

SUSTAINABLE FARMING IN TROPICAL ASIAN LANDSCAPES (SFITAL)

A lesson learned of the development and implementation of a sustainable cacao roadmap in Indonesia

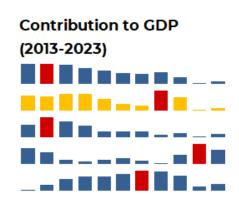
Case study: A sustainable cacao roadmap of North Luwu District, South Sulawesi Province, Indonesia



An overview of cacao in Indonesia

Economic sector

Manufacturing
Agriculture, Forestry and Fishing
Wholesale and Retail Trade
Mining and Quarrying
Construction



Agriculture, forestry, and fishing (including cacao plantation) ranked 2nd/3rd for its contribution to Indonesia's GDP in the last decade with a **12.5%** share in 2023.

Cacao is one of Indonesia's leading plantation commodities and is ranked 4th as Indonesia's plantation export commodity after palm oil, rubber and coconut.

Indonesia is ranked 3rd as a cacao producer with a contribution of 13.09% and an average production of 678 thousand tons per year. Indonesia is also listed as the 5th exporting country with an average export of 323.8 thousand tons per year in 2016-2020.



South Sulawesi Province ranked 2nd as the largestt cacao producer in Indonesia, contributing to 15.66% of national production (2020). The average cacao production in South Sulawesi in the last 5 years is 116,065.3 tons per year.

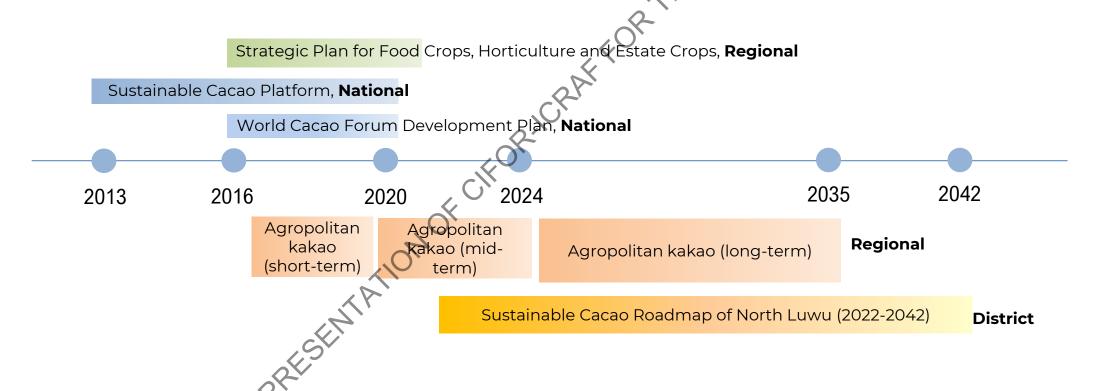
North Luwu district is the main cacao producer in South Sulawesi contributing nearly 30% of the province's production. The area of cacao plantations in North Luwu covers 19-21% of the province's cacao areas (2019-2021). The productivity of cacao plantations in the last 3 years is 0.73 tons/ha exceeding the province productivity of 0.59 tons/ha and world productivity of 0.47 tons/ha, similar to national productivity of 0.74 tons/ha.

Issues:

- Declining production and area in the last ten years
- Commodity shifting from cacao to other crops
- Need for tree rejuvenation
- Most of cacao production comes from smallholder plantations (98.29% of plantation areas, 97.4% of total production)

Cacao roadmap at national and sub-national level

- Cacao is one the main plantation commodity in Indonesia.
- The Long-term Development Planning of Indonesia 2025-2045 has included cacao plantation as one of development agenda for Sulawesi Island.
- The established and existing cacao development plan at national and regional level have different focus and timeline.



Sustainable Cacao Roadmap in North Luwu

The roadmap consists of development scenarios; strategy; intervention; and indicators to realize the vision of "Sustainable Cacao, Prosperous People".



Strategic Issues, Vision, and Scope

Strategic issues are identified to formulate follow-up plans in sustainable cacao management. The parties then formulate a shared vision by considering the condition of cacao management.

Cacao Management Issues in North Luwu:

Land

- 1. Decreasing cacao farm area
- 2. Decreasing the carrying capacity of the land
- 3. The need for land rejuvenation

Human capital and productivity

- 1. Limited accessible agricultural inputs (fertilizers, high-quality seeds, etc)
- Limited competent trainers for sustainable cacao management
- 3. Low productivity
- 4. Vulnerable to pests and diseases

Value chain and market

- High transportation cost
- 2. Insufficient value chain governance
- 3. Limited traceability and market access
- 4. Less transparent supply chain

Policy in North Luwu

The sustainable cacao road map aims to formulate a sustainable cacao development plan as a response to various problems encountered in cacao management in North Luwu Regency.

Vision of North Luwu Government

"North Luwu Forward, Independent, and Harmonious"

Vision

Strategy

Intervention

Indicator

Activity

"Sustainable cacao, Prosperous People"

The vision of cacao management departs from the awareness of the parties that cacao management is experiencing a decline and problems but has the potential to be developed in a sustainable manner for the welfare of the community as well as to restore the glory of cacao in North Luwu.

There are five main strategies in the sustainable cacao road map in North Luwu Regency.

Intervention, indicator **Strategy** Land use allocation and sustainable management 4 interventions, 15 indicators Increasing community access, especially cacao farmers, to livelihood capitals 11 interventions, 48 indicator Increasing productivity and diversification of cacao products 4 interventions, 28 indicators 3 interventions, 14 indicator Improving value chain Ecosystem service incentives from sustainable cacao 5 interventions, 17 indicators

There are five main strategies in the sustainable cacao road map in North Luwu Regency.



Strategy 1: Land use allocation and sustainable management

Intervention	Indicator
Intervention 1.1 Allocation of cocoa that	(1) Designated forest areas; (2) Forest cover areas, (3) High carbon value (HCV) areas;
considers land suitability	(4) Land allocation for cocoa, (4) The areas of cocoa located in the suitable land; (5)
	The areas of cocoa located in social forestry areas
Intervention 1.2 Allocation of cocoa land	(1) The areas of productive cocoa plants; (2) Indicative areas for cocoa rejuvenation;
rejuvenation	(3) Budget allocated for cocoa rejuvenation; (4) Extensive assistance to increase the
	effectiveness of rejuvenation.
Intervention 1.3 Limited expansion of cocoa	(1) The new cocoa plantation in the areas with slopes above 25% and land suitability
areas	levels \$1-S3; (2) Area of cocoa converted from unproductive land.
Intervention 1.4 Land allocation for cocoa	(1) Cocoa agroforestry areas; (2) The increase of cocoa agroforestry areas; (3) Area of
agroforestry	food crop in cocoa agroforestry

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Intervention	Indicator
Intervention 2.1 Access to land	(1) Number of land certifications; (2) The areas of Cacao that have land certificates; (3) Number of
certification	extensions for land certification
Intervention 2.2 Optimization of	(1) Number of cocoa-based social forestry agreements; (2) Number of partnerships involving social
cocoa-based social forestry	forestry groups; (3) Numbers of active social forestry groups; (4) Number of extensions to enhance the
	institutional capacity of social forestry groups
Intervention 2.3 Targeted cocoa	(1) Number of competent extension workers; (2) Ratio of farmers and extension workers; (3) Number of
extension	extensions in one year; (4) Number of capacity strengthening activities for extension workers; (5)
	Number of farmers who participated in extension programs; (6) Farmer exchange rate.
Intervention 2.4 Development of	(1) Number of cocoa-based cooperatives; (2) Number of Village Owned Enterprises with cocoa-based
financing institution	business units; (3) The amount of capital obtained by farmers; (4) Number of extensions focusing on the
	institutional capacity of farmer groups; (5) Number of partnerships between farmer groups and
	financing institutions
Intervention 2.5 Cocoa farmers	(1) Number of cocoa corporations; (2) Number of farmers involved in cocoa corporations; (3) Areas
corporation	managed by the cocoa corporation; (4) cocoa farmer's income; (5) Number of extensions to strengthen
	the institutional capacity of the cocoa corporation
Intervention 2.6 Support agricultural	(1) The number of agricultural equipment distributed and in accordance with the needs of farmers; (2)
input	Number of farmers that received agricultural facilities; (3) Farmer exchange rate

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Intervention	Indicator
Intervention 2.7 Women's	(1) Number of productive women farmer groups; (2) Number of women farmers who participated in
empowerment in cocoa	agricultural extension; (3) Number of women farmers who participated in other extensions; (4) Number
farming	of cocoa-based business units managed by women; (5) Number of women farmer groups who
	received agricultural facility assistance; (6) Capital assistance for business units managed by women's
	groups
Intervention 2.8 Health and	(1) Number of work safety training for farmers; (2) Number of farmers who have work safety equipment
safety environment	Q'`
Intervention 2.9 Prevention	(1) Number of households gaining education on child protection; (2) Standard Operational Procedure
of child labor	for child protection
Intervention 2.10 Sustainable	(1) Regulation on sustainable cocoa management; (2) Monitoring and evaluation system of sustainable
cocoa management policy	cocoa management; (3) Number of socializations of sustainable cocoa regulation; (4) The integration of
	sustainable cocoa regulation in regional and village development planning; (5) The percentage of
	village funds allocated for sustainable cacao management
Intervention 2.11 Agricultural	(1) Number of cocoa farmers receiving agricultural insurance; (2) Cooperation agreement with
insurance	insurance institution; (3) Agricultural insurance is integrated with the government program

There are five main strategies in the sustainable cacao road map in North Luwu Regency.

Strategy



Increasing productivity and diversification of cacao products

Intervention	Indicator
intervention	Indicator
Intervention 3.1 The implementation of GAP in	(1) Number of certified cocoa nurseries; (2) Number of cocoa varieties; (3) Number of farmers using
cocoa farming	pest and disease-resistant planting material; (4) Number of farmers using certified cocoa seedlings;
	(5) Cocoa production; (6) Cocoa productivity; (7) Number of organic fertilizer producers; (8) Number
	of farmers using organic fertilizer and agricultural lime; (9) Number of farmers applying soil
	conservation techniques; (10) Number of farmers managing cocoa agroforestry; (11) Number of
	farmers receiving cocoa agroforestry training.
Intervention 3.2 Access to supporting facilities	(1) Number of subsidized fertilizer kiosks; (2) Cocoa information system; (3) Number of farmers with
for cocoa farming	independent nurseries
Intervention 3.3 Diversification of cocoa	(1) Number of quality improvement and post-harvest training; (2) Gross added value of small
products	downstream businesses/enterprises; (3) Fermented cocoa production value; (4) Number of cocoa-
	based business units managed by farmers; (5) Number of cocoa derivative products
Intervention 3.4 Cocoa agribusiness	(1) Production of cocoa derivative products; (2) Number of cocoa-based small enterprises; (3)
	Number of partnership with private sectors

There are five main strategies in the sustainable cacao road map in North Luwu Regency.

Strategy



Improving value chain

Intervention	Indicator
Intervention 4.1 Effective and	(1) Quantity of cocoa seed in class Land II (SNI 2323:2008); (2) Profit margin
integrative supply chain	for cocoa farmers; (3) Number of cocoa farmers cooperatives; (4) Number
	of partnerships between farmer groups and Village Owned Enterprises.
Intervention 4.2 Documentation of	(1) Number of farmers with well-managed documentation for cocoa
cocoa farming	farming activities of the second seco
Intervention 4.3 Certification for	(1) An open access traceability tools; (2) Geographic indication for cocoa in
sustainability	North Luwu; (3) Number of farmers who have land coordinate information;
	(4) Number of farmers with certification on sustainable commodity; (5)
	Incentives for sustainability certification for farmers.

There are five main strategies in the sustainable cacao road map in North Luwu Regency.

Strategy



Ecosystem service incentives from sustainable cacao

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Intervention	Indicator
Intervention 5.1 Compensation for ecosystem	(1) Erosion rate; (2) GHG remission in agricultural and forestry areas; (3) Areas under
services across different regions	performance-based compensation for ecosystem services contract; (4) Budget allocated for
	ecological fiscal transfer and compensation for ecosystem services; (5) Number of government
	programs focusing on ecosystem services.
Intervention 5.2 Payment for ecosystem	(1) Number of farmers participating in payment for ecosystem service contracts; (2) Areas
services	under payment for ecosystem services contracts; (3) Number of private sectors involved in PES
	contracts; (4) Number of operated and sustainable PES schemes
Intervention 5.3 Eco-friendly label	(1) Number of cocoa products with eco-friendly label
Intervention 5.4 Funding for ecosystem	(1) Budget allocated for ecosystem restoration
restoration	
Intervention 5.5 Performance award for	(1) Number of companies, community groups, and individuals who received performance
environmental protection and sustainable	awards in environmental protection
management	

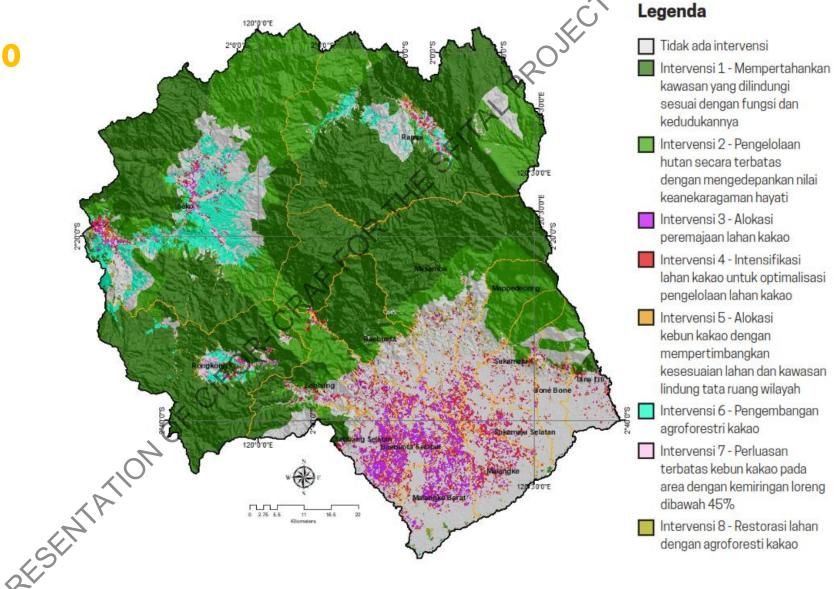
• Ensure the strategy and intervention is aligned with the issues and problems that have been defined.

 All stakeholders should have a common understanding on the importance of specific strategy and intervention and the expected outcomes for these strategy and intervention

Challenges on developing strategy and intervention

- Strategy and intervention cannot be implemented directly, thus we need to formulated programs and activities for each intervention
- A set of indicator should be developed and agreed among stakeholder to assess/evaluate the implementation of strategy and intervention
- Strategy and intervention should be mainstreamed to jurisdiction planning agenda for example government programs, NGO activities, universities research programs, etc
- Intervention and activities of roadmap should be equipped with indicative location, timeline, relevant stakeholders, source of funding

Intervention map



In the North Luwu Roadmap, we map activities and intervention on the 5 years period for 20 years of planning



Strategy 1: Land use allocation and sustainable management

Intervention	2022-2027	2028-2032	2033-2037	2038-2042
Intervention 1.1 Allocation of cocoa that considers land suitability	+++ CRAK	+	+	+
Intervention 1.2 Allocation of cocoa land rejuvenation	CIKOP+	+	+	+
Intervention 1.3 Limited expansion of cocoa areas	+++			
Intervention 1.4 Land allocation for cocoa agroforestry	++	+++	+++	+++

+) Level of priority

In the North Luwu Roadmap, we map activities and intervention on the 5 years period for 20 years of planning



Strategy 2: Increasing community access, especially cacao farmers, to livelihood capitals

Intervention	2022-2027	2028-2032	2033-2037	2038-2042
Intervention 2.1 Access to land certification	++	+		
Intervention 2.2 Optimization of cocoa-based social forestry	· · · · · · · · · · · · · · · · · · ·	++	++	++
Intervention 2.3 Targeted cocoa extension	C/K +++	+++	+++	+++
Intervention 2.4 Development of financing institution	+++	+++	+++	+++
Intervention 2.5 Cocoa farmers corporation		+++	++	++
Intervention 2.6 Support agricultural input	+++	+++	+++	+++

⁺⁾ Level of priority

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Strategy 2: Increasing community access, especially cacao farmers, to livelihood capitals

Intervention	2022-2027	2028-2032	2033-2037	2038-2042
Intervention 2.7 Women's empowerment in cocoa farming	+++ CRAK	+++	+++	+++
Intervention 2.8 Health and safety environment	10 CT	+++	+++	+++
Intervention 2.9 Prevention of child labor	+++	+++	+++	+++
Intervention 2.10 Sustainable cocoa management policy	+++	+	+	+
Intervention 2.11 Agricultural insurance	+	+++	+++	+++

In the North Luwu Roadmap, we map activities and intervention on the 5 years period for 20 years of planning



Strategy 3: Increasing productivity and diversification of cacao products

Intervention	2022-2027	2028-2032	2033-2037	2038-2042
Intervention 3.1 The implementation of GAP in cocoa farming	+++ CRAK	+++	+++	+++
Intervention 3.2 Access to supporting facilities for cocoa farming		+++	+	+
Intervention 3.3 Diversification of cocoa products	× +++	+++	++	++
Intervention 3.4 Cocoa agribusiness		++	+++	+++

In the North Luwu Roadmap, we map activities and intervention on the 5 years period for 20 years of planning



Strategy 4: Improving value chain

Intervention	2022-2027	2028-2032	2033-2037	2038-2042
Intervention 4.1 Effective and integrative supply chain	+++	+++	+++	+++
Intervention 4.2 Documentation of cocoa farming	+++,0	++	+	+
Intervention 4.3 Certification for sustainability	C CIKO'	+++	+++	+++

In the North Luwu Roadmap, we map activities and intervention on the 5 years period for 20 years of planning



Strategy 5: Ecosystem services incentive from sustainable cacao

Intervention	2022-2027	2028-2032	2033-2037	2038-2042
Intervention 5.1 Compensation for ecosystem services across different regions	+++ CRAK	+++	+++	+++
Intervention 5.2 Payment for ecosystem services	rok.	++	+	+
Intervention 5.3 Eco-friendly label	+++	++	++	++
Intervention 5.4 Funding for ecosystem restoration	+++	+++	+++	+++
Intervention 5.5 Performance award for environmental protection and sustainable management	+++	+++	+++	+++

+) Level of priority

To be able to implement the roadmap, various funding sources are needed, such as from **Financing Scheme** the government, private sector, community, and society; especially innovative funding sources. Philanthropy Community Government Private Financial Inst Co-Transfer from Ministries Grant **Govt Investment** Companies CSR investment national govt Budget on ES Non Bank APBD APBD Government Budget Allocation Mechanism (APBD) Regency

Thankeyou

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