EXPLORING CACAO VALUE CHAIN GOVERNANCE

A Case Study of North Luwu, Sulawesi, Indonesia

Highlights

- Indonesia's cacao production has declined due to pests, disease, and changing farming practices, now relying on imports, with global chocolate manufacturers controlling sector governance.
- Cacao governance in Indonesia ranges from market-based for regular products to directed for specialty products, with companies in North Luwu controlling production and timing to ensure transparency, equity, and sustainability despite power imbalances.
- In North Luwu, farmers sell cacao to major buyers like Mars, Inc., OFI, Cargill, and local processors, with pricing and quality standards set by buyers, although coordination is facilitated by proximity and established relationships.
- Cacao processing companies vary in governance, with one offering flexibility, another maintaining balanced relationships, and imposing contracts; independent collectors also have flexible negotiations, though both farmers and traders need capacity-building.
- Key insights include empowering farmers, promoting sustainability and certification, and driving innovation and social inclusion through training, new technologies, and initiatives for gender equality and improved livelihoods.

Cacao growth in Indonesia

Cacao remains a vital agricultural commodity in Indonesia, producing 0.74 million tonnes in 2020 and exporting 0.21 million tonnes that same year, significantly contributing to foreign exchange earnings and supporting millions of livelihoods. Despite ranking among the top five global producers, Indonesia's cacao farm productivity remains below the global average, at approximately 390 kg/ha/year compared to 500 kg/ha globally, and far lower than countries like Thailand (2.78 tonnes/ha) and Ivory Coast (641 kg/ha). Climate change, pests, diseases, and limited access to appropriate technologies, market infrastructure, and financing further exacerbate low productivity and

threaten sustainability. Additionally, price volatility has pushed many farmers to shift to alternative, more profitable crops, reducing cacao plantation areas. These challenges underscore the need for improved technologies, infrastructure, and farmer support to enhance productivity and sustain the industry's economic and social benefits.

The private sector plays a significant role in cacao production in Indonesia, with various companies and organizations collaborating to improve the sector's productivity and sustainability, such as Cargill, Olam Food Ingredients (OFI), Mars, Inc., and Mondelez International. These private entities have been working in various locations across Indonesia to support cacao farmers and improve the overall productivity and sustainability of the sector. However, specific working locations are not mentioned in the provided search results. Therefore, for the sustainability and competitiveness of Indonesian cacao products in the international market and the continuity of the national cacao industry, strategic steps need to be taken.

Objectives of the study

One primary focus of this research is to identify and analyse the dynamics of cacao value chain governance (VCG), shedding light on how these governance structures influence the successful integration of sustainability measures. Specifically, it examines a noteworthy case of cacao VCG in South Sulawesi, providing an exploration of the region's contextual factors and their implications for sustainability practices. In addition to this, the overarching goal is to identify opportunities for a more widespread adoption of sustainable practices by engaging various stakeholders across the entire cacao value chain in Indonesia.

Methodological framework

Supply chain governance encompasses the relationships and control mechanisms among buyers, sellers, service providers, and regulatory institutions along the chain from production to end-users. It involves the power to set and enforce rules that guide the operations of individuals and suppliers. Governance plays a critical role in fostering knowledge transfer and innovation, helping leading firms maintain competitive advantages. Understanding governance structures offers valuable insights for governments, donors, and development practitioners to design training and technical assistance for supplier farmers and small enterprises. This support aims to strengthen their positions in the supply chain and promote sustainable practices.

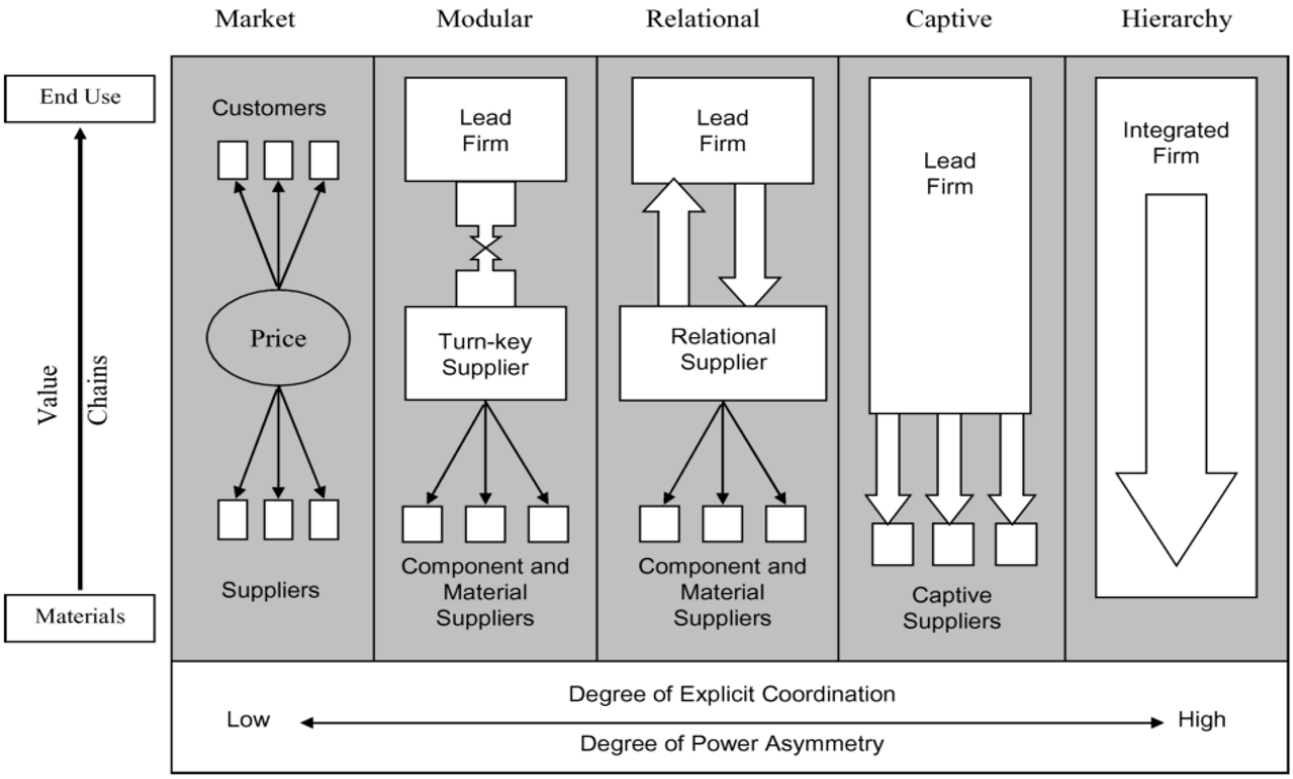

Figure 1. Five global value chain governance types (Gereffi et al, 2005)

The methods and approaches used include mapping and stakeholder roles in supply chain governance, identification of governance and relationships of each market player in the supply chain, referring to the article by Gereffi et al (2005)[1], which demonstrates three variables that play a large role in determining how global value chains are governed and change (see Figures 1 and 2). These are: (1) the complexity of transactions, (2) the ability to codify transactions, and (3) the capabilities in the supply-base. The theory generates five types of global value chain governance – hierarchy, captive, relational, modular, and market – which range from high to low levels of explicit coordination and power asymmetry.

In addition, references related to the determinants of governance developed by Mithöfer et al (2017)[2] was also included (see Figure 2). This framework encompasses several variables such as transaction complexity among market players in the supply chain, the ability to translate (codify) transactions or transfer knowledge, and the capabilities at the basic supplier level, namely, producer farmers or cultivators.

The study sampled a total of 54 cacao market actors in North Luwu district (see locations in Figure 3), which include farmers, local collectors and large-scale traders. Snowball sampling was used to obtain relevant respondents. It is a sampling technique where existing study subjects propose future subjects from their acquaintances, causing the sample group to grow like a rolling snowball. This process continues until the desired sample size is reached. Sampling relied on the list growers and traders provided by Rainforest Alliance (RA), a SFITAL project partner in the region. The list includes their names, addresses, and telephone numbers, was provided to guide the enumerator in locating the respondents and serve as an initial informant to introduce the enumerator to subsequent respondents along the value chain. As for the other market actors purposive sampling was used due to the limited number of actors present in the region.

A survey with open-ended questions was conducted to gather information about coordination and power imbalances, work or contractual arrangements, the complexity of sharing information and knowledge in

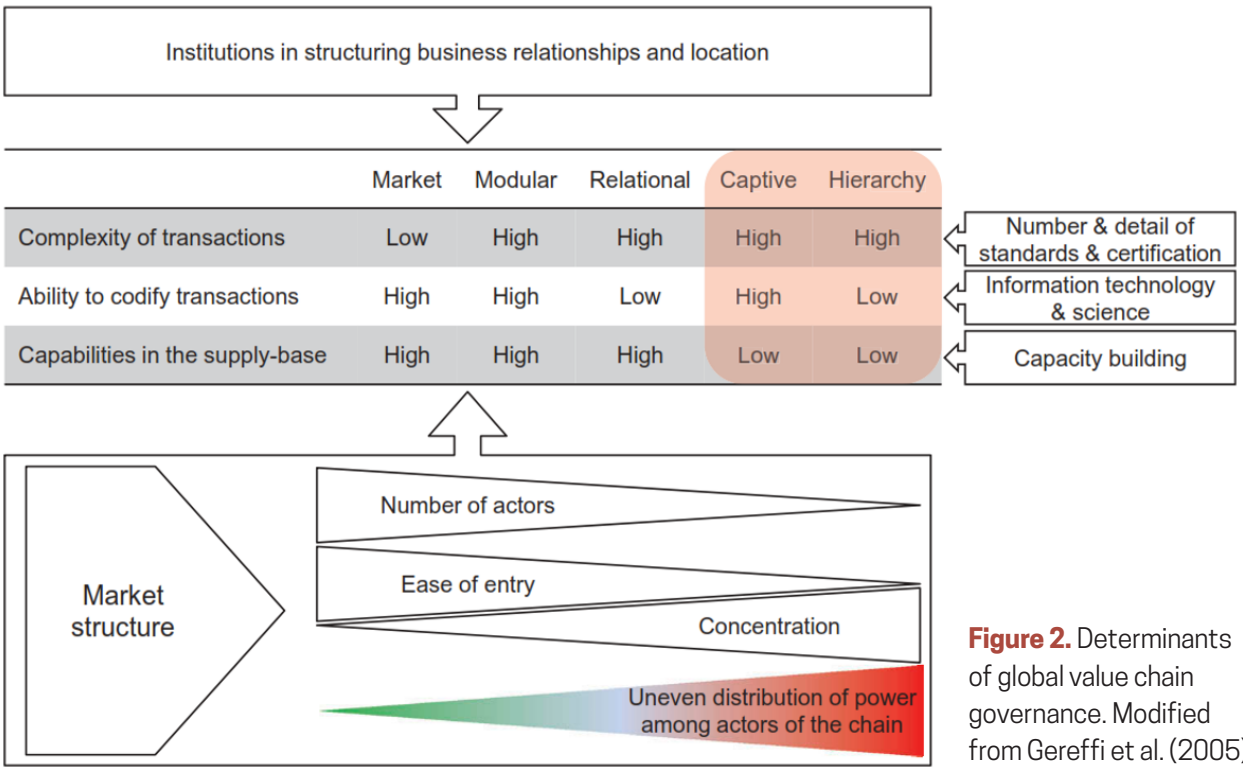

Figure 2. Determinants of global value chain governance. Modified from Gereffi et al. (2005)

1 Gereffi G, Humphrey J & Sturgeon T. 2005. The governance of global value chains, Review of International Political Economy, 12:1, 78-104, DOI: 10.1080/09692290500049805 https://doi.org/10.1080/09692290500049805

2 Mithöfer D, van Noordwijk M, Leimona B & Cerutti PO. 2017. Certify and shift blame, or resolve issues? Environmentally and socially responsible global trade and production of timber and tree crops, International Journal of Biodiversity Science, Ecosystem Services & Management, 13:1, 72-85, DOI: 10.1080/21513732.2016.1238848 http://dx.doi.org/10.1080/21513732.2016.1238848

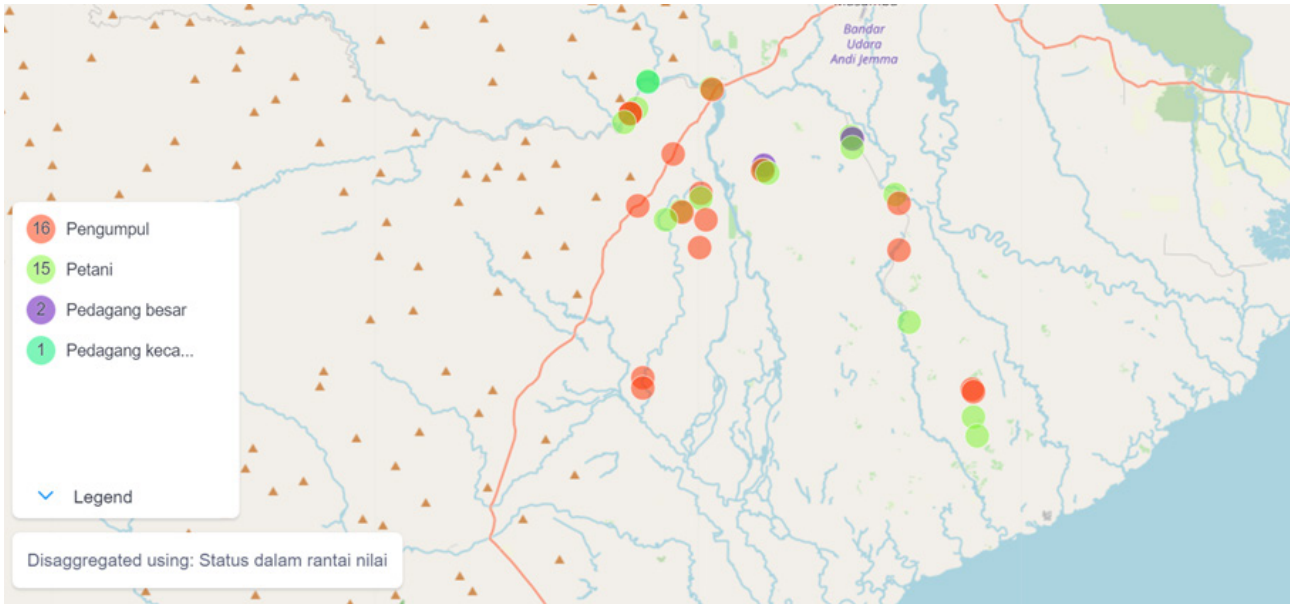

Figure 3. Locations of the cacao market actors in North Luwu district

transactions (pricing in particular), supplier capabilities, and challenges at the local level, particularly for farmers who act as producers, collectors, and local traders.

Results and discussions

Indonesian cacao production: from rise to decline

Indonesia's cacao production rose rapidly in the late 1980s, making it the world's third-largest producer by 1996, but has declined since peaking in 2008/2009 due to pests and disease. Various donor-funded programs, such as SUCCESS, AMARTA, and SCPP, aimed to sustain production with support from global firms, but the decline persisted as farmers shifted to alternative livelihoods. Government initiatives like Gernas Kakao in 2008 failed to effectively integrate global support, highlighting inefficiencies in addressing systemic challenges. While domestic cacao processing has increased, Indonesia now relies on significant imports from West Africa and Ecuador to meet demand. The sector's Global Production Network highlights the dominant governance role of branded chocolate manufacturers in shaping industry dynamics (see Figure 4).

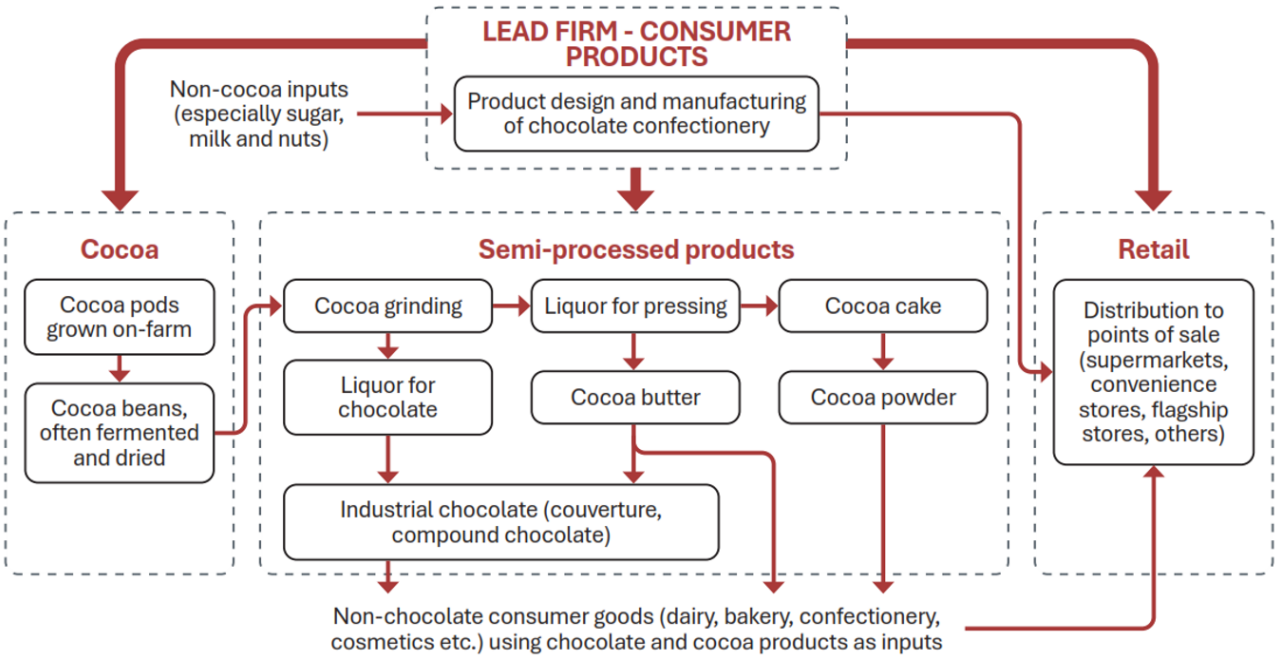

Figure 4. Global Production Network for the cacao-chocolate sector (adjusted from Neilson et al, 2020)

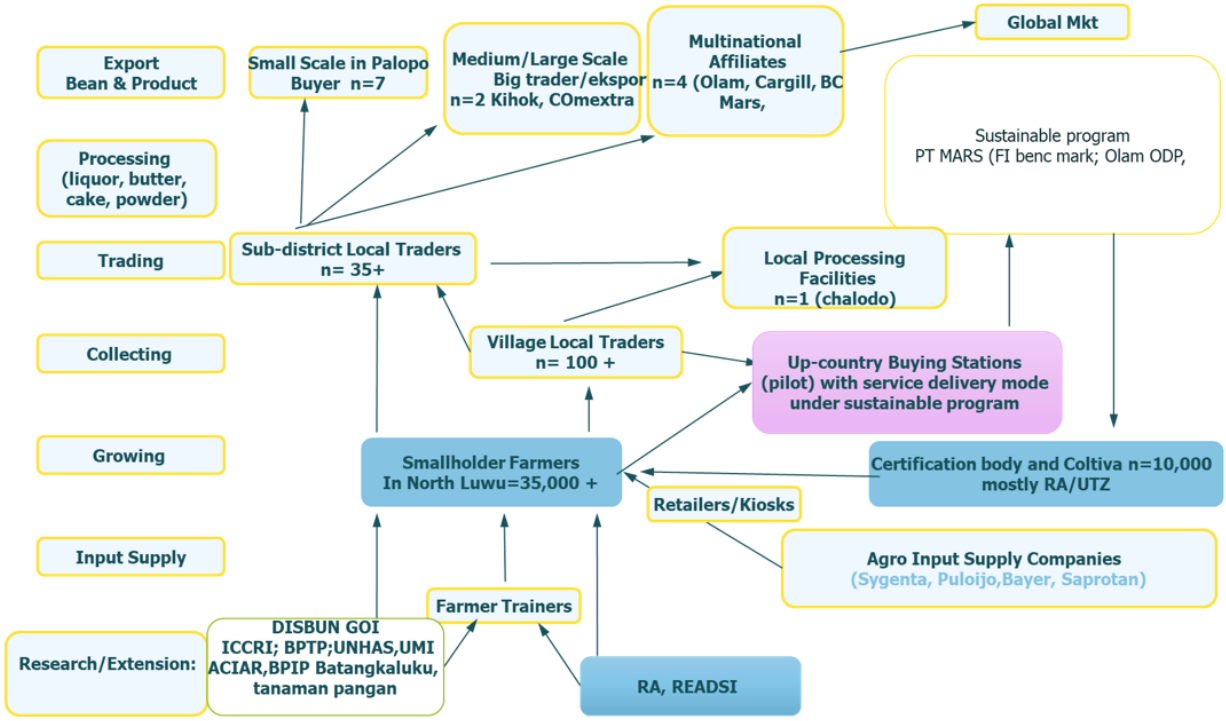

Figure 5. Cacao supply chain and actors in North Luwu district

Cacao governance dynamics in North Luwu

Based on the panel workshop held in September 2021, there is a clear illustration of cacao supply chain map and its actors in North Luwu provided by RA shown in Figure 5.

Cacao products in Indonesia primarily fall under market-based governance, where buyers and suppliers share opportunities to determine prices, while certified cacao aligns with balanced governance, requiring intensive coordination on specifications and standards. Specialty cacao products often involve directed governance, necessitating significant control and intervention by lead firms due to high product complexity and low supplier capabilities. In North Luwu, companies employ strong coordination with farmers, dictating production processes, quantities, and timelines, highlighting power asymmetry where farmers have limited bargaining power. The ultimate aim is to foster cooperation and competition among market players, promoting transparency, equitable benefit distribution, and sustainability. Achieving this goal requires significant time and effort, emphasizing the need for collaborative efforts to balance social, economic, and environmental priorities.

Cacao supply chain management and interactions in North Luwu

Cacao buyer information

The study found that farmers in North Luwu Regency have a certain degree of freedom in selling their cacao products to collectors, with two primary methods: wet and dry chocolate products. Collectors are also flexible in selling to buyers, both private and within companies. For wet cacao bean products, the company PT Mars is a significant buyer, while for dry cacao products, several companies such as PT Mars, Olam, Cargill, and Comextra are involved. Private/local processing, such as Chalodo, is another buyer that often carries out processing.

Relationship between buying and selling products with buyers

Farmers and collectors are not entirely free in determining how to buy and sell their products, as they must meet quality standards set by buyers. Some farmers are bound by company certification contracts, which may limit their bargaining power. The quantity of products sold is flexible, depending on the number of crops farmers have. In this research, factors such as farmer group contractual relationships with companies may have influence on the buying and selling process. However, ethnic relationships and family relationships do not.

Determining the buying and selling price with the buyer

The buyer determines the price in most cases, with some collectors bound by price and certification contracts. Buyers who do not have contractual ties often build mutual trust with farmers to establish regular selling relationships. Ultimately, the buyer has the final say in determining the price.

Determination of quality

Farmers must meet the quality standards requested by the company/buyer. Collectors also provide product specifications that comply with global standards. For buyers without contracts, trust is built based on the buyer's reputation and the quality of the product.

Coordination with buyers

Farmers have some freedom in coordinating with collectors, as trust has been established. The farmer's location is also close to the collector's location, making it easy to sell beans. Contractual relationships within a farmer group also facilitate regular sales. Coordination is typically daily and focuses on price or product quality. Farmers and collectors share authority and power in determining the quality of the product requested by the buyer.

Supplier's ability to make transactions

Farmers and collectors are proficient in meeting quality and quantity standards according to market requirements. However, they may need additional skills to understand and carry out the work requested by buyers to maintain trust. These skills are not difficult for farmers and collectors to learn.

Transactions

Transactions are flexible, with farmers meeting the quality and quantity standards requested by collectors. Payment is usually made in cash, and detailed records are kept for farmers' understanding. Collectors can easily carry out transactions online based on the buyer's conditions.

Evaluation

The study found three value chains with different types of governance: a) Farmers – Collectors – Sub-district Traders – Companies; b) Farmers - District Traders - Companies; and c) Farmers – Collectors – Companies. All farmers and collectors are aware of and some are involved in cacao certification, aiming to improve product quality, protect the environment, and secure a premium price for products sold according to specified standards. However, their understanding of traceability is limited.

Chance of successful practice

Farmers and collectors have a positive response to activities/actions that improve social values, stabilize the economy, and protect the environment. They aim to improve the standard of living for farmers, society, and the environment and are willing to follow the steps required.

Governance and contrasting between companies

The study examined governance types among cacao companies operating in Indonesia, Cargill, OFI, and Mars, Inc., highlighting varying levels of coordination and authority between farmers, traders, and companies. PT Cargill allows farmers significant freedom in selling and determining quantities, while traders face stricter requirements to meet company standards, with coordination occurring freely but farmers reliant on trader equipment. PT Olam maintains flexible relationships with balanced power among market players, requiring traders and farmers to meet quality standards, while transactions are transparent and easy to execute, though traders and farmers rely on company expertise. Mars emphasizes certification contracts with strict monitoring of quality and price stability, where farmers have limited bargaining power and rely heavily on buyers for specifications and processes. Collectors, in contrast, operate independently without contracts or dependencies, negotiating quality and prices while maintaining flexibility and ethnic or personal ties within the market. Across all groups, information transfer is straightforward, but farmers and traders require capacity-building to meet technical and quality demands effectively.

Insights for enhancing cacao value chain in North Luwu

1. **Empower Farmers and Address Power Imbalances**

   Strengthen farmer cooperatives, provide training on negotiation and market dynamics, and ensure transparent communication to foster equitable relationships within the cacao value chain. Empowering farmers with knowledge and resources will improve their bargaining power and decision-making capabilities.

2. **Promote Sustainability and Certification Awareness**

   Develop accessible education campaigns and farmer field schools to enhance understanding of traceability, certification, and sustainable practices. Encourage environmentally friendly farming through incentives and partnerships with environmental organizations to integrate agroforestry and climate-smart agriculture.

3. **Drive Innovation and Social Inclusion**

   Invest in innovative farming techniques and digital tools for productivity and informed decision-making while supporting inclusive practices such as gender equality and community development. Promote initiatives that enhance social values, ensuring equitable opportunities and better livelihoods for farmers and their families.

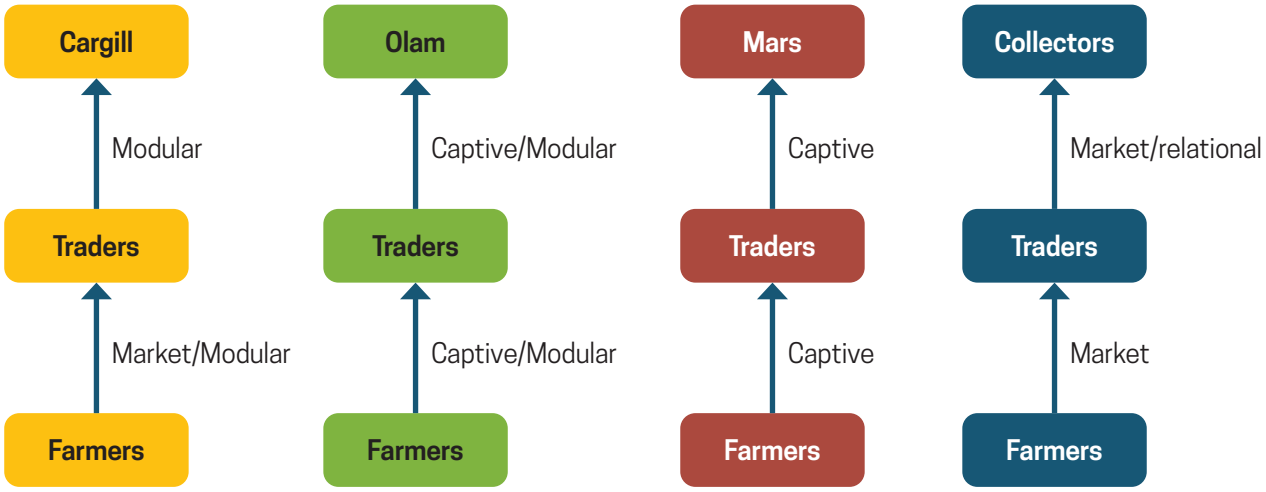

Figure 6. Types of governance based on the benchmark companies

Conclusion

The cacao value chain in North Luwu, Indonesia, is shaped by market-based and balanced governance, highlighting the complex dynamics between farmers and collectors. Three distinct value chains reveal varying levels of awareness and engagement in cacao certification, with farmers demonstrating proficiency in meeting quality standards but lacking understanding of traceability. Addressing this gap is crucial for advancing sustainable practices in the industry. Key actions include empowering farmers, increasing traceability awareness, addressing power imbalances, and fostering collaboration among stakeholders. These efforts will help establish equitable bargaining positions, broader benefit distribution, and a more socially, economically, and environmentally sustainable cacao industry.

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