

# BUILDING A BUSINESS CASE FOR CONSERVATION

Partnership Development and Training  
on Sustainable Agriculture Practices  
in Sintang, West Kalimantan

Implemented by:





# PARTNERSHIP DEVELOPMENT AND SUSTAINABLE AGRICULTURE TRAINING FOR CACAO IN SINTANG, WEST KALIMANTAN

For:  **LINGKAR TEMU  
KABUPATEN LESTARI**

April 2020

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2. Cacao Partnership Development

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# IDENTIFIED CHALLENGES FROM PREVIOUS RESEARCH

The former cacao value chain study showcased that farmers face external and internal challenges that directly affect the cacao production in Sintang. In 2019, Kopernik and Keling Kumang Cooperative built a solar dryer and conducted an experiment on cacao fermentation and drying, to support the infrastructure and improve overall farmers capacity in post-harvest processing.

## EXTERNAL



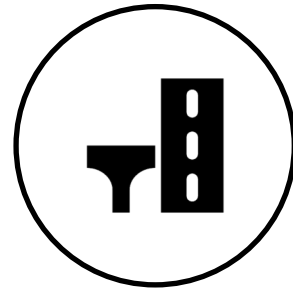
### FINANCIAL CAPITAL

Limited **financial capital** prevents farmers from purchasing supporting facilities, which will impact cacao productivity



### MARKET ACCESS

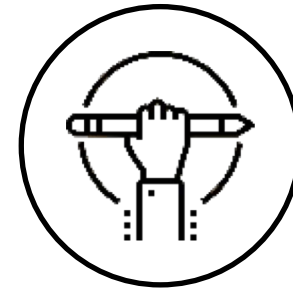
**Market access** and information on minimum prices forced farmers to sell cacao beans at low prices



### INFRASTRUCTURE

Poor **infrastructure** from/to cacao plantations and lack of facilities to process the cacao beans nearby

## INTERNAL



### CAPACITY IN AGRICULTURE PRACTICES

**Skills** and knowledge of farmers, in pre-harvest (i.e. plant care) and post-harvest processing are still limited



### MOTIVATION



Farmers' **motivation** tends to decrease due to external challenges, resulting in low productivity and minimal quality of cacao bean, which will effect farmers' income

Previous project: solar dryer construction & experiment

# CURRENT PROJECT OVERVIEW



To provide a more extensive support, Kopernik and Keling Kumang Cooperative conducted two follow-up projects: partnership development to enable better market access, and training in sustainable agriculture practices to increase farmers' knowledge and motivation

#	ACTIVITY	CHALLENGE	OBJECTIVE	PROJECT TYPE	LOCATION	DURATION
1	 <b>Cacao partnership development</b>	<ul style="list-style-type: none"> <li>Cacao development in Sintang is still in its early stages, currently there is no consistent market available around.</li> </ul>	To expand networks and establish a potential market for cacao beans and products	Business meetings and visits	Sintang District and Bali	Jan-April 2020
2	 <b>Improving farmer's capacity in cacao good agriculture practices (GAP)</b>	<ul style="list-style-type: none"> <li>Cacao farmers in Sintang have just started planting cacao and currently have limited knowledge about the GAP in planting</li> </ul>	To equip the farmers with necessary knowledge about GAP in cacao plantation.	Training and workshop	Sintang District	Jan-April 2020

# PROJECT TIMELINE OVERVIEW

Below is the timeline of the two main activities, that were implement from January to April 2020.

Timeline



Cacao partnership development



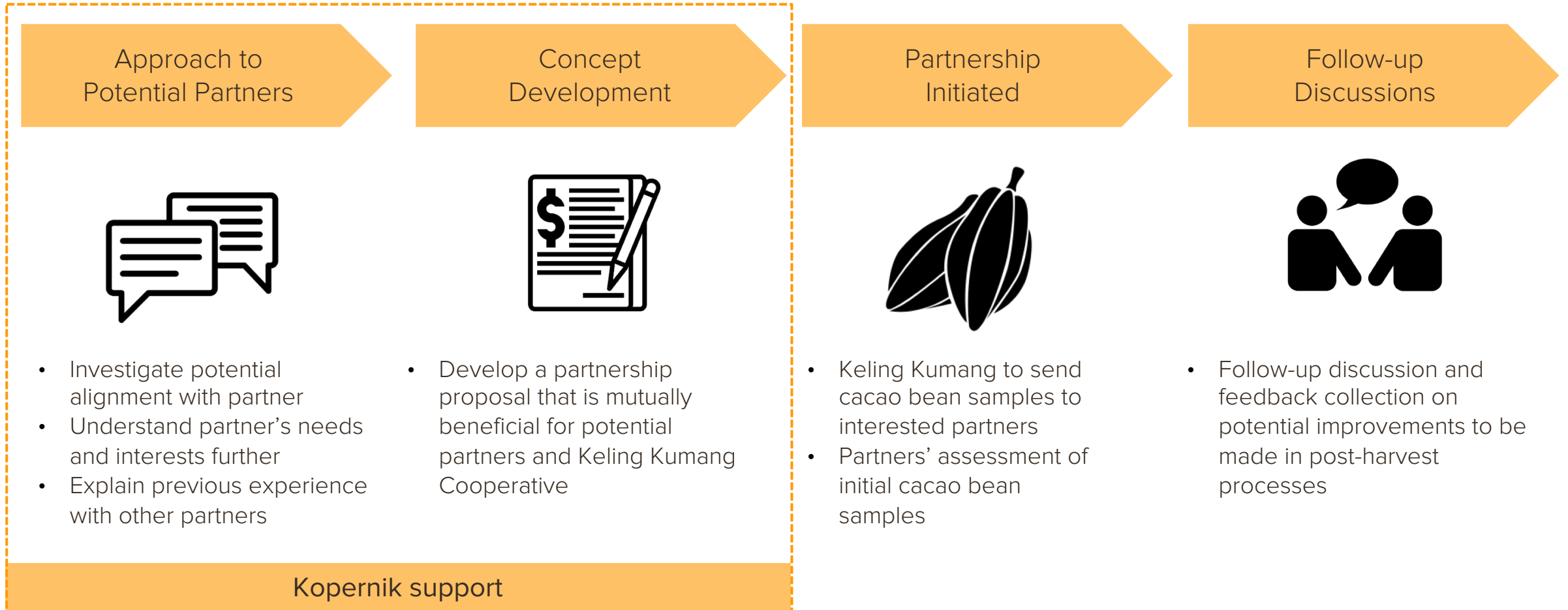
Cacao good agriculture practices training

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# CACAO PARTNERSHIP DEVELOPMENT OVERVIEW

Keling Kumang had approached several potential partners through meetings and networking events to establish the market for cacao in Sintang. In supporting this initiative, Kopernik liaised with other relevant partners and arranged a business visit to Bali to broaden Keling Kumang's network as well as to raise market awareness of Kalimantan cacao in the industry.





# PARTNESHIP DEVELOPMENT VISIT ITINERARY

Below is the business visit itinerary with several potential partners in Bali on 5<sup>th</sup> – 6<sup>th</sup> March 2020. Throughout the discussions, Kopernik and Keling Kumang focused on the topic of potential collaboration, observed various production processes, as well as provided cacao beans samples from Sintang.

## Thu (05/03) Karangasem – Ubud

## Fri (06/03) Tabanan – Seminyak – Ubud

AM

Elevated Cacao  
Jatayu café, Artotel

Travel Ubud - Karangasem

Sorga/Uforia  
I.Pura mastima, Jasri Kelod, Kecamatan  
Karangasem, Subagan, Kec. Karangasem,  
Kabupaten Karangasem, Bali 80813

Gelato Secrets  
Jl. Raya Ubud, Ubud, Kecamatan Ubud,  
Kabupaten Gianyar, Bali 80571

Ubud Raw Chocolate  
Jl. Raya Sayan No.74, Sayan, Kecamatan Ubud,  
Kabupaten Gianyar, Bali 80571

PM

Travel Karangasem - Ubud

Kahiyang coffee  
Jl. Kajeng No.1, Ubud, Kecamatan Ubud,  
Kabupaten Gianyar, Bali 80571

Travel Ubud - Tabanan

Primo Chocolate  
Jl. Verdacchi, Pejaten, Kec. Tabanan,  
Kabupaten Tabanan, Bali 82121


# INITIAL DISCUSSION SUMMARY WITH POTENTIAL PARTNERS

The six Bali-based potential partners differ from the more established stakeholders that Keling Kumang previously engaged with, such as Mars and Cargill. At the outset, most of Bali-based chocolatiers target a more premium audience, thus require higher quality cacao beans as opposed to higher production capacity, compared to the former partners.

Potential Partner	Initial feedback on sample	Requirement for cacao beans	Partnership potential* (Low, med, high)	Next step
Elevated Cacao	The cacao bean has good quality. Elevated Cacao is interested in understanding further the process and visit the production site.	Unroasted cacao beans (peeled, fermented with low temperature <50° C, organic)	Medium	Interested in supplying the unroasted cacao beans. However further consideration is needed.
Sorga Chocolate	Currently have stable supply from organic farmers in Bali, have tried cacao beans from Papua, Bali, Kalimantan, and Sumatra, but prefer the Papua and Bali cacao best.	Certified organic cacao, wet beans - no more than 4 hours since opened.	Low	Keling Kumang will send employees or farmers to learn about cacao processing through an internship program.
Kahiyang Cafe	Cafe owner liked the cacao and suggested to roast the beans then sell it by telling the story of cacao plantation development, as it could attract consumers who care about sustainability and health.	Kahiyang doesn't require any specific types of coffee beans, nor consistent supply.	High	Kahiyang Café will display the roasted cacao with a flyer about KKG background and product description.
Gelato Secrets	The dried cacao beans taste good but need further sorting to get uniform beans. The owner is curious to test the flavor after further processing.	Dried, fermented beans (5-6%) with uniform size	High	Gelato has received 1 kg of KKG cacao bean samples and will make the chocolate bar from it.
Ubud Raw Chocolate	The dried cacao beans comply with the drying standard but need to be processed into liquor to produce the flavor.	Unroasted cacao beans (peeled, fermented with low temperature <50° C, organic).	Low	URC only select organically-certified cacao, so it is not possible to supply cacao for the time being.
Primo Chocolate	The dried cacao bean is rich in flavor as it has a flowery scent, as well as the spicy undertone. Primo is interested in knowing the growing location and environment	Dried, fermented cacao, preferably organic. Primo buys sorted/unsorted cacao.	High	Primo has ordered 10 kg cacao from KKG for trial. They will roast and process the current sample.

\*Partnership potential is decided on the compliance with partner's requirement, minimum supply, buying price, initial feedback, and tangible next step to be performed.

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# GOOD AGRICULTURAL PRACTICES TRAINING TO IMPROVE FARMERS' CAPACITY AND MOTIVATION

Based on findings on the research, cacao commodity is not the farmers' current main source of income since they mostly rely on palm, rubber, and pepper. The farmers grew cacao trees to test out the seeds provided to them with minimal maintenance (ie. no fertilizer and regular cleaning), due to limited knowledge and resources.



## Details

- |   |   |  |  |
|---|---|--|--|
| <ul style="list-style-type: none"> <li>• Cacao is a new commodity to be developed in Sintang, and farmers have limited knowledge about good practices for the commodity.</li> </ul> | <ul style="list-style-type: none"> <li>• To support farmers in achieving better cacao productivity through intensive training of plant disease control</li> </ul> | <ul style="list-style-type: none"> <li>• Participants are trained in:             <ul style="list-style-type: none"> <li>• Plant disease control</li> <li>• Environmentally-sustainable practices</li> </ul> </li> </ul> | <ul style="list-style-type: none"> <li>• Understanding of good practices of cacao plantation</li> <li>• Motivated farmers to develop the cacao industry further</li> </ul> |
|---|---|--|--|

## Assessment method

N/A

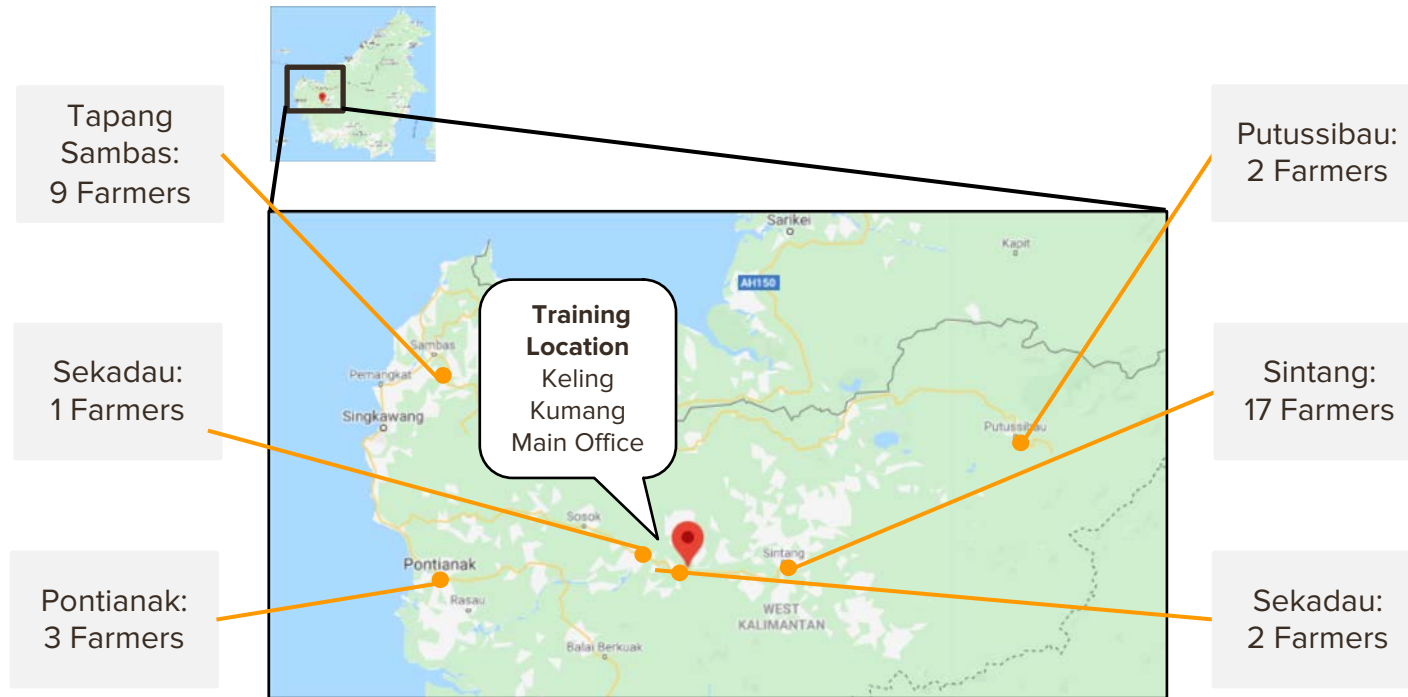
N/A

- Pre-test and post-test for the training material

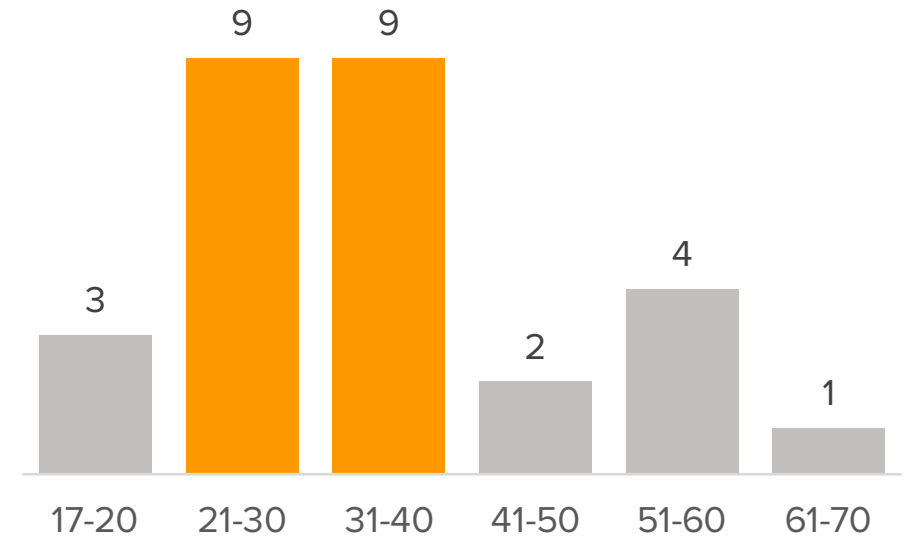
N/A

# TRAINING PARTICIPANTS

The training was conducted at Keling Kumang Main Office with 33 representative farmers from Putussibau, Sintang, Sekadau, Tapang Sambas, Sekadau, and Pontianak. This type of training was successful in attracting **young farmers who are mostly men with an average age of 35 years old**, which provide ample space for innovation within their agricultural practice in the forthcoming future.

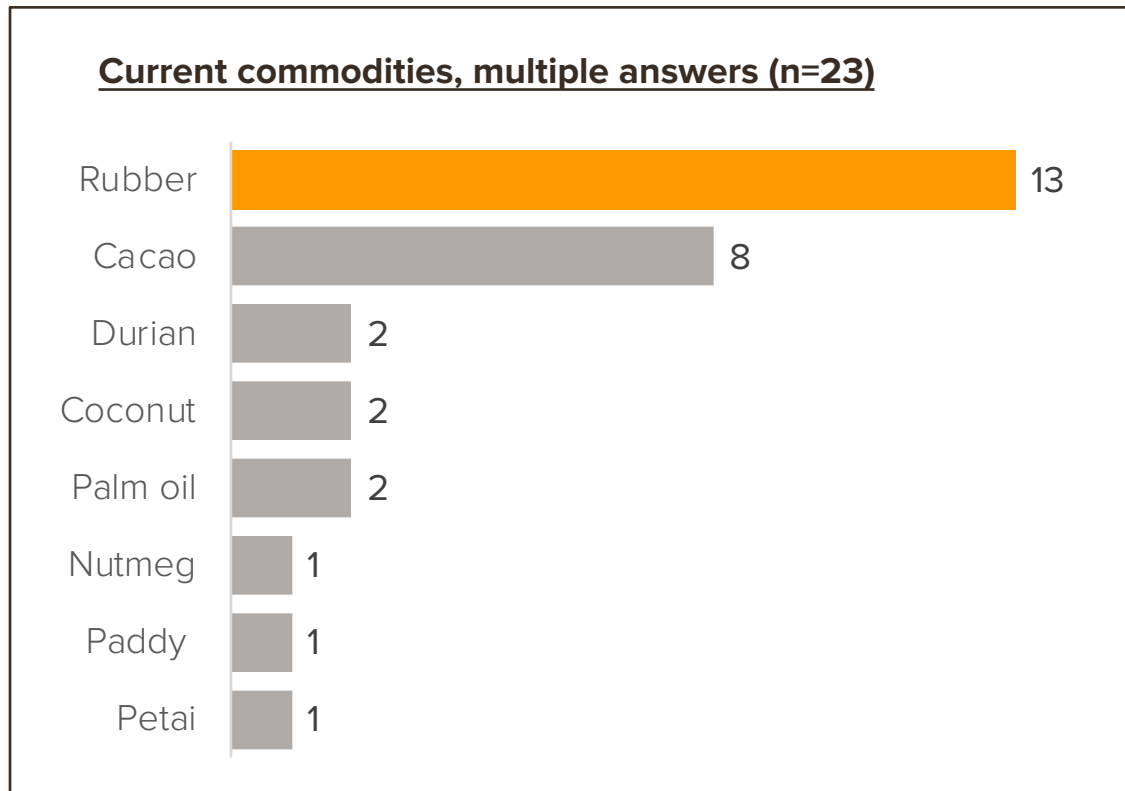


Age group of the training participants  
(n=28 farmers)



# PARTICIPANTS BACKGROUND

As most of the participants were rubber farmers with lack of similar trainings beforehand, they were enthusiastic to participate in the training's discussion and fieldwork. The training was effective in engaging farmers from a diverse background – mainly rubber - to shift their main cultivation towards cacao.






“I used to think that if I plant cacao, I just need to give a lot of fertilizer to grow the leaves, but after I joined this training, I learned about the correct way to tend the cacao.” (Farmer B, 31 years old)

“Before I joined this training, I didn’t understand about the plant care or fermentation, but now I have knowledge about that. I hope we could have more practice on the field.” (Farmer G, 33 years old)

# TRAINING AGENDA AND DESCRIPTION

The training utilized an interactive method, by combining in class lecture, video playing, group discussion, as well as field work so farmers could directly practice the training material and ask feedback from the trainer. The training was facilitated by two trainers, Peni Agustiyanto (Coffee and Cocoa Sector Manager, Rikolto, Bali) and Rauf (Director, WASIAT, South Sulawesi). Participants mentioned several topics such as grafting, fermentation, and sanitation as the most interesting materials to study.

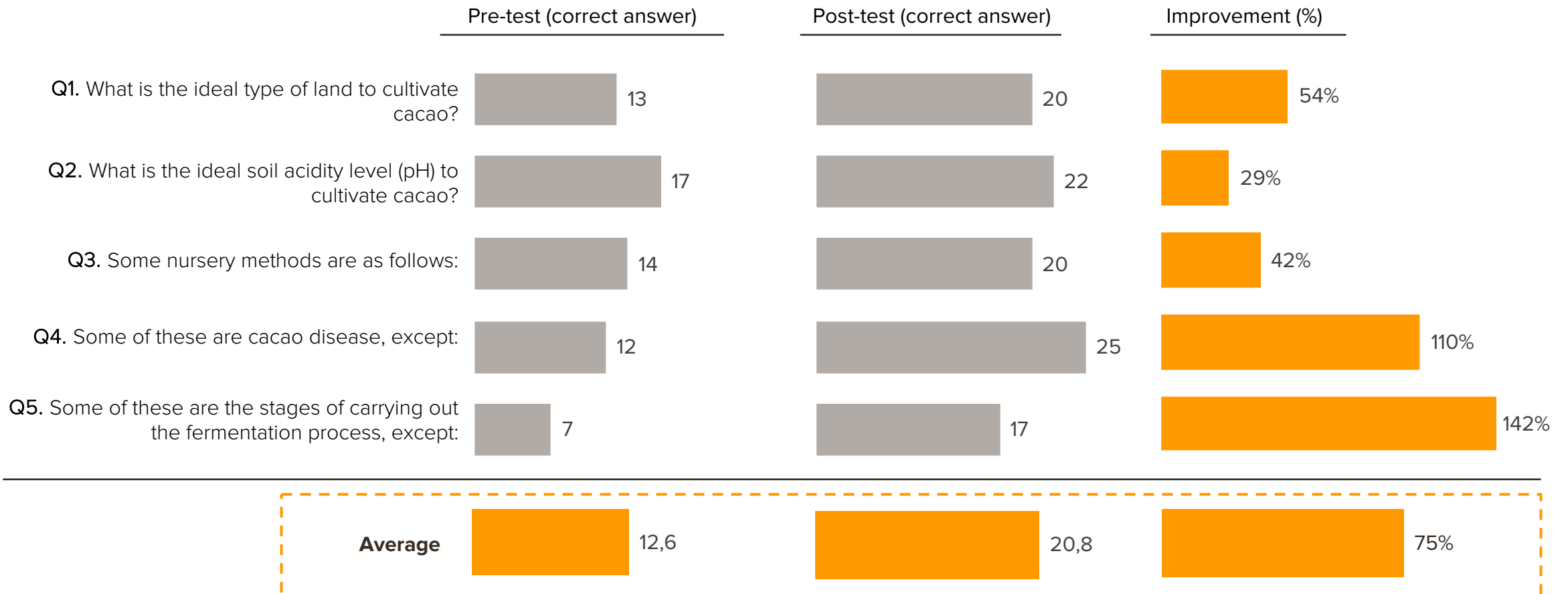
<p><b>Training documentation</b></p>	<p><b>Day 1</b></p> 	<p><b>Day 2</b></p> 	<p><b>Day 3</b></p> 
<p><b>Class lecture</b></p>	<ul style="list-style-type: none"> <li>• Basic requirement and environment condition to plant cacao</li> <li>• Theory on pruning</li> </ul>	<ul style="list-style-type: none"> <li>• Cacao seedlings certification</li> <li>• Sorting, fermentation, drying</li> <li>• Plant care: sanitation and pruning</li> </ul>	<ul style="list-style-type: none"> <li>• Fertilizer usage and application</li> <li>• Group activity and discussion: calculating fertilizer dosage</li> <li>• Video: fermentation</li> <li>• Pest and disease control</li> </ul>
<p><b>Field work</b></p>	<ul style="list-style-type: none"> <li>• Pruning Practice</li> </ul>	<ul style="list-style-type: none"> <li>• Cacao propagation (grafting)</li> </ul>	<ul style="list-style-type: none"> <li>• Nursery practice</li> </ul>

# TRAINING OUTCOMES

During the training, farmers were given both pre and post tests to measure their knowledge related to cacao cultivation process. Based on the findings, there is a significant improvement on general cacao cultivation knowledge by 75% on average.

## Pre and post test on cacao smallholder farmers

# Farmers (n=30)



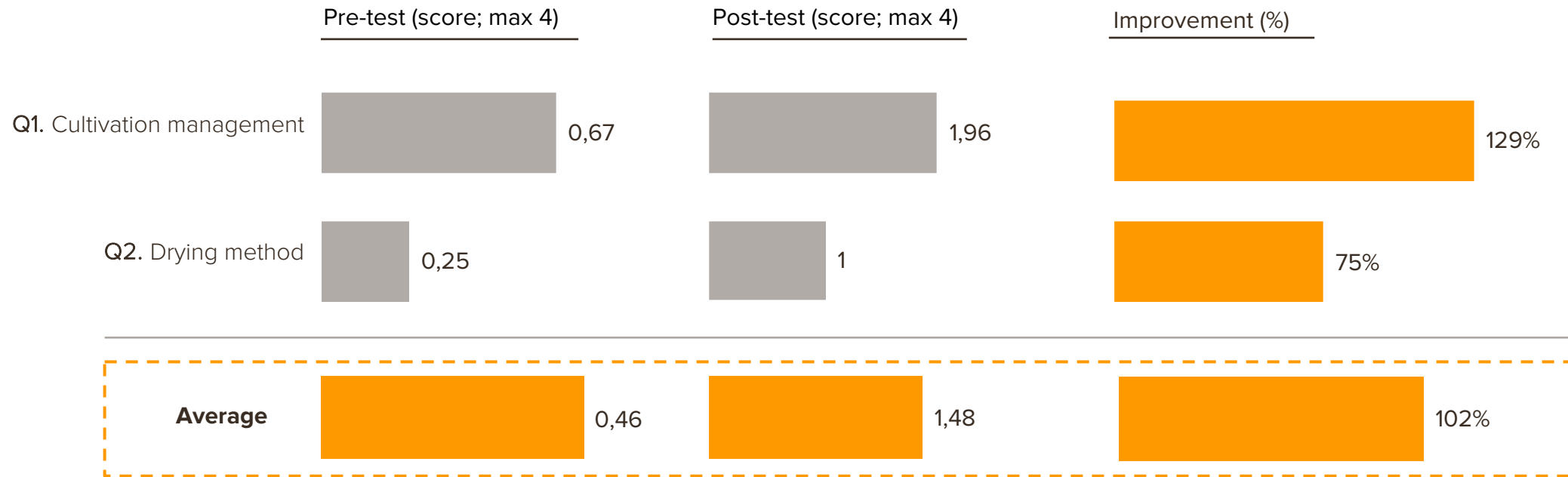


# TRAINING OUTCOMES


Farmers were also asked about their cultivation management and knowledge on drying method. The results showcased that there are significant improvements on their knowledge, regarding both cultivation management and drying method, by 102% on average.

## Pre and post test on cacao smallholder farmers

# Farmers (n=30)





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# RECOMMENDATIONS AND NEXT STEPS

To provide a more extensive support, Kopernik and Keling Kumang Cooperative conducted two follow-up projects, partnership development to enable better market access and training in sustainable agriculture practice to increase farmers' knowledge and motivation.

#	ACTIVITY	KEY LEARNING POINTS	NEXT STEP
1	 <p><b>Cacao partnership development</b></p>	<ul style="list-style-type: none"> <li>• Some of the potential partners are interested in using fermented cacao from KKG to be processed as the cacao comply to the requirement (fermentation and moisture level)</li> <li>• Cacao market in Bali is receptive to the concept of sustainability and conservation that brought by KKG</li> </ul>	<ul style="list-style-type: none"> <li>• For high-potential partners: Follow up with Primo and Kahiyang about market response of the cacao</li> <li>• For medium-potential partners: Incorporate the requirement from potential partner (e.g. fermentation temperature) for the next production batch and send a new sample</li> </ul>
2	 <p><b>Improving farmer's capacity in cacao good agriculture practices</b></p>	<ul style="list-style-type: none"> <li>• Young farmers are enthusiastic and interested in joining sustainable agriculture practice training</li> </ul>	<ul style="list-style-type: none"> <li>• Create an online group discussion for farmers, to be able to ask further regarding of cacao cultivation.</li> <li>• Monitor the implementation of training material by the participants 6 months later</li> <li>• Create a field school in one cycle of plantation for some of the active farmers</li> </ul>

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# DETAILED PROJECT TIMELINE

Project activities were conducted between January and April 2020, with the following detailed timeline.

Activities		January				February				March					April			
		6	13	20	27	3	10	17	24	2	9	16	23	30	6	13	20	27
<b>Cacao Partnership Development</b>																		
1	Preparation																	
2	Listing the potential network connection																	
3	Contact the potential network																	
4	Visit preparation																	
5	Business meeting and visit to Bali																	
6	Follow-up meeting to Sintang																	
<b>Good Agricultural Practices Training</b>																		
7	Desk research and training material preparation																	
8	Contact trainer																	
9	Training preparation																	
10	Training and workshop																	
11	Report writing																	
12	Submit 1 <sup>st</sup> draft report																	
13	Report revision																	
14	Submit final report																	

# 1. ELEVATED CACAO



Location : Ubud, Bali  
Website : <https://elevatedcacao.com>

Established : 2018

- Product :
- Classes
  - Chocolate product
  - Wholesale production

- Additional info :
- Currently has more than 10 shops in Bali and Taiwan
  - Focuses on raw chocolate and vegan products.

## Meeting notes

Current supplier	Kalimajari Cooperative, Bali
Production capacity	Less than 2 tons/month
Requirement for cacao beans	Unroasted cacao beans (peeled, fermented with low temperature <50° C, organic)
Notes	<ul style="list-style-type: none"><li>• Tegallalang shop dedicated for chocolate making class</li><li>• Currently distribute the chocolate for hotels and shops (Bali Buda)</li><li>• Received farm tour inquiries</li></ul>



## Next Steps

Elevated Cacao is interested in supplying the unroasted cacao beans. However, further consideration is needed on packing and shipping fees, since peeled beans are more prone to damage.

## 2. SORGA CHOCOLATE



- Location : Karangasem, Bali  
Website : <http://sorgachocolate.com/>  
Established : 2017  
Product :
- Tour
  - Classes
  - Chocolate product (67%-100%)

### Meeting notes

Current supplier	Farmers' cooperative, Bali
Production capacity	1 ton/processing
Requirement for cacao beans	Certified organic cacao, wet beans -no more than 4 hours since opened.
Notes	Sorga aims to be a certified organic cacao corporation because they aim to have an exhibition in Barcelona in April 2020. The certification includes audit process for 6 days (took 3 months for the whole certification process).



### ► Next Steps

Keling Kumang will send employees or farmers to learn about cacao processing through an internship program

### 3. KAHIYANG CAFE



Location : Ubud, Bali

Website : N/A

Established : N/A

Product :

- Coffee
- Chocolate beverages

Additional info:

- Provide mentoring and acts as a market window within Ubud

#### Meeting notes

Current supplier	Open to any type of beans and suppliers
Production capacity	n/a
Requirement	Fermented beans
Notes	<ul style="list-style-type: none"><li>• Kahiyang doesn't require any specific types of coffee or chocolate beans, nor consistent supply.</li><li>• They are willing to buy fermented beans and roast them by themselves.</li><li>• Kahiyang coffee is interested in exploring Liberica coffee market as the other product of KKG farmers.</li></ul>



#### ▶ Next Steps

Kahiyang Café will display the roasted cacao and equipped with flyer about KKG background and product description. The immediate next step would be KKG to send some samples of Kelulut honey and Aras soap.



## 4. GELATO SECRETS



Location : Ubud, Bali

Website : <https://gelatosecrets.com/>

Established : 2009

Product :

- Gelato
- Sorbetto
- Waffles
- Beverages

Additional info:

- Currently has 14 shops in Bali and Jakarta

### Meeting notes

Current supplier	Local farmers for the fresh fruits and French cacao powder for cacao flavor
Production capacity	2000 kg/ year
Requirement	Dried, fermented beans (5-6%) with uniform size
Notes	<ul style="list-style-type: none"><li>• Gelato Secrets wants to focus on quality and its impact on the community. They aim to support farmers by directly connecting them with market.</li><li>• They want to help in diversify the income during non-harvesting period and reduce the dependency on middlemen.</li></ul>



### ▶ Next Steps

Gelato has received 1 kg of KKG cacao bean samples and will make the chocolate bar from it. As Gelato is also interested in honey, Keling Kumang will send some samples of Kelulut honey.

## 5. UBUD RAW CHOCOLATE



- Location : Ubud, Bali  
Website : <http://www.ubudraw.com>  
Established : 2014  
Product :
- Raw chocolate bar
  - Ceremonial cacao
  - Chocolate spread
  - Chocolate beverages
  - Cacao powder
  - Cacao butter
  - Cacao nibs
  - Cacao beans

### Meeting notes

Current supplier	Kalimajari (Bali) and in the process of mapping cacao production in Indonesia.
Production capacity	1 ton/ month, with minimum supply 100 kg (adjusting the machine capacity)
Requirement for cacao beans	Unroasted cacao beans (peeled, fermented with low temperature <math><50^{\circ}</math> C, organic, could make special edition chocolate from unregular supplier.
Notes	All the processes are conducted below <math&gt;50^{\circ}&lt; c,="" dependent="" fermentation="" flavor="" is="" math&gt;="" on="" process.<="" so="" td="" the="" very=""></math&gt;50^{\circ}&lt;>



### ▶ Next Steps

URC only select organically-certified cacao, so it is not possible to supply cacao for the time being. But they are planning to invest in bigger machines and looking for cacao from outside Bali in the forthcoming future.

## 6. PRIMO CHOCOLATE



Location : Tabanan, Bali  
Website : <https://www.primobali.net/>  
Established : 2008  
Product :

- Single origin chocolate
- Chocolate factory and plantation tour

### Meeting notes

Current supplier	Organic cacao beans from Bali and Berau, Kalimantan
Production capacity	Minimum 10 kg/ batch.
Requirement for cacao beans	Dried, fermented cacao, preferably organic. Primo buys sorted/unsorted cacao, but they will do further sorting to take good quality beans & eliminate mold
Notes	As Primo produce single origin chocolate, they are very concerned with the flavor, thus they prefer cacao beans with rich flavour.



### ► Next Steps

Primo has ordered 10 kg cacao from KKG for trial. They will roast and process the current sample to test the flavor and provide initial assessment.

# LIST OF PARTICIPANTS OF THE GOOD AGRICULTURAL PRACTICES (GAP) TRAINING

Below is the list of training participants from 8 different locations.

No	Location	Name	No	Location	Name	No	Location	Name	
1	Tapang Sambas	Dedi Nuari	14	Sintang	Marinus Daemon	24	Sintang Kota	Yohanes Agus Kamitus	
2		Alexander	15		Johang	25		Gregorius Guyang	
3		Andreas	16		Ozy	26		Yoheskel	
4		Marcelinus	17		Ripin	27		Ahau	
5		Dandy	18		Mastur	28		Victor	
6		Deomede	19		Silvanus	29		Yudius Masu	
7		Alipius	20		Luncan	30		Ipon	
8		Hermanus	21		Stepanus	31		Pontianak	Munaldus
9		Lempik	22		Apiang	32			Primus
10	Tapang Pulau	Yunus	23		Sekadau	Markus			33
11	Putussibau	Laurenus							
12		Petrus							
13	Sanggau	Anselmua							

# GAP TRAINING AGENDA

Date	Time	Activity
Tue 10 / 03/ 2020	08.00-08.30	Reception
	09.00-09.30	Introduction to Kopernik
	09.30-10.15	Pre-test
	10.15-10.30	Coffee break
	10.30-12.00	<b>1. Basic requirement and environment condition to plant cacao</b>
	12.00-13.00	Lunch break
	13.00-14.30	<b>2. Pruning</b>
	14.30-14.45	Coffee break
	14.45-15.00	Travel to cacao plantation
	15.00-17.00	<b>3. Field work: Pruning practice</b>
Wed 11/03/ 2020	08.00-08.30	Reception and Opening
	09.00-10.15	<b>4. Cacao seedlings certification</b>
	10.15-10.30	Coffee break
	10.30 – 12.00	<b>5. Field work: Cacao propagation: grafting</b>
	12.00-13.00	Lunch break
	13.00 – 14.45	<b>6. Sorting, Fermentation, Drying</b>
	14.30-14.45	Coffee break
	14.45-17.00	<b>7. Plant care; sanitation and pruning</b>

Date	Time	Activity
Thu 12 / 03/ 2020	08.00-08.30	Reception and Opening
	09.00-09.30	<b>8. Fertilizer usage and application</b>
	10.15-10.30	Coffee break
	10.30-12.00	<b>9. Group activity and discussion: Calculating fertilizer dosage</b>
	12.00-13.00	Lunch break
	13.00-14.00	<b>10.Video: Fermentation</b>
	14.00-15.00	<b>11. Pest and disease control</b>
	15.00-15.30	Post test and evaluation
	15.30-16.00	Coffee break and travel to cacao nursery
	16.00-17.00	<b>12. Fieldwork: Nursery practice</b>

# SCORING METHOD OF THE GAP TRAINING TESTS

Below is the scoring method utilized to assess the knowledge improvement tests.

Aspect	No	Questionnaire	Score Point Based on Keyword Answer				
			0	1	2	3	4
Cultivation Management	1	Mentioned 4 main most important activity in the cultivation management of cacao cultivation?	No answer	Mentioned at least 1 steps of the cultivation management process	Mentioned at least 2 steps of the cultivation management process	Mentioned at least 3 steps of the cultivation management process	Mentioned all 4 steps of the cultivation management process.
Drying Method	2	Write down the main steps for drying cacao beans that meets the National Standards (SNI)	No answer	Mentioned at least 1 steps of the drying method	Mentioned at least 2 steps of the drying method	Mentioned at least 3 steps of the drying method	Mentioned at least 4 steps of the drying method