INDONESIA AUSTRALIA
RED MEAT & CATTLE PARTNERSHIP

Australian Government

BKPM
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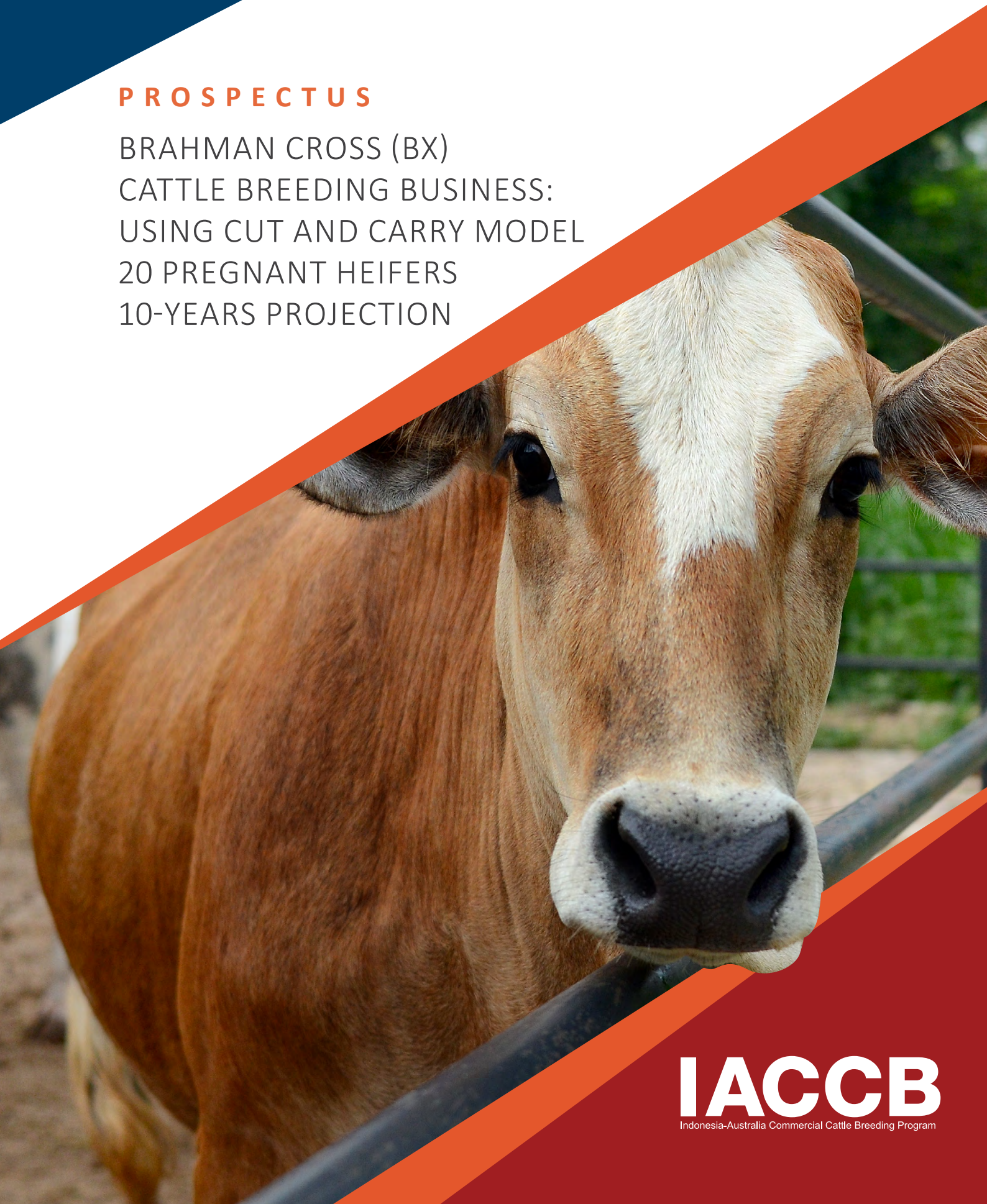
PROSPECTUS

BRAHMAN CROSS (BX) CATTLE BREEDING BUSINESS: USING CUT AND CARRY MODEL 20 PREGNANT HEIFERS 10-YEARS PROJECTION



IACCB
Indonesia-Australia Commercial Cattle Breeding Program

P R O S P E C T U S

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BRAHMAN CROSS (BX) CATTLE BREEDING BUSINESS: CUT AND CARRY MODEL 20 PREGNANT HEIFERS 10-YEAR PROJECTION

To start a Brahman Cross (BX) cattle breeding business using the cut-and-carry model with a herd of 20 pregnant heifers and 1 bull will require an initial investment of IDR 529,500,000. The business is projected to be cash flow positive in the third year. Calves are raised until two years old. During the first three years of operation, the business will have additional capital expenditure of IDR 84,400,000 and additional operational expenditure of IDR 496,419,460. Total capital needed before achieving cash-flow positive condition amounts to IDR 859,565,440. Considering the terminal value of herd closing stock, the Return on Investment is projected to be 38.17% in year 10 with a cumulative cash surplus of IDR 202,107,898.

1. Summary of Investment

Business Development	Economic Calculation
Duration of operation 10 (ten) years Herd size • 20 (twenty) cows • 1 (one) bull Cut-and-carry breeding model with natural mating system Potentially selling 126 head of progeny age 2 (two) years old with approximate live weight 369kg	Initial capital investment required IDR 529,500,000 Maximum investment before cash flow positive amounts to IDR 859,565,440 (includes investment and operational costs) Positive cash flow in year 3 Cumulative surplus cash flow in year 10 IDR 202,107,898 Including the terminal value of herd closing stock, ROI (Return on Investment) will reach 38.17%

This prospectus provides a financial summary for a smallholder breedlot using a cut-and carry cattle breeding production system. The prospectus uses the best-case scenario as experienced by an Indonesia-Australia Commercial Cattle Breeding Program (IACCBP) partner smallholder breedlot and the costings and assumptions are based on applied research conducted by IACCBP between 2016 and 2020. It assumes that cattle will be managed professionally and with a commercial approach to production. Although great results can be achieved many risks remain rearing Brahman Cross cattle at smallholder level. Additional information on commercial cattle breeding in Indonesia is available on www.iaccbp.org and https://redmeatcattlepartnership.org.

2. Initial Capital Investment Required

No	Category	Unit	No of Units	Price	Total
1	Cattle Purchase: Breeding female Breeding bull	 head head	 20 1	 IDR 21,000,000 IDR 22,500,000	 IDR 420,000,000 IDR 22,500,000
2	Breeding Centre: Cows and Calves Pens Forage and concentrate storage	 m^2 m^2	 200 25	 IDR 200,000 IDR 200,000	 IDR 40,000,000 IDR 5,000,000
3	Vehicle Three-wheeler	 unit	 1	 IDR 18,000,000	 IDR 18,000,000
4	Equipment Cattle crush, digital scale etc Pen utilities installation (water, electricity etc) Other equipment	 set set set	 1 1 1	 IDR 17,500,000 IDR 1,500,000 IDR 5,000,000	 IDR 17,500,000 IDR 1,500,000 IDR 5,000,000
	TOTAL				IDR529,500,000

The initial capital investment[1] required is IDR 529.5 million with the following details[2] :

- 20 (twenty) pregnant heifers in their 6 months gestation period and weight around 420 kg
- 1 (one) 450 kg bull
- Cost for pens, 200 m2 x IDR 200,000/m2, including 6m2 main pen/head for cows, handling/calving pen, and loading/unloading ramp.
- Feed storage cost, 25m2 x IDR 200,000/m2
- Buying 1 (one) unit of local brand three-wheeler for transporting feed and manure and other purposes
- Buying 1 (one) set of equipment and supplies including locally made cattle crush, digital scale, buckets, shovels and other equipment as well as electricity/water or well installations.

1 The initial investment value may vary depending on cattle purchasing price, type of infrastructure materials or quality of equipment. It does not include land purchase/rental cost for pens

2 Infrastructure depreciation (breeding centre, vehicle and equipment) is 10 years, using the straight-line method

3. Annual Operational Costs

No	Category	Unit	No of Units	Unit Cost	Total
1	Direct Cost Animal Health package	month	12	IDR 400,000	IDR 4,800,000
2	Fixed Operational Costs				
	Labour	person/month	12	IDR 2,000,000	IDR 24,000,000
	Pens repair and maintenance	month	12	IDR 200,000	IDR 1,800,000
	Cattle yard/pen utilities (electricity, water)	month	12	IDR 50,000	IDR 600,000
	Office utilities (electricity, water)	month	12	IDR 50,000	IDR 600,000
	Administration, communication, marketing	month	12	IDR 50,000	IDR 600,000
	Vehicle operations	month	12	IDR 200,000	IDR 2,400,000
	Other/month	month	12	IDR 100,000	IDR 1,200,000

- Estimated operational costs[3] during the first year is IDR 36 million with an assumption of 3% yearly increase
- Annual operational costs comprised of:
  - Animal health cost: veterinary medicines and services
  - Labour cost of 1 stockman
  - Overhead cost for pens repair/maintenance, pen utilities, administration, communication, vehicle operations and other costs

3 The estimated operational cost may vary depending on animal health costs, number of workers during the initial stage, workers' wages and overhead costs components.

4. Daily Operational Cost

No	Category	Unit	No of Units	Unit Cost	Total
	Feed and Supplement				
1	**Feed (intake) of Cows**				
	Fresh forage	kg/head/day	40.0	IDR 150	IDR 6,000
	Fresh concentrate	kg/head/day	2.5	IDR 1,900	IDR 4,750
	Mineral supplement	kg/head/day	0.15	IDR 4,000	IDR 600
2	**Feed (intake) of calves**				
	Fresh forage	kg/head/day	22.4	IDR 150	IDR 3,400
	Fresh concentrate	kg/head/day	1.4	IDR 1,900	IDR 2,700
	Mineral supplement	kg/head/day	0.10	IDR 4,000	IDR 400

Daily operational costs include feed cost[4] for cows and calves, which consists of forage, concentrate and mineral supplementation.[5]

See the details below:

- Average feed cost of cows is IDR 11,350/head/day.[6]
- Average feed cost of calves after weaning is IDR 6,500/head/day.[7]
- Fresh forage cost IDR 150/kg (IDR 667/kg DM) is an estimation of average production cost.[8]
- It is assumed that feed cots will increase by 0.5% every year.
- Land: 4-6 ha of land will be required to meet forage production.[9]

4 Feed cost may vary depending on the feed composition, percentage of feed material required, percentage of dry matter in the commodities used, and feed materials price.
5 Mineral supplementation comprised of DCP (Dicalcium Phosphate or dicalcium phosphate), ZA (zwavelzure ammoniac or ammonium sulphur) and salt.
6 See more details in Annex 1. Feed Composition and Daily Need of cows. Feed commodities composition depends on the availability in each region. Changes in feed composition will affect cows body weight
7 See Annex 2. Feed Composition and Daily Need of Calves. Feed commodities' composition depends on the availability in each region. Variation in feed composition will affect calves body weight
8 See Annex 3. Estimated Forage Production
9 See Annex 4. Estimated Feed and Land Annual Requirement

5. Breeding Process Simulation

Period	Pre-business	Year 1	Year 2	Year 3	Year 4	Year 5
Month 1					Weaning III	
Month 2						
Month 3		Calving		Sale I	Gestation IV	
Month 4						Weaning IV
Month 5						
Month 6	Gestation I		Calving II		Sale II	Gestation V
Month 7		Weaning I				
Month 8						
Month 9		Gestation II		Calving III		Sale III
Month 10			Weaning II			
Month 11						
Month 12			Gestation III		Calving IV	

Period	Year 6	Year 7	Year 8	Year 9	Year 10
Month 1				Weaning VII	
Month 2					
Month 3	Calving V		Sale V	Gestation VI	
Month 4					Weaning VIII
Month 5					
Month 6		Calving VI			
Month 7	Weaning V				
Month 8					
Month 9	Gestation VI		Calving VII		Sale VI
Month 10		Weaning VI			
Month 11					
Month 12	Sale IV	Gestation VI		Calving VIII	

- Cows are purchased when they are 6 (six) months pregnant
- Calves are weaned at 4 (four) months old resulting in calves of 100 kg
- Calving interval between first and second calving is 15 (fifteen) months, hence no calving occurred in year 5 and 10
- Within 6 (six) months after the first calf and onwards, empty cows will be sold and immediately replaced with pregnant cows, to maintain 20 productive cows.
- All progeny will be sold at 24 (twenty-four) months old

6. Projected Stock

	Year 1	Year 2	Year 3	Year 4	Year 5
Opening Stock					
Cows	20 hd	20 hd	20 hd	20 hd	20 hd
Bulls	1 hd	1 hd	1 hd	1 hd	1 hd
Female progeny	0 hd	9 hd	18 hd	18 hd	18 hd
Male progeny	0 hd	9 hd	18 hd	18 hd	18 hd
Total Opening Stock	**21 hd**	**39 hd**	**57 hd**	**57 hd**	**57 hd**
Female and Male Calves born	**20 hd**	**20 hd**	**20 hd**	**20 hd**	**0 hd**
Female and Male Calves deaths	**2 hd**	**2 hd**	**2 hd**	**2 hd**	**0 hd**
Replacement					
Pregnant cow	2 hd	2 hd	0 hd	2 hd	2 hd
Bull	0 hd	0 hd	0 hd	0 hd	0 hd
Total replacement	**2 hd**	**2 hd**	**0 hd**	**2 hd**	**2 hd**
Cattle sold					
Female progeny	0 hd	0 hd	9 hd	9 hd	9 hd
Male progeny	0 hd	0 hd	9 hd	9 hd	9 hd
Culled cow	2 hd	2 hd	0 hd	2 hd	2 hd
Culled bull	0 hd	0 hd	0 hd	0 hd	0 hd
Total Cattle Sale	**2 hd**	**2 hd**	**18 hd**	**20 hd**	**20 hd**
Closing Stock					
Cows	20 hd	20 hd	20 hd	20 hd	20 hd
Bulls	1 hd	1 hd	1 hd	1 hd	1 hd
Female progeny	9 hd	18 hd	18 hd	18 hd	9 hd
Male progeny	9 hd	18 hd	18 hd	18 hd	9 hd
Total Closing Stock	**39 hd**	**57 hd**	**57 hd**	**57 hd**	**39 hd**

	Year 6	Year 7	Year 8	Year 9	Year 10
Opening Stock					
Cows	20 hd	20 hd	20 hd	20 hd	20 hd
Bulls	1 hd	1 hd	1 hd	1 hd	1 hd
Female progeny	9 hd	9 hd	18 hd	18 hd	18 hd
Male progeny	9 hd	9 hd	18 hd	18 hd	18 hd
Total Opening Stock	**39 hd**	**39 hd**	**57 hd**	**57 hd**	**57 hd**
Female and Male Calves born	**20 hd**	**20 hd**	**20 hd**	**20 hd**	**0 hd**
Female and Male Calves deaths	**2 hd**	**2 hd**	**2 hd**	**2 hd**	**0 hd**
Replacement					
Pregnant cow	2 hd	2 hd	0 hd	2 hd	2 hd
Bull	1 hd	0 hd	0 hd	0 hd	0 hd
Total replacement	**3 hd**	**2 hd**	**0 hd**	**2 hd**	**2 hd**
Cattle sold					
Female progeny	9 hd	0 hd	9 hd	9 hd	9 hd
Male progeny	9 hd	0 hd	9 hd	9 hd	9 hd
Culled cow	2 hd	2 hd	0 hd	2 hd	2 hd
Culled bull	1 hd	0 hd	0 hd	0 hd	0 hd
Total Cattle Sale	**21 hd**	**2 hd**	**18 hd**	**20 hd**	**20 hd**
Closing **Stock**					
Cows	20 hd	20 hd	20 hd	20 hd	20 hd
Bulls	1 hd	1 hd	1 hd	1 hd	1 hd
Female progeny	9 hd	18 hd	18 hd	18 hd	9 hd
Male progeny	9 hd	18 hd	18 hd	18 hd	9 hd
Total Closing Stock	**39 hd**	**57 hd**	**57 hd**	**57 hd**	**39 hd**

All cows will produce total 20 (twenty) calves per year. The progeny is assumed to be 50% (fifty percent) male and 50% (fifty percent) female.

- Assumed mortality rate of all calves born per year is 2 (two) head, one male and one female calves.
- Progeny are sold at 24 (twenty-four) months old and sales begin in the 3rd year.
- The bull is assumed to be unproductive by year 6. By the time, the culled bull can be sold and immediately replaced with a new productive bull.
- Total cattle sales within ten years will be 126 head (one hundred and twenty-six) of progeny with an average weight of 369 kg[10] , 16 (sixteen) culled cows with average weight of 450 kg and 1 (one) culled bull of approximately 500 kg live weight.
- Closing stock in year 10 will be 39 (thirty-nine) head

10 Estimated ADG (Average Daily Gain) of cattle after weaning from 4-24 months old is 0.44 kg. The cattle are sold at 24 months old weight 369 kg. See more details in Annex 2.B. Estimated Feed and Weights in each Growth Phase

7. Cash Flow Projection

	Initial Investment	Year 1	Year 2	Year 3	Year 4	Year 5
Cattle Sales						
Female progeny				9 hd	9 hd	9 hd
Male progeny				9 hd	9 hd	9 hd
Culled cow and bull		2 hd	2 hd		2 hd	2 hd
CASH IN						
Cattle sales		IDR 35,100,000	IDR 35,280,000	IDR 282,956,868	IDR 320,589,522	IDR 322,762,176
Cattle terminal value in year 5						
Sub-total Cash In		IDR 35,100,000	IDR 35,280,000	IDR 282,956,868	IDR 320,589,522	IDR 322,762,176
Deducted by						
CAPITAL EXPENDITURE						
New cattle purchase	IDR 442,500,000	IDR 42,000,000	IDR 42,000,000	-	IDR 43,200,000	IDR 43,600,000
Infrastructure/Asset Recondition	IDR 87,000,000					
Sub-total Capital Expenditure	IDR 529,500,000	IDR 42,000,000	IDR 42,000,000	-	IDR 43,200,000	IDR 43,600,000
CASH OUT						
Direct Costs						
Feed and Supplement		IDR 105,078,600	IDR 137,886,840	IDR 142,180,020	IDR 150,124,050	IDR 150,865,200
Cattle health costs		IDR 4,800,000	IDR 4,944,000	IDR 5,092,000	IDR 5,245,000	IDR 5,402,000
Fixed Cost Operational Costs		IDR 31,200,000	IDR 32,136,000	IDR 33,102,000	IDR 34,094,000	IDR 35,118,000
Subtotal Cash Out	-	**IDR 141,078,600**	**IDR 174,966,840**	**IDR 180,374,020**	**IDR 189,463,050**	**IDR 191,385,200**
CASH SURPLUS (DEFICIT)	**(IDR529,500,000)**	**(IDR 147,978,600)**	**(IDR 182,086,840)**	**IDR 102,582,848**	**IDR 87,926,472**	**IDR 87,776,976**
Cumulative Cash flow	**(IDR529,500,000)**	**(IDR 677,478,600)**	**(IDR 859,565,440)**	**(IDR 756,982,592)**	**(IDR 669,056,120)**	**(IDR 581,279,144)**

	Year 6	Year 7	Year 8	Year 9	Year 10	Cumulative 10 Yrs
Cattle Sales						
Female progeny	9 hd		9 hd	9 hd	9 hd	63 hd
Male progeny	9 hd		9 hd	9 hd	9 hd	63 hd
Culled cow and bull	3 hd	2 hd		2 hd	2 hd	17 hd
CASH IN						
Cattle sales	IDR 345,634,830	IDR 36,180,000	IDR 292,920,138	IDR 331,632,792	IDR 333,895,446	IDR 2,336,951,772
Cattle terminal value in year 5					IDR 614,484,546	IDR 614,484,546
Sub-total Cash In	IDR 345,634,830	IDR 36,180,000	IDR 292,920,138	IDR 331,632,792	IDR 948,379,992	IDR 2,951,436,318
Deducted by						
CAPITAL EXPENDITURE						
New cattle purchase	IDR 67,500,000	IDR 44,400,000	-	IDR 45,200,000	IDR 45,600,000	IDR 373,900,000
Infrastructure/Asset Recondition						
Sub-total Capital Expenditure	IDR 67,500,000	IDR 44,400,000	-	IDR 45,200,000	IDR 45,600,000	IDR 373,900,000
CASH OUT						
Direct Costs						
Feed and Supplement	IDR 151,606,350	IDR 141,345,540	IDR 145,721,070	IDR 153,829,800	IDR 154,570,950	IDR 1,433,208,420
Cattle health costs	IDR 5,564,000	IDR 5,731,000	IDR 5,903,000	IDR 6,080,000	IDR 6,262,000	IDR 55,023,000
Fixed Cost Operational Costs	IDR 36,171,000	IDR 37,257,000	IDR 38,337,000	IDR 39,528,000	IDR 40,714,000	IDR 357,697,000
Subtotal Cash Out	**IDR 193,341,350**	**IDR 184,333,540**	**IDR 190,001,070**	**IDR 199,437,800**	**IDR 201,546,950**	**IDR 1,845,928,420**
CASH SURPLUS (DEFICIT)	**IDR 84,793,480**	**(IDR 192,553,540)**	**IDR 102,919,068**	**IDR 86,994,992**	**IDR 701,233,042**	**IDR 202,107,898**
Cumulative Cash flow	**(IDR 496,485,664)**	**(IDR 689,039,204)**	**(IDR 586,120,136)**	**(IDR 499,125,144)**	**IDR 202, 107,898**	

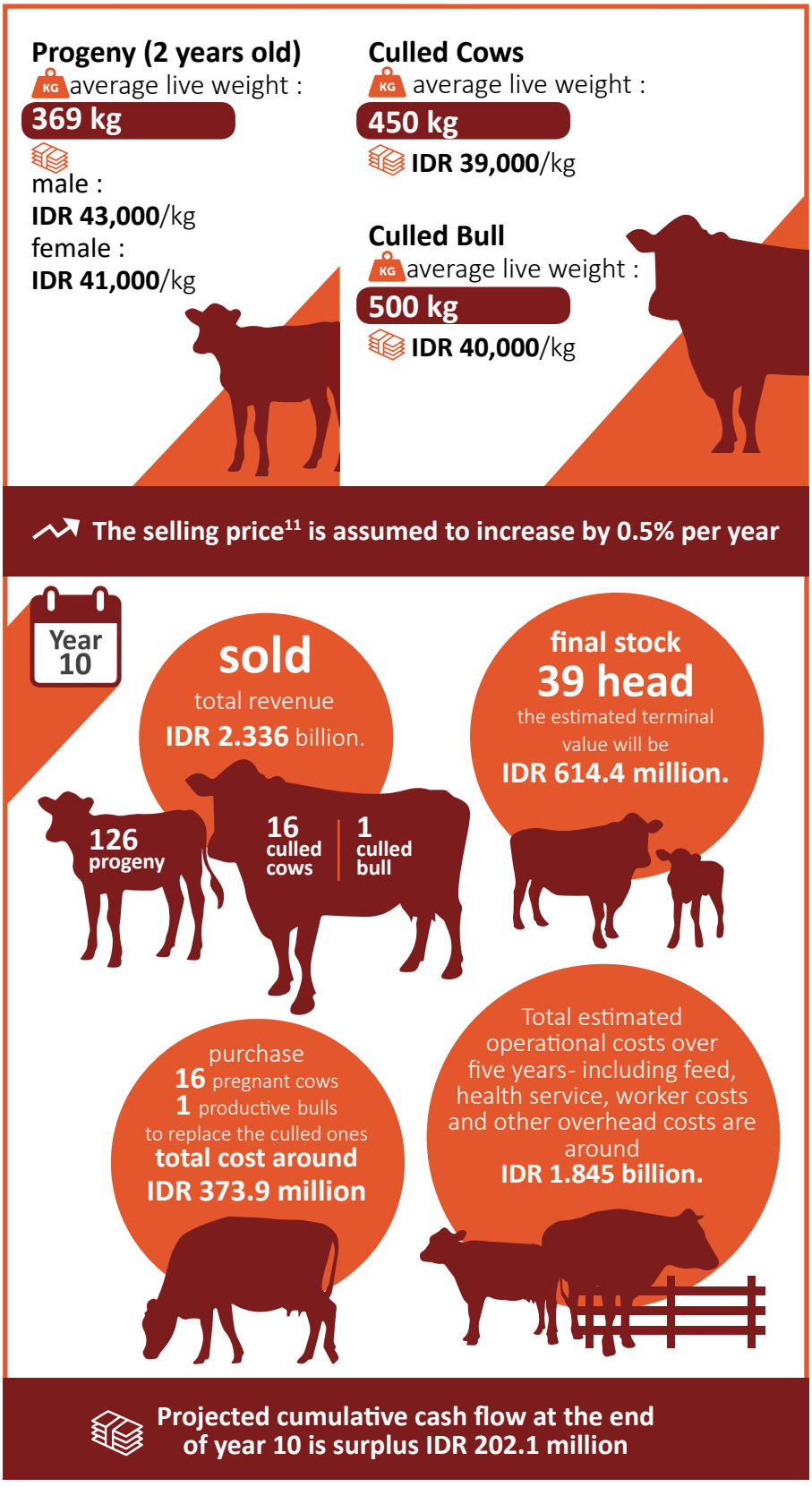
Cash flow Projection Analysis

ROI (Return on Investment)	38,17%
IRR (Internal Rate of Return)	2,79%
Cumulative Cash flow	IDR 202,107,898
Positive Cash flow	Year 3
PBP (Pay Back Period)	Year 10

8. Cash flow Projection Analysis

Source of revenue:

(1) All female and male progeny sales at age 24 months old
(2) Culled cow sales
(3) Culled bull sales.



Based on the analysis, positive cash flow can be achieved in year 3. However, negative cash flow is expected in year 7 because no sales are made during the year. From year 8 onwards, cash flow will return positive. Return will be obtained in year 10. Purchasing pregnant cows will accelerate the positive cash flow. Taking into account the terminal value of herd closing stock, **IRR** (Internal Rate of Return) **in year 10 will reach 2.79%** and **ROI** (Return on Investment) **38.17%.**

11 Selling price/kg varies per region and is depending on sale time. Selling price has significant impact on the revenue

9. BX Cattle Breeding Business Risks

In order to run the business as planned, you should always pay attention to and maintain the cattle productivity performance parameters, including:

- **Body Condition Score:** Always maintain BCS (Body Condition Score) of Cows in ideal condition ≥ 3. Non-ideal BCS will reduce reproductive ability of the cows.
- **Average Daily Gain:** Maintain ADG (Average Daily Gain) of weaned calves to meet the targeted weight. Lower ADGs will impact final weight of sales cattle.
- **Cattle mortality rate including abortion and still birth**. Abortion and still births will affect the number of calves born. Calf death rate will affect the number of growers and finished cattle for sale. Meanwhile, cow and bull deaths will reduce the calving rate and increase the cost of purchasing new cattle for replacement,
- **Cull unproductive cows**. All cows that failed to conceive within the targeted period and not immediately culled (sold) can potentially increase feed cost. Delay in culling and replacing unproductive cows with new pregnant cows extend the calving interval and reduce the calving rate.

Annex 1. Feed Composition and Daily Need of Cows

A. Forage and Concentrate Required

	Cow
Average live weight	450 kg
% DM required in feed (of live weight)	2.5%
DM/hd/day required	11.3 kg
Forage	
% forage required	80%
DM required from forage/head/day	9 kg
% DM	22.5%
Forage required /head/day (rounded)	**40 kg**
Concentrate	
% concentrate required	20%
DM required from concentrate/head/day	2.3 kg
% DM of concentrate	90%
FM concentrate required /head/day (rounded)	**2.5 kg**

DM = Dry Matter
FM = Fresh Matter

B. Composition of Concentrate for Cows

No.	Feed Commodities	Proportion	IDR/kg	Ration Cost (IDR)
1	Dry *Onggok*	57%	2,000	1,140
2	Palm Kernel Cake	37%	1,800	666
3	Molasses	4.5%	1,800	81
4	Mineral mix	1.5%	2,500	38
	Total	**100%**		**1,925**
			Rounded	**1,900**

Annex 2. Feed Composition and Daily Needs of Calves

A. Concentrate Composition for Calves

No.	Feed Commodities	Proportion	IDR/kg	Ration Cost (IDR)
1	Dry *Onggok*	35%	2,000	700
2	Palm Kernel Cake	59%	1,800	1,062
3	Molasses	4.5%	1,800	81
4	Mineral mix	1.5%	2,500	38
	Total	**100%**		**1,881**
			Rounded	**1,900**

B. Estimation of Calf Weight and Forage and Concentrate Required by Calf in Each Growing Stage

Age	Initial Weight	Estimated ADG	Growing Period	Final Weight
4-6 months	100 kg	0.30 kg	61 days	118 kg
6-9 months	118 kg	0.40 kg	92 days	155 kg
9-12 months	155 kg	0.42 kg	92 days	193 kg
12-15 months	193 kg	0.45 kg	92 days	235 kg
15-18 months	235 kg	0.47 kg	92 days	278 kg
18-24 months	278 kg	0.50 kg	183 days	369 kg
Average		**0.44 kg**		

Age	Concentrate Required	Forage Required	DM Required (% of liveweight)	DM Required (kg)	FM Concentrate Required*	FM Forage Required**	Average Feed Cost / Growing Phase
4-6 months	20%	80%	2.5%	3.0 kg	0.7 kg	10.5 kg	IDR 3,300
6-9 months	20%	80%	2.5%	3.9 kg	0.9 kg	12.8 kg	IDR 4,200
9-12 months	20%	80%	2.5%	4.8 kg	1.1 kg	17.2 kg	IDR 5,100
12-15 months	20%	80%	2.5%	5.9 kg	1.3 kg	20.8 kg	IDR 6,100
15-18 months	20%	80%	2.5%	6.9 kg	1.5 kg	24.7 kg	IDR 7,100
18-24 months	20%	80%	2.5%	9.2 kg	2.1 kg	32.8 kg	IDR 9,300
Average					**1.4 kg**	**22.4 kg**	**IDR 6,500**

Note: DM= Dry Matter; FM = Fresh Matter
% DM Concentrate 90%
% DM Forage 22.5%

Annex 3. Estimation of Forage Production Cost

PREPARATION COST – ONLY ONCE AT THE BEGINNING		
Costs		
A. Initial Investment Cost		
Land leasing / ha / year	IDR	5,000,000
B. Preparation Package		
1. Land preparation and urea cost	IDR	1,150,000
2. Worker cost for planting	IDR	300,000
3. Forage seeds	IDR	400,000
Sub-total Cost (X)	**IDR**	**6,850,000**
ROUTINE ANNUAL COSTS		
Assumed harvest Cycle / year		6 times
Costs		
A. Leasing		
Land leasing (assuming no increase)	IDR	5,000,000
B. Annual Operational Costs		
1. Weed control, manure application and other maintenance, 6 cycles x IDR 300,000	IDR	1,800,000
2. Workers cost for 6 harvest cycles x IDR 300,000	IDR	1,800,000
Sub-total Cost (Y)	**IDR**	**8,600,000**
ANNUAL OUTPUT		**Fresh weight (kg/ha)**
Harvest 1		15,000 kg
Harvest 2		20,000 kg
Harvest 3		20,000 kg
Harvest 4		20,000 kg
Harvest 5		15,000 kg
Harvest 6		10,000 kg
Average of Total Harvest		**100,000 kg**
		Cost per kg fresh weight
Production Cost in Year 1 **(X+Y)/Z**		IDR 155
Production Cost year 2 onwards **(Y/Z)**		IDR 86

Annex 4. Estimated Annual Requirement of Feed and Land

	Year 1	Year 2	Year 3	Year 4	Year 5
Herd Size					
Cows and Bulls	21 hd	21 hd	21 hd	21 hd	21 hd
Calves	18 hd	36 hd	36 hd	36 hd	18 hd
DM Concentrate required for 12 months					
Cows and Bulls	17,294 kg	17,294 kg	17,294 kg	17,294 kg	17,294 kg
Calves	3,453 kg	9,668 kg	10,358 kg	11,740 kg	11,740 kg
Total	**20,746 kg**	**26, 961 kg**	**27, 652 kg**	**29, 033 kg**	**29,033 kg**
DM Forage required for 12 months					
Cows and Bulls	69,174 kg	69,174 kg	69,174 kg	69,174 kg	69,174 kg
Calves	13,811 kg	38,671 kg	41,434 kg	46,958 kg	46,958 kg
Total	**82,985 kg**	**107,854 kg**	**110,608 kg**	**116,132 kg**	**116,132 kg**
Land required	3.9 ha	5.1 ha	5.2 ha	5.5 ha	5.5 ha
Land size (rounded)	**4 ha**	**6 ha**	**6 ha**	**6 ha**	**6 ha**

	Year 6	Year 7	Year 8	Year 9	Year 10
Herd Size					
Cows and Bulls	21 hd	21 hd	21 hd	21 hd	21 hd
Calves	18 hd	36 hd	36 hd	36 hd	18 hd
DM Concentrate required for 12 months					
Cows and Bulls	17,294 kg	17,294 kg	17,294 kg	17,294 kg	17,294 kg
Calves	11,740 kg	9,668 kg	10,358 kg	11,740 kg	11,740 kg
Total	**29,033 kg**	**26, 961 kg**	**27, 652 kg**	**29, 033 kg**	**29,033 kg**
DM Forage required for 12 months					
Cows and Bulls	69,174 kg	69,174 kg	69,174 kg	69,174 kg	69,174 kg
Calves	46,958 kg	38,671 kg	41,434 kg	46,958 kg	46,958 kg
Total	**116,132 kg**	**107,854 kg**	**110,608 kg**	**116,132 kg**	**116,132 kg**
Land required	5.5 ha	5.1 ha	5.2 ha	5.5 ha	5.5 ha
Land size (rounded)	**6 ha**	**6 ha**	**6 ha**	**6 ha**	**6 ha**

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