

INDONESIA AUSTRALIA  
RED MEAT & CATTLE  
PARTNERSHIP



Australian Government



BKPM  
INDONESIA INVESTMENT COORDINATING BOARD



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# INDONESIA-AUSTRALIA COMMERCIAL CATTLE BREEDING PROGRAM

Progress Report  
January – June 2020



**IACCB**  
Indonesia-Australia Commercial Cattle Breeding Program

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# Abbreviations

ASG	Advisory Support Group
ADG	Average Daily Gains
BAPPENAS	Indonesian National Development Planning Agency
BCS	Body Condition Score
BNT	Bio Nusantara Teknologi
BKB	Buana Karya Bhakti
BX	Brahman Cross
CALFIN	Cow-calf Operations Financial Model
CALPROF	Cow-calf Operations Monitoring Software
CALPROS	Cow-calf Operations Monitoring Spreadsheet
CAP	Cahaya Abadi Petani
COVID-19	Novel coronavirus
CVA	Commercial Viability Assessment
DAWR	Department of Agriculture and Water Resources
DFAT	Department of Foreign Affairs and Trade
EOPOs	End of Program Outcomes
FFB	Fresh Fruit Bunch (Production)
GESI	Gender Equality and Social Inclusion
Gol	Government of Indonesia
Ha	Hectare
IACCB	Indonesia-Australia Commercial Cattle Breeding Program
IRR	Internal Rate of Return
JJAA	Juang Jaya Abdi Alam
KAL	Kalteng Andinipalma Lestari
KPI	Key Performance Indicator
KWPP	Kooperasi Wanita Pusaka Pertiwi
KPT	Koperasi Produksi Ternak (Farmer Cooperative)
M&E	Monitoring and Evaluation
MLA	Meat and Livestock Australia
MoA	Ministry of Agriculture
NPV	Net Present Value
P4S	Pusat Pelatihan Pertanian dan Pedesaan (Agriculture and Rural Development training Center)
P4S-KBM	P4S Karya Baru Mandiri (A P4S center in Central Kalimantan)
PT	Persoaran Terbatas (a limited liability entity formed and acting per Indonesian commercial law)
RMCP	Red Meat and Cattle Partnership
RPJMN	National Medium-Term Development Plan
ROI	Return on Investment
Sikomandan	Sikomandan Sapi Kerbau Komoditas Andalan Negeri
SISKA	Sistem Integrasi Sapi dan Kelapa Sawit (Integration of Oil Palm and Cattle)
SPR-MJ	Sentra Peternakan Rakyat Mega Jaya (Community Livestock Centre)
STA	Short Term Advisers
SUJ	Superindo Utama Jaya
TL	Team Leader
TOC	Theory of Change

# Executive Summary

Over the last 6 months the Indonesia-Australia Commercial Cattle Breeding Program (IACCB) has made significant progress towards achieving its End of Program Outcomes (EOPOs):

1. conclusively determining the commercial viability of three cattle breeding models, and;
2. promoting the successful models to industry and government stakeholders and informing them of the potential of, and barriers to, industry growth.

The first EOPO has been achieved, as IACCB has completed a conclusive Commercial Viability Assessment (CVA) of the four<sup>1</sup> breeding models, identifying key success factors for commercial enterprises and potential factors leading to failure.

Six out of the eight partners have reached the end of their third year of breeding Brahman Cross (BX) cattle. Key performance indicators for most partners are showing positive and stabilising trends that support commercial viability, albeit with relatively small profit margins. Results differ for each model and are dependent on continuous professional management and limitations smallholder enterprises are likely to face.

The results of the assessments have provided us with productivity, financial and commercial viability outputs for each of the breeding models which serve as key-parameters in modelling minor process-adjustments within each model. The possibility to generate process-adjustments within each model allows us to cater for requests from government or industry to prepare for the establishment of best-practice cattle breeding centres with a specific focus on BX cattle.

Cattle hand-over has now been completed for six<sup>2</sup> out of the eight partners. The remaining two partners, CAP (open-grazing in South Kalimantan) and P4S-KBM (cut-and-carry in Central Kalimantan) still need to pass their CVAs which are planned for August and September 2020. Of the six completed handovers, four partners have finalised scaling-up plans significantly expanding their BX cattle herd with a projected 2020 investment of an additional A\$2 million. The remaining two partners are Bio Nusantara (BNT), a Integration System of Cattle and Oil Palm program (SISKA) partner, which ceased plantation and cattle breeding operations completely feeling the brunt of the cheap palm-oil prices, and smallholder partner Sentra Peternakan Rakyat Mega Jaya (SPR-MJ), a community livestock centre, which has been advised to reduce herd size given their more traditional subsistence farming is not compatible with intensive commercial cattle breeding.

IACCB together with its partners have prepared cattle breeding enterprise scaling-up options through the financial modelling tool CALFIN. Results provide the management of the partners with several options and their expected returns including projections for cash-flow, Net Present Value (NPV), Internal Rate of Return (IRR) and Return on Investment (ROI). It was found that the efficiency gains that are achieved by larger herds particularly impact NPV, a major factor to be considered by investors committing significant funds. This would not surprise Australian producers, where commercial herds number generally over 5,000 head.

**The SISKA model** has proven to deliver promising commercial results and SISKA partners have allocated A\$1.7 million additional investment in 2020 to expand their business.

- » PT Buana Karya Bhakti (BKB) started with 300 imported BX heifers and 30 bulls and has seen their herd and cattle breeding business grow significantly. BKB is planning to increase their breeders to 2,000 head to

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<sup>1</sup> One SISKA partner modified their model so that their cattle are now grazing in their palm oil plantation for around 6 months, prior to being placed in a breedlot for 6 months during conception, pre-calving and weaning. This model has been termed Semi SISKA / Semi-breedlot.

<sup>2</sup> BKB (South Kalimantan), KAL (Central Kalimantan), KPT (Lampung), SUJ (Lampung), SPR-MJ (East Java) and BNT (Bengkulu).

achieve better economies of scale and expand into fattening and processing (slaughtering) and the direct sale of prime-cut meat to local retail markets.

- » PT Kalteng Andini Lestari (KAL) in Central Kalimantan, started with 250 imported BX heifers and 15 bulls in late 2016 / early 2017. KAL plans to grow their herd to 900 head, including 400-450 breeders and focus on growing and fattening live male cattle. Challenges to achieve these expansion goals include financing, and potential competition, as several companies in Central Kalimantan have already expanded their cattle operations.

The **semi-SISKA / semi breedlot model** is an adapted SISKA model for companies with limited plantation acreage and access to cheap agricultural by-products. Our partner, PT Superindo Utama Jaya (SUJ) management is opting for an organic growth model by integrating a total of 500 local cows in the 2019 / 2020 period and maintaining total herd numbers at 700 head for breeding in the plantation. Progeny will be transferred to their Lampung cattle enterprise for growing and fattening up to slaughter.

**Three cut-and-carry partners**, KPT (Lampung), SPR-MJ (Bojonegoro) and P4S (Central Kalimantan), are in different development stages and were provided with assessments on their potential for growth and upscaling.

- » KPT, already in their fourth year of BX breeding, has developed extremely well and achieving the best productivity KPIs amongst all partners. Their achievements have been recognised as they recently signed a profit-sharing agreement with Juang Jaya Abdi Alam in BX cattle breeding, increasing their herd numbers. The scaling-up plan developed demonstrates innovative ways of working with (small-scale) investors and forming partnerships with the feedlot sector.
- » SPR, over the same time period as KPT, has confirmed that commercial scale cattle breeding is less suited for farmers who are still focused on traditional agriculture with insufficient cash-flow. They do not possess flexibility in resourcing, especially capital, as well as time required to achieve good results. IACCB has advised SPR to reduce herd numbers moving forward.
- » P4S-KBM, which started cattle breeding 15 months ago, are showing positive signs with 50% of their heifers already having given birth to their second calf. Interestingly, there is huge demand for compost based on cattle manure, providing additional and continuous income to sustain cattle enterprise.

**Open-grazing partner CAP** is managing a herd of around 100 productive heifers and highlights the need for management improvement to become a commercially viable enterprise. The model provides for the lowest production cost of all, although expansion of the herd might be difficult due to the extensive way CAP manages the enterprise. A repeat CVA will be done in August before a decision on the hand-over of the cattle is taken.

**Objective 2** - IACCB has been successful in its promotional activities and has attracted strategic interest from the government and the private sector which provides opportunities to influence policies and business in the remaining 6 months of the Program.

To ensure sustainability of IACCB EOPOs, especially the sustainability of the knowledge on BX cattle breeding in Indonesia, IACCB has focused on ensuring knowledge remains available, providing opportunities for interested parties to shorten their learning processes based on IACCB and partner experiences.

Due to COVID-19, IACCB has adapted its promotion activities by interacting with industry, government officials and other interested parties through a series of webinars and web-based meetings. Hosting webinars, including co-hosting webinars with the Ministry of Agriculture, provided an opportunity to reach, and receive feedback on IACCB findings, from a wide group of interested parties all over Indonesia. The 5 webinars held up to June-end got the attention of a total of more than 1,500 people of which 45% were women. The conventional way of promoting and sharing lessons learned through conferences etc. would not have reached as large and diverse an audience and would have resulted in IACCB incurring additional costs.

As we are entering the last semester of the Program the primary focus of IACCB is to ensure that program-specific investment is continued post-IACCB closure.

The Siska-model has been adopted by the Government of Indonesia (GoI) and IACCB is working with the Ministry of Agriculture and National Development Planning Agency in Indonesia, with the latter requesting input regarding a policy brief on Siska which is being prepared for the National Medium Term Development Plan (RPJMN) 2020-2024. This is an opportunity for IACCB to convey the assessment results especially for Siska implementation.

Interest from MoA has significantly increased with DG Livestock, DG Estates, the Head of Training Center in MoA and the Indonesian Center for Animal Research and Development (ICARD) currently actively involved in the exchange of information with IACCB as well as actively participating in IACCB webinars. Increased attention from MoA is also demonstrated through running a joint webinar with the Ministry of Agriculture's Directorate General of Livestock and Animal Health and Indonesian Center for Animal Research and Development.

Private sector interest has increased as a result of webinars and IACCB support for three new breeding enterprises. IACCB has been approached by several bigger companies including Sinarmas Agro and Sinarmas Mining to access BX cattle breeding productivity and commercial information. Several palm-oil plantation companies have requested further information to help with decision-making processes regarding business expansion. IACCB has also further identified 20 companies who have expressed interest in the Programs work, including the use of developed tools for financial modelling and monitoring of cattle breeding enterprises. IACCB has offered to share technical information and investment planning support.

Private Skills Development Centers run by industry actors will play an important role in ensuring that knowledge and best practices in the BX cattle breeding sector are further disseminated and continue to be accessible to government, private companies, farmer groups and cooperatives. These centers are privately run commercial centers based in operational BX cattle breeding enterprises. Centers, include:

- » BKB in South Kalimantan has started a commercial Siska Training and Consultancy Business with IACCB to provide more input on educational video and curriculum development.
- » Pusat Pelatihan Pertanian Pedesaan Swadaya (P4S) - Privately run agriculture and rural development training centers accredited and supported by the MoA National Training Center. These P4S centers emerged from IACCB partners and are already open to train interested parties in small-medium BX cattle breeding enterprises. P4S-centers<sup>3</sup> are currently P4S-KPT on Lampung, P4S-KBM in Central Kalimantan and P4S-CAP in South Kalimantan. These centers need support in curriculum development and optimising their enterprises.

Sustainable capacity-building will also be available through:

- » Gita Pertiwi – A not-for-profit consultancy who, together with IACCB, developed a smallholder strengthening model covering organisational development, finances, business planning, and HRM which has proven to make a difference. Their services have already been requested by some district governments.
- » Sodik & Co, the software developer who collaborated with IACCB to develop the Cattle Breeding Monitoring Software (CALFPROF) is widely engaged in the cattle sector and will continue to offer services for the breeding industry related to CALFPROF application to monitor productivity and financial aspects of the breeding enterprise. Three IACCB partners are synchronising their oil palm company software with the IACCB developed software which is a first for the industry.

IACCB is also discussing with several industry bodies and government agencies the prospect of housing key-documents and IACCB developed tools to ensure that research results are available long after the program has finished.

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<sup>3</sup> Due to the accreditation by MoA our partners previously known as KPT, CAP and P4S are officially named: P4S-KPT; P4S-CAP and P4S-KBM. In the report we will use the original partner names.

# 1 IACCB Program – a Red Meat and Cattle Partnership Initiative

The IACCB Program, which commenced on 5 February 2016, was established under the auspices of the Indonesian-Australian Partnership for Food Security in the Red Meat and Cattle Sector (Partnership).

The initial 3-year program aimed to establish commercially sustainable cattle breeding models that facilitate investment, innovation and expansion of the beef cattle breeding industry in Indonesia. A no-cost 2-year extension was granted in February 2019 to consolidate findings and promote lessons learnt.

This report summarises general program progress over the last 4 years, and more detailed progress for the January-June 2020 period.

The project design required three breeding models to be tested:

1. SISKAs: Integrated Oil Palm - Cattle production where cattle are rotationally grazed in an oil palm plantation.
2. Open Grazing: extensive broad acre grazing in open grassland.
3. Cut-and-Carry: smallholder farmers manage cattle in a cattle yard and supply green fodder and agricultural by-products for feed.

One Siska partner modified their model so that their cattle are now grazing in their palm oil plantation for around 6 months, prior to being placed in a breedlot for 6 months during conception, pre-calving and weaning. This model has been termed Semi Siska / Semi-breedlot.

**Figure 1:** IACCB BX Cattle Breeding Models



## 2 IACCB Extension – Objectives

The 2-year (February 2019 – February 2021) IACCB extension focuses on:

1. conclusively determining the commercial viability of three cattle breeding models, and;
2. promoting the successful models to industry and government stakeholders and informing them of the potential of, and barriers to, industry growth.

IACCB's focus over the reporting period, January – June 2020, has been to progress the achievement of the above two objectives.

IACCB and five partners have used the consolidated three-year productivity and financial data to develop scaling-up plans for the cattle breeding enterprises. The three SISKAs partners will increase their herds by raising the selected female progeny and acquiring more heifers as well as investing in new infrastructure. Total investment in 2020 is estimated at A\$2 million.

One of the smallholders, KPT, will maintain their current herd while also collaborating with Juang Jaya Abdi Alam to raise more breeders under a profit-sharing agreement. The other smallholder, SPR-MJ, has been advised to further reduce herd numbers as intensive cattle breeding does not fit into their farming system which is still very much subsistence-level agriculture focused.

Section 7 of this report provides more detail on each of the cattle breeding models and their commercial viability.

The current reporting period has also seen IACCB actively communicating commercial results, breeding tools and breeding guidelines to key stakeholders in government and the private sector resulting in increased interest from both.

Gol interest significantly increased through the Ministry of Agriculture and the National Development Planning Agency (BAPPENAS). MoA, c/q DG Livestock directors, were involved as speakers in several webinars and co-organised a webinar with IACCB focusing on socialising breeding model assessment results to provincial livestock agencies. Planning is underway to co-organise a webinar with the DG Estates, focused on SISKAs, as this directorate general holds responsibility for regulation in the palm oil sector.

Several web-meetings with the National Development Planning Agency resulted in a request from the Director, Food and Agriculture, in BAPPENAS to contribute to the policy brief regarding SISKAs. The policy brief provides the basis for SISKAs to be taken up in the RPJMN 2020-2024 as per Presidential Decree nr 18/2020. Uptake in the RPJMN will result in Gol allocating funding to expand SISKAs implementation.

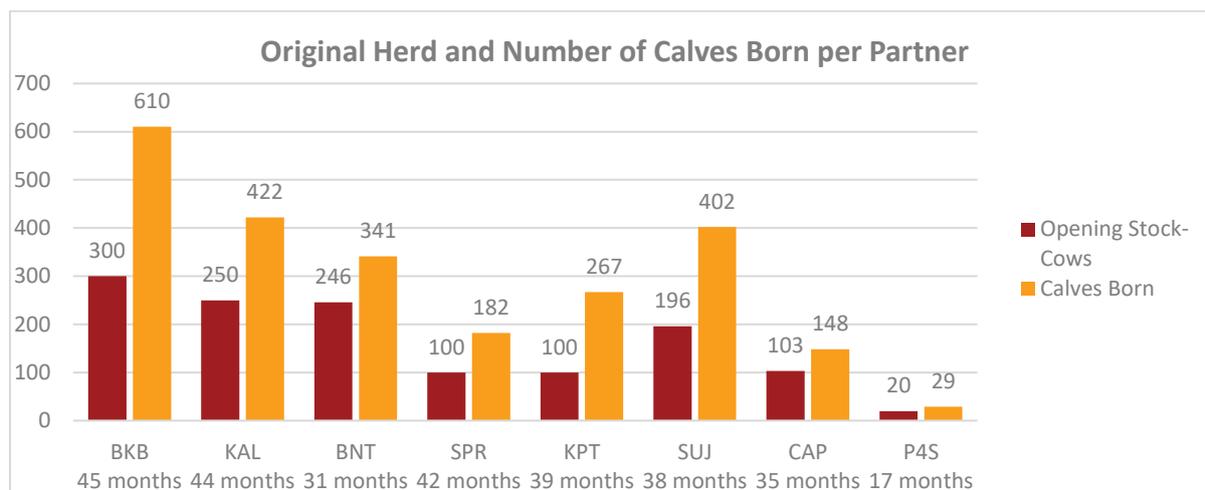
Private sector interest increased and several companies, including PT Sinarmas Agro and PT Sinarmas Mining (through PT CAS), have inquired about the applied research results from IACCB and the commercial viability of the models. Section 9 of this report provides more detail.

# 3 Herd Growth, Feeder Costs and Commercial Results

## 3.1 Breeding Brahman Cross (BX) Results in Significant Herd Growth

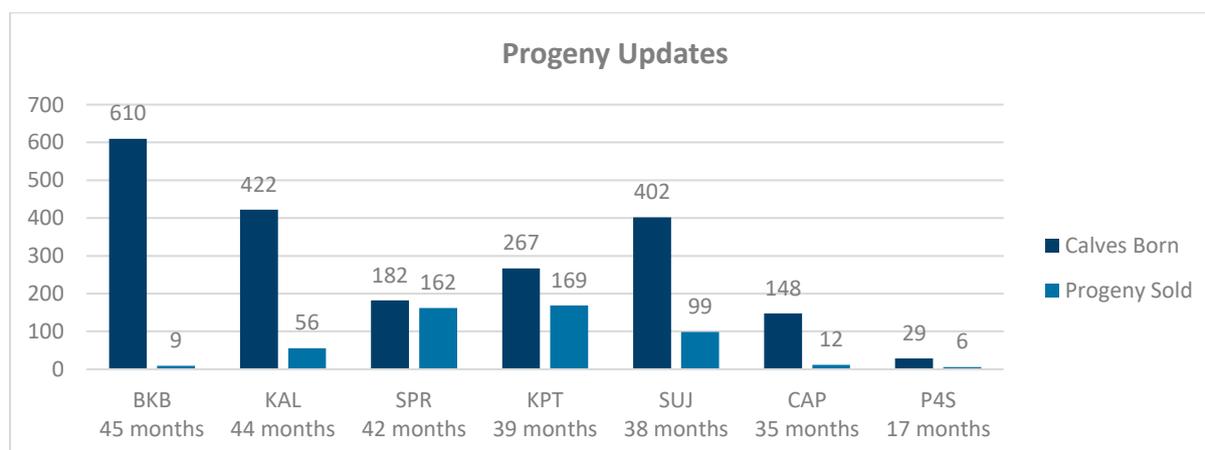
IACCB granted 1,429 BX cattle (1,315 female and 114 male) to 8 partners. This herd has grown substantially with the addition of 2,401 calves, 376 of which were born in the January - June 2020 period. See Graph 1.

**Graph 1:** Original herd numbers and number of calves born to date



In line with the scaling-up plans, the three SISKAs partners (BKB, KAL, SUJ)<sup>4</sup> are retaining most of their progeny whereas smallholder partners such as KPT and SPR<sup>5</sup>, who need quick cash-flow, tend to sell their female progeny to other farmers. Most partners still grow most of the male progeny to feeder or slaughter size to be sold in the lucrative Qurban market in July when Qurban premium prices can reach 50% above normal market price. The status of the progeny is detailed in Graph 2.

**Graph 2:** Progeny status



<sup>4</sup> BNT, feeling the brunt of the declining palm oil prices and the downturn in the sector phased out of cattle breeding and organic fertiliser on 30 August 2019 as reported in a previous report.

<sup>5</sup> CAP and P4S are more recent partners and haven't gone into sale of the progeny of Year 1.

### 3.2 Indonesia Feeder Production vs Australian Imported Feeder Costs

Productivity and financial data compiled over the past three years<sup>6</sup> enabled us to calculate the production cost of Indonesian bred feeder which in turn allows us to make confident judgments on the commercial viability of an integrated cattle enterprise.

Table 1 shows the production cost calculation in each of the breeding models, taking into account different parameters, such as calving rates, calf mortalities, weaning weight, etc.

**Table 1.** Production Cost Calculator for 4 Breeding Models

INDICATIVE LOCAL FEEDER PRODUCTION COSTS		Cut-and-carry ( KPT Breedlot)	SISKA (BKB)	Open Grazing (CAP)	Semi-Breedlot (SUJ)
Cow-Calf-Weaner	Feed costs (hd/day) - Cows	IDR11.034	IDR4.822	IDR3.180	IDR11.566
	Operational costs (hd/day)	IDR2.235	IDR5.420	IDR3.635	IDR3.194
	Sub-total (hd/day)	IDR13.269	IDR10.241	IDR6.815	IDR14.759
	Calving Rate	79,1%	69,4%	50,5%	69,3%
	Daily Costs	IDR16.785	IDR14.767	IDR13.494	IDR21.297
	Costs/calf born (A)	IDR6.126.505	IDR5.390.000	IDR4.925.332	IDR7.773.499
	Calf mortalities	9,0%	5,6%	6,8%	17,2%
	Cost of calf mortalities (B)	IDR604.809	IDR316.723	IDR359.359	IDR1.614.785
	Weaner Cost /hd (A+B)	IDR6.731.314	IDR5.706.723	IDR5.284.691	IDR9.388.284
	Calf age at weaning (months)	4 mths	4 mths	4 mths	4 mths
Weaner-Grower	Calf weight at weaning (kgs/hd)	100kg	100kg	100kg	100kg
	Grower weight gain (kgs/hd/day)	0,38kg	0,45kg	0,26kg	0,70kg
	Target weight at sale	320kg	320kg	320kg	320kg
	Months required (Weaning to sale)	19 mths	16 mths	28 mths	10 mths
	Feed costs (/hd/day) - Growers	IDR8.251	IDR4.244	IDR2.740	IDR9.713
	Operational (/hd/day) - Cows + Growers	IDR2.235	IDR5.420	IDR3.635	IDR3.194
	Sub-total costs to weaning (/hd/day)	IDR10.486	IDR9.664	IDR6.375	IDR12.907
	Grower mortalities	0,0%	6,6%	3,1%	2,0%
	Cost of Grower mortalities /hd (C)	IDR-	IDR333.843	IDR172.557	IDR82.782
	Grower Costs /hd (D)	IDR6.070.842	IDR5.058.220	IDR5.566.365	IDR4.139.111
Total costs/hd/feeder 320 kg (A+B+D)		IDR12.802.156	IDR10.764.943	IDR10.851.056	IDR13.527.395
Local Production Cost /kg		IDR40.000	IDR33.600	IDR33.900	IDR42.300

<sup>6</sup> Five of our partners (three in SISKA and two in cut-and-carry) have exceeded the three-year mark of their BX cattle breeding across various environments and models.

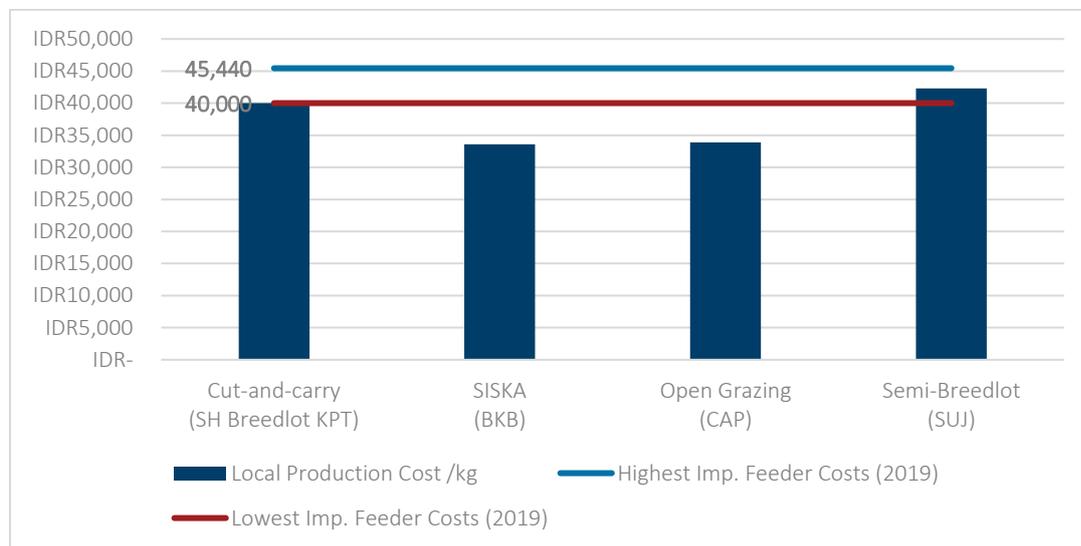
Feeder production costs are very much influenced by calving rates (between 79.1% for cut-and-carry breedlot and 50.5% for open grazing) and calf mortalities but also by Average Daily Gains (ADGs) (between 0.70kg/hd/d for the semi-breedlot/semi-SISKA where fattening occurs in the feedlot and 0.26kg/hd/d for open grazing). Recurring daily costs and ADG are the main parameters for cost-of-gain which decides profitability.

Our calculations show that feeder production costs differ significantly between the breeding models:

- » Cut-and-carry at IDR40,000/kg (A\$4.0/kg)
- » SISKA at IDR33,600/kg (A\$3.36) liveweight
- » Open grazing about IDR33,900/kg (A\$3.39) liveweight
- » Semi-breedlot/semi-SISKA at IDR42,300/kg (A\$4.23)

Graph 3 shows the projected production cost per kg liveweight for a 320 kg feeder produced by the best performing IACCB partners / models, compared to Australian imported feeder costs<sup>7</sup>.

**Graph 3:** Indonesia Feeder Production Cost vs Australian Imported Feeder Cost



Note: Source for Lowest and Highest Imported Feeder Cost from MLA Market Information 2019 and own compilation with \*Highest = February 2019 and \*\*Lowest = April 2019

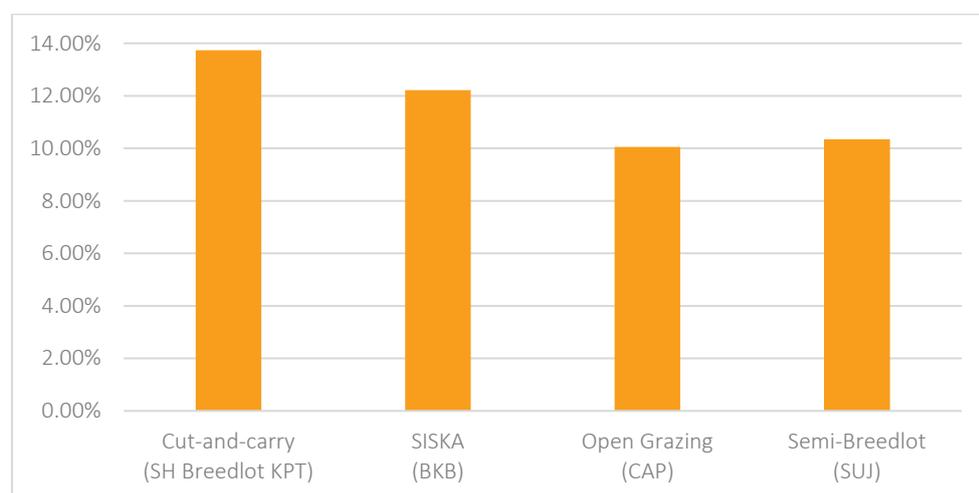
The graph also highlights the significant difference between each model and the fact that Indonesian bred feeder production cost is competitive with farmgate price of imported Australian feeder cattle averaging between IDR40,000 (A\$4.0) and IDR45,000 (A\$4.5) per kg liveweight in 2019.

<sup>7</sup> Production costs in Australia are approximately 30% cheaper than in Indonesia but freight cost from Australia adds about 25% of the CIF (Cost, Insurance and Freight). (1A\$ is approximately IDR10,000).

### 3.3 Internal Rate of Return, Cash Flow and Pay-back Periods

Well-managed enterprises, for all four breeding models, are projected to achieve an IRR above 10% at year 10, using inclusion of herd terminal value<sup>8</sup>. Based on partner scaling up plans, we projected the IRR, using the IACCB developed (Cow-calf Operations Financial Model) CALFIN tool, for each partner. Graph 4 shows the IRR for four of the partners considering expansion and the continuation of their cattle breeding business<sup>9</sup>.

**Graph 4:** Internal Rate of Return for Partner Enterprises as per Scaling-up plan at year 10



## 4 Optimal Herd Size for Commercial Viability

IACCB has produced a range of industry decision-making support tools that are useful in examining the financial returns from various production scenarios, e.g., CALFIN, a cow-calf financial modelling and planning tool. CALFIN's outputs include estimates of the internal rate of return (IRR) and net present value (NPV) of investment and additional data to help make management decisions. We used CALFIN to examine the impact of herd size on profitability in a SSKA system.

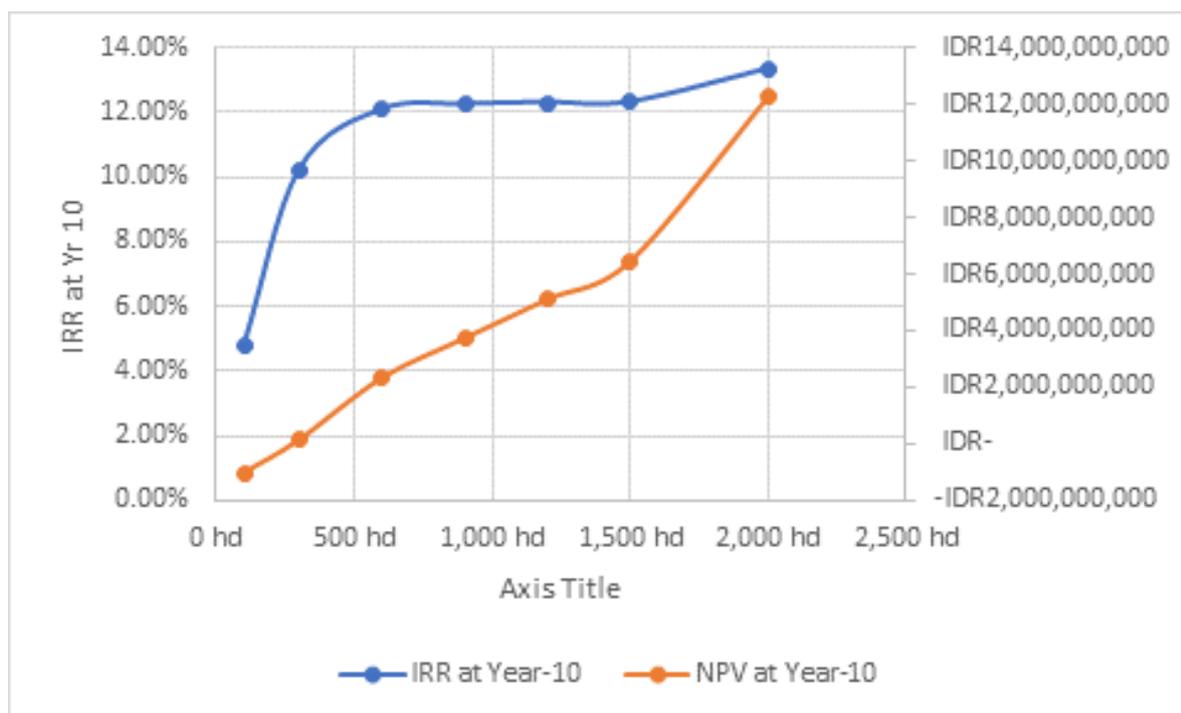
Our analysis indicated that the IRR rose sharply from 4% to 12% as herd size increased from 100 to 600 breeders. After which, the IRR remained flat until herd size approached 2,000 breeders, resulting in only a modest increase of 1% bringing the IRR total to 13%. The NPV at year 10 increased in a linear fashion from 100 breeders to 1500 breeders, but then kicked quite sharply, giving a much better result for 2,000 head. See Graph 5 below.

This should interest an investor making decisions on herd size. The efficiency gains that are achieved by larger herds particularly impact NPV, a major factor to be considered by a company committing significant management resources to a cattle breeding enterprise. It would be absolutely no surprise to an Australian producer, where commercial herds are generally over 5,000 head in size.

<sup>8</sup> Terminal value of the herd is calculated based on the expected number of cattle at the end of the 10-year period considering the specific strategy of the partner. For instance, it is expected that BKB will have 2,787 head of cattle, CAP 496 head of cattle and SUJ 1,668 head of cattle. These figures are based on information regarding strategy of culling, selling and maintaining % of the progeny and on the local sale price of cattle.

<sup>9</sup> Specific scaling-up choices for each partner are further discussed in Section 7.

**Graph 5:** IRR and NPV modelling for different herd sizes



## 5 Achieving Acceptable ADGs – an on-going search for the right recipe

### Added protein increases liveweight gains for weaners and growers

IACCB and partners utilising different models have been assessing as to how supplementation with a higher protein ration, often based on locally available feed stuffs, significantly improves average daily gains (ADGs) for weaners and growers. Cost-of-gain is the ultimate indicator for the profit or loss of a cattle business and ensuring continuing growth of weaners when they lose access to their mother’s milk is of the utmost importance. Improving ADGs for growers who are expanding their business from breeding up to feeder and slaughter is complex and multi-faceted.

Weaners need good quality feed when they lose access to their mother’s milk through the weaning process. The cow’s milk is rich in protein and energy which is great for calf’s but puts extreme pressure on the mother cow if the aim is to get her pregnant again as soon as possible. Particularly when early weaning is practiced – 3 to 4 months of age – care must be taken to prepare the calf prior to weaning. An extreme decline in growth can occur after weaning if calves are not fully adapted to solid feed prior to weaning. Weaners should also be adapted to whatever feed they will be moving on to. Solid feed needs to be of good quality in terms of its digestibility and protein content.

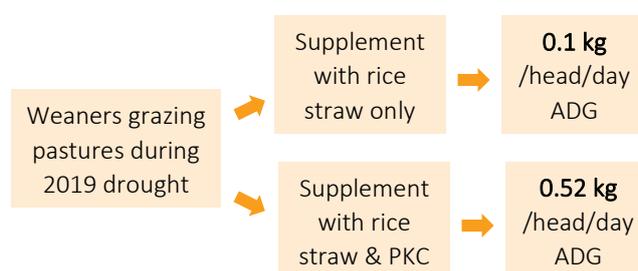
In breedlots, it is common for weaners to be separated from their mothers in the kandang and provided with reject feedlot rations. In a Siska system, these weaners are normally yarded for a week or two before being moved into a grass paddock. Both these strategies will work better if calves are provided with a high protein supplement that they have access to while still with their mother. The overall ration should be 14% to 15% crude protein to obtain optimum growth rates. The selection of protein source will differ for each location, depending on the base ration and the options for providing high protein supplements. When properly managed, the provision of additional protein can greatly increase overall productivity at a relatively low cost of each kilogram of liveweight gained.

Below are three IACCB partner examples to demonstrate how supplementation with a higher protein ration significantly improves average daily gains (ADGs).

- » **Weaners grazing open pastures in South Kalimantan** began to run out of feed during the long dry season of 2019. To compensate for the lack of feed, cattle were supplemented with rice straw fed in the kandang overnight. This kept them alive, but their growth rates slipped to 0.1 kg per day. Rice straw has very low protein content (about 4% crude protein) and low digestibility due to its high fiber content. Cattle will stop eating rice straw once their stomach is full, but this will not provide enough nutrition for growth. Rice straw needs to be fed in combination with additional high protein supplements to be of use as a feed for cattle. See Section 2.9 of IACCB’s manual for more information on feeding low quality rations.

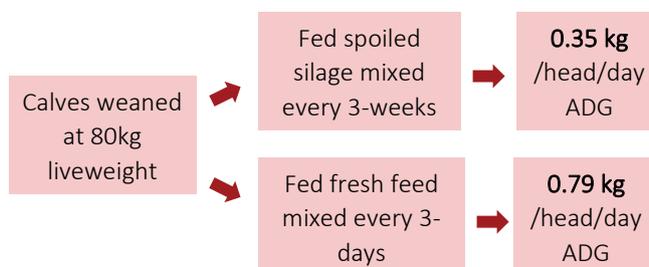
By adding 1.5 kg bungkil sawit (PKC) per head per day to the rice straw, growth rates increased to 0.52 kg per day – a good growth rate for weaners in a pasture-based system. The improved result can be attributed to the better protein content of the PKC, which is approximately 16% crude protein, and providing as much rice straw as the weaners will eat.

The PKC was purchased for IDR3,000 (A\$0.30) per kg. The benefit obtained was 0.42 kg liveweight each day (0.52 kg – 0.1 kg). This means that the IDR4,500 (A\$0.45) spent on PKC each day for each weaner returned a benefit of IDR17,640 (A\$1.76) each day for each weaner (assuming cattle are eventually sold at IDR42,000 (A\$4.20) per kg liveweight).



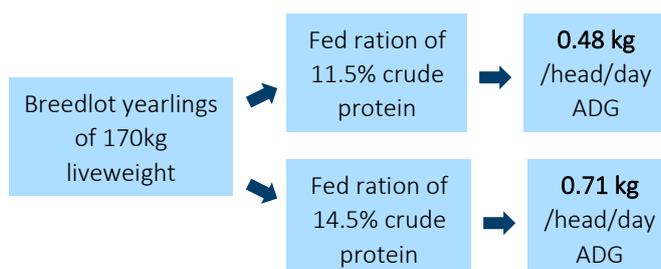
- » **Nakau breedlot:** Calves at a breedlot in Nakau were weaned in the kandang and fed a reasonable ration of silage and concentrates. However, the silage was partially spoiling as air had not been excluded during the preparation process. As the ration was mixed in batches to be fed out over a 3-week period, this led to partial deterioration of the feed, and reduced palatability and intake. Calves weaned at 80kgs liveweight grew poorly, with some initially losing weight. Over a 3-month period they generally averaged a growth rate of less than 0.35 kg per day – a very poor result given the quality of the ration ingredients.

Simply by mixing the same ingredients fresh every three days so that there was limited spoilage, the intake of feed increased significantly and liveweight gains averaged almost 0.8 kg per head per day. The cost of gain in this case was extremely low, as the only additional cost was for more regular mixing of smaller batches of feed.



- » **Smallholder breedlot cooperative:** In Lampung, a group of smallholder farmers breeding BX cattle in breedlots were feeding rations that were relatively low in crude protein – around 11.5%. Yearlings of 170 kg liveweight were growing at around 0.48kg per head per day. This is a good growth rate without being outstanding. By adding 0.65kg/head/day of soybean meal (SBM) to the ration at a cost of IDR4,900 per head per day, the crude protein concentration was increased to 14.5% and growth rates increased to 0.71kg per head per day – an increase of 0.23kg per head.

Finished cattle sell for around IDR45,000 (A\$4.5) per kg liveweight in this area. This means that farmers more than doubled their investment, receiving a return of IDR10,350 (A\$1.04) for each IDR4,900 (A\$0.49) spent on (extra) feed.



## 6 BPPT Research Findings

The summary findings of almost two years of research by BPPT at two commercial oil palm plantations in South and Central Kalimantan were that cattle grazing had no measurable commercial impact on Fresh Fruit Bunch (FFB) yield, *Ganoderma* incidence or soil chemical and fertility. Cattle grazing did however reduce weed control and herbicides costs.

The research was unable to identify changes to FFB yield of oil palm blocks with up to 33 rounds of rotational cattle grazing. Factors that most strongly influenced block FFB yields were the number of production palms per block and rainfall prior to harvest. In contrast, the rotational grazing of cattle had no statistically significant impact. Other oil palm plantations have however reported an increase in FFB yield due to the impact of grazing cattle.

The spread of *Ganoderma* by grazing cattle was also investigated through laboratory experiments. *Ganoderma* spores were unviable after being immersed in rumen fluid and cattle dung was found to retard the spread of *Ganoderma* infection. It was concluded that rotational cattle grazing was unlikely to be a significant factor in the spread of *Ganoderma* in oil palm plantations.

Soil chemical analysis identified slight increases in soil carbon, cation exchange capacity (CEC) and phosphorus concentration in grazed blocks compared with un-grazed blocks, particularly during the dry season. Denitrifying bacteria tended to increase with cattle grazing during the wet season, but not to levels that impacted plant growth. The increases in denitrifying bacteria may occur in response to the increase in soil carbon. Increases in soil bulk density and soil compaction due to grazing were identified but remained below levels likely to restrict plant root growth. Results were however inconsistent, probably due to the high natural variability of these factors within the landscape.

The requirement for under-palm weeding was significantly reduced by grazing cattle. Reductions in labour and herbicides resulted in savings of between IDR50,000 (A\$5) and IDR70,000 (A\$7) per hectare per year. Cattle also provided free organic fertiliser in the form of cattle dung.

# 7 Breeding Model Results

## 7.1 Cut-and-Carry: Promising productivity but success dependent on on-going support mechanism to compensate for limiting factors

Our long-term smallholder partners, Koperasi Petani Ternak Maju Sejahtera (KPT-MS) in South Lampung and Sentra Peternakan Rakyat Mega Jaya (SPR-MJ) in Bojonegoro have shown that compatible integration of the cattle breeding activities in their current farming system will decide the success of the business model. The availability of labour as well as access to resources limits the size of the business at smallholder level.



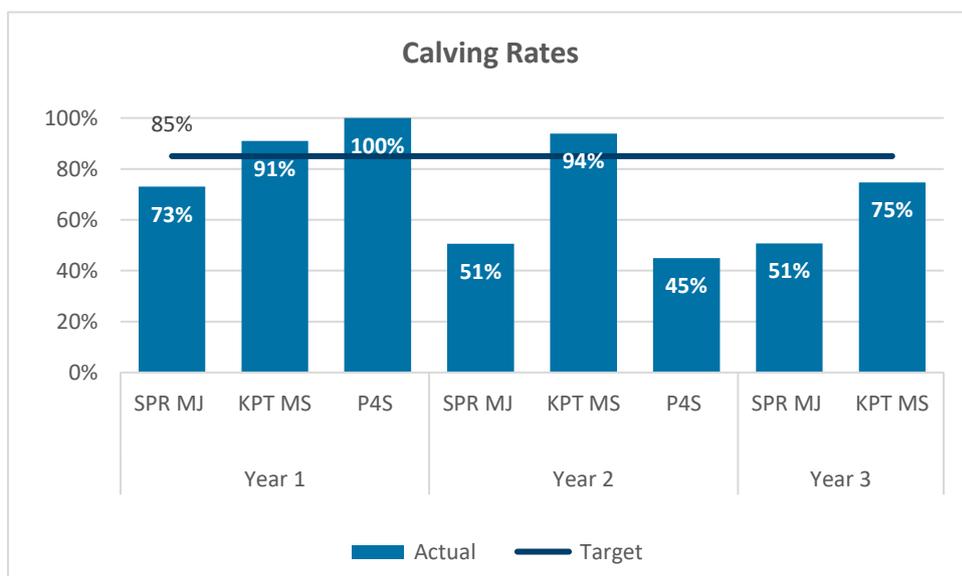
Concentrate Feeding In KPT



Harvesting maize and maize stover for cattle feed

Calving rates vary considerably between partners with experienced and resource rich farmer group, KPT, achieving much better results than resource poor farmers such as SPR, who struggle with feed supply in the dry season and labour supply for animal husbandry in the wet season due to competition amongst their agricultural activities. Graph 6 provides calving rates for the 3 smallholders using a cut-and-carry system.

Graph 6: Calving Rates for Smallholder Partners



**Koperasi Petani Ternak Maju Sejahtera (KPT) in South Lampung**, is expanding their cattle business with the number of breedlots totaling seven and the number of units for growers and feeder cattle totaling four. The KPT-BX breeding unit collaboration with Juang Jaya feedlot is proving successful as all 20 heifers have given birth and calves will be weaned at 3 to 4 months of age targeting a weight of 100kg. The heifers will be returned to Juang Jaya. The next batch of 30 heifers is being selected out of the pool of breeders available in the feedlot.

KPT, after fulfilling all the conditions, has gained P4S recognition from the government. IACCB and Gita Pertiwi (a non-profit consultancy foundation) are supporting KPT with the development of curriculum to ensure sustainability of quality capacity-building activities post-IACCB.

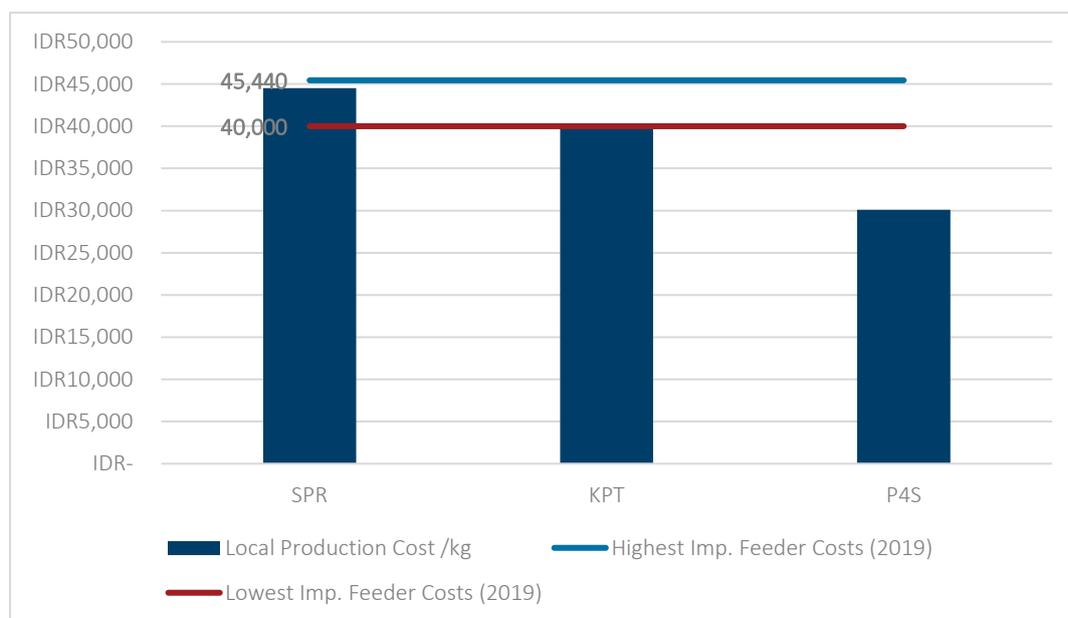
KPT are actively participating in several webinars to promote their experience utilising the smallholder cut-and-carry model. They are currently applying for a cattle breeding investment loan from the Indonesian Revolving Fund Management Institution under the Ministry of Cooperatives and Small and Medium Enterprises (Lembaga Penyaluran Dana Bergulir Koperasi Usaha Kecil dan Menengah LPDB-KUMKM) to ensure members can expand their business. During the March workshop in Lampung, attended by government, feedlots and the banking sector, access to capital was identified as one of the main constraints for cattle breeding expansion at smallholder level.

**Sentra Peternakan Rakyat Mega Jaya in Bojonegoro (SPR-MJ), East Java**, are running mixed traditional farms, however, have faced various challenges over the year. During the long dry season limited pasture production and difficult access to financial resources are putting constraints on maintaining a high Body Condition Score (BCS) of the BX cattle. The rainy season on the other hand provides for an abundance of green fodder but farms lack the labour to collect the feed as they are focusing on their agricultural activities. Given the dependence of the farmers on these agricultural activities and the limited labour force available, SPR has decided to reduce their herd numbers in the next 3 months to an easier communal manageable size compatible with their farming system.

**P4S Karya Baru Mandiri in Central Kalimantan**, the third cut-and-carry partner, is performing well in its second year of operations. The collaboration with the surrounding corn farmers provides abundant amounts of sweet maize stover which keeps the cows in excellent condition and forms the basic diet for the remaining growers from year 1. 50% of the productive heifers have given birth already within 15 months of the start of the program. Cashflow of P4S-KM is supported through the sale of compost which is averaging above 15 ton/month.

There are large fluctuations in production costs of 1 kg of liveweight grower. Graph 7 shows the cost of production and comparison to the cost of imported breeders from Australia.

**Graph 7:** Smallholder Feeder Production Cost (1kg Liveweight) vs Australian Imported Feeders



The Graph shows a 10%-50% difference in production cost between the cheapest and most expensive producers amongst smallholders.

## 7.2 SSKA – proven to be commercially viable

IACCB and SSKA partners finalised the scaling-up planning process using the IACCB developed CALFIN (cow-calf modelling and planning) tool. Both partners, **PT BKB** in South Kalimantan and **PT KAL** in Central Kalimantan, have plans to double their current herd numbers through selection of good female progeny and acquiring new breeding bulls.



*Cattle grazing under Oil Palm Trees*



*Cattle moving from one block to another*

**PT Buana Karya Bhakti (BKB)** initiated its business with 300 imported productive BX heifers and 30 bulls which started arriving early October 2016. BKB has seen the business potential of the SSKA model and is planning an integrated cattle business in South Kalimantan increasing the number of breeders to approximately 2,000 head to achieve an economy of scale and expand the enterprise to include fattening, slaughtering and prime-cut meat to supply the local retail market.

Given the commitment of the BKB Board of Directors to expand the business, a business scale-up document has been developed together by BKB and IACCB to provide expansion options and their economic viability. Three scale-up options have been developed for consideration by ranch management with the target to raise the herd to approximately 2,000 head. These include:

- » Organic growth, retain heifers as they become available and slowly grow the herd to target number in 10 years;
- » Organic growth plus buying additional 100 pregnant cows in year 4 and more rapidly increasing the herd to target number in 8.5 years; and
- » Organic growth plus buying additional 300 pregnant cows in year 4 and rapidly grow the herd to target number in 6 years.

The projections were calculated for 7 years, from 2020 to 2026, using the IACCB-developed CALFIN tool to project cashflow and economic indicators. Assumptions were developed from actual performance results achieved for key performance indicators (KPIs) at BKB over the past three years.

The three alternative projections show that gaining 2,000 head is achievable. Typically, faster scaling-up, which needs a bigger investment, leads to better returns over the projected period.

**PT Kalteng Andini Lestari (KAL)** started with 200 imported productive BX heifers and 9 bulls late 2016. An additional 50 heifers and 6 bulls were added to the initial herd in early 2017.

KAL has seen the business potential of the SSKA-model and is planning to continue expanding in Central Kalimantan, growing the herd to 400-450 breeders and a total herd of about 900 including weaners, growers and feeders. KAL is expanding the enterprise to growing and fattening with a focus on the Qurban market which provides premium prices for live male cattle.

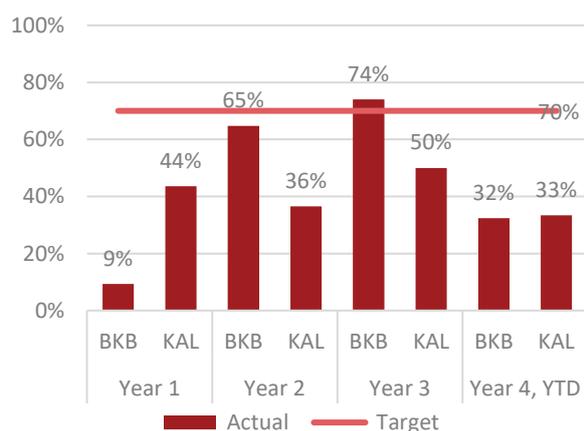
However, KAL encountered several challenges in its drive for expansion including resourcing additional investment and potential marketing issues as several companies in Central Kalimantan have expanded their cattle operations.

KAL and IACCB developed a business scale-up plan (2020-2026) to inform KAL’s owners of alternative business model opportunities to consider for enterprise expansion with limited additional investment. Commercial projections were calculated for each using the IACCB-developed CALFIN tool. Assumptions were based on parameters from actual performance results achieved for key KPIs at KAL over the past three years.

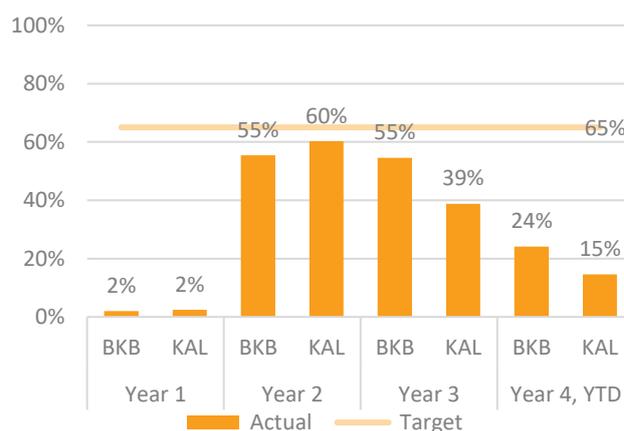
The business scale-up plan highlighted two strategic options to build on the current herd: (1) stable herd capacity keeping approximate herd of 200 productive heifers, and total herd size of 500 head, which does not require considerable additional investment and may attain immediate self-sufficiency, but still has a low return and (2) organic growth with a herd increase to 400-450 productive cows in 2 to 3 years’ time. This option will provide a higher return, but it requires additional investment up front and additional grazing area. The total herd by end 2026 grows to 1,300 head.

The two alternative strategic options show that small herds are unlikely to provide an economic return for a commercial company (see below graph 8 and 9).

**Graph 8: Calving Rate in Siska Partners**



**Graph 9: Weaning Rate in Siska Partners**



Note. Year 4 data is for the first 6 months of the fourth year

### 7.3 Open grazing – Commercial Potential

After almost 3 years of intensive engagement in BX cattle breeding, our open-grazing partner CAP in South Kalimantan is showing commercial potential and has shown that it can produce feeder cattle (average 320 kg) at a lower live-weight cost than the cost of imported Australian BX feeders. Imported Australian BX feeders cost between Rp.40,000-45,000/kg(A\$4.0-4.5) liveweight during 2019, whereas CAP produces feeder at a cost of around Rp.33,900/kg(A\$3.3)<sup>10</sup> by using previously under-used land. The model provides opportunities for alternative uses of open grassland or rehabilitated mining sites.

<sup>10</sup> The production cost does not include land leasing costs.



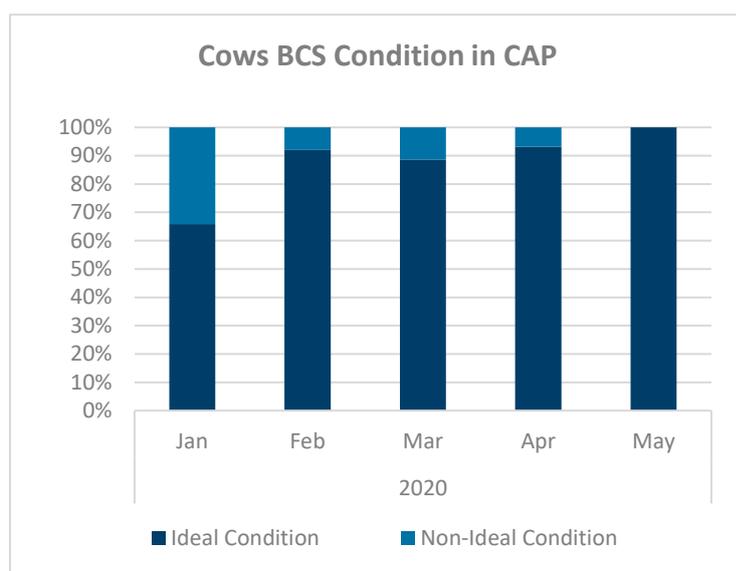
*CAP Heifers in mixed native and improved Pasture*



*CAP Heifers in Improved Pasture*

Ranch management is important for ensuring optimal value-creation when using the open grazing model. CAP improved herd management during the dry season by culling non-productive heifers to reduce carrying capacity pressure on grazing areas. Low pasture productivity during the dry season is addressed by providing ammoniated rice straw, minerals and some palm kernel cake. Graph 10 shows CAP was able to maintain the herd in good condition over the last semester.

**Graph 10:** Open Grazing Partner BCS Herd Condition



Challenges faced by CAP are especially related to management and herd handling, due to limited human resources with experience in cattle breeding. The semi-intensive model practiced by CAP, with heifers, bulls, growers and feeders in one group, has cattle grazing during the day and a return to the yard at night. The more intense management comes at the cost of ADGs as the younger animals compete with adults for the concentrate provided. ADGs in CAP have not improved over the last year and average between 0.20 to 0.25kg/hd/d which is very low but given the low expenses still results in good cost-of-gain achievements hence the commercial potential.

The daily cost for the cows in open grazing is about Rp.7,000/head (A\$7.0) whereas daily cost for growers is about Rp.6,500 (A\$6.50). Open-grazing total production costs for CAP can still be lowered as several key-performance indicators have not yet reached their targets. This is due to below optimal management resulting in average calving rates of only 50% and Average Daily Gains around 0.20-0.25kg/head/day. Currently, the total feed and operational costs/head/day of this model are the lowest among all systems. If the cattle enterprise is properly managed, the IRR can reach 10% by end of year 10, an impressive figure.

To address some of the challenges, especially in feed supply for a growing herd, CAP is investing in expanding improved pastures and legumes up to approximately 30 ha. Grasses include 23 ha of Mulatto grass and Paspalum ubon, 2 ha Brachiaria humidicola and about 4 ha of King Grass. Shrub legumes include Leucaena and Glyricidia.

## 7.4 Semi-SISKA/Semi-Breedlot

**Semi SISKA / Semi Breedlot** has proven to be an alternative for profitable cattle breeding when breeders are faced with a limited oil-palm plantation area and agricultural by-products are available at below typical market rates. PT Superindo Utama Jaya (SUJ), our partner in Lampung province, is optimising the Nakau plantation for breeding and transferring the growers to their feedlot in the local Metro-area for fattening due to easy access to agricultural byproducts.

Expansion to fattening is seen as a value-added activity and relies heavily on the use of palm oil factory byproducts, such as sludge, to compose feed suitable for fattening purposes. The sludge is being dried by farmers, contrary to the application in the SISKA grazing area where solid is spread over the oil-palm leaves and pasture. A comparative trial shows that ADG of 1.2kg/d can be reached with a ration including 25% dry solid at a daily feed cost of only IDR18,000 (A\$1.80) compared to IDR25,000 (A\$2.50) with other agricultural byproducts.



*SUJ Breedlot Facilities*



*SUJ Individual Pens for Calving*

SUJ has decided to expand its breeding herd and invest in additional infrastructure for calving. Before making this decision, management considered the limited carrying capacity of the grazing area in SUJ-Nakau plantation and the capacity of the breedlot.

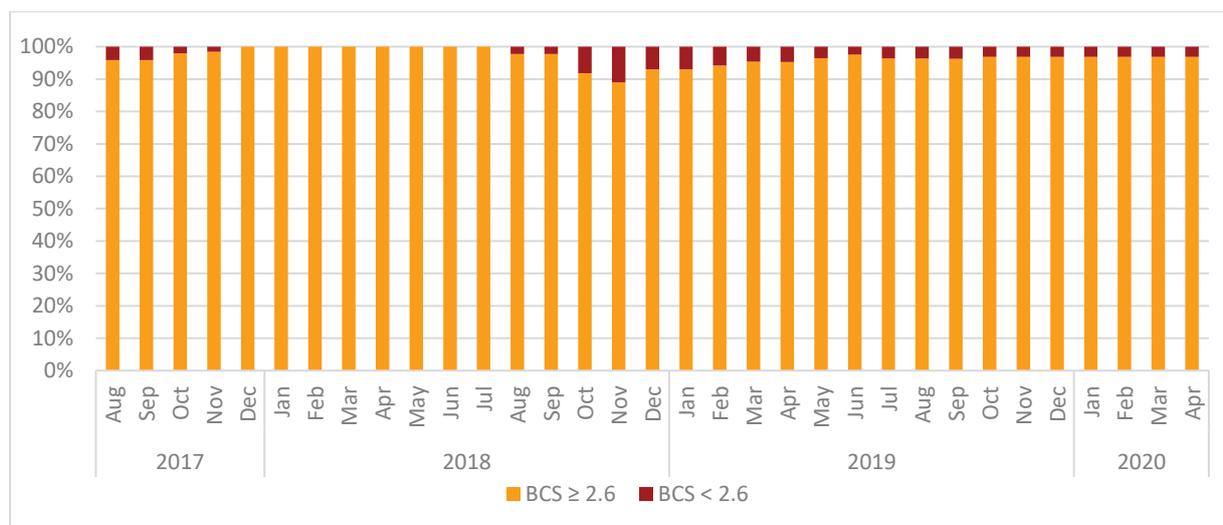
SUJ deliberated three potential options which were analysed using the CALFIN modelling tool. The options included: (1) stable growth without purchasing additional cows and maintaining the number in the 400s; (2) organic growth, integrating a total of 500 local cows to the existing herd in 2019/2020 and maintaining the cows' number at 700s; and (3) organic growth – aggressive option: adding 500 local productive cows in 2019/2020 and also adding another 300 to the herd in 2021 maintaining around 1,000 head of productive cows, a mixture of local and BX cattle. For all options, BX bulls would be acquired to ensure a healthy cow/bull ratio for an expanding herd.

CALFIN modeling resulted in option 2 being the most promising option with positive cashflow from 2021 onwards and an IRR slightly above 10%.

Enterprises with a limited grazing area, as is the case with SUJ, need to carefully monitor carrying capacity of grazing area and calculate additional feed supplies to be provided to ensure the cattle stay in optimal condition.

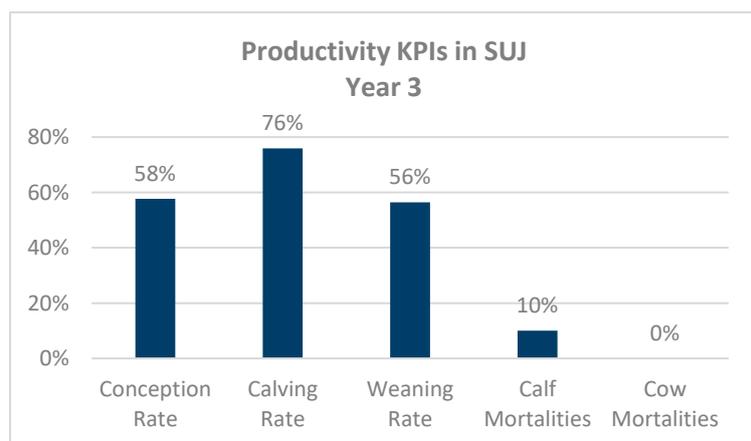
SUJ is showing that diligently managing the herd and supplying the necessary supplements will keep both lactating and empty cattle into good condition. Since implementing the semi-SISKA semi-breedlot model in early 2019 more than 95% of the cattle showed BCS 2.6 or above (see graph 11).

**Graph 11:** BCS Herd Condition in Semi SISKA/Semi Breedlot Partner SUJ



Intensive management (compared to SISKA), especially pre- and post-calving, has considerably improved KPIs (see graph 12). Calving rates have increased as cows are mated in the yard while still lactating, calf mortality is reduced compared to giving birth in the plantation and calving intervals are stable at 16 months between 2 calves. The improved KPIs are a good basis for commercial viability.

**Graph 12:** Productivity KPIs in Semi SISKA/Semi Breedlot Partner SUJ



Estimate of CI

$$= \frac{\text{Project period (month)} \times \text{number of initial cows stock at the intended period}}{\text{Total calves born up to the intended project period}}$$

$$\text{SUJ's Calving Interval} = \frac{12 \text{ months} \times 170}{129} = 16 \text{ months}$$

In line with government regulation on implementing SISKA, SUJ is actively communicating with farmers close to the plantation to increase the number of king-grass production partnerships. A total of 20 farmers have applied and selection is on-going.

## 8 Promotional Events

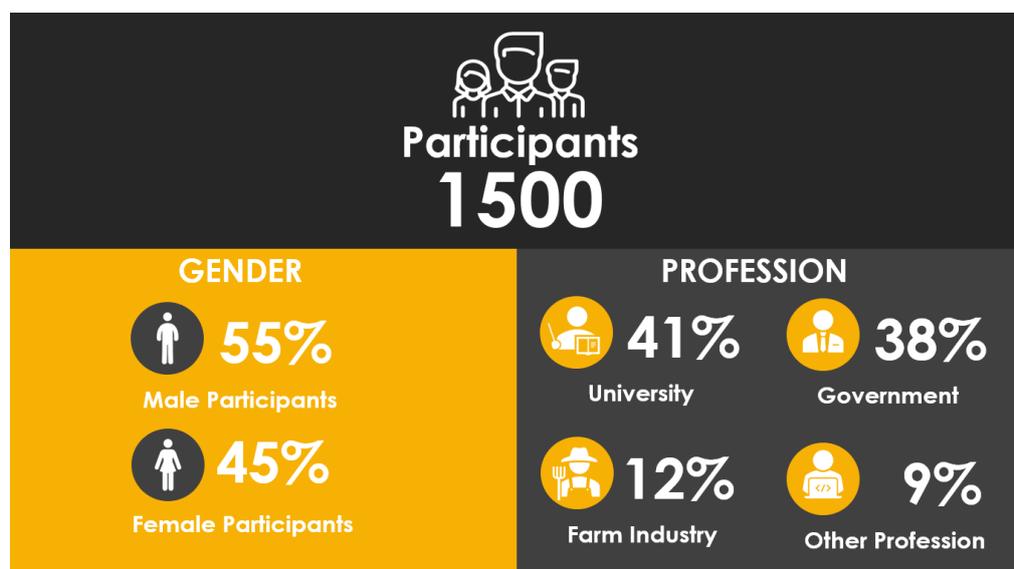
IACCB is actively supporting the Indonesian cattle breeding industry in its efforts to solve some of its main growth challenges, namely information dissemination and technical guidance, skills shortages, research and enabling policy.

### 8.1 Information Dissemination and Promotional Activities

Due to COVID-19, IACCB has adapted its promotion activities by interacting with industry, government officials and other interested parties through a series of webinars. This included co-hosting webinars with the Ministry of Agriculture, which provided an opportunity to reach and receive feedback on IACCB findings from a wide group of interested parties all over Indonesia. The 5 webinars held until the end of June got the attention of more than 1,500 people of which 45% were women. The conventional way of promoting and sharing lessons learned through conferences etc. would not have reached such a diverse audience and costs would have been considerably more.

Participants were from different backgrounds including farm and industry, universities and government.

**Figure 2:** Webinar Participant Gender and Profession Diversity



Materials and coverage of webinars can be downloaded via links provided below:

- » **Learning about Cattle-Oil palm integration** – 161 male and 85 female participants (16 April 2020)  
Materials: <https://www.agropustaka.id/presentasi/unduh-materi-presentasi-diskusi-online-y-ci-ila-belajar-sapi-sawit-memanfaatkan-lahan-menambah-populasi/>
- » **Role of Banks and other Finance Institutions in Financing Cattle Breeding Sector during and after Covid-19** – 205 male and 132 female participants (14 May 2020)  
Materials: <https://www.agropustaka.id/presentasi/unduh-materi-presentasi-diskusi-online-y-ci-ila-edisi8-peran-perbankan-lembaga-keuangan-untuk-pembiayaan-sektor-peternakan-di-masa-pandemi/>
- » **The Potential of Commercial Cattle Breeding in Indonesia** – 242 male and 299 female participants (4 June 2020)  
Materials: [https://bit.ly/IACCBWebinarVol1\\_Materi](https://bit.ly/IACCBWebinarVol1_Materi) and <https://bit.ly/YouTubeWebinarVol1>

More information in following article: <http://www.redmeatcattlepartnership.org/news-detail/58/partnership-iaccb-webinar-vol-1-cattle-breeding-business-in-indonesia-a-promising-commercial-venture>

**Figure 3:** Key-speakers for the ‘Potential Cattle Breeding Models in Indonesia’ Webinar

The graphic is a promotional poster for a webinar. At the top, it features the logos for the Indonesia-Australia Red Meat & Cattle Partnership, the Australian Government, and BKPM. The main title is "Potential Models of Cattle Breeding in Indonesia" with the subtitle "Partnership - IACCB Webinar Vol. 1". Below the title, there are two columns of speaker profiles. The first column includes Ir. Sugiono MP (Director of Livestock Breeding and Production, Ministry of Agriculture), Moderator Yopi Safari (Editor in Chief, TROBOS Livestock Magazine), Wahyu Darsono (Ranch Manager, PT Bantar Karyo Bheast, PT BKBI), Sumin (Director, PT Superindo Utama Jaya, PT SUJ), Husni Thamrin (Director, Riset Usaha Milk Petani, PT Cahaya Abadi Petani, BUMPA PT CAP), Suhedi (Head, Aparasi Produk Ternak Maju Sejahtera, APT-MS), Paul Boon (Strategic Advisor, Indonesia Australia Commercial Cattle Breeding Program, IACCBP), and Dr. Ir. Atien Priyanti Sudarto Putri, M.Sc (Acting Director of Indonesia Centre for Animal Research and Development, ICARD). The event is scheduled for Thursday, June 4, 2020, from 09.00 WIB to 12.00 WIB. A registration link is provided: <https://bit.ly/IACCBWebinar>. The IACCB logo is at the bottom right, with the text "Media Partner: TROBOS". A small note at the bottom left says: "\* Webinar Zoom link will be sent to the registered email. More info: [contactus@iaccbp.org](mailto:contactus@iaccbp.org) or visit [iaccbp.org](http://iaccbp.org)".

» **Commercial Cattle Breeding Models in Indonesia** – co-hosted with the Ministry of Agriculture and attended by 164 male and 128 female participants mainly from the Breeding and Livestock Directorate and representatives of Provincial Livestock and Animal Health Agencies (18 June 2020).

Materials: <https://bit.ly/DiskusiModelKementrian18jun20>

» **Pasture development innovation for producing Cheap and High-Quality Cattle Feed** – a webinar focused on the technical aspects of feed and especially the role of pastures which attracted 149 Male and 144 Female participants (25 June 2020).

Materials: <https://bit.ly/MateriInovasiHijauanMurahBerkualitas25Jun20>

## 8.2 Technical Guidance

Cattle breeding tools, CALFIN, CALPROF, the Cow-calf Operations Monitoring Spreadsheet (CALPROS) and our Cattle Breeding Manual, are clearly responding to an important industry need. All are available, free of charge, from the IACCB website - [www.iaccbp.org](http://www.iaccbp.org). IACCB is currently discussing with several organisations the prospect of hosting key materials developed during the program post-IACCB closure.

To date, approximately 250 people have accessed the IACCB manual (hard and soft copies) and there have been 130 downloads of CALFIN, CALPROS and CALPROF.

Figure 4: IACCB Developed Industry Tools

**Investor Tools for Commercial Cattle Breeding Business**

**CALFIN**  
 A financial spreadsheet that helps interested cattle breeding investors with the planning and financial modelling of several alternative investment strategies.

**CALPROS**  
 A monitoring spreadsheet specifically developed to support small and medium-sized cattle breeding enterprises to monitor the performance of their herd.

**CALPROF**  
 An operations software (combined with feedlot and feed mill modules) that assists established cattle breeding enterprises to monitor the performance of their herd.

Commercial Cattle Breeding Manual includes modules on financial aspects, herd management, pasture development, as well as monitoring and evaluation

Download the tools on <http://iaccbp.org/investor-tools> or scan this QR code

[www.redmeatcattlepartnership.org](http://www.redmeatcattlepartnership.org) [f](#) [t](#) [in](#) @Iaredmeatcattle @ia.redmeatcattle [www.iaccbp.org](http://www.iaccbp.org)

CALFIN was briefly introduced to the National Development Planning Agency, and Center for Research and Development of Animal Husbandry in MoA. Both showed interest in possessing a tool to assess the commercial viability of Indonesian cattle breeding. Further IACCB tools training is planned for both government agencies.

### 8.3 Skills Development

IACCB is supporting several exciting industry-backed initiatives that aim to overcome a critical constraint to industry growth, namely, the lack of experienced professionals in the cattle breeding industry.

Smallholders capacity-building is being supported by IACCB, in collaboration with Gita Pertiwi an Indonesian management consulting foundation. To ensure sustainability, Gita Pertiwi is supporting our P4S partners through a series of workshops and on-the-job support visits. P4S are independent, government validated and supported training centers for agriculture and village self-development. Three of the four IACCB-partners, CAP in South Kalimantan, KPT in Lampung and P4S Karya Baru Mandiri in Central Kalimantan have P4S status. They are sharing knowledge with farmer groups, hosting internships from several Vocational Agricultural High Schools and working with livestock agencies in support of the sector.

IACCB and Gita Pertiwi are supporting these partners to develop training and mentoring curriculum. IACCB has been in discussion with the MoA Head of Agricultural Training, regarding the provision of support from government livestock training centers.

P4S-KM hosted the third smallholder workshop bringing together participants from Lampung, Central Kalimantan, East Java and South Kalimantan to discuss business development plans and prepare smallholder partners to become training providers for local smallholder farmers.

In South Kalimantan, BKB has leveraged their 3-years of hosting visitors and sharing their cattle breeding experiences by setting up a “SISKA Center of Excellence”. This center offers commercial training packages in SISKA and accepts longer-term internships. BKB collaborates with several universities by hosting university students researching issues associated with cattle breeding and IACCB is supporting BKB to develop an educative video to be used in their commercial training packages in SISKA.

The commercial nature of these industry and government-backed training operations should facilitate the on-going supply of skilled staff on all levels. The Indonesian organisations could be involved in replicating efforts in all high-potential cattle breeding regions, enabling country-wide industry growth.

IACCB, in collaboration with the Lampung Provincial Livestock Agency, held a Focus Group Discussion of “Mutual beneficial partnership BX cattle breeding models”, which attracted much attention from national, provincial and district level participants in Lampung, with 50 attending in total. Participants included 8 feedlot managers, farmer group leaders, livestock agency representatives from 8 districts, as well as provincial livestock authorities. The appetite for both general cattle breeding and BX cattle breeding is low, and it is hoped that documentation and analysis of the partnership models between smallholders and feedlots, smallholders and government and others contributes to greater awareness of commercially viable breeding partnership models. It is hoped that lessons learned and recommendations will enrich the Ministry of Agriculture’s knowledge base for future policy decisions.

Due to impacts of the COVID-19 pandemic, IACCB on-the-ground skills support for its partners and new investors has ceased and been replaced with support provided through webinars and online meetings.

To trigger interest in the different models assessed by IACCB over the years, IACCB has produced four videos (available in English and Bahasa Indonesia) which are freely available on the IACCB and Partnership websites to be used by government or private agencies for educational purposes.

## 8.4 Research



IACCB continues to work with commercial partners and the IndoBeef research team, including Dr Kieren McCosker from the Northern Territory Department of Primary Industries and Resources, to identify the primary causes of calf mortality in Indonesian BX herds, and to propose workable reduction solutions. Research findings will be published on the IACCB website and will inform the updating of the Breeding Modules in the Manual.

The Integrated Cattle and Oil Palm Conference (ICOP) proceedings have been finalised by BPPT and obtained an ISBN number. These proceedings will serve as a valuable reference document for the government and other stakeholders. Furthermore, joint IACCB-BPPT research, ‘The analysis of the impact of integration of cattle-oil palm on soil fertility and oil-palm productivity’, is [available in Bahasa Indonesia](#).

## 8.5 Support for enabling policy

Indonesian government interest in the SISKAs model is at an all-time high. IACCB and its partners have presented SISKAs results to the MoA on numerous occasions and have facilitated visits by government officials to IACCB partners. The Indonesian Minister of Agriculture, Syahrul Yasin Limpo, recently announced expansion of SISKAs as one of MoA’s strategic priorities, in line with the Sikomandan (Sapi Kerbau Komoditas Andalan Negeri) – Cattle Buffalo as a National Commodity Priority Program. This program will form the backbone of MoA’s effort to increase Indonesia’s cattle population, and cattle and buffalo’s productivity, through application of the SISKAs model.

Increased attention to IACCB findings from GoI has also been documented through the request and facilitation of a joint webinar with the Ministry of Agriculture, the Directorate General of Livestock and Animal Health and the Center for Research and Development of Animal Husbandry. This joint webinar saw over 200 participants, including many from livestock agencies around the nation, participate in on-going discussions of cattle-breeding.

The SISKAs-model has been taken up by GoI and IACCB in conjunction with the MoA and National Development Planning Agency in Indonesia, with the latter requesting input in the policy brief on SISKAs currently in preparation for inclusion in the RPJMN 2020-2024.

Both the National Development Planning Agency and the Center for Research and Development of Animal Husbandry have requested training sessions on the IACCB developed tools to plan and monitor breeding enterprises to assess the suitability to take up in government programs.

## 9 Industry Interest and Investment

The past few months saw heightened stakeholder interest in IACCB findings, including from the government and private sector, driven in part by changing government policies.

The Big Ruminant Import regulation requires feedlot operators to import breeders at 5% of their government issued feeder import recommendation. IACCB's technical guidelines, tools and the lessons learned from IACCB projects will provide feedlot operators with options and guidance to ensure compliance, and to analyse the potential impact on their profit margins. The "Mutual beneficial partnership in BX cattle breeding models" FGD provided participants with alternative models. One of the participating feedlots, Juang Jaya Abdi Alam, initiated collaboration with KPT, an IACCB partner, in a profit-sharing agreement for cattle breeding. The collaboration program begun with an initial 20 heifers and an additional batch of 30 heifers is being discussed, increasing KPT-cattle numbers, a positive outcome for well-managed cut-and-carry models.

Private sector interest has also increased as a result of online webinars and IACCB is currently supporting three new breeding enterprises. Several palm-oil plantation companies have requested further information on technical and economic aspects to help them in their decision-making process to expand the business and IACCB has further identified 20 companies who have expressed interest in the program's work including in the use of tools for financial modelling or monitoring of cattle breeding enterprises.

Lessons learned from IACCB will provide an opportunity for companies to commence or increase collaboration with smallholder farmers. The smallholder cut-and-carry model, heavily favoured and supported by the government, provides an ideal model for collaborative commercial ventures between feedlots and farmer cooperatives.

In support of three new enterprises, as reported previously, IACCB visited breeding enterprise sites in Medan (North Sumatra), West Java and South Kalimantan.

To support the women-led association Kooperasi Wanita Pusaka Pertiwi (KWPP) in Medan, IACCB facilitated a peer-to-peer learning event at our cut-and-carry smallholder partner KPT in Lampung. KWPP has started their enterprise model with 30 pregnant BX heifers. The pilot will be used as a demonstration and training site for interested farmer groups from the three districts in which the cooperative operates. The cut-and-carry model will provide opportunities for women to increase income from growing king or elephant grass on idle land around the house. Further technical support, including on data-management, is provided through WhatsApp and Zoom video conference platforms.



*KWPP pregnant heifers in the Medan facility*



*First born calf in KWPP in temporary housing*

IACCB provides assistance to a West-Java based investor developing a 50-ha breeding center, Bukit Waru Wangi, as a learning site for local government officials intending to expand their breeder numbers. The pilot project will use a semi-intensive breedlot model involving daytime grazing and returning of cattle to pens in the afternoon where they are provided with additional feed. The breeding center infrastructure has been put in place (see picture below). The breeding cattle are provided by a feedlot hence the BCS 5 condition of the heifers (see picture below) which is slowly brought down by reducing the amount of concentrate and increasing the grass content in the feed.



*Newly Arrived Breeding Stock provided by a Feedlot*



*BWW's Cattle Breeding Center*

IACCB has exchanged economic viability and productivity figures with PT Citra Alam Semesta another company which is planning an extensive open-grazing breeding enterprise in South Kalimantan.

The Corporate Strategic Planning and Business Development Unit in PT Mitsui working with PT Sinarmas Agro requested a presentation of IACCB SSKA productivity and financial findings as part of the decision-making process in PT Sinarmas Agro to adopt the SSKA model in their plantations.

As part of promoting IACCB research results and in support of the Alumni Grant Scheme of the Australian Government received by Acep Usman Abdullah, IACCB accepted an invitation to present 'Commercial BX Cattle Breeding' in the seminar 'Boosting Cattle Industry in Fak-Fak regency in West Papua'. The seminar brought together 120 participants including farmers, government officials, private companies in oil palm and mining and stakeholders from higher education and vocational schools.

Annex 5 provides details about current investor interest and IACCB's response in supporting the new or established enterprises through provision of technical knowledge or the use of industry tools.

# 10 Management and Operational Systems

## 10.1 Personnel

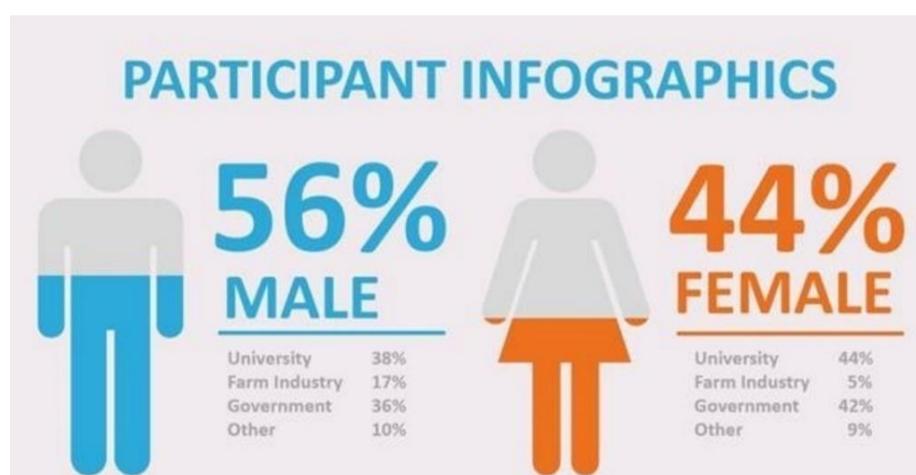
Given unfortunate impacts of COVID-19 and the limited budget of the IACCB, the field officer role will no longer continue. Field Officers Ellentika Damayanti, who ceased work with IACCB in February 2020, and Ucu Wahidin who will depart in July 2020, will not have their contracts extended.

## 10.2 Gender Equality and Social Inclusion

During this reporting period, Gita Pertiwi, our capacity building service provider to smallholders, has compiled updated info on impact regarding gender at the smallholder level. The *Gender Analysis Pathway* approach was adopted to look at access, participation, control and benefits given the livestock sector is male dominated. One of their consultants updated the GESI strategy and plan. The document is currently being finalised.

The impacts of Covid-19 and the adaptation of IACCB to provide capacity-building and promote assessment results via webinars and web-meetings saw a positive impact on the involvement of women in discussions and promotional activities. Activities achieved almost 50% participation of women from universities, industry and government. Lessons learned from ensuring high numbers of female participation ensure that replication will be easily achieved, maintaining women's access to new and relevant information.

**Figure 5:** Women Participation Rate in Webinars



Annex 6 provides information on female involvement in breeding enterprises, which has not significantly changed over the past 6 months.

## 10.3 M&E

Approaching the end of the Program, IACCB decided to have general cut-off dates for partner data compilation with a minimum period of 3 years as the data acquired would be used to assess the commercial viability of models.

The three IACCB partner companies, BKB, KAL and SUJ, are continuously supported through collecting and managing data that is fed into the CALPROF software. Data synchronisation has reached the following stages for each respective company:

- » KAL – data synchronisation has been finalized and will be validated by report and graph checking
- » BKB – data synchronization initiated and validation of the validity of migrated data is on-going

» SUJ – the data synchronisation process has recently been initiated starting with data cleaning

Within the next three months, CALPROF synchronisation with individual company software will be in place, allowing for improved decision-making.

In the upcoming months partner companies will be provided with monthly refresher training in data entry, assisted by software developers, to ensure that they are able to manage database software.

#### 10.4 Risk Management and Mitigation

An updated Risk Management Analysis has been provided in Annex 8 with Covid-19 as the main emerging and unexpected risk to business expansion. Other impacting events include the re-start of Indian Buffalo Meat importation reflected in changing meat prices and live-weight prices, and the high dollar exchange rate influencing the price of imported cattle from Australia. In addition to this, it is understood that cattle fattening in Indonesia is a less lucrative, capital intensive, long-term investment, prone to policy changes over the extended time frame and challenging for current industry practices.

# 11 Planning July 2020 – January 2021

IACCB has been successful in its promotional activities and has attracted strategic interest from the government and the private sector, providing opportunities to influence policies and business in the remaining 6 months of the Program. To ensure sustainability of IACCB EOPOs, especially the sustainability of the knowledge on BX cattle breeding in Indonesia, it is important ensure that knowledge stays available and there are opportunities for interested parties to shorten their learning process based on IACCB and partner experiences.

Moving forward, the program intends to focus on key industry, government and private sector stakeholders that can ensure progress is maintained and built upon post-program completion. Private Skills Development Centers run by industry actors will play an important role in ensuring that knowledge and best practices in the BX cattle breeding sector are further disseminated and continue to be accessible to government, private companies, farmer groups and cooperatives. These centers are privately run commercial centers based in operational BX cattle breeding enterprises taking over several key-functions IACCB has carried out over the years. Centers include:

- » BKB in South Kalimantan who operate a commercial SISKAs Training and Consultancy Business with IACCB to provide additional input on educational video and curriculum development.
- » Pusat Pelatihan Pertanian Pedesaan Swadaya (P4S) - Privately run agriculture and rural development training centers accredited and supported by the MoA National Training Center. These P4S centers emerged from IACCB partners and are already open to train interested parties in small-medium BX cattle breeding enterprises. P4S-centers are currently P4S-KPT on Lampung, P4S-KBM in Central Kalimantan and P4S-CAP in South Kalimantan. These centers need support in curriculum development and optimising their enterprises.

Sustainable capacity-building will also be available through:

- » Gita Pertiwi – A not-for-profit consultancy who, alongside IACCB, have developed a smallholder strengthening model covering organisational development, finances, business planning, and HRM. Early request by district governments for their services have already begun.
- » Sodik & Co, the software developer who collaborated with IACCB to develop the Cattle Breeding Monitoring Software (CALFPROF) is widely engaged in the cattle sector and offers software development services for the breeding industry related to CALPROF application to monitor the productivity and financial aspects of the breeding enterprise. Three IACCB partners are synchronising their oil palm company software with the IACCB developed software which is a significant development for the industry.

IACCB is also discussing with several industry bodies and government agencies the prospect of housing key-documents and IACCB developed tools to ensure that research results are available long after the program has finished.

Government engagement is concentrated in key agencies involved in planning, research and development and technical delivery. Relevant agencies, ministries and their key activities are as follows:

- » National Development Planning Agency (BAPPENAS)
  - Contributing to the SISKAs policy brief for inclusion of SISKAs, as one of the alternatives to increase number of breeder cattle in Indonesia, in the RPJMN 2020-2024
  - Following-up on planning and advocating for budgeting for SISKAs implementation
  - Socialising/capacity-building in the IACCB industry tools CALFIN and CALPROS/CALPROF for the Directorate Food and Agriculture in BAPPENAS which deals with livestock and others.
- » Ministry of Agriculture:
  - DG Livestock – Directorate Breeding and Production/Animal Health/Feed and Forages –
    - Support for modelling of SISKAs implementation

- Promotion of IACCB assessment results on national and sub-national level to provide objective information on opportunities and challenges to expand the breeding models
- Capacity-building in IACCB planning (CALFIN) and monitoring tools (CALPROS/CALPROF).
- DG Estates – Ensuring IACCB assessment results on SISKA opportunities are taken up during palm oil industry meetings with a focus on Indonesia Palm Oil Industry national board, regional IPOA organisations and IPOA members (IPOA = GAPKI) – planned Joint webinar to:
  - Socialise IACCB results
  - Clarify government policy on cattle in oil palm for IPOA
  - Convey BPPT-IACCB research results on impact of cattle on palm oil estates.
- Indonesia Center for Animal Research and Development (ICARD) – collaboration in socio-economic modelling of SISKA, IACCB tool dissemination and ICARD as a potential host of IACCB research results, technical papers and tools.
- Agriculture Training Centre – Agency for Agricultural Extension and Human Resources Development in MoA - Ensure uptake of the IACCB-supported BX Cattle Breeding curriculum of the privately-run P4S (Agricultural and Rural Development Training Centers).
- » Agency for the Assessment and Application of Technology (BPPT). Building on previous research collaboration BPPT and IACCB ensuring that research materials, proceedings, tools and others are socialized to other agencies and relevant bodies.
- » BKPM – Hosting ICOP2019 proceedings on Integration of Oil Palm and Cattle; IACCB technical papers, tools, manual and other relevant papers.

Private sector engagement will focus on providing industry bodies with the commercial assessment results for different cattle breeding models. It will also include provision of planning and mentoring support to private companies interested in cattle breeding.

- » IPOA – as mentioned above.
- » GAPUSPINDO (potentially in collaboration with ISPI) – ensuring board and members are aware of the commercial opportunities in the breeding sector, including on the experiences other feedlots possess in profit-sharing partnership models between (well-managed and experienced) smallholder groups and feedlots in raising the imported pregnant heifers. Alternatively raising breeder cattle partnering with oil palm plantations to comply with the Regulation of the Minister of Agriculture (Permentan 41/2019) on the Import of Big Ruminants.
- » Private companies:
  - Further technical and modelling support to the Breeding Centre pilot, Bukit Waru Wangi in West-Java, recently established by influential ex-minister Siswono Yudho Husodo who, through his political party connections, will be able to provide objective information to the Minister of Agriculture and a number of local governments in BX cattle breeding.
  - Continue technical support for a pilot BX-cattle breeding enterprise established by the women’s cooperative KWPP to trial BX cattle breeding as an alternative income source for farmer groups. KWPP has 5,000 female members organized in 334 sub-groups of which a number might take up breeding activities.
- » Respond to the emerging requests from several private companies which have been approached and offered free technical and modelling advice by IACCB over the next 6 months. Advice to be provided by IACCB experts in the field of economic viability and technical issues in cattle breeding.
- » Follow-up on initial information and data-exchange with Sinarmas Mining, interested in Open-grazing and Sinarmas Agro currently developing their strategic investment plan for the next 5 years in collaboration with PT Mitsui and looking at commercial aspects of SISKA.
- » Collaboration with Katherine Research Station: continuing the on-going research on calf mortality in Indonesian BX cattle breeding – case studies from IACCB partners.

Further information dissemination and knowledge-sharing will be put in place following the successful webinar series held by IACCB and partners under the Red Meat and Cattle Partnership (See section 11.1. Information Dissemination and Promotional Activities). This will also include capacity-building for the application of the CALFIN, CALPROS and CALPROF tools to industry bodies, companies and government for use post-IACCB with a goal of forming a pool of individuals across a variety of institutions capable of using the tool. AN important focus will be also be placed on socialising tools amongst banks, the Coordinating Ministry of Economy, and the Ministry for Small and Medium Enterprises.

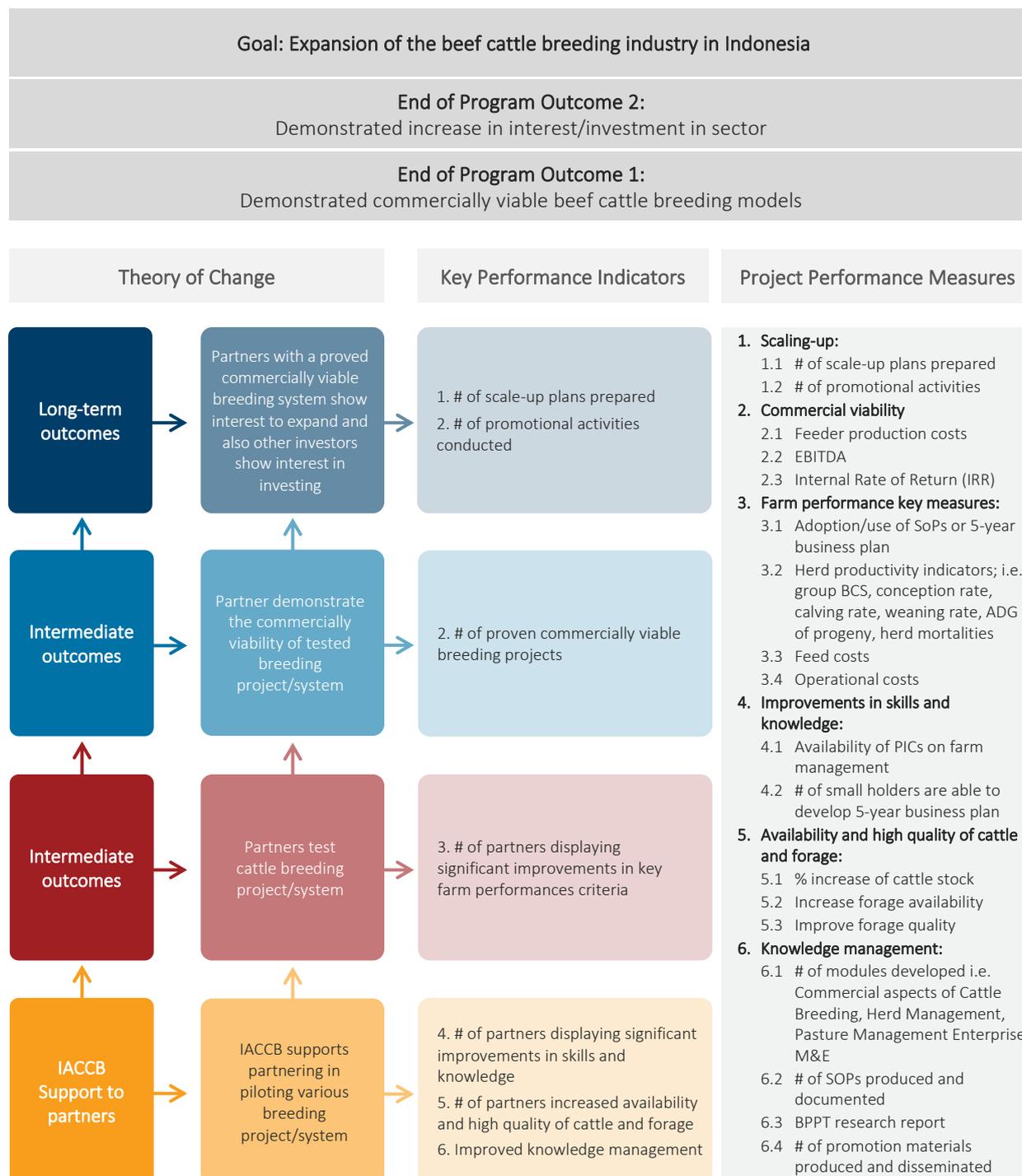
As part of the accountability of the 5-year Department of Foreign Affairs and Trade (DFAT) investment, an Independent Completion review will be carried out with the following goals:

1. Determining the impact and effectiveness of IACCB
2. Documenting key lessons learnt and provide recommendations that inform related programs on-going Partnership support that enhances program sustainability

Alongside the above-mentioned activities the following Program Milestones will delivered over the next 6 months:

1. 8<sup>th</sup> Progress Report January -June 2020: July 2020
2. Hand-over Plan: July 2020
3. IACCB Completion Report: January 2021
4. IACCB Quarterly Update: September 2020
5. Two Commercial Viability Assessments – August and September 2020
6. Support to the IACCB partners – optimizing management and supporting the implementation of the scaling-up plans

# Annex 1: Theory of Change



# Annex 2: Summary of Partner Progress

## Annex 2.1. PT Buana Karya Bhakti (BKB)

### a. 6-month activity updates.

- » BKB is expanding their herd but increase in numbers dependent on results of assessment of market for live slaughter animals.
- » Internships of ASG-supported graduates completed on 29 February 2020
- » Cattle yard renovated to accommodate increased herd handling and storing facilities.
- » 60Ha of pasture development of ex-mining areas and under palm with Indigofera, dwarf Pennisetum grass (Odot), Mulatto and Paspalum.
- » Siska Training and Consultancy Centre operational and due to corona preparing to respond to request to provide long-distance learning (on-line training) from universities, local government of Kalimantan Tengah, Kalimantan Timur, Papua and Sumatera Utara.
- » 14 unproductive cows culled at about IDR 37.000/kg and revenue of IDR 186 million.
- » 7 yearling bulls sold with average price of 45.000/kg and revenue of IDR 97.5 million.
- » BKB actively participating in online discussion organized by IACCB and MoA to promoting Siska.
- » Data management i.e. stock opname, data cleaning, and migration to CALPROF has been completed and running of software started in July.



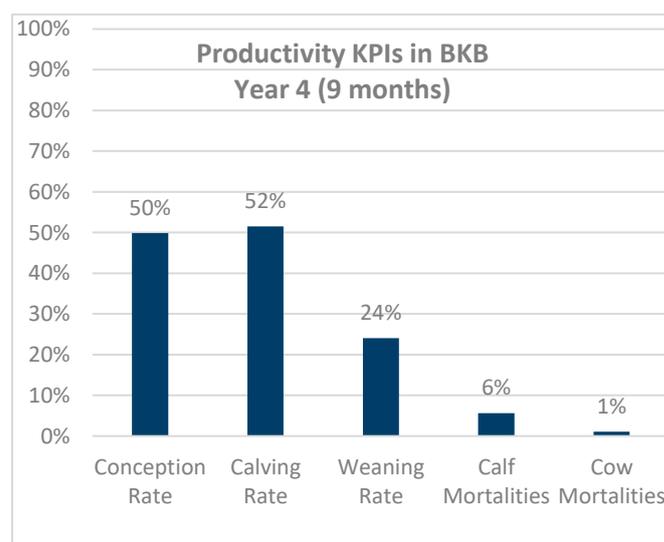
Conducting stock take and testing CALPROF software in renovated cattle yard

### b. Cattle Productivity and Cost

- » BKB reached 3.5 years data cut-off March 2020
- » High calving numbers in January which caused a slide in BCS condition in February. However, 90% of cows already back above BCS 2.6 in March.
- » Most of the calves born in this reporting period are the 2<sup>nd</sup> and 3<sup>rd</sup> calves. Calving and weaning rate projected to reach 70% in Year 4.
- » Calf mortalities still high at 7%.



Feeder liveweight Production Cost/kg:  
IDR 33.600 vs IDR 40.000 to IDR 45.440  
for Australian imported feeders



## Annex 2.2. PT Kalteng Andinipalma Lestari (KAL).

### a. 6-month activity updates

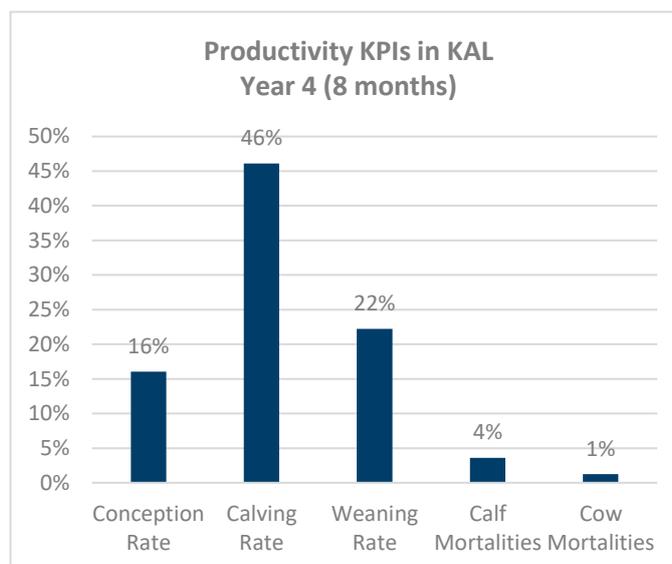
- » KAL targets improvement of pasture on 400ha in next 2 years to increase forage availability by cleaning up non-edible weed and planting Mulatto and odot in the perimeter of palm's block.
- » Mulatto grass was observed to be a tough grass which is able to withstand in poor soil and within the dense growth of ferns (lycopodiopsida) and vegetation under the palm.
- » KAL management visited BKB in a peer-to-peer learning visit. The visit streamlined plantation and ranch management at KAL with the view to increasing enterprise effectiveness, efficiency and profitability.
- » 17 Unproductive cows culled to increase herd productivity with total revenue of IDR315.860.000
- » 32 Feeder cattle sold to the cooperative averaging IDR 50.000/kg and total revenue of IDR.442.378.000
- » 31 heifers retained within this period with average weight of 328 and age of > 24 months.
- » Data management i.e. stock opname, data cleaning, and migration to CALPROF has been done. KAL administrative staff has been actively using and testing the CALPROF.



*IACCB staff supporting KAL in stock take process, ensuring all devices connected to CALPROF and ready to use*

### b. Cattle Productivity and Cost

- » KAL reached 3.5-year data cut-off date April 2020.
- » High numbers of calving starting in February until now caused some slide in BCS but 80% of cows still above BCS 2.6.
- » Low productivity of the herd continues as too many unproductive cows were being kept without culling. This is changing as KAL culled unproductive ones and is increasing pregnancy tests to identify these animals. Projected calving and weaning rate stand at a low 50% in Year 4.
- » KAL's herd managing resulted in low cow and calf mortalities.



Feeder liveweight Production Cost/kg:  
IDR 62.000 vs IDR 40.000 to IDR 45.440  
for Australian imported feeders

## Annex 2.3. PT Bio Nusantara Teknologi (BNT).

» Has ceased operations and has sold its cattle and plantation to third parties. Transport of cattle after sale was in accordance with ESCAS regulations.

» One of the cattle buyers is Koperasi Wanita Pusaka Pertiwi (KSU WPP) in Medan which is a woman cooperative with 5,000 members that uses a Grameen Bank approach. They purchased 30 pregnant cows and 1 bull as the start for their cattle breeding business. KSU WPP did some peer-learning to IACCB partner KPT in Lampung to improve cattle management skills.



*Cattle arrived safely in KSU WPP Project Location – Medan*

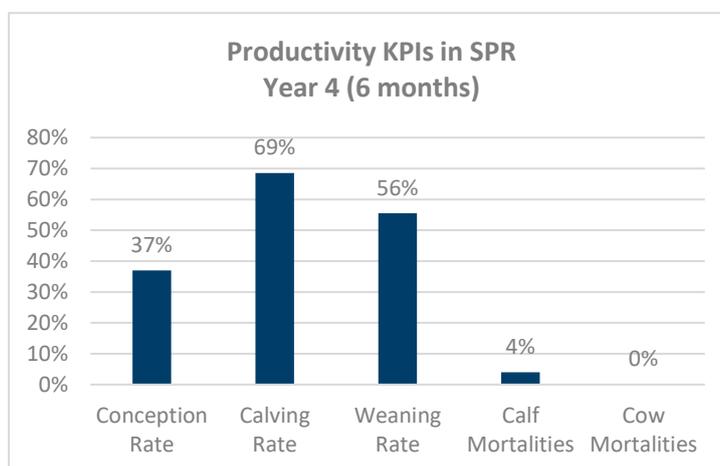
## Annex 2.4. Sentra Peternakan Rakyat Mega Jaya (SPR MJ)

### a. 6-month activity updates

- » Bojonegoro District head has plans to expand the Bojonegoro cattle breeding herd in support of national government policy of increasing cattle population in Indonesia. No decision has been made on the cattle breed, but there is a tendency to prioritize PO cattle which, given the local conditions is appropriate.
- » SPR farmers have a mixed farming system and during this rain period, where there is a lot of green fodder available, they struggle to maintain cattle BCS due to lack of labor because of their involvement in other activities in the cropping season. IACCB has advised SPR and district government to further reduce herd size in several stages starting in June where priority will be on selling unproductive cows for fattening.
- » Revenue from selling unproductive cows will be allocated to purchase other breeds (often cross with limousine and others) as it is easier to maintain and fetches a higher price compared to BX cattle in the local market.

### b. Cattle Productivity and Cost

- » SPR reached 3 years data cut-off date in December 2019.
- » Due to the absence of a dedicated data collection person in the organization and the current covid-19 pandemic which restricts visits, data collection is reduced.
- » Monitoring of the enterprise is done through pictures and videos of the herd and advice provided via phone and whatsapp.

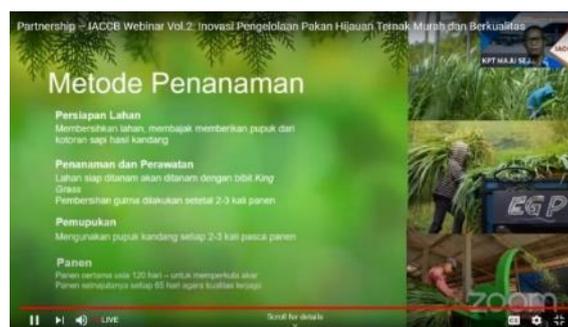


Feeder liveweight Production Cost/kg: IDR 44.500 vs IDR 40.000 to IDR 45.440 for Australian imported feeders

## Annex 2.5. Koperasi Petani Ternak Maju Sejahtera (KPT MS)

### a. 6-month activity updates

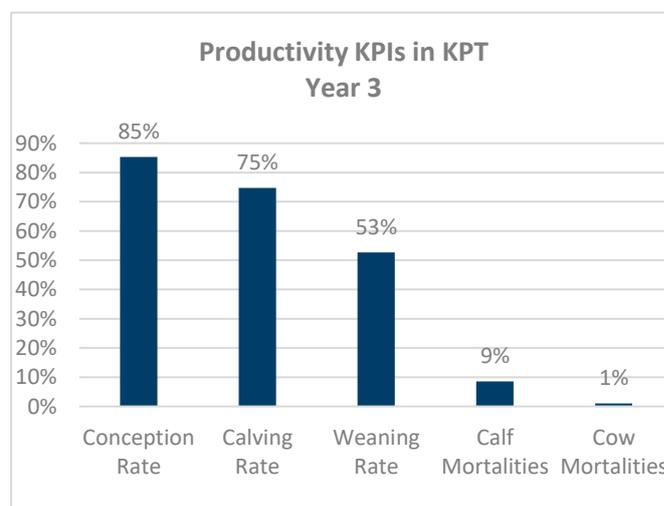
- » KPT is partnering with a feedlot in Lampung, Juang Jaya Abadi Alam (JJAA) where JJAA provides 20 pregnant heifers, some feed and technical support, in a profit-sharing deal. KPT is providing labour and housing and feeding the cattle and covering some operational costs. A second batch of 30 pregnant heifers is being discussed to add to the profit-sharing scheme.
- » KPT actively participates in webinars to share experiences with BX cattle in the smallholder cut-and-carry model.
- » KPT routinely communicates with financial institutions to secure loans. They shared info with banks and LPDB (Lembaga Pengelola Dana Bergulir/Revolving Fund Management Organisation) as most of these institutions are still developing a scheme that can be attractive for the cooperatives interested to invest in cattle breeding.
- » KPT is pro-actively looking for new and cheaper supplier of king-grass developing different partnership system to decrease feed price.
- » KPT is producing processed dried meat and meatballs for the local market and market share is increasing slightly.
- » IACCB, Gita Pertiwi and KPT are collaborating to preparing curriculum and modules to run BX cattle breeding training given their P4S status has been acknowledged by the government.
- » One more cattle crush constructed for pregnancy check in another satellite cattle pen.



Supardi from KPT is presenting pasture development in 2<sup>nd</sup> IACCB webinar

### b. Cattle Productivity and Cost

- » KPT reached 3 years data cut-off date data in March 2020.
- » After Covid-19, IACCB monitoring done through picture and video and a whatsapp group.
- » Calving for 2<sup>nd</sup> and 3<sup>rd</sup> calves continues within this period. 4<sup>th</sup> calves are expected to be born in the second half of 2020.
- » Weaning rate is below target but expected to increase in the next period.
- » Calf mortality is still a concern due to different set of skills and facilities in the satellite cattle yard.



Feeder liveweight Production Cost/kg: IDR 40.000 vs IDR 40 to IDR 45.440 for Australian imported feeders

## Annex 2.6. PT Superindo Utama Jaya (SUJ)

### a. 6-month activity updates

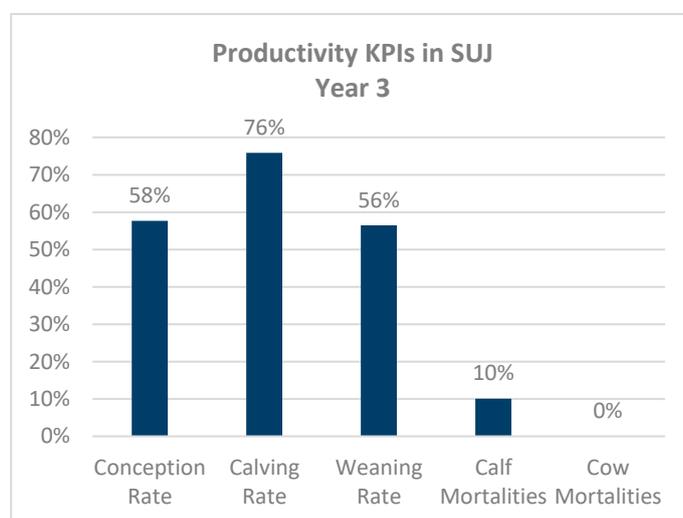
- » Project Progress Assessment (PPA) conducted attended by senior management resulting in optimized strategies for herd and feed management as well as sales strategy.
- » Nakau cattle breeding management shows its high appreciation towards IACCB program given the internal tension in the company.
- » SUJ improved the SOP for culling the unproductive local heifers/cows by deciding to cull the ones that miss a 2<sup>nd</sup> pregnancy test.
- » Partnership assessment with local farmers for grass supply being negotiated.
- » SUJ conducted feed trials with dried palm oil sludge to improve digestibility and decrease cost of concentrate for growing and fattening. ADGs of 0.70kg/d for weaners and ADG of 1.2kg/head/day for fattening are being achieved.
- » Two women are employed to maintain some pasture and function as stockwomen to manage the calves in the cattle yard. A female administration assistant position is being proposed to support the current administration person.
- » Data management i.e. stock opname and data cleaning has been completed while data migration to CALPROF is still in progress.



Stock opname process without IACCB support

### b. Cattle Productivity and Cost

- » SUJ reached 3 years data cut-off date April 2020.
- » Conception rate is sliding compared to last year due to delay in conducting the pregnancy test for the last round.
- » Calving rate is stable while weaning rate is sliding compared to last year as calving interval for SUJ is 18 months.
- » SUJ has been quite successful in reducing calf mortalities but can still improve. The strategy of calving in the cattle pen has been very effective.
- » The model with 6 months feeding costs in the pens is expensive but SUJ continuing trials to reduce feed costs e.g. using dried slurry from palm oil mill in concentrate with excellent results.



Feeder liveweight Production Cost/kg: IDR 42.300 vs IDR 40.000 to IDR 45.440 for Australian imported feeders

## Annex 2.7. PT Cahaya Abadi Petani (CAP)

### a. 6-month activity updates

- » 10 ha Pasture development with Mulatto grass supported by IACCB, has been carried out in April-May.
- » 12 heads of grower cattle averaging 231 kg have been sold with an average price of IDR 60,000/kg live weight, generating IDR 165 million to support cashflow.
- » CAP is investing in a cattle yard for growing and fattening.

### b. Cattle Productivity and Cost

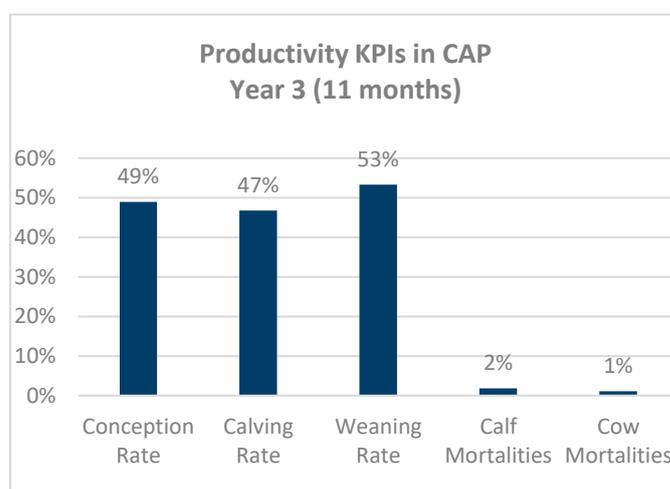
- » CAP will reach 3 years data cut-off date July 2020.
- » BCS of cows are improving due to rainy season thus forages are highly available.
- » Productivity KPIs are still a concern. The impact of the low BCS during the dry season is obvious in conception, calving and weaning rates. Calving and weaning rate are projected to reach 60% - 65% by the end of Year 3.
- » CAP has been successfully reduced their calf mortalities from 10% in Year 2 to 2% in Year 3. This is due to a change in strategy where cows give birth and stay in the cattle yard for at least two months after calving.



Cattle yard renovation in Banyu Irang



Feeder liveweight Production  
Cost/kg: IDR 33.900 vs IDR 40.000  
to IDR 45.440 for Australian  
imported feeders



## Annex 2.8. P4S Karya Baru Mandiri (P4S KBM).

### a. 6-month activity updates

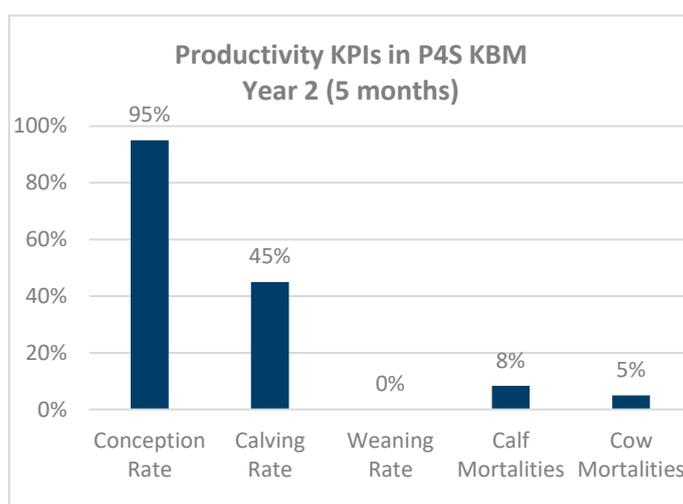
- » Six feeder bulls are sold with an average weight of 171 kg and liveweight sale price of IDR. 65.000/kg. Total revenue resulted in IDR. 66.755.000.
- » P4S are consistently composting cattle manure which is in high demand and often results in monthly additional revenue of IDR. 10 million (from 10 tons of compost).
- » P4S continues to use its site as a learning opportunity for students from vocational schools, as well as an agro-tourism site for the broader public.



Loading compost for sale

### b. Cattle Productivity and Cost

- » BCS is stable where all cows are in good condition as forage is highly available.
- » Productivity KPIs in the first quarter of Year 2 look promising:
  - Conception rate is high where only one unproductive cow is planned to be culled in the coming months.
  - Calving rate is expected to reach 80% due to one of the cows having an abortion while another one sudden died. Unqualified water is suspected to contribute to this incidence.
  - A 75% weaning rate is projected in Year 2 assuming no more calf mortalities occur.



- » 1 premature calf died out of 12 calves that were born in the past 12 months.



Feeder liveweight Production Cost/kg: IDR 37.600 vs IDR 40.000 to IDR 45.440 for Australian imported feeders

## Annex 3: Capacity Building Activities

Partner	Capacity Building activities	IACCB staff and Short-Term Advisors	Date	
BKB	Dehorning and Tatto/Branding, Hoof Trimming, General advice	» Ross Ainsworth » Junior Investment Manager	Feb 2020	
	Stock opname and data management	» Result Measurement Manager » M&E Assistant	Mar 2020	
	Provision of seed for pasture development activities for 15 hectares	» Investment Manager	May 2020	
KAL	Dehorning and cattle health management	» Ross Ainsworth » Investment Manager	Jan 2020	
	Stock opname and data management	» Result Measurement Manager » M&E Assistant	Feb 2020	
	Provision of seed for pasture development activities for 3.5 hectares	» Investment Manager	May 2020	
SPR	3 Visit of Field officer to conduct hands on trainings on SOPs of cattle management and monitoring of animal welfare	» Field officer	Jan, Feb, & Mar 2020	
KPT	Advisory on cattle productivity and plan for establishing P4S (training center)	» Team Leader » Sr. Financial Advisor » Junior Investment Manager	Jan 2020	
	Improve KPT performance by improving organization structure, regulation, and business units; Preparation for establishing P4S in KPT	» Gita Pertiwi	Jan 2020	
	Training on Handling and Restraint BX cattle and Animal Health and Animal Health Monitoring	» Ross Ainsworth » Junior Investment Manager	Feb 2020	
	Curriculum development as a preparation for establishing P4S in KPT	Gita Pertiwi	Mar - Jun 2020	
	Training on how to use technology (e.g. social media and webinar) to participate in IACCB virtual event in promoting cattle breeding program during Covid-19 outbreak	» Junior Investment Manager	Apr 2020	
	SUJ	Project Performance Assessment (6 monthly review after CVA)	» Team Leader » Sr. Financial Advisor » Result Measurement Manager » Junior investment manager	Jan 2020
		Advisory on cattle productivity and planning for facing rainy season	» Team Leader » Junior investment manager	Jan 2020
Animal Health monitoring, Training on Prevention and Treatment of Diarrhea and Dystokia		Ross Ainsworth	Feb 2020	

Partner	Capacity Building activities	IACCB staff and Short-Term Advisors	Date
	Advisory for group grazing strategy	Junior Investment Manager	Mar 2020
CAP	Improve team management to reduce turnover	Gita Pertiwi	Jan 2020
	Pregnancy test, training on animal health and animal handlings, and general health advice	» Ross Ainsworth » Junior Investment Manager	Feb 2020
	Stock opname and data management	» Result Measurement Manager » M&E Assistant	Mar 2020
	3 visit of Field officer to conduct hands on training on cattle management dan monitoring of animal welfare	» Field officer	Jan, Feb, & Mar 2020
	Provision of seed for pasture development activities for 10 hectares	» Investment Manager	May 2020
P4S	Pregnancy Test & Cattle observation	» Ross Ainsworth » Investment Manager	Jan 2020
	2 visit of Field officer to conduct hands on trainings of cattle management dan monitoring of animal welfare	Field officer	Jan & Feb 2020
	Improve the quality of the training materials to be much more practical to be used by P4S	Gita Pertiwi	Mar – Jun 2020
IACCB	Program strategy support	Ben Mullen and IACCB Management Team	Feb 2020
	Smallholder workshop at P4S	» Investment Manager » Sr. Financial Advisor » Field Officer » Gita Pertiwi	Feb 2020
	FGD Smallholder	IACCB Management Team	Mar 2020

## Annex 4. IACCB Outreach to Government and Industry

Date	Key Person	Institution	Subject
January 10, 2020	Ir. Sugiono M.P. Director Livestock Breeding and Production	MoA, DG Livestock	<ul style="list-style-type: none"> <li>» Update on progress</li> <li>» FGD Model Pembiakan BX</li> <li>» SISKA visits and Government Credit to smallholders</li> </ul>
January 3, 2020	Dr. Drh. I Ketut Diarmita, MP	DG Livestock and DG Perkebunan	MoA informs 6 SISKA companies, including 3 IACCB SISKA partners, on opportunity to take part in MoA managed scheme for SISKA smallholder credit.
January 10, 2020	Bp. Supardi	Head of BX Division in KPT cooperative	Partnership agreement between JJAA and KPT to breed 20 BX cattle.
January 15, 2020	Mr Jimmy Halim Ms Sora	PT PAM - Owner KSU Wanita Pusaka Pertiwi – Head of Cooperative	Discuss the plan of collaboration between PT PAM and KSU WPP to Start a mutual beneficial BX cattle breeding enterprise
February 6, 2020	Mr. Acep Usman Abdullah	Awardee of Alumni Grant Scheme Project entitled “Boosting Cattle Industry in Fakfak West Papua” supported by Australian Award Scholarship Indonesia	Esnawan Budisantoso, invited as a speaker of the seminar to disseminate the result of the IACCB Pilot projects. Attendees – 120 participants.
February 6, 2020	Mr. Kadarisman Prasetyo	Australian Embassy	Visit to KPT to update on program progress.
February 6, 2020	Mr. George Hughes	Counsellor Agriculture Australian Embassy	Request for info to prepare DHOM meeting with District Head of Bojonegoro.
February 12, 2020	Ms. Valeska Ms. Helen Fadma	MLA	Update of program progress, sharing of experiences and discussing challenges and opportunities in the sector.
February 12, 2020	Mr. John Ackerman	Indobeef	Exchanging information on partner progress and assessing possibility for joint conference towards end of IACCB
February 14, 2020	Mr. George Hughes	Counsellor Agriculture Australian Embassy	<ul style="list-style-type: none"> <li>» Updating on project progress</li> <li>» Debrief on Bojonegoro Bupati visit</li> </ul>
February 16, 2020	Mr. Jody Koesmendo Mr. Siswono Yudo Husodo	Secretary-general National Meat Board PT Bangun Cipta Sarana	Potential for a 50 head BX breeding demonstration plot in Serang, West Java
February 17, 2020	Mr.Ir. Bustanul Arifin Caya M.DM Drh Eka Herissuparman MSi	Pusat Pelatihan Pertanian di Badan Penyuluhan Dan Pengembangan SDM Pertanian,	Update on IACCB Progress and P4S support

Date	Key Person	Institution	Subject
February 25-28, 2020	Mrs Sora Tarigan and team	Kooperasi WPP - Medan	Assessment of potential for cattle breeding in Medan and site visit to advice on infrastructure and feed supplies.
March 3, 2020	Jonathan Wong	Policy Officer – Indonesia and South Asia, DAWE	Herd size and NPV in SSKA – promotion strategy
March 4, 2020	Siswono Yudho Yono Mahesa Mahardika Jody Koesmendro	Commissioner - PT Bangun Tjipta Sarana PT Ruminary Agro Industry Secgen National Meat Board Indonesia	TA on setting up a BX breeding center as a pilot and learning site for local governments in Serang (West Java)
March 9, 2020	Andi W. Setianto	Director PT Bakrie Sumatera Plantations	<ul style="list-style-type: none"> <li>» Bakrie Group: no cattle breeding plans</li> <li>» Invitation to present to the Indonesia Oil Palm Research Institute (Medan)</li> </ul>
March 9, 2020	Dejmark Pongsak Anthony Usman Bramada W Putra	Director PT Citra Alam Semesta Division Head General Manager PT CAS Consultant PT CAS	<ul style="list-style-type: none"> <li>» Promotion of IACCB findings</li> <li>» Exchange of ideas on investment in cattle breeding a 300-head BX cattle enterprise</li> </ul>
March 11, 2020	Ir. Sugiono M.P. Director Livestock Breeding and Production	MoA, DG Livestock	<ul style="list-style-type: none"> <li>» Update on BX breeding interest</li> <li>» Invitation for the Lampung workshop “Searching for mutual beneficial partnerships in BX cattle breeding”</li> </ul>
March 14, 2020	Wisnu Wijaya Sudibjo Ir. Sugiono M.P. Saefudin	BKPM MoA LPDB	Key-note speakers in the Lampung workshop “Searching for mutual beneficial partnerships in BX cattle breeding”
April 7, 2020	Adrianus Henri Hartanto	Transaction Advisory Services - PT Ernst & Young Indonesia	Feasibility study in Indonesia cattle industry – Discussion on “Current implementation and future challenges of Cattle in Palm Oil integration in Indonesia”
May 9, 2020	Prof. Winugroho	Badan Usaha Milik Petani	Request from US investor in BUMP on Australian Breeder import and ESCAS
June 6, 2020	Dr Ir Atien Priyanti Sudarjo Putri Dr Suci Wulandari	Director ICARD Lead scientist at the Indonesian Center for Estate Crop Research and Development (ICERD)	Exchange information on the IACCB tools and manual
June 9, 2020	Bp Siswono Yudo Husodo	PT Bangun Cipta Sarana	Interest to establish BX cattle breeding center in West Java
June 11, 2020	Ir. R. Anang Noegroho Setyo Moeljono, M.E.M Noor Avianto, SP, M.Agr	BAPPENAS - Direktur Pangan dan Pertanian BAPPENAS - Kasubdit Bidang Peternakan	IACCB experience in cattle breeding in 4 different models
June 18, 2020	Ir Sugiono MP	Director Livestock Breeding and Production, DG Livestock, MoA	Presenting the 4 IACCB models to MoA staff and irrelevant Provincial Livestock Agencies

Date	Key Person	Institution	Subject
June 18, 2020	Himmatul Khasanah,	Lecturer of Department of Animal Science, Faculty of Agriculture, University of Jember	Interest in learning from IACCB smallholder experiences
June 22, 2020	Kameyama Shinya Shingo Kobayashi Aris Munandar	PT Mitsui Indonesia & Sinarmas plantations Corporate Strategic Planning & Business Development Mitsui	Learning about SSKA as part of the assessment Pt Mitsui is doing together with Sinarmas looking at potential of SSKA
June 23, 2020	Ir. R. Anang Noegroho Setyo Moeljono, M.E.M Noor Avianto, SP, M.Agr	BAPPENAS - Dirctor Food and Agriculture BAPPENAS - Kasubdit Animal Husbandry	Follow-up meeting inviting IACCB to contribute to the Policy Brief on SSKA
June 28, 2020	Andi W. Setianto	Director of Investor Relations at PT Bakrie Sumatera Plantations	Assessing potential collaboration with IACCB

## Annex 5. Potential Investor Interest

No	Company/Originating Unit	PIC
1	PT. Agri Multi Lestari	Ach Mufarih
2	PT. Sedana Peternak Sentosa	Malik Abdul Jabbar Zen
3	PT. Citra Agro Buana Semesta	Rizky Maulid Nursidik
4	PT. Baqara Muda Perkasa	Yudi
5	PT. Agro Wakaf Corpora (AWC)	Muhamad Supriyadi
6	Bee Corp Pty Ltd	Abdurrahman Sasmita
7	Andi Jaya Farm	Suwandi
8	MKH Berhad	Wilson Chia
9	PT. Berau Coal (PT. Agung Buana Rejeki)	Sistomo Adi Nugroho
10	Ovis Farm Bogor	Nassat Idris
11	PT. Noveltindo Eiyo Technoprima	Agus Wiyono
12	Andaka Cattle Farm	Adam Kustiadi Nugraha
13	PT. Great Giant Livestock	Ferdy
14	PT. Wahyu Daya Mandiri	Arif Hendrawan
15	PT. Astra Agro Lestari Tbk	Andreas Prasetya
16	PT. Citra Alam Semesta	Anthony Usman
17	PT. Bakrie Sumatera Plantations	Andi W Setianto
18	PT. Daya Semesta Agro	Johan Prasetyo
19	PT. Sampurna Agro, Tbk	Michael Yoseph
20	GAPKI	Mukti Sardjono
21	Kencana Agri Group	Kent Surya

## Annex 6. Women Participation in Partner Enterprises

Partner	Number	Remarks
BKB	20	Daily worker for pasture development activities
KAL	15	3 persons in admin role (2 persons in HO), 3 persons for planting pasture, 8 persons for pasture maintenance in grazing area, 1 person as cleaning service
SPR	3	1 person in management level, 1 person in admin, and 1 person from government official for supporting animal health issue
KPT	2	2 persons for taking care of the calves
SUJ	2	2 persons for pasture development activities and taking care of the calves in Nakau
CAP	1	1 person in administration and 1 person on-the-job training
P4S	1	1 person in administration and financial role

## Annex 7: IACCB Partner Profile Summary Update

No	Partner	Breeding System	Province	Cattle delivered			IACCB & Partner Investment <sup>11</sup> (AUD)			MoU signed <sup>12</sup>	MoU Extended
				Date <sup>13</sup>	Number	Total	IACCB	Partner	Total		
1	Buana Karya Bhakti (BKB)	1. SISKa	South Kalimantan	Oct '16	300 Heifers					16 Aug '16	1 Feb' 19
				Dec '16	12 Local Bulls	300 Heifers	\$744.988	\$1.027.728	\$1.772.716		
				Jan '17	8 Imported Bulls	30 Bulls	(42%)	(58%)			
				Aug '18	10 imported Bulls						
2	Kalteng Andinipalma Lestari (KAL)	1. SISKa	Central Kalimantan	Nov '16	200 Heifers				31 Oct '16	1 Feb' 19	
				Dec '16	9 Local Bulls						
				Feb '17	50 Heifers	250 Heifers	\$697.065	\$579.312			\$1.276.377
					6 Imported. Bulls	25 Bulls	(55%)	(45%)			
Aug '18	10 imported Bulls										
3	Bio Nusantara Teknologi (BNT)	1. SISKa	Bengkulu	Jan '17	246 Heifers				1 Nov '17	1 Feb' 19	
					13 Imported Bulls	246 Heifers	\$643.306	\$656.318			\$1,299,625
				Jul '18	9 Imported Bulls	22 Bulls	(49%)	(51%)			

<sup>11</sup> The \$ amounts indicate the total investment to date by both parties over the life of the project as per actual partners' reports up to Dec 2019 and added with their projection from Jan-Jun 2020. This includes cattle, infrastructure, fixed and variable costs and a number of estimates including lease of land etc.

<sup>12</sup> MoUs have been extended with 7 out of the 8 original partners while collaboration with TVJ was ceased due to technical difficulties. Partner number 9 is a new partner added in February 2019.

<sup>13</sup> Marks project commencement, which is calculated from the time partners receive their cattle.

No	Partner	Breeding System	Province	Cattle delivered			IACCB & Partner Investment <sup>11</sup> (AUD)			MoU signed <sup>12</sup>	MoU Extended
				Date <sup>13</sup>	Number	Total	IACCB	Partner	Total		
4	Sentra Peternakan Rakyat - Mega Jaya (SPR MJ)	3. Cut and carry	East Java	Jan '17	100 Heifers	100 Heifers	\$254,586 (59%)	\$174.710 (41%)	\$429.296	10 Jan '17	1 Feb' 19
					3 Imported Bulls	5 Bulls					
				Apr '17	1 Imported Bull						
			Aug '18	1 imported Bull							
5	Koperasi Produksi Ternak Maju Sejahtera (KPT MS)	3. Cut and carry	Lampung	Apr '17	100 Heifers	100 Heifers	\$253,739 (46%)	\$296.607 (54%)	\$550.346	12 Apr '17	1 Feb'19
					5 Imported Bulls	6 Bulls					
					3 calves	3 Calves					
			Jul '18	1 Imported Bulls							
6	Superindo Utama Jaya (SUJ)	1.SISKA/ Breedlot	Lampung	Apr '17	196 Heifers	196 Heifers	\$485,049 (24%)	\$1.510.358 (76%)	\$1.995.406	24 Apr '17	1 Feb'19
					10 Imported Bulls	14 Bulls					
				Jul '18	4 Imported Bulls						
7	Tugu Vanilla Jaya (TVJ)	2.Open grazing	NTB	Technical Assistance Only			\$18,949 (26%)	\$55,000 (74%)	\$73,949	2 May '17	
8	Cahaya Abadi Petani (CAP)	2.Open grazing	South Kalimantan	Aug '17	103 Heifers – 8 Imported Bulls	103 Heifers	\$366.444 (63%)	\$215.410 (37%)	\$581.855	3 Jul '17	1 Feb '19
						11 Bulls					
				Aug '18	3 Imported Bulls						
9	Pusat Pelatihan Pertanian dan Perdesaan Swadaya Karya Baru Mandiri (P4S)	3.Cut and Carry	Central Kalimantan	Feb '19	20 Heifers	20 Heifers	\$71,814 (68%)	\$33.914 (32%)	\$105.727	7 Nov '19	
All cattle delivered since Program commencement				1,315 Heifers, 114 Bulls - Total 1,429 Cattle			\$3.516.991 (44%)	\$4.494.358 (56%)	\$8.011.348		

## Annex 8. Risk Management Plan and Action

Legend: L – likelihood, C – Consequence, R – Risk and 1 lowest, 5 highest (Risk: Low, Medium, High)

Risk	Impact	Probability			Risk mitigation approach	Entity Responsible
		L	C	R		
<b>Political Risks</b>						
<b>Indonesia maintains a policy of significant meat imports including IBM, Brazilian box meat, and others which is sold widely at lower prices than locally produced beef.</b>	Interest in investment in breeding cattle enterprises will remain low	5	5	H	Keep supporting partners being more efficient in cattle herd management	IACCB
					RMCP supports IACCB promotional activities to socialize IACCB applied research results in different models.	RMCP/IACCB
					Support interested investors to start breeding enterprises	IACCB
<b>Macro – Institutional Risks</b>						
<b>Covid-19 results in slow-down of investment due to overall economic conditions</b>	Investors waiting to make investment decisions	5	5	H	Approaching potential investors and government through webinars and one-on-one meetings to inform on opportunities and challenges	IACCB
<b>Slowdown in investment in Indonesia due to the continual change of the regulatory framework</b>	Investors wary of investing in the industry.	4	4	H	Communicate the impact of policy uncertainty on attracting investment to Gol including through partners.	RMCP /IACCB
	Limited number of partners scale-up their breeding enterprises				Partners strive for optimum efficiencies in enterprise management, allowing the business to more successfully confront external risks	IACCB

Risk	Impact	Probability			Risk mitigation approach	Entity Responsible
		L	C	R		
<b>Stagnating partner capacity and poor uptake of technology</b>	Poor treatment of animal, poor productivity outcomes and low- level profitability	3	4	M	IACCB team to continue pushing adoption of herd management practices. Provision of high-quality technical assistance, training mentoring and support.	IACCB
<b>Management practices do not reach industry standards resulting in inefficient and ineffective management</b>	Enterprises suffering and not being able to proof commercial viability.	4	4	H	IACCB to keep convincing (through PPAs) that management practices need to be optimised to achieve KPIs that support commercial viability.	
<b>Financial Risks and Operational Challenges</b>						
<b>Unable to establish a year-round viable feed supply due to cash-flow problems</b>	Poor KPIs resulting in unprofitable outcomes	3	4	M	Ensure partners maintain the established pastures over the year avoiding over- and under grazing.  Convince partners to have cash available to buy agricultural by-products	IACCB
<b>Organisational Risks</b>						
<b>Smallholder organisations suffer cohesion and unity resulting in reduced ownership sense.</b>	Commercial viability at risk as cash-flow and commitment to manage cattle properly is lacking	3	4	M	Working very closely with partners to improve transparency and accountability in the group and to clarify ownership of cattle.  Advice partner to reduce herd or close business when problems are not solved.	IACCB / GP

## Annex 9 Partner Support Activity Plan July – December 2020

Project	Management	Productivity	Feasibility and Viability
BKB	<ul style="list-style-type: none"> <li>» Continue to improve herd data recording and analysis system using CALPROF and provision of training on database for staff</li> <li>» Strengthen capacity in animal health services by advising BKB management to recruit para-vets and provide training for staff on animal health</li> <li>» Support the development of business scale-up plan based on management's expectations and scale-up plan using the 'Business Scale Up' document provided by IACCB.</li> </ul>	<ul style="list-style-type: none"> <li>» Improve ADG of weaners by developing better feed formulation</li> <li>» Reduce calf mortality by developing strategies for using nursing paddock for calving cows</li> <li>» Selection and culling of unproductive cows</li> <li>» Ensure pasture development (10-20 ha) using seeds provided by IACCB to be planted in open areas (examining land and paddocks in the main cattle yard) to ensure the availability of quality feed supply</li> </ul>	<ul style="list-style-type: none"> <li>» Conduct analysis on cost efficiency and financial viability by providing assistance in using CALFIN.</li> <li>» Encourage owners/CEOs to maintain and expand the business based on the 'Scale-up Business' document prepared by IACCB.</li> <li>» Support the 'BKB Centre of Excellence' to provide on-line training services.</li> </ul>
KAL	<ul style="list-style-type: none"> <li>» Support the management to ensure that lessons learned with IACCB are consistently applied in the efforts to increase cattle productivity</li> <li>» Continue to improve cattle herd data recording and analysis system by providing assistance in using the CALPROF tool and provide training for staff on database analysis</li> <li>» Support the development of scale-up plan in accordance with management's expectations and scale up plan based on the 'Scale Business Scale Up' plan prepared by the IACCB.</li> </ul>	<ul style="list-style-type: none"> <li>» Continue to support the management and staff to improve cattle productivity (calving rate, weaning rate, ADG of growers) and reduce calf mortality through cause of death analysis in collaboration with Catherine Research Station.</li> <li>» Reduce inefficient production costs through strict selection and culling unproductive cows and replacing them with new pregnant heifers</li> <li>» Ensure forage supply by utilizing open land for forage and utilizing palm fronds</li> <li>» Encourage expansion of grazing land to other plantation areas to cope with limited pasture biomass</li> </ul>	<ul style="list-style-type: none"> <li>» Conduct cost and financial sustainability analysis by supporting the use of CALFIN.</li> <li>» Encourage the owners/CEO for business scale-up based on the 'Business Scale-up' document prepared by IACCB.</li> <li>» Explore and support KAL's interest in providing training services.</li> </ul>

Project	Management	Productivity	Feasibility and Viability
SPR MJ	<ul style="list-style-type: none"> <li>» Continue providing assistance to increase capacity in administrative and financial management supported by Gita Pertiwi and IACCB staff</li> <li>» Provide facilitation and advice to reduce business scale in accordance with the availability of human resources and financial capacity, to ensure animal welfare</li> <li>» Support local government to provide ongoing supports in institutional strengthening to ensure sustainability</li> </ul>	<ul style="list-style-type: none"> <li>» Improve BCS stability by increasing Good Practices of Livestock operations</li> <li>» Increase productivity, calving and weaning management by ensuring consistent supply of feed, feed management, and forage production</li> </ul>	<ul style="list-style-type: none"> <li>» Engage Local Government to ensure its support post IACCB</li> <li>» Provide recommendations on 'Potential business development strategies' based on documents prepared by the IACCB.</li> <li>»</li> </ul>
KPT	<ul style="list-style-type: none"> <li>» Support the development of scale-up plan based on the expansion plan, using the 'Business Scale Up' document prepared by the IACCB</li> <li>» Support the cooperative to ensure that farmers groups consistently implementing the lessons learned from collaboration with the IACCB to increase livestock productivity.</li> <li>» Improve administrative and financial management with assistance from Gita Pertiwi and IACCB staff</li> <li>» Support the cooperative in finding suitable sources of capital for the livestock business in the efforts to support smallholder businesses sustainability</li> </ul>	<ul style="list-style-type: none"> <li>» Improve animal health in the long run by involving local government in the provision of animal health services</li> <li>» Improve feed supply management and increase inexpensive and quality forage production</li> <li>» Support the selection and selling of non-productive cows to increase productive herd.</li> <li>» Provide input regarding cattle yard and feed storage facilities construction to make them more efficient and effective to accommodate the increasing cattle herd</li> </ul>	<ul style="list-style-type: none"> <li>» Increase staff capacity in data analysis by providing hands-on training on data base analysis.</li> <li>» Conduct market analysis to optimize profits from cattle sale</li> <li>» Increase staff capacity in data analysis by providing relevant trainings</li> <li>» Increase investment for cattle growing by facilitating third party investment</li> <li>» Develop P4S as a peer learning centre for other smallholder groups</li> <li>» provide trainings on P4S curriculum facilitated by Gita Pertiwi</li> </ul>
SUJ	<ul style="list-style-type: none"> <li>» Improve cattle herd data recording and analysis system by providing support for using the CALPROF</li> <li>» Encourage greater involvement of high-level management to support field staff</li> <li>» Support partnership program with the local community around the plantation for grass supply to produce low cost forage and improve plantation and community welfare</li> </ul>	<ul style="list-style-type: none"> <li>» Increase feed availability by developing pastures in the replanting areas in Nakau</li> <li>» Optimize local cattle productivity through strict selection of highly productive cattle</li> <li>» Improve preserved feed (silage) quality through hands-on training on silage production</li> <li>» Support ration consistency and provide inputs on alternatives feed to avoid decreased ADG during dry season</li> </ul>	<ul style="list-style-type: none"> <li>» Improve staff capacity in data analysis through hands-on trainings on data base analysis</li> <li>» Support markets mapping and non-productive heifer selling systems</li> <li>» Support the development of business scale-up plan based on the 'Scale-up Plan' document prepared by the IACCB</li> </ul>

Project	Management	Productivity	Feasibility and Viability
CAP	<ul style="list-style-type: none"> <li>» Continue to improve human resource capacity at all levels: management, technical, administrative and finance staff under Gita Pertiwi and IACCB staff guidance</li> <li>» Improve staff capacity to manage cattle productivity data using the CALPROS</li> <li>» Improve skills on good cattle farming practices through intensive observation and supports in the field</li> <li>» Conduct the third CVA to ensure CAP can achieve the agreed targets</li> </ul>	<ul style="list-style-type: none"> <li>» Ensure feed availability through expansion of 10-20 ha land for pasture development, with seeds provided by the IACCB</li> <li>» Provide advices on business efficiency strategy though selection of non-productive cattle according to the carrying capacity</li> <li>» Expand permanent fence</li> <li>» Improve calving and weaning rates and ADG of weaners/growers by implementing good practices</li> <li>» Ensure feed supply through improved feed supply management</li> </ul>	<ul style="list-style-type: none"> <li>» Ensure sustainability by developing and implementing livestock business plan</li> <li>» Apply strategies to develop and maintain valuable staff</li> <li>» Institutional strengthening with supports from Gita Pertiwi</li> </ul>
P4S KBM	<ul style="list-style-type: none"> <li>» Improve skills in good practices of livestock through intensive observation and supports in the field</li> <li>» Improve capacity in data recording through provision of assistance on the use of CALPROS</li> <li>» Ensure that stockmen are readily available to feed and take care of the cattle on a daily basis</li> <li>» Improve financial management through trainings and remote assistance with supports from Gita Pertiwi</li> </ul>	<ul style="list-style-type: none"> <li>» Increase cattle productivity by stabilizing their BCS</li> <li>» Improve ADF of weaners through consistent provision of quality feed</li> <li>» Ensure sustainability of feed supply through professional feed supply management</li> </ul>	<ul style="list-style-type: none"> <li>» Improve commercial viability by developing Livestock Business Plan</li> <li>» Institutional strengthening with support from Gita Pertiwi</li> <li>» Support training curriculum facilitated by Gita Pertiwi</li> </ul>