This IACCB Update focusses on two important issues intimately linked to Industry Growth – the Commercial Viability of Cattle Breeding in Indonesia, and Industry Educational Opportunities.

After two years of testing the commercial viability of three cattle breeding models in a wide variety of operating contexts (geographical, topographical, climate, social, market access, demand) sufficient data is now available to determine the commercial viability of SISKA - cattle breeding in oil palm plantations which offers good investment prospects, and Cut-and-Carry small-holder model which has a number of inherent operating challenges that constrain commercial viability. Click here for more info.

Industry growth in Indonesia is highly dependent on skilled operational staff and management, which is currently lacking in Indonesia. We highlight in this issue exciting efforts by our partners to build commercial sustainable Cattle Breeding Centers of Excellence and Training Institutes, on the back of their IACCB experience - initiatives that bode very well for Industry growth. Click here for more info.

This update also highlights Partner progress in the three breeding models, cattle breeding industry tools, and IACCB updates, upcoming events

Our SISKA Partners are investing but challenges remain.

Three out of four SISKA (Breeding cattle in Oil Palm Plantations) partners are expanding their herd, via selecting productive heifers and bulls from their Year 1 progeny, and through significant investments in more breeding stock. Their aim is to achieve improved economies of scale.

Read more below >

Successful Pasture Development - the Key to low-cost production in an Open-grazing Model.

There is nothing more important than increasing the quantity of high-quality pasture in an open-grazing model. After several trials, our open grazing partner CAP has successfully established 15 ha of improved pasture on their 100-ha farm.
Cut-and-Carry Small-holders deliver short calving intervals

IACCB has proven that strong fertility of Brahman Cross under tropical conditions can be achieved in small-holder breedlots, but this is highly dependent on intensive and strong management.

IACCB News

Preliminary Results Are In!

After more than 2 years of partner engagement and project delivery, key commercial performance indicators (conception rates, calving rates, weaning rates, calving intervals and Average Daily Gains) are starting to show trends, supporting a more conclusive answer on the commercial viability of the SISKA model - cattle breeding in oil palm plantations and the Cut-and-Carry small-holder breeding model. The Open-grazing model will need another 6 months of data given the later start of the open-grazing project.

Conclusive results for all three models will be made available to industry in early 2020.

SISKA has strong commercial potential: The cost of production in the SISKA-models varies between Rp. 40,000 and Rp. 60,000/kg liveweight, if raised up to 320kg. The lower-end production costs are equal to the cost of imported feeders. In well-managed SISKA businesses, IRR reaches 10% at year 10. Preliminary research results show oil palm productivity improvement in one plantation at 5 to 12%, which if widely reflected, substantially improves SISKA commercial viability, and a significantly better IRR over imported feeder. Research is on-going and final figures will be available early 2020.
Good performance (and good cost-of-gains) are dependent on (1) effective cattle and plantation integration (2), high quality and consistent herd management, (3) adequate cash-flow to support the ongoing needs of the cattle business, and (4) pasture development, complemented by using palm oil waste products, that ensure enough quality and quantity of feed. Commercial viability is reflected in three out of the four SISKA-partners investing to expand their cattle breeding businesses. Although production costs in Indonesia are still slightly higher than the cost of imported feeders, there is quite some room for improvement in some of the SISKA-partners which will make production costs decrease. One of the SISKA partners is already producing feeders at a cost lower than the imported ones.

Small-holder Cut-and-Carry: Strong conception, calving and weaning rates, short calving intervals, and reasonable growth rates can be achieved under a Small-holder Cut-and-Carry model. It is however very challenging to sustainably achieve commercial viability. Communal breeding systems practiced by farmer groups are rare, except where the communal model is a necessity, and is locally and socially accepted, e.g. by providing collective security for the cattle. Critical commercial success factors include cohesion of the group/cooperative, solid leadership and transparent management, adequate cash-flow, and member and leader cattle breeding experience. The cost of production for a feeder up to 320kg is about Rp. 37,500/kg liveweight in well-managed systems which is lower than the cost of imported feeders. Achievements in the small-holder model using a communal system are much influenced by the collaboration agreement with IACCB and the intensive technical support provided. Replication in a non-communal system will benefit from intensive management from the individual farmers but conception will be challenging if not bulls are provided and/or artificial insemination is not reliable.

Open Grazing: This model requires the least starting capital, and daily expenses per head, compared to the other models. Sustainable commercial viability appears to be dependent on good management, pasture improvement, and the comparative advantage of using the available land for cattle breeding compared to other investment alternatives as investors will have to weigh potential income from investing in cattle breeding against the use of the land for investing in cash crops or other activities. Total costs (feed plus operational costs) are Rp. 6,000 (AUD$0.6) per head/per day - half the cost of SISKA. Feed costs are minimal as the cattle almost solely rely on pastures. The cost of production for a feeder up to 320kg is about Rp. 35,000/kg liveweight which is considerably lower than the cost of imported feeders. Approximately six months more data is however required to conclusively determine the commercial viability of the open grazing model.

Industry Driven Education Takes Off

The growth of the Indonesian cattle breeding industry is highly dependent on investors having access to competent staff – which is currently lacking in Indonesia. IACCB is supporting a number of exciting industry backed initiatives that aim to fill this gap. Both initiatives will allow IACCB partners to pass on their acquired cattle breeding experience and knowledge to their peers, government agencies and other...
interested stakeholders.

IACCB is supporting two strategies that aim to build sustainable industry skills development- partners establishing “Centers of Excellence”, and supporting IACCB Service Providers/Consultancy companies (e.g. CALFIN, CALPROS, CALPROF providers) to diversify their client base to cattle investors.

Cattle Breeding Center of Excellence

BKB, in South Kalimantan, is formalizing their 3-year experience hosting visitors and sharing their cattle breeding experiences by setting up a SISKA Center of Excellence. The Center now offers three commercial training-packages including: (i) a one-day Agro-tourism visit; (ii) a 3-day SISKA basic training; and (iii) a 7-day advanced training in SISKA. **Flyer available here**

BKB managers, both plantation and livestock managers, are frequently invited by Ministry of Agriculture, Local Governments, research institutes (e.g. Indonesian Oil-palm Research Institute) and interested companies to present their SISKA implementation experiences. BKB also host university students carrying out tertiary education research. IACCB is supporting BKB in its plans to develop a consultancy unit that could, in the future, commercialize these opportunities.

Open-Grazing Model Inspires Agricultural Vocation School Curriculum

PT CAP, South Kalimantan, has recently established the P4S-Ushuluddin (*Pusat Pelatihan Pertanian dan Perdesaan Swadaya* / Training Centre for Agriculture and Village Self-Development), an agriculture training center unit that has a focus on extensive cattle breeding management. Two students from the Pelaihari Agricultural Vocational School finished their 2-month internship and 10 students (5 females and 5 males) from the Buntok Agricultural Vocational School in Central Kalimantan are undertaking a 4-month cattle breeding training at CAP, including subjects on animal health and cattle handling, delivered by Dr. Ross Ainsworth, IACCB Animal Health Adviser. PT CAP is now preparing to market these training opportunities to other technical schools, farmer groups and the local livestock agency.

**P4S now provides training on BX Cattle Breeding**

P4S is now providing, after receiving IACCB technical support, a 3-day basic and a 7-day advanced cattle breeding training package at its newly established BX cattle farm. P4S has also recently added the subject of cattle breeding to its 3-month on-the-job training packages in a collaborative arrangement with 8 different Agricultural Vocational Schools. The government training body under the Ministry of Agriculture, **BBPP Binuang - Balai Besar Pelatihan Pertanian Binuang**, from South Kalimantan, also provides support by sending lecturers, office supplies, training materials and machinery. **Flyer available here**

**Story on P4S - CALVING OUT A FUTURE** is available here
The Red Meat and Cattle Partnership and IACCB have also been filling the industry staffing gap by providing educational programs for enthusiastic cattle entrepreneurs, managers and staff, including those from IACCB partners.

**Accredited Commercial Cattle Breeding and Management Training**

Twenty participants (18 male, 2 female) from Indonesia’s cattle breeding industry participated in the third batch of three week Commercial Cattle Breeding and Management Training. The training, facilitated by Universitas Gadjah Mada, exposed participants to various breeding models, including integrated cattle production with palm oil plantation (SISKA), breedlot / smallholder partnerships, and extensive breeding operations in Australia. Participants undertook a Breeding Manager Competency Assessment, implemented by the Indonesian Livestock Professional Certification Agency and endorsed by the National Professional Certification Agency. This is the first professional recognition for breeding managers in Indonesia.

**Accredited Pregnancy Test Training for Para Vets**
Fifteen Indonesian para vets (14 male, 1 female) from the cattle breeding industry participated in a three-week accredited Cattle Pregnancy Test training held in BBIB Singosari—a government breeding centre in Malang, East Java. The course aims to improve the skills and capacity of para vets working in cattle breeding to achieve high reproductive efficiency through effective and accurate pregnancy test in their breeding operations.

Cattle Reproduction Management Training for Vets

Facilitated by industry practitioners and senior veterinarians from IPB University, the course equipped participants from various cattle breeding enterprises in Java, Sumatra and Kalimantan with advanced cattle reproduction knowledge and skills. During the course included practical training in IPB laboratories, and a site visit to PT Lembu Jantan Perkasa—an integrated cattle breeding feedlot in Serang, Banten. The course improved participants ability to drive better reproductive efficiency through accurate pregnancy tests.

CALFIN, CALPROS & CALPROF Training

CALFIN training has been provided to the owners of our plantation partners in Kalimantan as well as to
the software developer involved in the CALPROF development. A first presentation has been done to the banking sector i.e. BRI Agro to assess the usefulness of the tool providing information for loan applications.

CALPROS and CALPROF training has been given to the administrative teams of the three plantation partners and one small-holder involving 7 participants of which three women.

**New Cattle Breeding Industry Tools Developed**

Three new cattle breeding tools - CALFIN, CALPROS and CALPROF - have been developed, and have provided training to our partners in their use. The tools will help the industry to effectively plan, manage and monitor their cattle breeding businesses.

- **CALFIN** – A 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.

To access more information and on CALFIN, CALPROS, ad CALPROF software please click here.

**Commercial Cattle Breeding Manual now available!**

Four Commercial Cattle Breeding Modules have been developed based on the IACCB and partner experience of breeding Brahman Cross cattle in the different models.

1. Economics of Commercial Cattle Breeding
2. Cattle Breeding Herd Management
3. Pastures and Forages for Commercial Cattle Breeding
4. Monitoring and Evaluation of a Cattle Breeding Enterprise

*To access the modules, both in English and Bahasa Indonesia, please click here.*

IACCB is now requesting suggestions and feedback from the public which will be incorporated in the final Modules to be officially released during the ICOP-Conference on October 23rd.
SISKA - Our SISKA Partners are investing but challenges remain.

Three out of four SISKA (Breeding cattle in Oil Palm Plantations) partners are expanding their herd, via selecting productive heifers and bulls from their Year 1 progeny, and through significant investments in more breeding stock. Their aim is to achieve improved economies of scale. Our Animal Health Adviser, Dr. Ross Ainsworth, provided cattle selection on-the-job training for each Partner.

Cash-flow has become especially important for all SISKA partners as palm-oil prices have fallen substantially. As a result, three SISKA partners have started fattening trials with Year 1 bulls and heifers not selected for breeding, using waste-products from the palm-oil production process.

Targeting the Qurban market at Idul Adha resulted in premium prices for the cattle. In two locations, the initial trials resulted in average daily gains of 0.7 kg/head/day with a relatively cheap concentrate composed of local products. These results are encouraging but could be improved to improve the cost of gain.

The importance of enterprise data management is well-understood by SISKA managers. Consequently, the three remaining companies in the program are installing the CALPROF software and integrating it with their plantation software. To read more about how advanced data management processes are helping to transform plantation management practices in Indonesia click here and read “INTEGRATION THROUGH INNOVATION.”
Open Grazing - Successful Pasture Development - the Key to low-cost production in an Open-grazing Model.

There is nothing more important than increasing the quantity of high-quality pasture in an open-grazing model. After several trials, our open grazing partner CAP has successfully established 15 ha of improved pasture (Paspalum Ubon and Mulatto II – *See picture below*) on their 100-ha farm. A CAP oil palm producing neighbour, after observing the reduction of weeds from grazing, offered CAP 100 hectares of young oil palm to graze their cattle, creating a mixed open-grazing and SISKA pilot. Substantially more feed reserve is now available for CAP which should ensure sufficient feed supply in the coming dry season.

CAP has maintained an ideal BCS (BCS ≥ 2.6) for 80 - 90% of its herd for the first months of 2019. Year-to-date (up to June) conception is 72% and weaning 59%, both close to the target rates. A Commercial Viability Assessment will be conducted in September 2019 (year 2 of the project) that will conclusively test these indicative findings.
Cut and Carry Small-holders deliver short calving intervals

IACCB has proven that strong fertility of Brahman Cross under tropical conditions can be achieved in small-holder breedlots, but this is highly dependent on intensive and strong management. Calving intervals between first and second calves, a key measure of productivity, were under 15 months for 80% of the herd and under 18 months for 98% of the herd. The interval for the second and third calves has been 12 months for 43% of the herd. These results bode well for commercial viability, with the important caveat that consistently maintaining strong management in a communal system is very challenging.

Even though our pilot farmer groups and cooperatives have considerable experience breeding Bali cattle and PO (Ongole) breeds using traditional models, scaling-up from a small herd to managing significant numbers of big-framed Brahman Cross cattle has been challenging. The above results in well-managed small-holder enterprises are impressive for communal breedlots but substantial challenges remain. Maintaining herd BCS is challenging due to the inconsistency in feed quality and quantity due to inconsistent financial resources. Fluctuation in BCS impacts on other productivity KPIs. Conception rates fluctuated between 95% in well-managed partners compared to 73% in less well-managed enterprises. The same variation is seen in calving rates that fluctuated between 94% and only 51%, and weaning rates that varied between 87% and 68%.

Click here for an interesting story about the third generation of BX in KPT Lampung. These calves are now being born 2.5 years since the arrival of the cattle. Quite a milestone.

Preparations are now being made to gradually phase-out from our two initial Cut-and-Carry partners. This will include the hand-over of cattle, a decrease in intensive technical support, the hand-over of technical support to the Local Government Livestock Services, and communication of key lessons learnt at a national conference on Small-holder Cattle Breeding in February or March 2020.

More Updates
Lucrative Qurban market: Several partners have succeeded in targeting the highly lucrative Qurban market getting 50% premiums on normal market price. The picture below shows the condition of Year 1 BX progeny sold at the ‘Cattle Auction/Lelang pedet 2018’ and currently raised by members of the farmers’ cooperative.

Lampung Governor envisions Lampung Province as a main producer of cattle and meat: Cattle Breeding gets the attention of Lampung governor, Arinal Djunaidi, who visited IACCB partner PT SUJ in Metro. The governor expressed his vision to develop Lampung into one of the main producers of cattle meat for Indonesia and one of the first provinces capable of breeding their own cattle. PT SUJ responded by preparing breedlot and SISKA-facilities expansion and an additional feedlot facility. Click here for the news coverage.

IACCB learning contributes to Ministry of Agriculture knowledge-base. Increasing the Indonesian cattle herd remains a priority for the Government of Indonesia and discussions are on-going regarding the effectiveness and alternatives of related policies. IACCB is contributing to the MoA knowledge base through the experiences of our partners and via relevant data from IACCB models. Recently, one SISKA-partner presented its experiences as part of a MoA initiative to model cattle and oil palm integration. Participants included GAPUSPINDO (Gabungan Pelaku Usaha ternak Sapi Potong Indonesia), GAPKI (Indonesia Palm Oil Association), Bappenas (Ministry of National Development Planning/National Development Planning Agency), the Coordinating Ministry of Economics and MoA.

Nusafest 2019, a collaboration between the Indonesian Oil Palm Research Institute and PT Holding Perkebunan Nusantara (PTPN), has invited the IACCB partner BKB to present its successes in cattle and oil-palm integration, with a focus on the increases in oil-palm productivity. This presentation is great opportunity to build on the recent strong interest shown in the SISKA-model from the Oil Palm Research Institute and state-owned palm oil enterprises. Nusafest is held in Medan on 24-25 September 2019.

Gita Pertiwi, the consultants providing business development support to small-holders including to SPR Mega Jaya in Bojonegoro, have been contracted by the Bojonegoro Livestock Agency to replicate the application of the Business Model Canvas[1] to six other SPRs active in cattle and goat business in the district of Bojonegoro. Support included business analysis, business plan development and profit-loss calculations in the breeding and fattening sector. The business plans developed attracted the attention of the Bojonegoro BNI manager who is following-up to assess providing loans to the SPR group models as access to finance is one of the biggest limitations for small-holder involvement in the breeding sector.

Buana Karya Bhakti, one of IACCB's SISKA partners in South Kalimantan is opening up to potential
investors and local governments, by receiving visits from the local government of Nunukan District and PT Sebaung Plantation in North Kalimantan.


Upcoming Events

11th Asia Sustainable Oil Palm Summit – Jakarta, 12-13 September 2019

Two-years of SISKA experiences will be presented by IACCB and its partner BKB in the session ‘Sustainable Practices on Integrating Cattle Breeding into Palm Oil Plantations’ at the 11th Asia Sustainable Oil Palm Summit in Jakarta. The Summit brings together owners of oil palm plantations, palm oil producers, millers, traders as well as plantation consultants, palm oil research institutes, agricultural departments and researchers. The Summit provides an important opportunity to promote the preliminary findings of the SISKA-model after three years of implementation.

Click here for more information

Integrated Cattle and Oil Palm Production (ICOP) Conference 2019 – Jakarta, 23 October 2019

The ICOP-Conference 2019 is initiated by the Indonesian Agency for Assessment and Application of Technology (BPPT) together with Indonesia-Australia Partnership on Food Security in the Red Meat and Cattle Sector (the Partnership) as a forum to discuss the opportunities and challenges around the cattle and oil-palm integration, and to encourage further collaboration and investment in promoting profitable cattle and oil-palm integration.

ICOP Conference 2019 invites researchers, government officials and industry practitioners to submit their summaries / abstracts on the theme “Promoting Profitable Cattle and Oil-palm Integration”. Submissions can be based on formal and applied research trials from research institutions and university academics, or reports from commercial operators of the cattle and oil-palm integration (Sistem Integrasi Sapi dan Kelapa Sawit/ SISKA) providing observations and findings from their operations and monitoring
Keep an eye out for results in the next IACCB Quarterly Update in December 2019.

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