palm oil register as existential threats. Quirino Hill's use of commercial and recycled thread decouples its weaving from any particular ecology and shifts its vulnerabilities to the market; supply, pricing, and demand. . Guinsadan's mixed practice such as commercial thread for daily cloth, traditional materials for burial cloth, and farming alongside weaving, produces a moderate ecological grounding and a

livelihood cushioned by agriculture. Organisational form matters too: Quirino Hill's registered association brings legal status and market access at the cost of internal pricing frictions, whereas Guinsadan's individual, trust-based practice keeps the capital threshold low and the transactions informal.

5.4.3 Spirituality as a Relational Charge Across the Cases

The spiritual quality identified in each case differs not in kind but in explicitness, and in all three it is expressed through the other value dimensions rather than apart from them. In Pokant Takaq it is explicit and pervasive: purity rules, ceremonial cloth, cosmological motifs. In Guinsadan it is present but quiet since the sacred burial cloth whose colour meanings are partly lost. In Quirino Hill, the most market-coupled case, it is minimal, surfacing mainly as place-based pride. Read across the three, spirituality behaves not as a discrete sixth value that some communities have and others lack, but as a relational charge that runs more or less strongly through the ecological, cultural, and aesthetic dimensions of each. This is the empirical basis for the thesis's treatment of spiritual value as embedded rather than additive, developed in Chapter 6.

5.4.4 Fears, Threats and Shared Urgencies

Table 11 consolidates the fears, threats, and primary urgencies across the three cases. It shows how a common structural predicament — an ecological, economic, or cultural threat to a women-held craft economy — produces a different primary urgency in each community: land and an NGO ally in Pokant Takaq, marketing and supply security in Quirino Hill, and intergenerational transmission in Guinsadan.

Table 11: Cross-case fears, threats and primary urgencies. Made by author.

Case	Primary fear	Key threat	Primary urgency
Pokant Takaq	Extinction of the Doyo plant	Mining and palm oil land-use change; loss of forest habitat	Land and resource protection through an NGO ally; territorial recognition
Quirino Hill	Loss of market and supply; fading youth interest	Supply insecurity (Manila factory closed); 4Ps disincentive; "only for reels"	Marketing and social-media support; supply security
Guinsadan	Losing the younger generation	Break in intergenerational transmission; uncertain uptake of the DepEd course	Intergenerational transmission and continuity

5.4.5 From Cross-Case Patterns to Sustaining Principles

Read together, these patterns point beyond description toward the conditions that allow women-led weaving economies to sustain multiple value creation. The cross-case evidence — the centrality of generational transmission, the inseparability of weaving from land, the dependence of cultural and spiritual value on continued relationship rather than preservation in the abstract, and the importance of recognition by external actors — forms the empirical basis for the four principles discussed in Chapter 6 and for the notion of land as circular intelligence that the thesis advances as its contribution.

5.5 The CVF as Method: from Structured Workshop to Storytelling

A final finding concerns the method itself. As described procedurally in Chapter 3, the research moved from the CVF's original multi-stakeholder, sequential workshop toward a storytelling-led approach (Figure 35). That shift is treated here not as a limitation but as a substantive finding about what it takes to apply a western analytical framework in Indigenous craft contexts.

Three things became clear through the fieldwork. First, the richest material did not arrive in response to the framework's prompts but through story. Even in Pokant Takaq, where a modified workshop was feasible, the purity rules, the Dragon of the Mahakam, and the sacred lineage of the practice surfaced through narrative rather than through structured answers; in the Philippines, the value questions were typically answered before they could be asked. Story, in the community's own language and on its own terms, surfaced the emotional, relational, and spiritual dimensions that a structured exercise would most likely have smoothed over. Eva and I shared this difficulty from the Indonesian fieldwork: we were translating and sorting responses into predefined categories. Many responses e.g.stories and emotional attachments to land that were at once ecological, social, cultural, aesthetic, and spiritual, could not be separated into single value categories, a tension that attributes to the gap between the relational complexity of participant experience and the structured organisation of the framework.



Figure 35: Storytelling sessions in Quirino Hill (left photo) and Guinsadan (right photo) with Myra and author. Photo taken by Leah Schneiders.

Second, the material format of the framework shaped the kind of participation it invited. A single large A1 poster suited the Indonesian group gathered around a shared surface (Figure 36), while multiple A4 copies suited the more individual, conversational engagement of the Philippine sessions, where each woman could hold and mark her own. The practical lesson is that audio-visual equipment cannot be assumed and that the physical form of the materials is not neutral. This is itself a methodological contribution for researchers working in comparable settings.

Third, the asymmetry between the cases is a relational consequence rather than a design flaw. The depth of data each community could offer was set by the depth of relationship and trust available: in Pokant Takaq, mediated by Pak Rudi and Ibu Wiwin and sustained over a return visit, that depth allowed triangulation and validation; in the Philippines, mediated by Myra within single encounters, it allowed rich narrative but neither stakeholder triangulation nor community validation. The movement this implied (from researcher-led extraction toward listening, and from designing for a community toward working with it) is the same movement the thesis frames through Me-search to We-search and the ego-designer to partner spectrum (Chapters 3 and 4). Read as a finding, the transformation of the CVF in these settings is evidence that the framework's value for Indigenous craft communities lies less in its workshop choreography than in its capacity to organise, after the fact, a story told on the community's own terms. Recommendations for adapting the CVF accordingly are taken up in the discussion (Chapter 6).



Figure 36: Storytelling session with members of Pokant Takaq,Eva Brouwer, Pak Rudi and Ibu Wiwin. Photo taken by author.

CHAPTER SIX

DISCUSSION

This chapter interprets the empirical findings presented in Chapter 5 through the theoretical and historical perspectives developed in Chapters 2 and 3. Rather than repeating what each community creates, the discussion asks what the patterns across the cases mean for the central argument of this thesis: how Indigenous women-led weaving economies organise and sustain multiple forms of value, why these economies can be interpreted through a matriarchal-economic lens, and what they reveal about circularity beyond material loop closure.

The chapter first assesses the matriarchal-economic interpretation against the economic, social, political, and cultural-spiritual dimensions introduced in Section 3.2. It then situates the present-day pressures identified across the cases within the longer histories and structural conditions developed in Chapters 2 and 3. This synthesis provides the bridge toward the thesis's two main conceptual contributions. Section 6.2 develops land as circular intelligence, while Section 6.3 introduces the four principles of Remembering, Relating, Recognising, and Reclaiming, answering SQ4.

The final sections return these findings to CE and the CVF. Section 6.4 considers what the cases imply for CE and IE when circularity is understood as the reproduction of social, ecological, cultural, and intergenerational relationships as well as material flows. Section 6.5 then develops the thesis's conceptual reconfiguration of the CVF, moving from core to root, petal to relational register, and value to sustaining principle. Section 6.6 discusses the broader practical and policy implications, while Section 6.7 considers how the methodological limitations of the research bound the claims made here.

6.1 Reading the cases as Matriarchal Economies

Read together, the findings support a bounded interpretation of the three weaving

economies as matriarchal economic formations, although the strength and type of evidence differ by case. This does not mean that the Dayak Benuaq, Kankanaey, or wider Igorot peoples are classified here as matriarchal societies, nor does it imply female rule, the exclusion of men, or universal matrilineality. As established in Section 3.2, what matters analytically is how economic and epistemic authority is organised, how knowledge and productive capacity are transmitted, how collective decisions are approached, and whether economic activity is oriented primarily toward accumulation or toward provisioning, reciprocity, balance, and continuity (Goettner-Abendroth, 2013, 2017, 2018).

The strongest evidence lies in the organisation and transmission of knowledge. At Pokant Takaq, the right to weave is narrated through a sacred, descent-based lineage, while the ecological knowledge, cultural meanings, and practical skills through which Ulap Doyo continues are held principally by women. The economy therefore depends not only on access to fibre or markets, but on the continuation of women's knowledge and cultural authority. At Guinsadan, the inheritance of a backstrap loom from a lola provides a concrete example of a means of production being transmitted through the maternal line. More significantly, the women themselves identified wisdom as productive capacity in knowledge learned through mothers and older women and reproduced through practice.

The political evidence is more limited, but Pokant Takaq provides an important example. When territorial recognition emerged as a possible pathway for protecting the Doyo forest, the weaving group stated that such a decision could not be made by the group alone but required deliberation with the wider Perigiq community. This does not establish the political organisation of Dayak Benuaq society as a whole. Within the scope of this research, however, it indicates that authority over the ecological conditions of production is understood collectively rather than as the private authority of the weaving organisation.

The economic dimension is visible across all three cases. Pokant Takaq maintains small-scale, labour-intensive production and resists reducing Ulap Doyo to mass production, while attaching value to ecological integrity, cultural meaning, and continuation of the practice alongside income. Quirino Hill operates more directly within a market economy, yet weaving remains embedded in a women-led association, shared production, upcycling, mutual support, and supplementary household provisioning. In Guinsadan, weaving exists alongside farming, transactions operate substantially through trust, and demand supports the continuation of the practice without fully separating production from household and community life. None of the cases exists outside markets, but market accumulation alone is insufficient to explain why the economies continue or what participants understand them to be for.

Table 12: Cross-case assessment of matriarchal economic characteristics. Dimensions adapted from Goettner-Abendroth (2013).

Dimension	Pokant Takaq	Quirino Hill	Guinsadan
Economic	Small-batch, labour-intensive production; family-based support; resistance to reducing value to mass production; continuity and relational value prioritised alongside income	Supplementary income; women-led association; shared production and upcycling; comparatively stronger exposure to pricing and market pressures	Trust-based exchange; weaving combined with farming and household provisioning; demand supports continuation rather than accumulation alone
Social / transmission	Sacred descent-based right to weave; women hold ecological and cultural knowledge; mixed-gender and bilateral context	Women-led association and neighbour-based learning; no systematic evidence on inheritance or descent	Mother-to-daughter transmission; inherited loom from a lola; wisdom identified as primary capital
Political	Wider Perigiq deliberation required for decisions concerning territorial recognition	Organisational and wider community decision-making not systematically investigated	Wider governance and collective decision-making not systematically investigated
Cultural-spiritual	Purity rules, sacred lineage, Terumun narrative, Doyo forest, ancestral and more-than-human relations	Spiritual evidence comparatively limited; strongest evidence concerns social belonging, place, identity, and collective practice	Sacred burial cloth, inherited tools, farming-land relations, intergenerational meanings and partially lost colour knowledge
Strength of interpretation	Strong economic, epistemic, cultural-spiritual and some political evidence	Partial; strongest evidence concerns women-led social and economic organisation	Strong transmission, inheritance and cultural-spiritual evidence; limited political data

As Table 12 shows, the evidence supporting the matriarchal-economic interpretation varies across the three cases. Pokant Takaq and Guinsadan provide stronger evidence concerning intergenerational transmission, cultural authority, and relational economic organisation, while the Quirino Hill data primarily demonstrate women-led social and economic organisation. Importantly, this difference partly reflects the scope and depth of the data collected rather than necessarily a difference in the communities themselves.

This reading also clarifies why feminist economics matters to the cases. Conventional economic measurement has historically excluded or undervalued reproductive, subsistence, household, and care-based labour even when that labour is indispensable to the reproduction of economic life (Nelson, 2008; Power, 2004; Waring & Steinem, 1988). The weaving economies make this problem tangible. Guinsadan's trust-based exchange does not easily register as an economic institution; the social and emotional work performed through the Quirino Hill weaving space exceeds the value of the products sold there;

and Pokant Takaq may be recognised culturally while the land, knowledge, and labour required for Ulap Doyo's continuation remain insufficiently protected.

Gibson-Graham's (2008) diverse-economies perspective is useful here because it places household provisioning, reciprocity, subsistence, gift, and cooperative activity within the economy rather than outside it. Sobeng et al. (2025) similarly foreground reciprocity, collective organisation, Indigenous agency, and solidarity-economic relations within CE thinking.

The matriarchal-economic lens adds a specifically gendered question to these perspectives: who reproduces the relationships on which the economy depends? Across these cases, much of that work is organised through women's knowledge, labour, cultural authority, and responsibility for transmission. It is in this bounded sense — rather than as a claim of female rule or a classification of entire societies — that the weaving economies are interpreted here as matriarchal.

6.1.1 Why the Matriarchal Economy Matters Now

The contemporary relevance of this interpretation becomes clearer when the findings are read against the histories traced in Chapter 2. In both East Kalimantan and the Cordillera, colonial and later extractive systems progressively reshaped economies in which land, production, kinship, and ecological relations were deeply embedded.

Land and forest increasingly became objects that could be administered, enclosed, priced, extracted, or sold, while economic activity was progressively separated from the social and ecological relationships in which it had previously been embedded (Ghosh, 2021; Polanyi, 1944).

Ghosh's (2021) account of the world-as-resource is particularly relevant here. His history of colonial extraction in the Indonesian archipelago describes not only an economic transformation but a change in how land and non-human life were understood: from an animate and relational world toward one imagined as inert matter available for extraction. Chapter 2 traced different historical manifestations of this transformation in East Kalimantan and the Cordillera. These histories are not identical, but both involve the growing power of external systems of land governance, resource extraction, and territorial control over communities whose livelihoods and social relations were embedded in land.

Chapter 3 further argued that these processes have gendered consequences. Harvey's (2003) concept of accumulation by dispossession describes the expansion of capital through enclosure and the transfer of resources away from those who depend on them. Carlin and Federici (2014) show how the enclosure of commons is simultaneously an enclosure of reproductive and subsistence relations, while feminist political ecology demonstrates that environmental dispossession affects women differently where their livelihoods, knowledge, and authority are closely connected to land and

and natural resources (Elmhirst, 2011; Elmhirst et al., 2019). Lugones (2010) adds the coloniality of gender: colonialism not only transformed territory and economy but also imposed gendered forms of authority and visibility that marginalised other ways of organising social and economic life.

The empirical pressures identified in Chapter 5 can therefore be read in relation to these wider histories and structures. Land and resource insecurity in Pokant Takaq is connected to extractive land-use change; market and supply insecurity in Quirino Hill reflects dependence on external material and market systems; generational discontinuity places the reproduction of embodied knowledge at risk; and institutional recognition gaps affect whether community-defined values become materially supported. These are locally specific problems and should not be collapsed into one causal explanation. They nevertheless sit within wider systems of extraction, commodification, market asymmetry, institutional marginalisation, and gendered dispossession.

Figure 37 makes explicit a systems relationship that would be lost if each empirical pressure were treated separately. The immediate pressures experienced by the weaving communities occupy the inner layers because they are closest to lived practice. Structural conditions such as extractive land-use change, market asymmetries, cultural commodification, gendered dispossession, and institutional marginalisation form a wider layer through which those pressures can be interpreted.

Colonial land governance, territorial dispossession, and resource extraction give these structures historical depth. The theoretical concepts in the outer layer are not claims made by participants themselves, but analytical lenses through which the relations between these levels can be understood.

It is important to note that the figure does not claim, for example, that colonialism directly caused a particular supply problem in Quirino Hill or that one theoretical concept can explain a specific community urgency. Rather, it positions the present within a longer and interconnected system. What appears locally as a problem of fibre, markets, transmission, recognition, or land is entangled with wider questions about who controls resources, what forms of value institutions recognise, whose labour is counted, and how land itself is understood.

This is also why matriarchal economies matter in the present rather than only as objects of cultural preservation. They make visible economic practices that have persisted within these pressures: provisioning rather than accumulation alone; reciprocity alongside exchange; intergenerational continuity alongside short-term value creation; and authority grounded in knowledge and relationship. At a moment when CE itself seeks alternatives to linear and extractive production, these economies provide an important analytical counterpoint. They shift the question from how resources can circulate more efficiently toward what relationships must remain alive for circularity to continue at all.

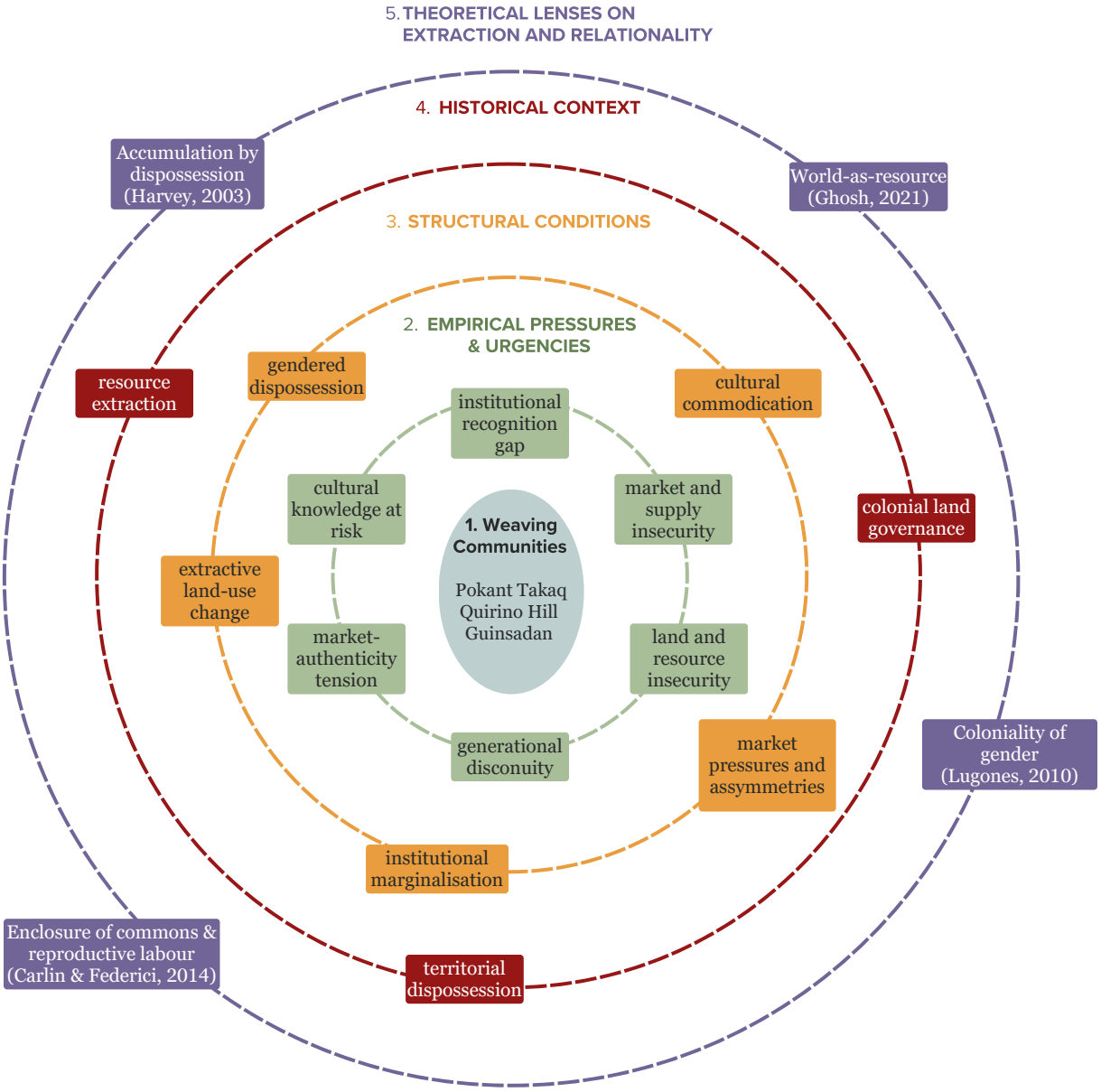

Figure 37: Local weaving realities entangled with colonial histories and relational futures. Conceptual synthesis developed by the author from the empirical findings in Chapter 5 and the historical and theoretical perspectives developed in Chapters 2 and 3. The figure situates community-level pressures within broader structural and historical conditions and uses Ghosh (2021), Harvey (2003), Carlin and Federici (2014), and Lugones (2010) as interpretive lenses. It represents conceptual entanglement rather than a linear causal model.

The following sections develop that relational side of the argument. If Figure 37 diagnoses the entanglement of present weaving realities with historical and structural pressures, land as circular intelligence and the 4Rs describe the relational conditions through which different futures can be sustained.

6.2 Land as Circular Intelligence

The cross-case findings suggest that one relationship is particularly consequential: the relationship with land. Chapter 3 introduced Simpson's (2014) concept of land as pedagogy, in which land is not simply the setting where knowledge is learned but actively participates in the production of

knowledge. Kincentric ecology similarly describes human life as embedded within reciprocal relations with plants, animals, landscapes, and other elements of an ecological community (Salmón, 2000). Building from these perspectives and the empirical findings, this thesis proposes land as circular intelligence.

The concept makes three connected claims. First, land is not treated as a passive stock of resources from which material inputs are extracted. Second, circularity refers not only to keeping materials in circulation but also to maintaining the ecological and social relationships through which those materials and their meanings can regenerate. Third, intelligence is used here to describe the situated and distributed knowledge produced through repeated relationships between people, ecosystems, materials, practices, and generations. It is not intended to attribute human cognition to land, but to challenge the assumption that relevant knowledge resides in an individual actor who subsequently manages an external environment. Knowledge instead emerges through continued engagement with place.

Pokant Takaq makes this relationship most visible. Doyo is simultaneously fibre, ecological condition, cultural material, and part of a forest relationship through which Ulap Doyo knowledge has developed. Removing Doyo from that context while preserving the plant alone does not reproduce the whole system. The forest provides the ecological conditions in which that forest provides the knowledge through which the plant is recognised, harvested, processed, narrated, and woven. The threat to the Doyo forest is therefore not simply a threat to one raw-material input. It is a threat to the ecological and epistemic conditions through which the weaving economy reproduces itself.

This helps explain why restoring Doyo after extraction cannot necessarily be understood as equivalent to maintaining the original relationship. A plant may be replanted, but ecological relations involving soil, shade, water, neighbouring species, inherited practices, and knowledge of place cannot necessarily be re-engineered through the replacement of one biological input. From this perspective, circularity begins before the material enters a production chain: it begins with maintaining the conditions through which the material, the knowledge surrounding it, and the responsibility toward it can continue.

Guinsadan reveals the same principle differently. The weaving practice no longer depends in the same way on locally harvested fibre, but the economy remains embedded in relationships with land through farming, household provisioning, inherited tools, and intergenerational practice. Farming operates alongside weaving as a livelihood and economic safety net rather than as a fully separate domain. The inherited backstrap loom similarly shows how productive objects can carry more than technical function: the loom is a means of production, but also a material carrier of memory, instruction, and continuity.

Quirino Hill provides an important contrast. Its reliance on commercial thread means that the direct ecological relationship between weaving material and local land is weaker. Material dependency has instead shifted toward distant suppliers, prices, product availability, and markets. Wagwag upcycling and collective weaving nevertheless continue to generate circular value through reuse, social organisation, and adaptation. The case therefore prevents land as circular intelligence from becoming a romantic claim that Indigenous weaving must use locally harvested natural materials in order to be meaningful or circular. Instead, it demonstrates that changing the material base reorganises the relationships and vulnerabilities through which circularity is sustained.

This distinction matters for CE. Conventional CE asks how long a material can remain in circulation, whether waste can become input, or how throughput can be reduced. Those questions remain important, but the cases introduce another: what relationships have to remain in circulation for the material system itself to continue? A fibre may be renewable and a textile reusable, yet the system can still cease to reproduce itself when knowledge is not transmitted, ecological conditions are lost, or those responsible for maintaining the practice lose authority over its conditions.

Land as circular intelligence therefore shifts attention from resource management toward relational reproduction. Land is not merely one ecological value among others, but part of the ground through which ecological knowledge, cultural meaning, livelihood, responsibility, and continuity can regenerate. The four principles developed in the following section describe how those relationships are maintained over time.

6.3 Four Principles for Sustaining Matriarchal Craft Economies

This section answers SQ4: What principles are needed to sustain multiple value creation in Indigenous women-led weaving communities? Four interconnected principles emerge from the cross-case findings: Remembering, Relating, Recognising, and Reclaiming. These are not universal characteristics of Indigenous economies or external prescriptions for the communities. Rather, they describe processes through which the weaving economies studied here sustain — or struggle to sustain — their multiple forms of value over time. Building on land as circular intelligence, the 4Rs show that continuity depends not only on keeping materials in circulation, but also on sustaining knowledge, relationships, recognition, and authority.

6.3.1 Remembering

Principle: knowledge is sustained through embodied, intergenerational, and land-connected transmission..

Across the cases, the weaving economies reproduce themselves through knowledge that is learned through practice rather than simply stored as information. In Guinsadan,

the women identified wisdom as their primary enabling capital. Knowledge is passed between generations, including from mothers and older women, while the inherited backstrap loom from a lola materially connects productive practice to those who came before. Productive capacity therefore depends not only on possessing a loom or thread, but on knowing how, when, and why to use them.

At Pokant Takaq, Remembering includes generational knowledge of Doyo, weaving techniques, motifs, the Terumun oral tradition, and the sacred lineage surrounding Ulap Doyo. Women hold much of this ecological and cultural knowledge, although this does not imply a matrilineal social system. Quirino Hill presents a more fragile form of transmission: learning remains informal and neighbour-based — "there is no school for weaving" — while participants described declining interest among younger generations and the risk that weaving becomes something encountered mainly through "reels and videos."

Remembering is therefore more than cultural preservation. What is transmitted includes productive skill, ecological knowledge, meanings, and ways of relating to place. A circular craft economy depends not only on materials returning through a loop, but on knowledge returning through another generation. Without that transmission, the practice may remain visible while the capacity to reproduce it disappears.

6.3.2 Relating

Principle: value is created through relationship — with land, community, ancestors, materials, and one another — not extracted from it.

The findings show that value does not sit neatly within separate categories. The same weaving practice can create livelihood, social belonging, cultural continuity, ecological knowledge, aesthetic expression, and spiritual meaning simultaneously. What connects these forms of value is the relationships through which weaving takes place.

Pokant Takaq's description of itself as a "family business" reflects an economy embedded in kinship, community, cultural identity, and forest relations. In Guinsadan, exchange operates through the trust-based "principle of Igorots," while farming, household livelihoods, and weaving remain closely connected. In Quirino Hill, the shared weaving space creates income but also companionship, belonging, and stress relief — iwas marites. These social relations are not secondary benefits of production; they form part of what makes the activity valuable and worth continuing.

Spirituality reinforces this relational character. The sacred lineage and purity rules surrounding Ulap Doyo, and the significance of Guinsadan's burial cloth, cannot be separated cleanly into ecological, cultural, aesthetic, or spiritual categories. Instead, spiritual meaning moves across them,

consistent with a relational understanding of value.

Relating does not mean that markets are inherently opposed to these economies. Chapter 5 showed that market demand can also sustain traditional practice. Tension arises when price, volume, standardisation, or external ideas of marketability begin to override the relationships and meanings through which value is created. The market–authenticity tension at Pokant Takaq makes this especially visible. The relevant question for circular interventions is therefore not only whether they increase economic value, but what relationships they strengthen, alter, or weaken in doing so.

6.3.3 Recognising

Principle: women's labour, knowledge, and authority must be recognised by institutions that currently see them only partially or inadequately.

Across the cases, the problem is often not that value is absent, but that important forms of value remain institutionally difficult to see. Economic systems can recognise the textile more easily than the knowledge, care, ecological relationships, and labour that make its production possible. This reflects the broader feminist-economic problem identified in Chapter 3: work essential to economic reproduction can remain undervalued when it falls outside formal market categories.

Pokant Takaq illustrates the distinction between symbolic and material recognition.

6.3.4 Reclaiming

Principle: women sustain and assert economic agency, cultural authority, and ecological stewardship over the conditions through which the economy continues.

The communities in this study are not waiting to be empowered by external institutions. Women already make decisions concerning production, materials, markets, organisation, transmission, and ecological stewardship. Reclaiming describes the political dimension of maintaining and strengthening that agency where the conditions supporting it are under pressure.

At Pokant Takaq, this is most visible in the shift toward territorial recognition and the expressed need for an NGO ally capable of helping the community advance its concerns. The loss of Doyo habitat through mining and oil-palm expansion is not simply an ecological problem. Where women's knowledge, livelihood, and cultural authority are tied to weaving and forest relations, environmental dispossession can also weaken the conditions through which that authority is exercised (Elmhirst et al., 2019; Carlin & Federici, 2014). The turn toward territorial recognition can therefore be understood as an effort to strengthen community authority over the ecological and territorial conditions on which Ulap Doyo depends.

Reclaiming looks different in the Philippine cases. Quirino Hill's use of commercial thread, wagwag textiles, crochet, and other adaptations shows women actively reshaping their practice under contemporary urban and

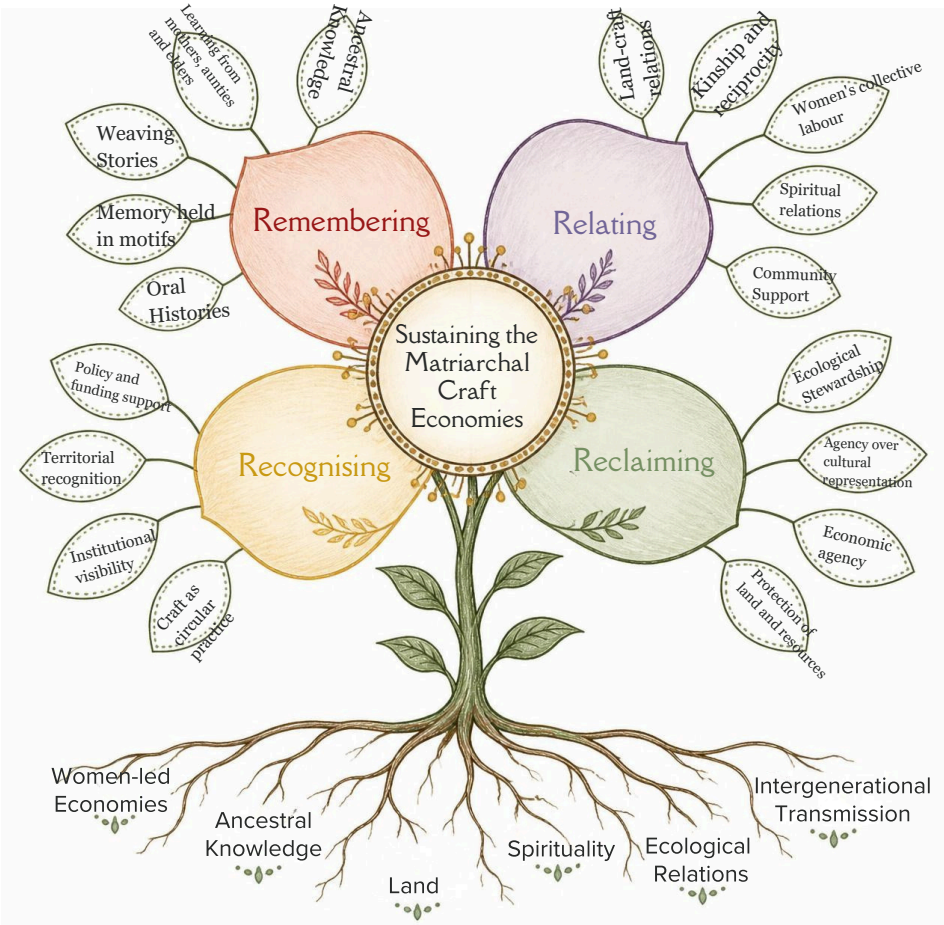

Figure 38: The 4Rs of Sustaining a Matriarchal Craft Economy, Grounded in Land as Circular Intelligence. Inspired by Buijsman (2025). Conceptualised and designed by author; includes visual elements from Canva-AI Elements Lab.

and market conditions. These changes should not automatically be read as cultural erosion; they can also represent the community's own attempts to maintain economic viability. In Guinsadan, women retain control over individual production arrangements while identifying formal weaving education as one possible way of strengthening future transmission.

Reclaiming therefore does not mean restoring a supposedly untouched past or rejecting markets and institutions. It concerns authority over continuity and change: the ability to decide what should be maintained, what may adapt, and on whose terms adaptation takes place. This connects directly to the experiential-futures thinking that helped inspire this thesis. A matriarchal economic future need not be imagined as an entirely new system.

Elements of that economic logic already exist in the present; the question is whether the communities sustaining them retain the authority and conditions necessary for them to continue.

Together, the 4Rs describe different but interconnected dimensions of continuity. Remembering sustains knowledge across generations; Relating sustains the relationships through which multiple value is created; Recognising concerns whether the labour, knowledge, and authority supporting those relationships are institutionally visible; and Reclaiming concerns the agency to protect and shape the conditions on which the economy depends. As Figure 38 illustrates, the principles are not sequential. They grow from the same relational ground of land, knowledge, community, and ecological responsibility.

6.4 Implications for Circular Economy Thinking

The findings speak back to the critique of CE developed in Section 3.4. Although CE challenges linear systems of extraction, production, consumption, and disposal, dominant approaches continue to emphasise material circulation, resource efficiency, technological innovation, and business-model redesign (Corvellec et al., 2022; Friant et al., 2020). Indigenous and more pluralistic understandings of economy remain comparatively marginal within this literature, despite drawing attention to dimensions such as cultural continuity, reciprocity, stewardship, and collective well-being that conventional CE frameworks often struggle to represent (Marotti de Mello et al., 2022; Sobeng et al., 2025; Vecoli, 2023).

The cases studied here suggest that circularity depends not only on keeping materials in circulation, but on sustaining the relationships through which those material practices can continue. Pokant Takaq illustrates this most clearly. Doyo may be a renewable biological material, but the continuity of Ulap Doyo cannot be understood through the fibre alone. It also depends on forest conditions, ecological knowledge, cultural meaning, intergenerational transmission, and the authority to maintain those relationships. Guinsadan similarly shows that the continuation of weaving depends on knowledge, trust, inherited practice, and household livelihoods alongside material inputs. In Quirino Hill, the shift toward commercial thread and wagwag changes the material basis of circularity, but social organisation, adaptive knowledge, and relationships among the weavers remain central to its continuation.

This expands what can be understood as a circular flow. Materials such as fibres, textiles, dyes, and reused clothing circulate through production and use, but knowledge, care, memory, responsibility, and authority also have to move through the system. Remembering makes this especially visible: knowledge that reaches another generation becomes future productive capacity. Relating shows that value continues through social and ecological relationships. Recognising and Reclaiming demonstrate that these flows are also institutional and political, because their continuation depends on whether the people sustaining them are recognised and retain authority over the conditions of production. Material and relational circulation are therefore interconnected rather than separate.

The matriarchal-economic lens adds a further question to CE: what and whom is circularity intended to sustain? Across the cases, economic activity does not serve monetary accumulation alone. It also supports household provisioning, cultural continuity, social belonging, ecological relationships, and intergenerational responsibility. This does not mean that the communities exist outside markets or that market activity is inherently opposed to relational value. Chapter 5 showed that markets can threaten, reshape, or support weaving depending on the conditions under which integration occurs. Rather, the findings challenge the

the assumption that successful circularity can be judged only by increasingly efficient flows of materials and economic value.

The direction of learning is therefore also important. Indigenous communities should not be approached only as contexts in which CE concepts developed elsewhere can be applied. Their practices can also expose assumptions within CE itself. This corresponds with calls for circular-economy scholarship to engage more seriously with Indigenous knowledge systems and economic perspectives rather than treating them as supplementary cultural dimensions (Marotti de Mello et al., 2022; Vecoli, 2023). Through Two-Eyed Seeing (Bartlett et al., 2012), the encounter can work in both directions: CE provides analytical tools for examining material and multiple-value relations, while the communities demonstrate forms of circularity that require those tools to expand what they are capable of seeing.

For IE, the implication is not that established methods such as Material Flow Analysis or Life Cycle Assessment should be abandoned. Rather, their system boundaries matter. A material system can become more efficient while the knowledge, labour, ecological relations, or authority required for its long-term reproduction are being depleted. boundaries matter. The cases therefore suggest that circular analysis should ask not only where resources flow and whether loops are closed, but which relationships make those flows possible, who sustains them, and whether those relationships can continue over time.

For IE education and research at TU Delft, this means treating social, cultural, ecological, and knowledge relations not merely as contextual variables around a material system, but as part of the conditions through which that system is reproduced. The lesson from these matriarchal practices is therefore not to replace material-flow analysis with relational analysis, but to ask more carefully what must remain in circulation for a system to be genuinely sustainable.

In this sense, the contribution of the matriarchal-economy perspective is not to propose a replacement for CE, but to widen its object of attention. Circularity becomes not only the organisation of material loops, but the continued reproduction of the ecological, social, cultural, and economic relationships through which those loops remain alive. Section 6.5 turns specifically to the CVF and considers what this broader understanding means for the framework used in this study.



Figure 39: Guinsadan weaver sharing her story to the author. Photo taken by Leah Schneiders.

6.5 Extending the Circular Value Flower: A Two-Way Bridge

The CVF proved valuable in this research because it already expands circular analysis beyond financial and material value. By connecting enabling capital, resource cycles, stakeholders, spatial interventions, and ecological, social, cultural, economic, and aesthetic value, it provided a structure through which the multiple forms of value created by the weaving communities could be made visible (Leclercq & Smit, 2023). At the same time, applying the framework in these cases revealed aspects of circularity that did not fit neatly within its existing structure. The result is not a replacement of the CVF, but a conceptual reconfiguration produced through the encounter between the framework and the empirical findings.

Read in relation to the wider Circular Communities philosophy, the CVF can therefore be understood as a bridge between two orientations toward circularity. Mainstream Western circular economy largely begins from the problem of how existing production and consumption systems can be reorganised to reduce extraction, waste, and resource loss; the CVF already widens that orientation by asking what ecological, social, cultural, economic, and aesthetic value can be created alongside resource circulation (Leclercq & Smit, 2023). The matriarchal craft economies examined here push this movement further. In these cases, relational value is not simply an additional outcome of circular practice, but part of the economic logic through which production continues: knowledge is transmitted, relationships are maintained, land and ecological conditions are cared for, and women's labour sustains continuity across generations. The encounter therefore works in both directions. The CVF provides a Western analytical vocabulary through which these economies can be made visible, while the economies themselves reveal dimensions of circularity that the framework, and circular economy thinking more broadly, can learn to recognise.

The original CVF and the 4Rs figure should therefore be read together (Figure 40). The latter is not only a summary of the four sustaining principles. It extends the CVF in three directions: from enabling capital to relational roots, from interconnected value dimensions to a cross-cutting relational register, and from value creation to sustaining principles.

First, the core becomes a root system. In the CVF, enabling capital such as wisdom, skills, networks, goods, and passion identifies capacities available within a community. The cases show, however, that these capacities have histories and relationships behind them. Wisdom about Doyo develops through engagement with forest and plant; weaving skill exists because it has been transmitted through generations; tools remain productive because knowledge accompanies them; and networks depend on relationships of trust and reciprocity. The rooted representation therefore asks not only what enabling capital does a community hold? ut also what relationships allow that capital to continually regenerate? Land is particularly important in Pokant Takaq and Guinsadan, while Quirino

Hill demonstrates that the character of these roots can change as material practice becomes more connected to external suppliers and urban markets.

Second, interconnected value dimensions are complemented by a cross-cutting relational register. The CVF already emphasises interconnection: its elements are linked through relationships, and the Value Flower Field Map represents the different layers and their interrelationships within one integrated process (Leclercq & Smit, 2023). The contribution of the present findings is therefore not to introduce relationality into an otherwise separated framework. Rather, the cases suggest that some meanings cannot always be located within one value dimension, even when the dimensions themselves are understood as interconnected. Spirituality is the clearest example. In Pokant Takaq, Doyo simultaneously carries ecological, cultural, aesthetic, economic, and sacred meaning, while Guinsadan's burial cloth connects material practice with ancestry, culture, aesthetics, and spirituality. Spirituality therefore appears as a relational register running across and through the existing value dimensions, rather than as an additional sixth value. The extension lies in making this cross-cutting quality explicit.

Third, value becomes sustaining principle. The CVF is particularly effective at identifying what forms of value an initiative generates. The 4Rs ask a related but different question: how can those values continue? Remembering concerns the transmission of knowledge through time; Relating the reproduction of the relationships through

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which value is created; Remembering concerns the transmission of knowledge through time; Relating the reproduction of the relationships through which value is created; Recognising whether the labour, knowledge, and authority sustaining those relationships become institutionally visible; and Reclaiming the agency required to maintain and reshape the conditions of production. The 4Rs therefore introduce a temporal and intergenerational dimension: they move the analysis from identifying multiple value toward examining how multiple value is reproduced.

The reconfiguration also broadens what counts as a circular flow. The material flows mapped through the CVF remain important: Doyo and cotton fibres, dyes, commercial thread, wagwag textiles, products, and other resources move through production, use, and reuse. Yet the cases show that these material circulations depend on relational ones. Knowledge must move to another generation; income and mutual support return to households; recognition can return as institutional or territorial support; and ecological stewardship contributes to the conditions from which future production becomes possible. Circularity therefore involves coupled material and relational flows rather than material circulation alone. These conceptual reconfigurations are summarised in Table 13.

The methodological adaptation of the CVF also makes researcher positionality analytically relevant rather than merely reflexive. My position was not constant across the cases: in Indonesia I entered as an external researcher whose access dependedstrongly on trusted local facilitators, while in the Philippines my Filipino background created a degree of cultural familiarity without making me an insider to Igorot communities. These

Table 13: Conceptual reconfiguration of the Circular Value Flower developed in this thesis.

Original CVF emphasis	Reconfiguration in this thesis	What this adds
Enabling capital at the core	Relational root system	Makes visible the ecological, social, and intergenerational relationships through which capacities are reproduced
Interconnected ecological, social, cultural, economic and aesthetic value dimensions	Cross-cutting relational register	Makes explicit that meanings such as spirituality can run across several value dimensions rather than forming a separate category
Values created by an initiative	4R sustaining principles	Adds continuity, time, and intergenerational reproduction
Material resource cycles	Material and relational circulation	Recognises that knowledge, memory, care, responsibility, and authority also need to circulate
Value mapping without an explicit gender lens	Attention to women's labour and authority	Makes visible who produces, transmits, and sustains multiple value

differences shaped how relationships developed, what participants chose to share, and how far the research could move from researcher-led inquiry toward partnership. Positionality therefore affected not only how the data were interpreted, but also what data became available in the first place. A fuller reflection on researcher positionality is provided in Appendix I.

Also, the findings extend what is made explicit as a circular flow. The material flows mapped through the CVF remain important: Doyo and cotton fibres, dyes, commercial does not explicitly foreground. The framework makes multiple forms of value visible, but is comparatively neutral about who performs the labour through which that value is reproduced, who holds the

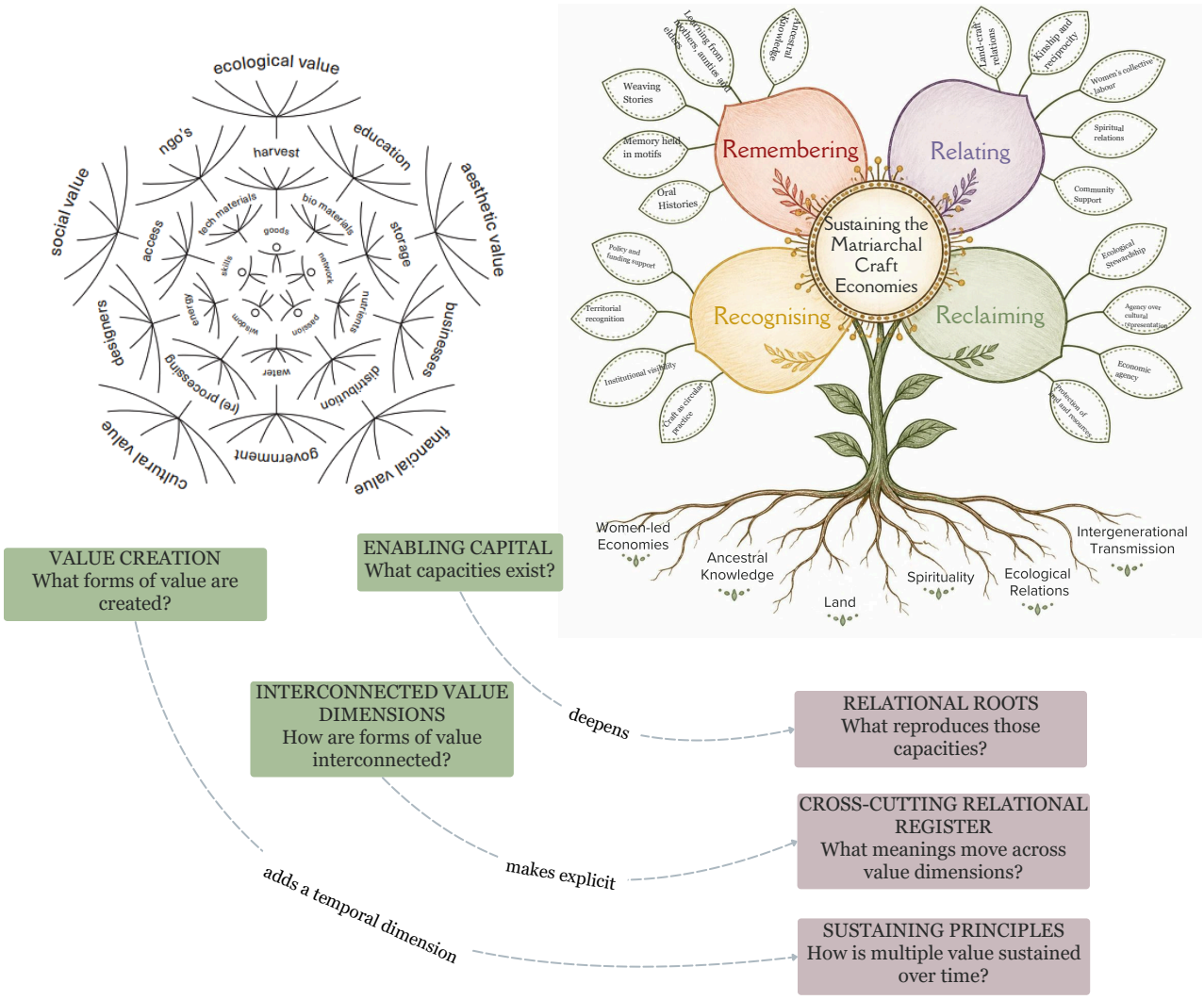

Figure 40: Conceptual extensions to the Circular Value Flower emerging from this research. The CVF is shown on the left and the 4Rs framework developed from the findings on the right. The comparison highlights three extensions: from enabling capital to the relational conditions through which capacities are reproduced; from interconnected value dimensions to cross-cutting relational meaning; and from mapping value creation to considering how multiple value is sustained over time. Original CVF adapted from Leclercq and Smit (2023); extension developed by author.

knowledge, and who has authority over the conditions of production. Across the cases, women are central to precisely these processes. A matriarchal reading of the CVF therefore asks not only what value is created?, but also who creates and sustains it, how is that knowledge transmitted, and who has the authority required for it to continue?

Importantly, these extensions do not make the CVF itself an alternative economic model. The CVF remains a conceptual analysis model and design method for understanding how circular initiatives can generate multiple forms of value (Leclercq & Smit, 2023). Nor does this thesis provide sufficient evidence to formulate the three weaving economies as a transferable alternative economic model. Rather, the findings make visible a different economic logic: one in which provisioning, reciprocity, continuity, multiple value, and women's knowledge and authority are central to economic reproduction. The contribution of this thesis is therefore to extend what the framework makes explicit: the relational conditions through which enabling capacities are reproduced, meanings such as spirituality that cut across value dimensions, and the principles through which multiple value is sustained over time.

In this sense, the CVF functions as the bridge proposed at the beginning of this research, but the bridge works in both directions. The framework provided a vocabulary through which the multiple values of the weaving economies could be analysed. The communities, in turn, reveal where that vocabulary can be extended. What returns across the bridge is an understanding of circularity as not only the circulation of resources, but also the continued reproduction of the relationships through which those resources, their meanings, and the economies around them remain alive.

6.6 Practical and Policy Implications

The findings suggest that support for Indigenous women-led weaving economies should focus not only on the products they create, but on the conditions that allow those practices to continue. Across the cases, economic viability is inseparable from knowledge transmission, social relationships, ecological conditions, and community authority. An intervention may therefore increase sales or visibility while still weakening other forms of value if it disrupts the relationships on which the practice depends. The practical implication is to support relationships as well as supply chains.

What this requires differs substantially between the three cases. For Pokant Takaq, the most pressing issue is ecological and territorial: cultural recognition of Ulap Doyo has limited effect if the forest conditions on which Doyo and its associated knowledge depend remain insecure. The community's movement toward territorial recognition during the re-evaluation therefore points toward a more structural form of support, although decisions concerning territory belong to the wider Perigiq community rather than the weaving group alone. For Quirino Hill, the priorities lie more strongly in market visibility, material supply, and the institutional conditions affecting

supplementary weaving income. In Guinsadan, the central concern is intergenerational transmission, particularly while experienced knowledge holders remain able to teach younger generations. These differences reinforce the tradition–market spectrum identified in Chapter 5: support that is appropriate in one weaving economy may be ineffective or even disruptive in another.

Recognition must therefore extend beyond celebrating textiles as cultural heritage. The findings show a recurring gap between recognition of the product and recognition of the labour, knowledge, land relations, and social organisation that make the product possible. This is particularly significant for women, whose productive, reproductive, and knowledge-bearing roles can remain only partially visible within formal economic and institutional categories. Recognition becomes meaningful when it strengthens the capacity of communities and knowledge holders to sustain the conditions they themselves identify as important.

Finally, the adaptation of the CVF during fieldwork has a practical implication for outside actors. Support should begin with community-defined priorities rather than with a predetermined idea of what circularity, development, or preservation should look like. The three cases demonstrate different relationships to markets, materials, land, and organisational form; none provides a template that can simply be transferred to another community. Community-specific and institutional recommendations are therefore developed separately (Chapter 7).

6.7 Limitations and Implications for the Findings

The methodological limitations outlined in Section 4.10 bound the claims made in this chapter. Most importantly, the cases differ substantially in depth. Pokant Takaq was supported by a community workshop, stakeholder interviews, participatory mapping and a validation session, whereas Quirino Hill and Guinsadan were based on single storytelling sessions without equivalent stakeholder triangulation or community validation. Differences between the cases should therefore be interpreted cautiously: weaker evidence for a particular dimension may reflect the depth of the research rather than its absence within the community. The cross-case patterns are consequently analytically suggestive rather than statistically generalisable.

The matriarchal interpretation has an additional evidentiary limitation. Although men were present during the fieldwork, the study did not systematically interview men or elders about gendered economic or political authority. Nor did it collect gender-disaggregated data on income, ownership, control over revenue or time use, or systematically investigate kinship, residence and inheritance across the three cases. The interpretation therefore rests primarily on women's accounts and on observed evidence concerning women's roles in knowledge, production, transmission and cultural authority. For this reason, matriarchal craft economy should be understood as a bounded

analytical interpretation of the weaving economies, rather than as a definitive classification of the wider Dayak Benuaq, Kankanaey or Igorot societies.

Translation and researcher-mediated interpretation add a further limitation. Meaning moved across languages, facilitators and the researcher, and in the Philippine cases participants did not themselves categorise their narratives according to the CVF. The resulting value profiles and cross-case synthesis therefore remain interpretations of what participants shared rather than direct representations of a single community-defined framework. Key terms and quotations were retained where possible, and the analytical process was made explicit, but these measures cannot remove interpretation entirely.

Finally, the conceptual contributions developed in this chapter should be read at the same scale as the evidence from which they emerged. Land as circular intelligence, the 4Rs and the proposed extensions to the CVF are grounded propositions rather than universal models. Similarly, the systems map in Section 6.1 situates contemporary community pressures within wider historical and structural conditions; it does not establish a direct causal chain between colonial history and each present-day urgency. The three cases were selected for theoretical relevance rather than representativeness, and further research is needed to test and refine these concepts in other contexts (Chapter 7).

These limitations narrow, rather than expand, the claims that can be made. Within the three cases studied, the findings show that sustaining weaving involves more than maintaining material flows: it also depends on the reproduction of knowledge, relationships, cultural meaning and forms of authority over time. The concepts proposed in this thesis should therefore be understood as a basis for further inquiry rather than as a transferable economic model.



Figure 41: Ibu Wiwin's husband demonstrating the preparation of threads prior to weaving. Photo taken by author.

CHAPTER SEVEN

RECOMMENDATIONS

The preceding discussion showed that sustaining Indigenous women-led weaving economies requires more than preserving a craft or improving market access. It requires attention to the relationships through which value is sustained: between women and knowledge, communities and land, cultural practice and livelihood, and local priorities and the institutions that shape them. Because these relationships and pressures differ across the three cases, the recommendations that follow are deliberately context-specific rather than presented as a single model for intervention.

This chapter translates the findings into recommendations at four levels. Section 7.1 addresses the priorities identified within the three weaving communities; Section 7.2 considers implications for the CVF methodology; Section 7.3 addresses policy and institutional actors; and Section 7.4 identifies directions for future research. The recommendations should be understood as directions grounded in the findings rather than as universally applicable prescriptions, particularly where the depth of evidence differed between cases.

7.1 Recommendations for the Weaving Communities

The findings show that support for Indigenous weaving economies cannot take the form of a single transferable intervention. Pokant Takaq, Quirino Hill and Guinsadan occupy different positions within the tradition–market spectrum identified in Chapter 5 and face different primary urgencies: land and resource protection in Pokant Takaq, market visibility and supply security in Quirino Hill, and intergenerational transmission in Guinsadan. Recommendations should therefore begin from the priorities articulated within each community rather than from an external

assumption about what cultural preservation, circularity or economic development should look like.

A second principle applies across the three cases: support should strengthen the relationships that allow the weaving economy to continue, rather than concentrating only on increasing production or market access. Depending on the community, these relationships concern land, knowledge transmission, trusted networks, cultural authority or economic autonomy. The recommendations below therefore differ deliberately between the cases. They should be understood as directions arising from the fieldwork rather than as fixed prescriptions. This distinction is particularly important for Quirino Hill and Guinsadan, where the findings were generated through single storytelling sessions and were not subsequently validated through stakeholder interviews or return sessions.

7.1.1 Pokant Takaq: Supporting a Pathway toward Territorial Recognition

The community's own re-evaluation identified territorial recognition, supported by an NGO ally, as the most structural way to protect the Doyo plant and the forest it depends on. The interviews noted that a concrete action plan — with specific steps, responsible actors, and a timeline — still needed to be developed; Table 14 sets out such a plan, drawing together the recognition process described by BRWA, the legal levers identified in the interviews, and Eva Brouwer's (2026) analysis of the territorial-recognition landscape. Two conditions frame it: the decision to pursue recognition rests with the wider Perigiq village, not the weaving group alone, and land can remain privately owned while a community application proceeds.

Alongside recognition, the community identified immediate ecological strategies worth pursuing in parallel — establishing a dedicated Doyo plantation and expanding intercropping that combines Doyo with rice — provided cultivation remains embedded in healthy forest rather than reduced to production alone. On the market side, Pokant Takaq should be supported in resisting curatorial pressure toward cheaper, less authentic materials, since its premium, small-batch model is both more economically viable and more faithful to the craft.

Table 14: Action plan toward territorial recognition.

Step	What it involves	Partners/ responsible actors
1. Build the village mandate	Convene the wider Perigiq community to deliberate and agree on pursuing customary-territory recognition as a collective decision	Pokant Takaq; Perigiq village leadership
2. Secure an NGO ally	Establish a formal partnership with an Indigenous-rights NGO for lobbying and legal navigation	AMAN; Puti Jaji; BRWA
3. Gather social data and oral histories	Document community history, customary land use, and genealogies as the evidence base for recognition	Community; NGO partner; Universitas Mulawarman
4. Participatory mapping (PGIS)	Map customary territory and material-source areas, working toward integration with the national One Map system	BRWA; JKPP; mapping/co-research support
5. Submit for recognition	Lodge documentation through the regency (CCDPMD), regional secretary, and sub-regency head, proceeding through registration, assessment, verification, and certification	Local and regional government; BRWA
6. Leverage legal levers	Use the Doyo plant's forest-protection-protocol (ABKT) listing, the 2017 Kutai Kartanegara customary-territory law, communal intellectual-property rights, geographical-indicator status, and the Climate Change Fund / Land Acquisition Fund	NGO partner; legal experts (UNMUL Faculty of Law)
7. Bridge the government communication gap	Open a direct line to the Office of Industry, Trade and Cooperation and other offices so the community's ecological urgency is on their radar	NGO partner; local government

7.1.2 Quirino Hill

For Quirino Hill, the urgencies are commercial and generational rather than ecological, and the recommendations follow accordingly.

Marketing and visibility: Provide the marketing and social-media support the weavers themselves identified as their main need, building on the Bless Weavers organisation's existing market access. A practical first step could be the development of a simple, community-owned social-media presence under the concept "*Woven in Quirino Hill*". This concept would communicate three connected messages: handmade woven textiles, upcycled wagwag

rugs (Figure 42), and support for women's livelihood and Quirino Hill pride. Rather than functioning as external branding, such a profile should be understood as a capacity-building tool that helps the weavers represent their own work, maintain control over their narratives, and reach local buyers, tourists, fair-trade networks and institutional supporters more easily.

To illustrate this recommendation, Appendix H presents a conceptual Instagram profile and story template for the Bless Weavers Organization. These mock-ups are not proposed as final branding materials, but as an example of how the community's existing products, circular practices and social value could be made more visible through accessible digital formats. Any final use of such materials should be developed with the consent and direction of the Bless Weavers, especially when using photographs, names, products or community stories.

Supply security: Help diversify and secure thread supply after the closure of the Manila factory, reducing dependence on online imports.

Ecological reconnection: Pursue the natural-dye revival offered by the Philippine Textile Research Institute (PTRI) as a route back toward natural materials and a stronger ecological story, while continuing the wagwag upcycling that already creates circular value.

Address the 4Ps disincentive: Advocate for the Pantawid Pamilyang Pilipino Programme to be administered so that it does not penalise weaving income, so the craft is supported rather than treated as something to be offset.



Figure 42: Wagwag rugs of Quirino Hill. Photo taken by author.

7.1.3 Guinsadan

For Guinsadan, the priority is transmission.

Support the transmission course: Back uptake of the Department of Education weaving course and pair it with the community's elder weavers, so that formal provision reinforces rather than replaces mother-to-daughter transmission.

Document before it is lost: With consent and community ownership of the record, document the at-risk designs, materials, weaving techniques and partially lost meanings of the burial cloth while living knowledge holders remain. This documentation should not extract knowledge from the community, but should function as a community-owned record that can support future teaching, remembrance and cultural continuity. Appendix D provides an example of this approach by presenting the Guinsadan weaving materials and local terminology recorded during the storytelling session. By combining field photographs, a simplified loom illustration and the local terms shared by participants, the appendix demonstrates how the knowledge generated in the session can be translated into a visual transmission tool without replacing the embodied practice itself.

Recognise the farming–weaving balance: Acknowledge that the farming safety net both protects the community and risks complacency, and support transmission before the chain breaks rather than waiting until demand alone forces the issue.



Figure 43: (Left to right) Lyka (author), the Guinsadan Weavers and Myra. Photo taken by Leah Schneiders.

7.2 Recommendations for the CVF Method

The methodological transformation reported in earlier chapters yields a set of recommendations for adapting the CVF to Indigenous craft contexts in the Global South. These recommendations are not corrections to the CVF, but context-specific extensions that make the method more appropriate for settings in which knowledge is relational, embodied, place-based, and often communicated through story, practice, and trust. Rather than presenting these recommendations as a table, Figure 44 visualises them as a methodological pathway. This visual choice is inspired by Vecoli's methodological roadmap for Indigenist research, which similarly presents research with Indigenous communities as a process of learning, adapting, reflecting, and re-learning rather than as a fixed methodological sequence. Vecoli explicitly notes that such a roadmap can function as a starting point for future researchers, while also acknowledging that the steps do not unfold in a strictly linear way.

In the same way, the recommendations in Figure 44 should be read as an iterative guide for researchers wishing to use or adapt the CVF in Indigenous craft contexts. The numbering is used for clarity, but the recommendations may overlap in practice. For instance, centring the local facilitator also shapes how stories are shared, how materials are used, and how findings can be returned to the community. The figure therefore presents the recommendations as a relational process rather than a checklist.

The first recommendation is to lead with story, not structure. During the application of the CVF, it became clear that relational and narrative knowledge does not always fit neatly into a pre-defined phase-by-phase structure. While the CVF can be useful as an organising framework, it should not dominate the conversation itself. In Indigenous craft contexts, knowledge is often communicated through memories, experiences, family histories, spiritual relations, land-based meanings, and everyday practices. These forms of knowledge may emerge gradually and indirectly, rather than as direct answers to predefined categories. Therefore, the CVF is most useful when it is introduced lightly as a tool for reflection, while allowing the conversation to unfold on the community's own terms. This means that the researcher should avoid forcing responses into the framework during the interaction itself. Instead, the CVF can be used afterwards to organise, interpret, and reflect on the values that surfaced through storytelling.

The second recommendation is to centre the local facilitator. Access to Indigenous craft communities is not merely logistical, but relational. Trust is shaped by existing relationships, language, cultural familiarity, and community protocols. A researcher entering from outside the community, even with good intentions, may not be the most appropriate person to lead the conversation or introduce the activity. In this study, the role of local facilitators was essential because they helped create a more comfortable and culturally appropriate setting. They were able

to explain the activity in a familiar language, mediate expectations, and support participants in engaging with the research in their own way. The researcher's role should therefore shift from leading to listening. This also responds to concerns in Indigenist research about power asymmetries between researchers and Indigenous participants. Vecoli similarly emphasises that Indigenist research methods seek to rebalance power relations and are guided by respect, reciprocity, and relationality.

The third recommendation is to not assume audio-visual equipment, but to choose the material format deliberately. The physical form of the research materials shapes the kind of participation that becomes possible. In a workshop or interview setting, a digital presentation, printed diagram, A1 poster, or individual A4 copy will each invite different forms of engagement. An A1 poster may work well for collective reflection because it allows participants to gather around a shared surface, point, discuss, and co-map responses together. However, individual A4 copies may be more suitable when the aim is to support personal reflection or more intimate conversational engagement. Similarly, researchers should not assume that audio-visual equipment, stable internet, projectors, or digital tools will be available or appropriate. In some settings, low-tech and tactile materials may be more accessible, less intimidating, and more consistent with the embodied nature of craft-based knowledge. The CVF should therefore be treated not only as a conceptual framework, but also as a material object whose format influences participation.

The fourth recommendation is to treat spirituality and relational value as cross-cutting. In the original CVF, values may appear as separate categories, but in Indigenous craft contexts some values resist being sorted into single boxes or petals. Spirituality, relationality, ancestry, land, livelihood, identity, and craft practice may be deeply interconnected. For example, the value of weaving may not be only economic, cultural, or aesthetic, but may also involve relationships with ancestors, family, land, community, and non-human beings. Treating these values as separate categories risks simplifying the meaning of craft and imposing an analytical structure that does not fully reflect participants' lived realities. Therefore, when using the CVF, researchers should allow values to overlap across categories. They may also consider letting participants categorise their own responses, rather than assuming that the researcher's categories are self-evident or universally meaningful.

The fifth recommendation is to make land explicit. In Indigenous craft contexts, land is not simply a background condition, but often the foundation that makes other values possible. Land may provide the materials used in craft, shape community identity, hold ancestral or spiritual meaning, and connect craft practices to broader histories of displacement, resource access, tourism, and cultural continuity. . If land is not made explicit in the CVF, the framework may overlook one of the most important conditions through which craft value is produced and sustained. For this reason, the

CVF could be adapted by adding a relational or land-based layer to the framework. This could be done visually, for example by placing land around or beneath the existing petals, or methodologically, by asking participants how each value relates to place, territory, materials, and environmental relations. This also connects to deep-mapping-inspired approaches, where place is understood not only geographically, but also through memory, meaning, relationships, and lived experience.

The sixth recommendation is to return findings to the community. Reciprocity should not end once the interview, workshop, or field visit is completed. Returning findings allows participants to respond to how their knowledge has been interpreted, to correct misunderstandings, and to see how their contributions have shaped the research. This is important both ethically and methodologically. Ethically, it recognises that the knowledge shared by participants should not simply be extracted for academic purposes. Methodologically, it strengthens reliability through member-checking and allows the researcher to refine interpretations. In this research, the re-evaluation visit with Pokant Takaq showed the value of returning to the community and creating space for further reflection. Although a master's thesis has time and institutional limitations, building in a validation or re-evaluation moment can help make the research process more reciprocal, accountable, and trustworthy. Vecoli also reflects on the difficulty of genuinely "giving back" within the limits of a master's thesis, while still positioning the methodological roadmap as a tool that can support more respectful and collaborative future research.

Together, these six recommendations show that adapting the CVF to Indigenous craft contexts requires more than changing the content of the framework. It requires changing how the method is introduced, facilitated, materialised, interpreted, and returned. The CVF can still be a useful tool, but only when it remains flexible enough to respond to local ways of knowing, community protocols, and relational forms of value. In this sense, the adapted CVF should be understood as a supportive framework rather than a fixed structure: it helps organise reflection, but it should not determine in advance how value is expressed, shared, or understood.

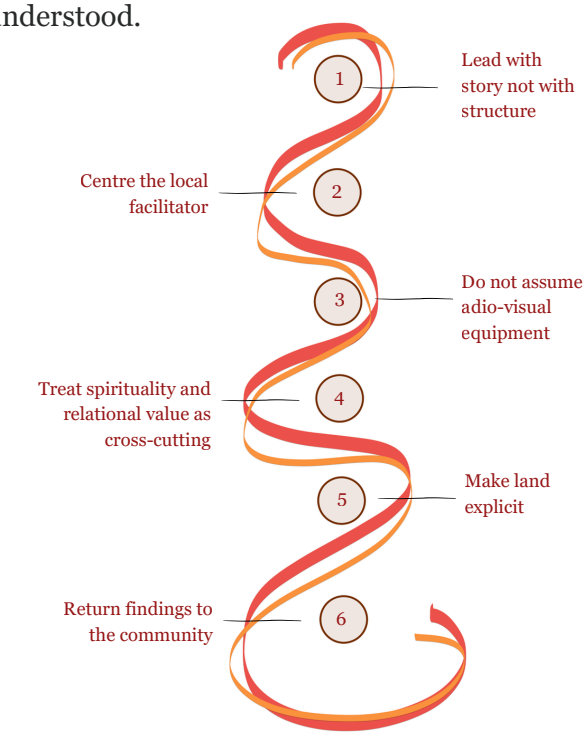

Figure 44:Methodological recommendations for adapting the CVF to Indigenous craft contexts, visualised as an iterative pathway. Inspired by Vecoli's (2023) methodological roadmap for Indigenist research.

7.3 Recommendations for Policy and Institutional Actors

The findings point to several recommendations for governments, development banks, curators, and other institutions working with Indigenous craft communities.

Recognise land, not only heritage: Cultural designation — such as Indonesian national Intangible Cultural Heritage status — is a starting point, but it must be translated into land rights, policy exemptions, and funded support if it is to protect the economy rather than only celebrate the product.

Sustain relationships, not only supply chains: Direct support toward the relational and ecological basis of these economies, not just toward market access and product development, since it is the relationships that hold the economy together.

Make women's relational labour legible: Adopt measures and metrics that recognise the trust-based, reproductive, and care-based labour that mainstream economic measurement renders invisible, and include Indigenous women in decision-making rather than only consultation.

Reform programmes that inadvertently penalise craft: Review schemes such as the 4Ps so that they do not disincentivise weaving as a livelihood, and design support that complements rather than displaces craft income.

Close the communication gap: Institutions that promote a craft e.g. curators, trade and tourism offices, should maintain direct, current communication with the communities, including about ecological urgencies and the actual outcomes of CSR programmes.

Treat CSR and offsetting as supplementary, not structural: Recognise the limits of post-mining restoration and carbon offsetting, which the evidence shows function as symbolic measures, and prioritise the structural protection of forests and customary territories.

Support community-led mapping: Provide accessible, practical participatory-mapping guidance so that communities can document and defend their own territories, addressing the lack of mapping capacity that weakens their position in recognition processes.

7.4 Recommendations for Future Research

The following directions for future research respond directly to the limitations identified in Sections 4.10 and 6.7.

Deepen and balance the case base: Future research should return to Quirino Hill and Guinsadan for longer and repeated engagement, including stakeholder interviews and community validation sessions comparable to those conducted with Pokant Takaq. This would allow the cross-case patterns identified in this thesis to be examined on more comparable empirical grounds and help distinguish genuine

differences between the communities from differences produced by research depth. Longer engagement would also create greater possibilities for co-developed research questions and more sustained researcher–community relationships.

Test the matriarchal-economic interpretation more directly: The matriarchal reading developed in this thesis should be examined through evidence that was beyond the scope of the present study. This includes interviews with men and elders about economic and political authority; gender-disaggregated data on income, ownership, control over revenue and time use; and more systematic investigation of kinship, residence, inheritance and decision-making. Such research could determine more precisely where women's authority is situated, how it interacts with men's roles, and whether the matriarchal-economic patterns identified within weaving extend beyond the craft economy itself.

Strengthen community-led interpretation and validation: Future applications of the storytelling-based CVF should involve local-language facilitators or co-researchers not only during data collection but, where possible, during interpretation and analysis. Preliminary value mappings could be returned to participants so that communities can confirm, contest or reorganise the researcher's categorisation. Directed analytical mapping could also be combined with more formal qualitative coding or parallel interpretation by multiple researchers to examine the consistency of the analytical patterns without replacing the narrative character of the data.

Test the conceptual contributions across other contexts: The 4Rs — Remembering, Relating, Recognising and Reclaiming — together with land as circular intelligence and the proposed reconfiguration of the CVF should be tested and refined in other Indigenous women-led craft economies. Comparative application would help establish which elements travel across contexts, which remain specific to the three communities studied here, and where the concepts require revision. Particular attention should be given to contexts with different relationships to land, materials and markets, since the present cases suggest that these conditions substantially shape how multiple value is created and sustained.

Examine structural change over longer timescales: Finally, future research could investigate more systematically how historical dispossession, contemporary extraction, market integration and institutional policy have shaped Indigenous weaving economies over time. Combining oral histories with historical, policy, land-use and livelihood data would make it possible to examine the structural relationships represented in this thesis more closely, rather than treating the systems map as evidence of direct causal relationships.

CHAPTER EIGHT

CONCLUSIONS

This thesis set out to answer the question:

How do Indigenous women-led weaving communities in Southeast Asia create multiple forms of value, and what do these practices reveal about the principles needed to sustain matriarchal craft economies?

Through a cross-case study of Pokant Takaq in East Kalimantan, Quirino Hill in Baguio City, and Guinsadan in Mountain Province, this research shows that weaving sustains forms of value that extend beyond material production and monetary exchange. Across the cases, weaving connects ecological relations, social organisation, cultural continuity, livelihood, aesthetic meaning and, to different degrees, spiritual relations. At the same time, the form and balance of these values differ substantially between communities. The findings therefore do not point to one Indigenous weaving economy, but to different relational economies whose continuity depends on the particular relationships between materials, land, knowledge, community and market.

The first sub-question asked what value chains and multiple values could be identified in the three communities. Pokant Takaq's value chain begins with the forest-dependent Doyo plant and extends through fibre preparation, dyeing, weaving, sewing and distribution. Its ecological and cultural values are particularly pronounced because Ulap Doyo depends on both forest conditions and Dayak Benuaq knowledge. Quirino Hill operates through a shorter and more market-coupled chain based on commercial thread and recycled wagwag textiles, with particularly visible social and economic value through community organisation, supplementary livelihood and upcycling. In Guinsadan, individual backstrap weaving is combined with farming and trust-based exchange, while weaving remains closely associated with intergenerational knowledge and sacred burial cloth. Across the cases, spirituality did not operate consistently as a separate sixth category of value. Where

present, it was better understood as a relational quality running through ecological, cultural and aesthetic dimensions.

The second sub-question asked how material practices, organisational structures and ecological contexts shape these value profiles. The comparison shows that material practice is not a neutral technical feature: it changes what the weaving economy depends on and therefore where its vulnerabilities lie. Pokant Takaq's reliance on Doyo fibre ties the continuity of weaving directly to forest conditions and land security. Quirino Hill's use of commercial and recycled materials reduces this direct material dependence on local ecology but creates greater reliance on supply chains, pricing and market visibility. Guinsadan combines commercial thread with backstrap weaving and farming, producing a different configuration in which cultural transmission is more immediately vulnerable than fibre supply. Organisational form similarly shapes how value is sustained: collective organisation, family-based production and individual trust-based practice each create different capacities and dependencies. Circular value creation is therefore situated rather than uniform, emerging through the interaction of materials, organisation, place and relationships.

The third sub-question asked what methodological adaptations to the CVF are needed when working with Indigenous craft communities in the Global South, and what these adaptations reveal about researcher positionality. The findings show that the CVF remained useful as an analytical framework for making multiple forms of value visible, but that its structured workshop format could not simply be transferred across contexts. During fieldwork, the method shifted from a phase-based workshop toward storytelling-led engagement in which participants could speak through memories, practices and relationships rather than predefined categories. This suggests that the CVF can function more appropriately in these contexts when it leads with story rather than structure, centres trusted local facilitation, uses materials appropriate to the setting, allows values to overlap, makes relationships with land explicit, and includes opportunities for findings to be returned and contested.

The adaptation also revealed that researcher positionality was relational rather than fixed. My position differed across the cases: in Indonesia, access depended strongly on trusted local facilitators, while in the Philippines my Filipino background created a degree of cultural familiarity without making me an insider to Igorot communities. These differences affected the relationships that could be formed, what participants chose to share, and ultimately the form and depth of knowledge that became available. Positionality therefore shaped not only the interpretation of the data, but also their production.

The fourth sub-question asked what principles are needed to sustain multiple value creation in Indigenous women-led weaving communities. From the cross-case patterns, this thesis proposes four interconnected principles: Remembering, Relating, Recognising and Reclaiming.

Remembering concerns the continuation of embodied and intergenerational knowledge. Relating concerns the relationships through which value is created and sustained, including relations with land, community, family, ancestors and other actors. Recognising concerns making the labour, knowledge and authority supporting these economies visible within institutions that may recognise the textile more readily than the systems that sustain it. Reclaiming concerns the capacity of communities and women knowledge holders to shape continuity and change on their own terms. The 4Rs are not universal criteria or a fixed model. They are grounded propositions derived from the patterns, fears and urgencies identified across the three cases and require further testing in other contexts.

The principal conceptual contribution that emerged alongside the 4Rs is land as circular intelligence. Building on land as pedagogy, the concept describes land not simply as a stock of resources entering a circular system, but as part of the relational conditions through which knowledge, practice, identity and ecological responsibility are reproduced. This relationship is most immediately visible in Pokant Takaq, where Doyo, forest and weaving knowledge cannot be separated. In Guinsadan, it appears differently through the coexistence of farming, weaving and inherited practice. Quirino Hill provides an important contrast: greater material separation from local ecology changes, rather than eliminates, the relationships on which the weaving economy depends. Land as circular intelligence should therefore be understood as a conceptual proposition arising from these cases rather than as a universal characteristic of all Indigenous craft economies.

These findings also have implications for CE and IE. The cases demonstrate that analysing circularity only through the circulation of materials can leave important processes of continuity outside the frame. Knowledge must also be transmitted; relationships maintained; ecological conditions reproduced; and people must retain sufficient authority to decide how practices continue. Bringing these processes into circular analysis does not replace material-flow approaches. It broadens the system boundary around what enables circularity to persist over time.

The encounter with the cases similarly suggests several ways in which the CVF can be further developed. The findings support making the relational foundations of enabling capital more explicit, treating spirituality as a cross-cutting relational register rather than automatically adding another value category, and complementing the framework's focus on value creation with attention to the conditions through which value is reproduced over time. In this sense, the CVF functioned as a bridge in both directions: it provided a vocabulary through which the weaving economies could be analysed, while the encounter with those economies also exposed dimensions that the framework could make more explicit.

The practical implication is that support cannot be reduced to increasing production or market access. Pokant Takaq's findings

point toward land and resource protection and the exploration of territorial recognition with the wider Perigiq community. Quirino Hill's priorities concern market visibility, material supply and continuity of weaving practice. In Guinsadan, intergenerational transmission is particularly urgent. Across the cases, the appropriate intervention therefore depends on what relationships are vulnerable in that specific weaving economy. The recommendations developed in Chapter 7 follow this principle by beginning from community-identified priorities rather than prescribing a common development pathway.

The conclusions of this thesis remain bounded by the research design. Pokant Takaq was studied through substantially deeper and more triangulated engagement than Quirino Hill and Guinsadan, and the Philippine cases were not followed by equivalent stakeholder interviews or community validation. Translation, facilitation and researcher interpretation also shaped what could be understood. Most importantly, the matriarchal-economic interpretation rests primarily on women's accounts and observed evidence of women's roles in production, knowledge and cultural transmission. The research did not systematically interview men or elders about gendered authority, collect gender-disaggregated economic data, or investigate kinship, residence and inheritance comparatively across the cases. The thesis therefore does not classify the wider Dayak Benuaq, Kankanaey or Igorot societies as matriarchal. Rather, it identifies matriarchal-economic characteristics within the weaving economies examined here. Future research should test this interpretation more directly, deepen the Philippine cases, strengthen community-led validation and examine whether the 4Rs, land as circular intelligence and the proposed CVF extensions remain useful across other contexts.

In answer to the main research question, the three weaving communities create multiple forms of value by sustaining relationships through practice: relationships between material and meaning, women and knowledge, livelihood and community, and, in different ways, people and land. Read through the bounded analytical lens developed in this thesis, these practices display characteristics of matriarchal craft economies organised around continuity, relationality, reciprocity and women's economic and epistemic centrality. Sustaining them requires more than keeping products or materials in circulation. It requires Remembering what must be carried forward, Relating to the human and more-than-human relationships through which value exists, Recognising the labour and knowledge that make those relationships possible, and Reclaiming the authority to decide how they continue.

The broader lesson is therefore not that these communities offer a model that can simply be transferred elsewhere. It is that circularity itself may need to be understood more relationally. A circular system continues not only when materials return, but when the relationships that allow value to regenerate are able to continue with them.

PERSONAL REFLECTION

I knew, going in, that writing a master's thesis would be a process. What I underestimated was what that process would actually ask of me. Over the past five months, "research fatigue" became a phrase I reached for constantly — and, I will admit, one I both used and misused until it became shorthand for a tiredness that ran well beyond the work itself.

Somewhere in those months, the idea of privilege stopped being abstract. Being able to study sustainability at all is a privilege. So, for that matter, is a roof over my head, a comfortable bed, and three meals a day. I had always known this in theory. It took going to Southeast Asia — to do research, not to take a holiday — for it to land in my body rather than only in my head. Showering in cold water, sitting inside the ordinary rhythms of daily life in the communities I visited, I kept catching myself feeling hard done by, and then feeling absurd for it. One of the weavers told me she had only finished elementary school. It stayed with me. Set beside that, my discomfort over a cold shower felt very small.

I spent three and a half months in Asia in all: five weeks in Indonesia, two of them with the LDE Thesis Labs, then five weeks in the Philippines, and a final week in Japan. Indonesia came first, and the Thesis Labs with it. I remember being unsettled, in those early weeks, by how many photographs were taken of us — a visible display that we had come from "top universities" in the Netherlands. From where I stood, we were there to take knowledge away far more than we were there to give anything back, and the optics of it sat badly with me from the start.

What steadied me through it was Eva: someone nearby in the same situation, working to the same rhythm, to hold my hand through the part where everything still felt unfamiliar.

I also saw, up close, how complicated research becomes inside entrenched political hierarchies and heavily male-dominated spaces. These were not background conditions to work around; they shaped who could speak, who was listened to, and what was possible to ask. Naming them honestly felt like part of the work rather than a distraction from it.

The Philippines was harder in a different way. Eva had gone, and with her the comfort of having someone beside me in the same situation; for long stretches it felt as though no one around me was doing a thesis at all. My best friend Leah came to join me, which helped enormously with the homesickness, even as it pulled my focus away from the work, especially after our time in the Cordillera. Leah had come to travel; I had not. The gap between her trip and mine was not something either of us did wrong, but I felt it keenly. Mostly I was just tired — of the travelling, the heat, the constant adjusting to places that were not mine.

Underneath all of this ran a steadier kind of pressure: the need to do the women justice. To carry their knowledge, their communities, and their work into writing without flattening or misusing any of it. Before this thesis, I knew very little about the Igorot peoples, despite being Filipino myself, and that gap was uncomfortable to sit with. But the

discomfort cut both ways. It was not only that I knew too little; it was that I was the one carrying this knowledge into the academic world of Delft, and I was not always sure I had the standing to.

By the end — the last stretch, a final week in Japan before flying home — I was profoundly ready to leave. Ready, I realise now, to return to the very comfortable life I had been feeling so uneasy about. I can hold both of those things at once: the unease was real, and so was the longing for home. I do not think the second cancels out the first.

The doubt that had begun with those photographs never fully left me. Throughout the writing, the same question kept returning: who am I to do this? A student making sense of these communities through frameworks I did not invent, and that I cannot be certain I have brought to life as carefully as they deserve. I am not an expert. I am not Indigenous. There is so much I do not know. And yet I have come to think that this discomfort is not a flaw in the research so much as a condition of it. The worry about extraction is precisely what keeps me from extracting carelessly. The sense of knowing too little is what kept me listening rather than concluding. My role was never to be the authority on this knowledge, or to own it — that authority belongs to the women who hold these practices and live their meanings, and who will decide for themselves how they are carried forward. My task was smaller, and I hope more honest: to listen closely, to set down a partial account in good faith, and to be clear about everything it leaves out. That is not nothing. It is the work, and I tried to do it with care.

What carried me through it all was the people around me. I was, and remain, extraordinarily lucky to have been held by such empathetic people — people who never once made me feel that my feelings were invalid, or that I was foolish for the things I did not yet understand. If this thesis says anything true about value, it is something I learned as much from them as from any framework: that knowledge is held between people, and that none of us arrives at understanding alone.



Figure 45: Field visit to Lake Melintang during the LDE Thesis Labs excursion, reflecting on landscape, water, and place in East Kalimantan. Photo taken by Eva Brouwer.

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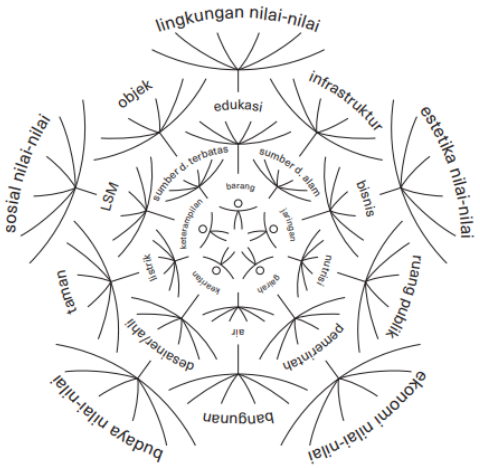
APPENDIX A

PRINTED CVF MATERIALS INDONESIA



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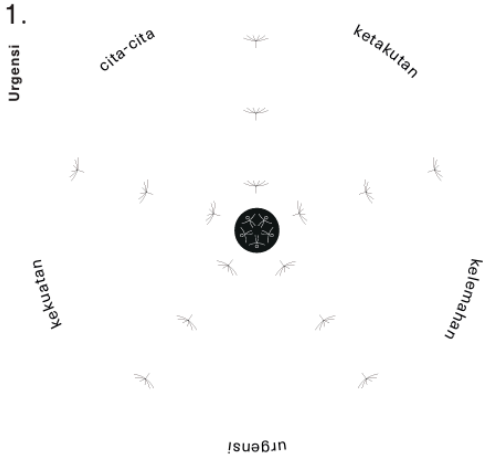
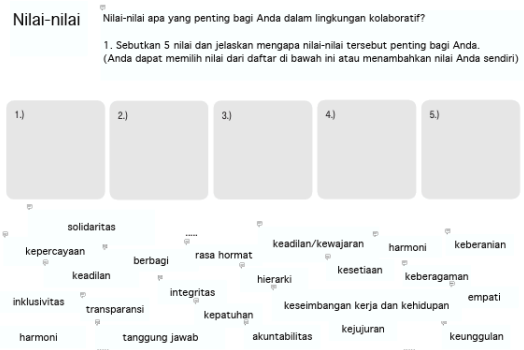


Urgensi bersama



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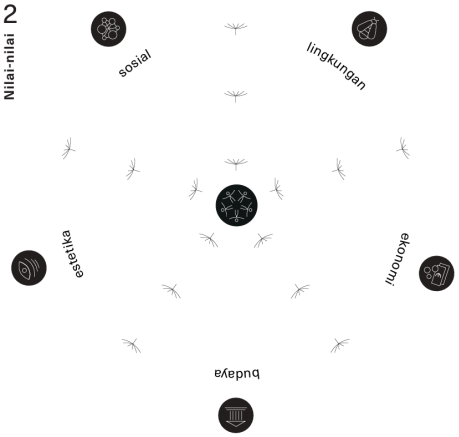
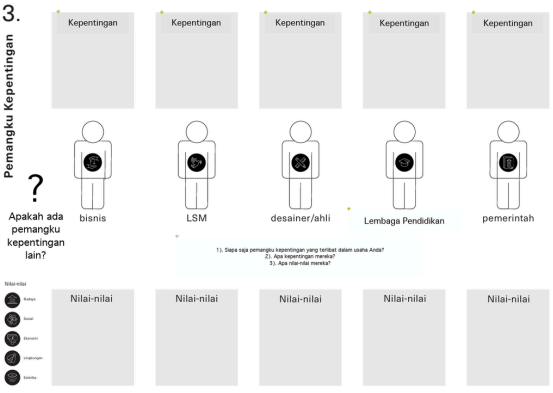


Nilai-nilai bersama

Ambisi bersama

3.



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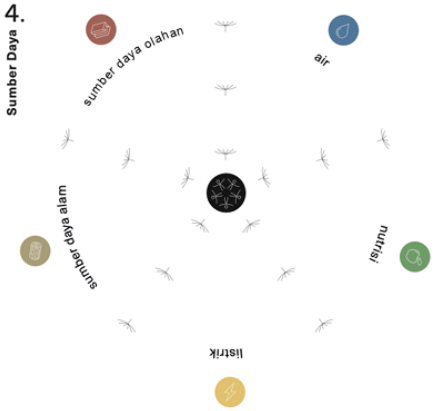

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PRINTED CVF MATERIALS INDONESIA

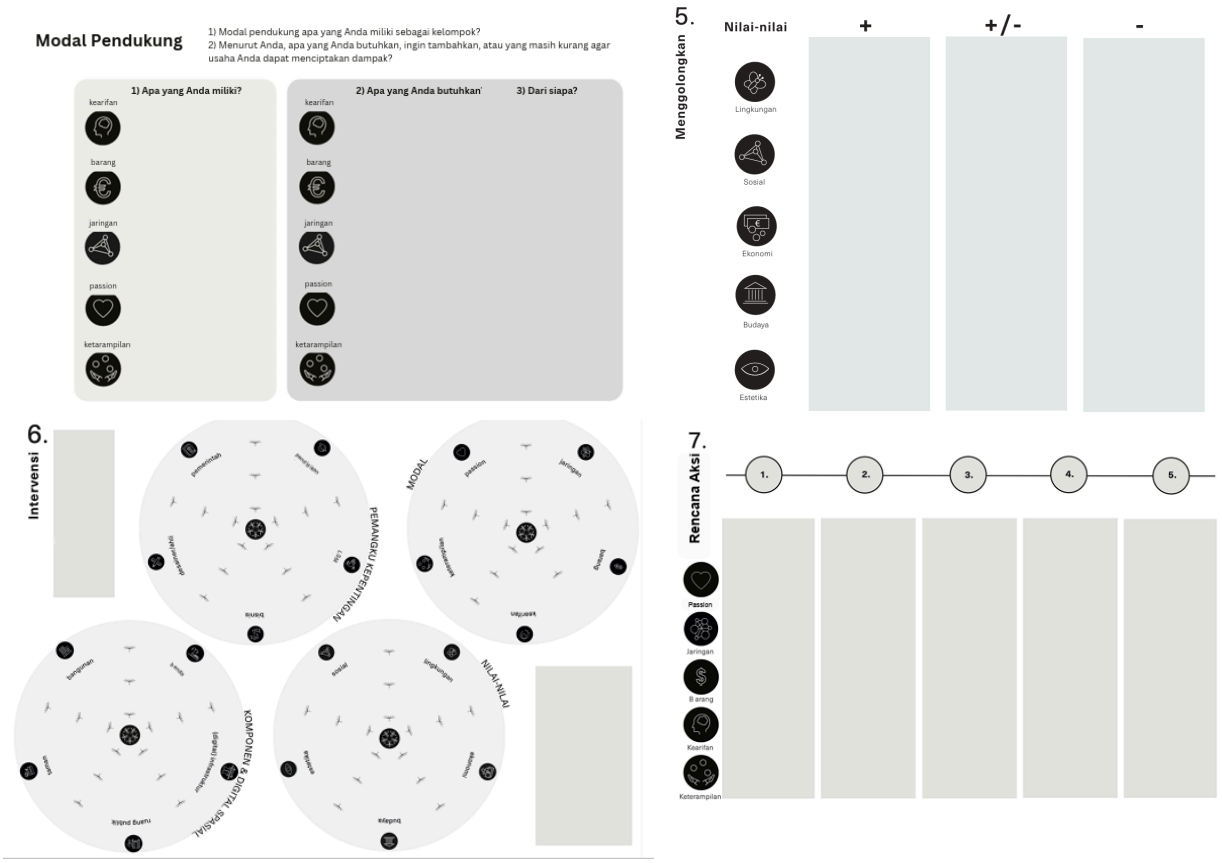




Figure A1: Author with the A1 printed materials.

APPENDIX B

STAKEHOLDER INTERVIEW GUIDE

This semi-structured interview guide was developed jointly with Eva Brouwer for the stakeholder interviews conducted in East Kalimantan. The questions served as prompts rather than a fixed questionnaire and were adapted to each participant's role and expertise. Follow-up questions were asked where relevant.

Background and stakeholder role

- Could you briefly introduce yourself and describe your role within your organisation?
- How does your work relate to Indigenous communities, land governance, Ulap Doyo, or related issues in East Kalimantan?
- How would you describe your organisation's role in relation to these issues?

Land, governance and institutional relations

- How does your organisation engage with government institutions at local, regional or national levels?
- What are the main challenges surrounding Indigenous land recognition or community land management?
- How do mining, plantation concessions or overlapping land claims affect these processes?

Pokant Takaq and Ulap Doyo

- How do you understand the concerns raised by Pokant Takaq regarding Doyo conservation and land management?
- What role could your organisation play in supporting these concerns?
- How do you understand the relationship between Ulap Doyo weaving, cultural heritage and environmental change?

Multiple values and trade-offs

- How are ecological, cultural, social and economic values considered within your work or decision-making?
- What tensions arise between economic development and environmental or cultural protection?
- How are Indigenous perspectives incorporated into planning or governance processes?

Collaboration and support

- How does collaboration with communities such as Pokant Takaq usually work?
- What forms of funding, institutional support or partnership are available?
- What conditions or expectations may be attached to such support?
- Where relevant, how are product development, innovation and market readiness evaluated?

Future outlook

- What changes would you like to see in relation to Indigenous land governance, environmental management or Indigenous craft economies in East Kalimantan?
- Are there other issues or perspectives that you think are important for this research?

APPENDIX C

PRINTED CVF MATERIALS PHILIPPINES

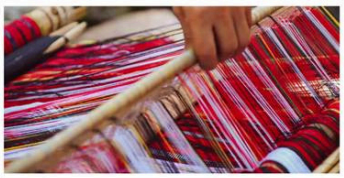


The Circularity of Women-led Weaving Practices in the Cordillera Administrative Region (CAR), Philippines

Thesis Project by **Lyka Ocampo,**
BSc Global Sustainability Science,
MSc student Industrial Ecology

Thesis Project - Lyka Ocampo 2026

Thesis Direction



- To understand how indigenous women-led weaving communities in Indonesia (East Kalimantan) and the Philippines (CAR) create and experience multiple forms of value — social, ecological, cultural, economic, aesthetic, and spiritual — and to reveal the tensions that arise when these community-held values meet externally-driven development agendas, using the Circular Value Flower as a participatory and comparative tool.
- Co-create an intervention that responds to the urgencies identified by the women themselves

Thesis Project - Lyka Ocampo 2026

Pokant Takaq, East Kalimantan - Indonesia







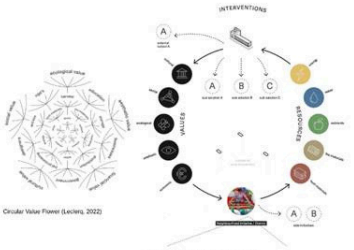
Thesis Project - Lyka Ocampo 2026

What is the Circular Value Flower? (CVF)

The CVF is a method for circularity initiatives by communities at the neighbourhood level. The method enables multiple value creation by unraveling the complex totality of ambitions, challenges, actors, technical, spatial and social possibilities when it comes to collectively closing resource flows.

The CVF is visualised by a layered diagram which has the ambitions and enablers of the community at the heart, followed by a layer of participating actors, essential resource flows, spatial neighbourhood elements and eventually by a layer of various community values. The CVF can also be used to analyse and evaluate implemented projects and aid local initiators to sustainably realise their circular ambitions.

The outcome of co-creative sessions using the CVF results in a clear map, the so called 'Value Flower Field Maps', which allows you to see the process, the dependencies among the parties and the proposed interventions at a glance.

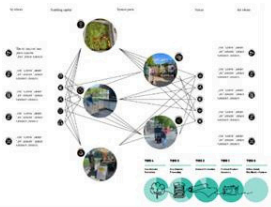


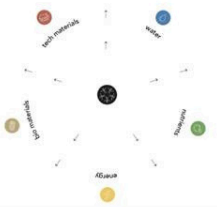
Circular Value Flower (Leclerq, 2022)

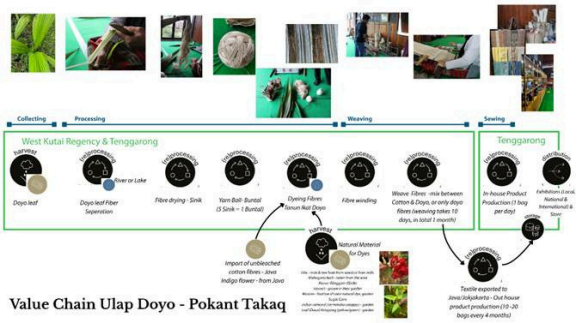
Value Flower Field Maps (Leclerq, 2022)

Thesis Project - Lyka Ocampo 2026

Value Chain & Enabling Capital







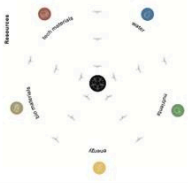
Value Chain Ulap Doyo - Pokant Takaq

Thesis Project - Lyka Ocampo 2026

CVF Workshop

Phase 1: Resources (30 minutes)

- How are these resources currently used?
- Where do you source your material?

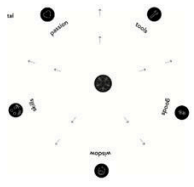


Thesis Project - Lyka Ocampo 2026

Guinsadan Women

Phase 2: Enabling Capital

- **Passion**: Why do you weave? What drives you?
- **Tools**: What do you need? Where do they come from?
- **Skills**: How do you learn? Who taught you? Are young people learning?
- **Goods**: What do you produce? What do you need to buy?
- **Wisdom**: What knowledge gets passed down? Stories? Techniques?

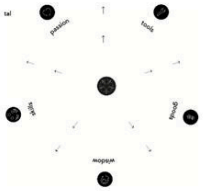


Thesis Project - Lyka Ocampo 2026

Quirino Hill Women

Phase 2: Enabling Capital

- **Passion**: Why do you weave? What drives you?
- **Tools**: What do you need? Where do they come from?
- **Skills**: How do you learn? Who taught you? Are young people learning?
- **Goods**: What do you produce? What do you need to buy?
- **Wisdom**: What knowledge gets passed down? Stories? Techniques?

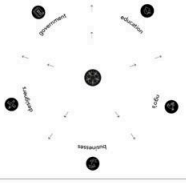


Thesis Project - Lyka Ocampo 2026

CVF Workshop

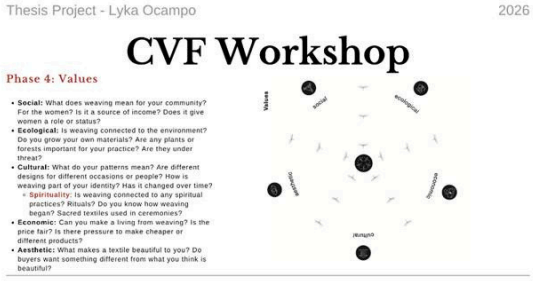
Phase 3: Stakeholders

- Who are the people and organisations connected to you weaving?



APPENDIX C

PRINTED CVF MATERIALS PHILIPPINES



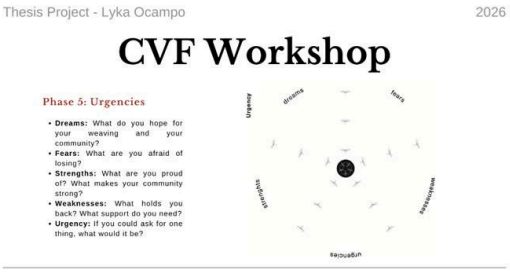




Figure C1: Author and Myra with the Bless Weavers showing their printed copies and certificate of participation provided by MABIKAs foundation.

APPENDIX D

GUINSADAN WEAVING MATERIALS AND LOCAL TERMINOLOGY

The left part of Figure D1 shows annotated field photographs taken by Leah Schneiders during the session, while the right part presents a simplified schematic illustration of the weaving setup. Local terms such as pakan, sikuan, baliga, gatingting, tubungan, tan ayan, leletan, sakgetan, ipitan and gaddalan were recorded as explained by the women participants. Figure D1 supports the methodological account of how the session moved through storytelling, demonstration and material explanation.

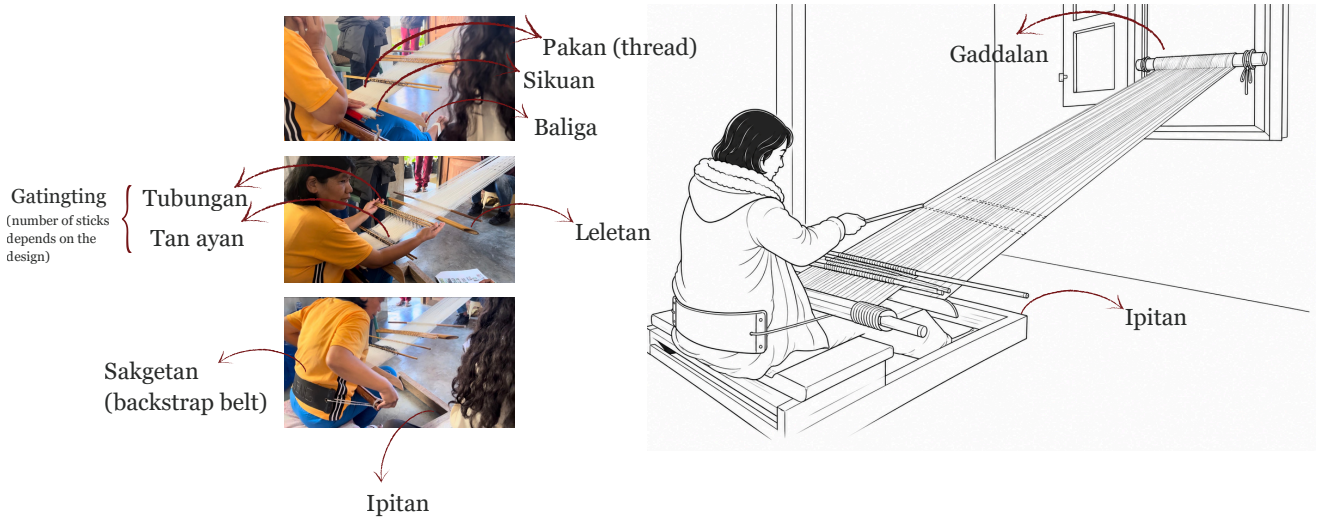


Figure D1: Backstrap loom components and local weaving terminology recorded during the Guinsadan storytelling session.

APPENDIX E

CONSENT FORMS

Consent Form used in Indonesia

Kepada Peserta yang Terhormat,
Terima kasih atas partisipasi Anda dalam lokakarya ini. Kontribusi Anda sangat berharga dan akan mendukung penelitian tesis S2 kami di TU Delft, Universitas Leiden, yang dilakukan bekerja sama dengan Universitas Mulawarman (UNMUL).

Tujuan Lokakarya
Lokakarya selama 2 hari ini bertujuan untuk mengembangkan ide-ide secara kolaboratif untuk intervensi yang mendukung praktik tenun yang dipimpin oleh perempuan. Hal ini dapat berkaitan dengan pelestarian budaya atau kebutuhan lain yang diidentifikasi oleh para perempuan itu sendiri.
1.Pengelolaan Data dan Tanggung Jawab
2. Data yang dikumpulkan akan dikelola oleh TU Delft sesuai dengan pedoman pengelolaan data dan etika universitas.
2. Manajemen Data dan Tanggung Jawab
Data yang dikumpulkan akan dikelola oleh TU Delft sesuai dengan pedoman manajemen data dan etika universitas.
3. Akses ke Data
Data hanya akan diakses oleh para peneliti, Eva Brouwer dan Lyka Ocampo, dan para pembimbing tesis:
- Fatima Delgado
- Linda Kamp
- Lena Killian
- Els Leclercq

_____ _ _____

□ Persetujuan lisan telah diperoleh

CONSENT FORMS

English Version

Dear Participant,
Thank you for taking part in this workshop. Your contribution is highly valuable and will support our Master's thesis research at TU Delft, Leiden University, conducted in collaboration with Universitas Mulawarman (UNMUL).

Purpose of the Workshop
This 1.5-day workshop aims to collaboratively develop ideas for an intervention that supports women-led weaving practices. This may relate to cultural preservation or other needs identified by the women themselves. During the workshop, we will co-create notes and diagrams. We may also take photographs, make observations, identify spatial (geographical) locations, and take written notes.
How Your Data Will Be Managed
We will handle all personal accordance with the European General Data Protection Regulation (GDPR)
1. Use of Your Data
The information collected during this workshop will be used for academic research purposes only, specifically for our Master's theses. Findings will be presented in aggregated form, meaning individual participants will not be identifiable. Photographs may be used in the thesis or related academic presentations.
2. Data Management and Responsibility
The collected data will be managed by TU Delft in accordance with the university's data management and ethical guidelines.
3. Access to the Data
The data will only be accessed by the students, Eva Brouwer and Lyka Ocampo, and the thesis supervisors:
● Fatima Delgado
● Linda Kamp
● Lena Killian
● Els Leclercq
All information will be treated confidentially. Personal details will be stored separately from workshop content wherever possible. Once the thesis has been completed, the personal details will be deleted.

_____ _ _____

□ Verbal consent obtained

CONSENT FORMS

Consent Form used in The Philippines

Dear Participant,
Thank you for agreeing to take part in this research project. Your participation is highly valuable, and the data you provide will contribute to the aggregated findings for our theses at TU Delft.
The thesis is called The Circularity of Women-led Weaving Practices in Indonesia and The Philippines. The supervising university is TU Delft, with collaboration with Mabikas Foundation, Leiden University, LDE Global, and Leiden University Fund in order to make this research possible. The purpose of the session is to refine and validate findings thus far and potentially to gain new perspectives. We will take around half a day for today's workshop/ interview.

Below are a few important points about how your data will be managed. All personal data will be handled according to the European General Data Protection Regulation. You are welcome to ask any question regarding the management of your data, and its update/deletion. The following data will be collected during this session: Pictures (png) and notes for the workshop materials.
1. Use of Your Data: The information you share will be used exclusively for the purpose of generating aggregated findings, which will form a key part of my Master's thesis research.
2. Ownership of Data: All collected data will be the sole property of TU Delft. This ensures that it is handled in accordance with the university's data management policies and ethical standards.
3. Data Verification: The data you provide will be reviewed and verified by our research team and supervisors, ensuring accuracy and confidentiality throughout the process.
4. Data Retention and Deletion: Your data will be securely stored for a period of two years after the completion of the research project. However, as with any online activity, a breach is always possible. In order to mitigate the consequences, we will make sure to anonymise any personal details.

Your participation in this workshop is entirely voluntary and you can withdraw at any time. If you have any questions or concerns, feel free to contact me on locampo@tudelft.nl.

You may also contact my supervising researcher, Fatima Delgado, at f.delgadomedina@tudelft.nl.

Thank you again for your participation and contribution to this research.

Best regards,
Lyka Marie Asuncion Abellana Ocampo

I have read and understood the study information and I consent to participate and agree to the personal data processing described above.

Participant Signature: _____
Or Verbal Consent

APPENDIX F

THE TERUMUN ORAL TRADITION (TRANSLATED)

As told in relation to Terumun and Perigiq, East Kalimantan; translated during fieldwork.

Long ago, in Terumun, only one person was able to weave Ulap Doyo cloth. One day there was a traditional buffalo-cutting ceremony in Perigiq, in the Jumidin area, held to improve the season so that rain would fall regularly. During the ceremony everyone had to wear Ulap Doyo clothing, from the traditional leader to every community member inside the lamin (traditional house). When the ceremony began, all were already wearing it.
The weaver, too, wanted to wear Ulap Doyo, but he had not had time to finish his cloth. In his hurry he took bamboo and shaved it into very thin strips to weave with. He wore the cloth during the ceremony, but because it was made of bamboo he could not sit comfortably.

One villager, jealous of him, told everyone to sit down together. When the weaver sat, a cracking sound came from his cloth. He cried out that the lamin was collapsing, but the people only laughed, and he was deeply ashamed. In his anger and shame he took a bekantan's tail and struck the traditional drum. In Dayak tradition, striking the drum in that way is forbidden. As soon as he struck it, stone rain fell from the sky, and all those inside the lamin slowly turned to stone. Some people ran out without looking back, fleeing to the north, east, west and south, and they later became the ancestors of Ulap Doyo weavers in different places.

Inside the lamin, a mother and her child did not turn completely to stone, because their hands were raised; only half of their bodies became stone. Outside, an old man came to another man and told him to take a wooden stick to help those inside. At first the man did not believe him, but he went anyway, and when he entered the lamin he was shocked to hear the mother and child crying for help. He ran out, took a wooden stick, and helped them escape. Once they were safe, the lamin and everyone still inside turned completely to stone.

Since that time it is believed that anyone who is not a descendant of the Ulap Doyo weavers may not weave the cloth, because a sacred oath brings misfortune on those who break it.

APPENDIX G

THE STORY OF THE SLEEPING DRAGON OF MAHAKAM

Associated with the dragon motif and the Mahakam River; recorded during fieldwork.

A dragon is said to sleep along the Mahakam River. Its body forms the river itself: its head rests near the lake areas close to Perigiq, and its tail reaches down towards the Mahakam Delta. The dragon motif in Ulap Doyo carries this sacred origin narrative, and stands for strength and protection.

Beyond its symbolism, the oral tradition reads the river and its forests as a single living body. The weavers connected the survival of the Doyo plant to the health of the surrounding forest, and the dragon — stretched from the lakes near Perigiq to the delta — binds the two places the community works across into one landscape to be protected. It is against this whole body that the community set the coal mining and palm oil expansion encroaching on the Perigiq forests.



Figure G1: Visualization of the Sleeping Dragon.

APPENDIX H

CONCEPTUAL SOCIAL-MEDIA VISIBILITY PROTOTYPE FOR QUIRINO HILL

Figure H1 illustrates a possible story format for introducing the Bless Weavers to local buyers, tourists, fair-trade networks and institutional supporters. The template foregrounds circular craft, community ownership and women's livelihood rather than presenting the products only as souvenirs.

Figure H2 illustrates how a low-cost Instagram profile could communicate the Bless Weavers' work through three key messages: handmade woven pieces, upcycled wagwag rugs, and support for women's livelihood and Quirino Hill pride.



Figure H1: Concept Instagram story template: "Woven in Quirino Hill."

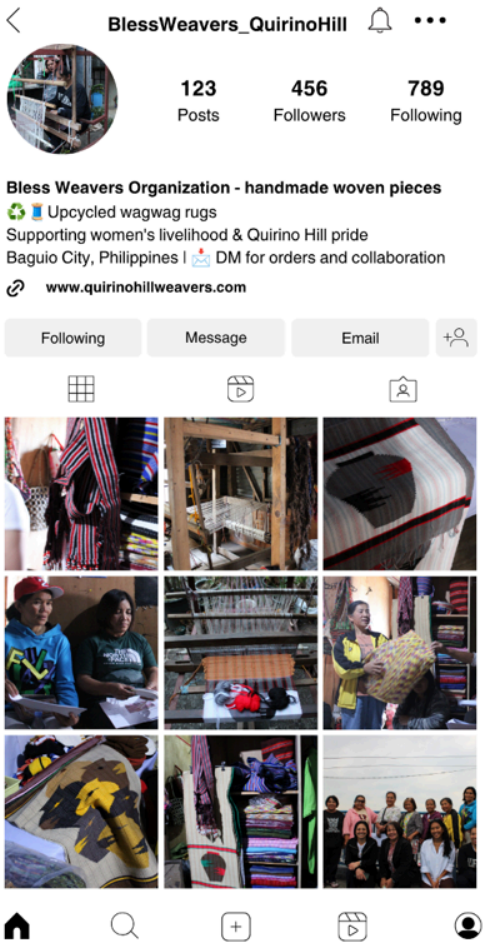


Figure H2: Concept Instagram profile for the Bless Weavers Organization.

APPENDIX I

RESEARCH POSITIONALITY

This study is shaped by my positionality as a thesis student at Leiden University and TU Delft, and by my personal background as someone born in the Philippines and educated within the Dutch academic system. This position creates a complex insider–outsider relationship to the research context. On the one hand, my Filipino background gives me a personal connection to the Philippines and to questions of heritage, culture, migration, and identity. On the other hand, I am not part of the Indigenous communities involved in this research, nor do I claim authority over their histories, knowledge systems, or lived experiences.

My position is therefore both connected and distant. I entered the field with certain forms of privilege, including access to higher education, institutional support, research funding, and the ability to travel for academic research. These privileges shaped what I was able to ask, access, observe, and interpret. At the same time, my own cultural background may have shaped moments of familiarity, empathy, or recognition, particularly in the Philippine context. However, I remain aware that shared nationality or regional connection does not equal shared lived experience, especially in relation to Indigenous communities and local weaving traditions.

This study also takes place within broader histories of colonialism, knowledge extraction, and unequal relations between universities and local communities. In both the Philippines and Indonesia, Indigenous knowledge and craft practices have often been represented, romanticized, or used by outsiders without sufficient attention to the people who sustain them. Because of this, I tried to approach the research process with humility, care, and reflexivity. Rather than positioning myself as an expert, I understand my role as a learner and interpreter whose work is dependent on the knowledge, time, and generosity of the people involved.

I also recognize that I am not a neutral observer. My interpretations are shaped by my academic training in Industrial Ecology, my interest in sustainability and systems thinking, and my personal concern for cultural continuity and community-based futures. These perspectives helped me identify connections between craft, livelihood, tourism, sustainability, and heritage, but they may also have influenced what I noticed or prioritized. There is a risk that I may unintentionally simplify complex community realities, overemphasize certain narratives, or interpret local practices through concepts that come from my own academic background.

To address this, I used reflexivity throughout the research process by reflecting on my role, my assumptions, and the relationships that shaped the thesis. The stakeholder map and power diagram in Figures I1 and I2 visualize the different actors involved in this research and the shifting balance of influence between myself as researcher and the communities who shared their perspectives. Ultimately, this thesis should be understood as partial and situated. It does not speak for the communities involved, but offers one interpretation shaped through encounters, conversations, fieldwork, and reflection.



Figure I1: Stakeholder mapping of this thesis.

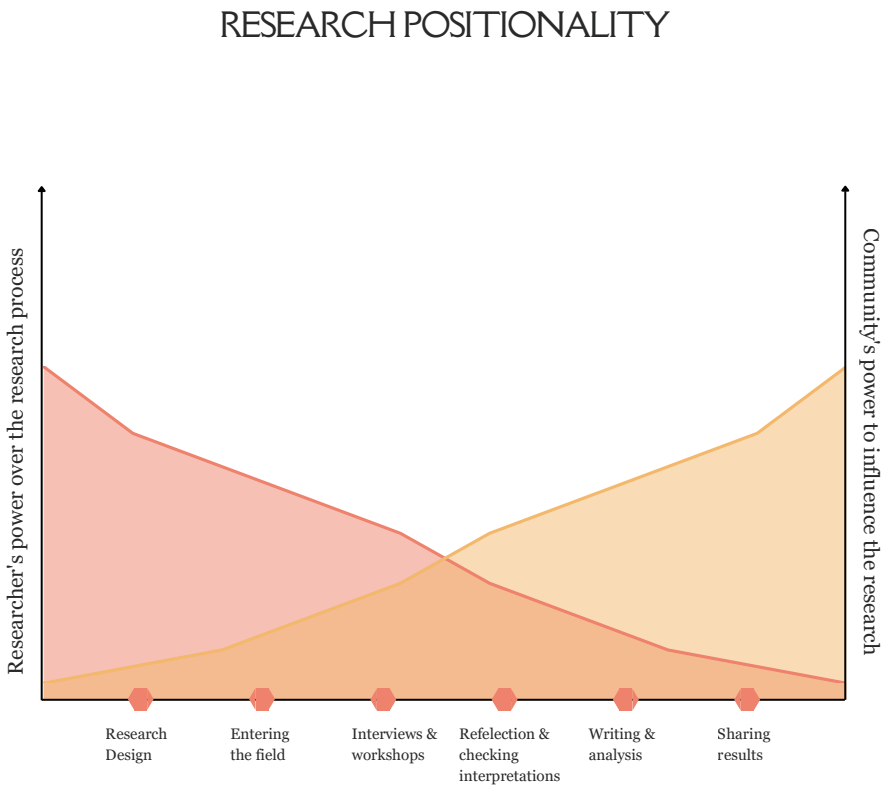


Figure I2: Positionality diagram based on Tomasini Gianini & Mulder (2022).

WEAVING THE MATRIARCHAL ECONOMY:

Multiple Value Creation in Indigenous Women-Led Weaving Communities

A CROSS-CASE STUDY USING THE CIRCULAR VALUE FLOWER IN INDONESIA AND THE PHILIPPINES

A Master Thesis by:

Lyka Marie Asuncion Abellana Ocampo (6353142/ 4342577)
for Industrial Ecology, Joint Degree TU Delft and Leiden University

AI Statement:

Claude was used as a writing support tool during the preparation of this thesis. It supported grammar correction, sentence restructuring, clarification of argument flow, and sparring for ideas to develop a coherent storyline. It was also used to identify sections where repetition and inconsistencies could be reduced and where transitions between chapters or arguments could be improved.

AI was used only as an assistive tool in the writing process. Canva-AI Elements Lab was additionally used for selected visual elements in Figures 22 and 38, as indicated in the respective figure captions. The research design, fieldwork, analysis, interpretation, conceptual contributions, and final decisions are my own. All ideas, arguments, and conclusions presented in this thesis remain the responsibility of the author.