

End of the supply chain

Processors

- A wide range of industry scale: home, medium, large scale (multinational)
- Some are vertically integrated (partial)
- Supply both wetmarket and supermarket
- Majority of beef from import or feedlot (imported live cattle)

Wet markets

- Beef market share in Jakarta approx. 30 %, elsewhere much higher
- Fresh (unchilled) beef and meatballs from the night-slaughter
- Sale via market booths / tables rented/owned by the wet market traders
- Very little price differentiation into different cuts and quality
- Prices for local beef often higher than prices for imported beef
- Wet market traders often specialised in meat, bones, offals

Supermarkets

- Beef market share in Jakarta approx. 70 %, elsewhere much lower
- Packed, chilled, frozen and processed beef (e.g. bakso)
- Traditional Indonesian cuts (daging rendang) and western style cuts
- Majority of beef from import or feedlot (imported live cattle)
- Good hygiene and industry practices
- Beef is often used as marketing tool (low price)

Consumers

- Preferences: freshness, low fat and tenderness
- Local (Indonesian) origin seems to become less important in Jakarta
- Hygiene important reason to buy in supermarket
- Most consumers wish improvement of hygiene in wet markets

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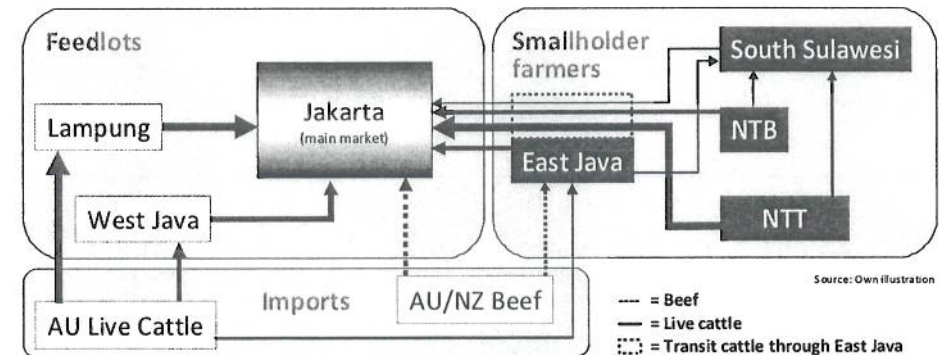
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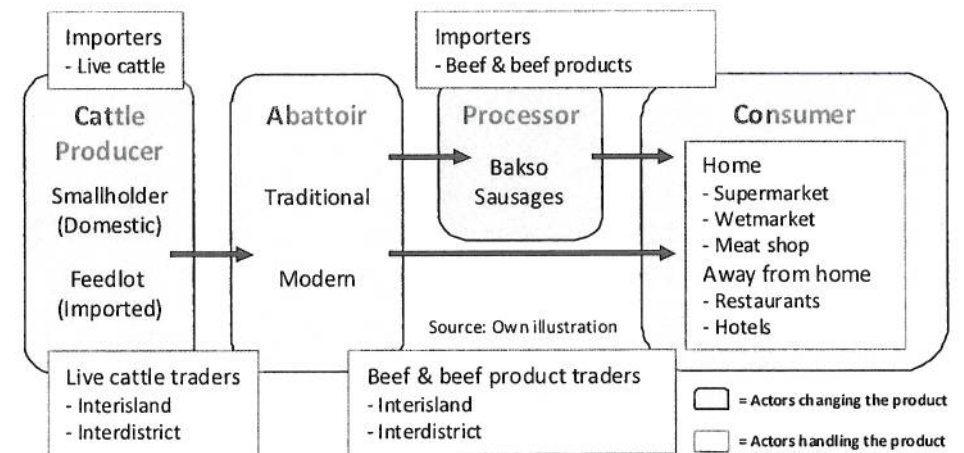
Benchmarking the Beef Supply Chain in Eastern Indonesia

Regional flow of live cattle and beef in Indonesia

(weight of arrows indicates the importance of product flows)



Actors and their functions in the beef supply chain of Indonesia



Beef in Indonesia – key sources

Traditional farms

Production

- Produce around two thirds of the beef consumed in Indonesia
- Smallholder farms with 1–5 cattle (cow-calf and/or finishing)
- Bali Cattle & crosses in Eastern Indonesia, Madura, Ongole & crosses in East Java
- Cut & Carry of grass and other vegetation found
- Simple pens and/or (seasonal) grazing
- Low performance, low productivity, sub-optimum sale weights
- Cash requirement is main incentive for keeping and selling cattle

Transport

- Long live cattle journey from East Java to Jakarta
- Combined boat and truck transport
- Boat is not build for cattle transport, insufficient loading facilities
- 10–12% weight losses during transport
- Animals are stressed and have limited access to water
- Losses for the industry are approx. 5 million US\$ per year only in NTT

Abattoir

- Typically slaughter in the night/early morning, on the floor
- Limited cooling facilities
- Typically kill-only service provider charging a fee for using the place
- Customers: farmers, butcher, wet market trader
- Lack of basic hygiene and sanitary conditions

Feedlots

Production

- Produce around 15 percent the beef consumed in Indonesia
- Mainly located in West Java and Lampung (South Sumatra)
- Imported cattle from Australia
- Typical confined feedlot with grain rations
- Some feed lot are integrated with own abattoirs
- Slaughtered in traditional, semi traditional or modern abattoir

Transport

- Combined boat and truck transport
- Usually integrated with feedlots and abattoirs
- Better standard than traditional inter-island trade

Abattoir Modern (private) abattoir

- Typically linked with feedlots
- Slaughter chain and chilling facilities available
- In some cases packaging facilities available
- Meets basic or advanced hygiene standards

Imported beef

- Come as chilled beef and frozen beef, largely from Australia and New Zealand
- Transported by ship or plane. Normally in a large container, destinations are Jakarta (+ surrounding) and Surabaya and from there the beef is distributed to the other cities
- Consumed by wet market, supermarket and processor
- Price is sometimes lower than for domestic beef

Typical farms in comparison

Typical cow-calf enterprises (all data from calendar year 2008)

Indicator	NTT		NTB	South Sulawesi		East Java			
	Bali	Crosses	Bali	Bali	Crosses	Madura	M Crosses	Ongole	O Crosses
Breeds									
Calf losses - mortality (%)	10% - 17%	17%	1% - 15%	2% - 10%	4% - 8%	3%	5%	3%	5%
Number of calves weaned per 100 cows and year	71 - 90	83	64 - 98	55 - 98	81 - 85	97	97	78 - 97	78 - 97
Age at first calving (months)	30 - 40	33	27 - 36	36	24	33	26	33 - 36	24 - 30
Replacement rate	12% - 13%	13%	11% - 21%	10% - 16%	12% - 15%	14%	16%	11% - 14%	11% - 16%
Age at weaning calves (days)	240 - 300	210	180 - 255	210 - 365	120 - 210	240	240	225 - 235	235 - 240
Weight at weaning female calves (kg LW)	60 - 85	160	50 - 90	50 - 87.5	70 - 100	90	95	95 - 100	115 - 120
Weight at weaning male calves (kg LW)	65 - 110	180	60 - 105	50 - 87.5	70 - 120	95	100	100 - 105	120 - 125
Share of artificial insemination (%)	0%	100%	0% - 100%	0%	100%	88%	100%	100%	100%
Total live weight sold (kg per cow / year)	95 - 153	193	95 - 112	48 - 120	156 - 198	158	168	141 - 173	119 - 196
Total returns (IDR per kg LW)	1,275 - 1,445	1,509	1,386 - 2,714	1,429 - 2,985	4,085 - 4,938	1,819	2,046	2,025 - 2,063	2,455 - 2,590
Total costs (IDR per kg LW)	146 - 1,360	1,014	815 - 2,148	1,460 - 2,960	1,599 - 2,777	2,728	2,798	1,777 - 2,528	1,867 - 2,726
Profitability (IDR per kg LW)	1,241 - 1,337	1,318	1,425 - 2,662	50 - 1,838	2,856 - 4,037	-20	181	621 - 889	1,202 - 1,902

Typical beef finishing enterprises (all data from calendar year 2008)

Indicator	NTT		NTB	South Sulawesi		East Java			
	Bali	Crosses	Bali	Bali	Crosses	Madura	M Crosses	Ongole	O Crosses
Breeds									
Age start (days)	240 - 1825	210	210 - 1,080	210 - 365	120 - 210	240	240	225	225 - 548
Age end (days)	730 - 2,005	900	630 - 1,260	720 - 1,095	365 - 790	700	700	715	715 - 728
Finishing period (days)	180 - 730	690	120 - 510	480 - 730	155 - 670	460	460	490	180 - 480
Weight start (kg LW)	65 - 200	180	70 - 220	50 - 85	70 - 120	95	100	100	120 - 360
Weight end (kg LW)	250 - 280	556	180 - 275	210 - 300	255 - 600	293	316	345	456 - 510
ADG / DWG (g per day)	233 - 500	544	262 - 343	266 - 558	791 - 873	430	470	500	700 - 833
Carcass yield (%)	45% - 47%	45%	45% - 56%	43% - 49%	50%	47%	47%	47%	50%
Weight end (kg CW)	117 - 126	250	86 - 154	90 - 168	128 - 300	138	149	162	228 - 255
Losses - Mortality (%)	1% - 1.4%	1%	1% - 1.5%	1% - 2%	1%	10%	10%	10%	1% - 10%
Price incoming animals (IDR - million per head)	1.5 - 3.25	3.25	1.5 - 4.0	2 - 3.5	6 - 6.5	1.7	1.9	2	2.5 - 6
Price incoming animals (per kg LW)	11,500 - 28,571	18,055	11,818 - 22,857	20,833 - 58,333	50,000 - 92,857	18,000	19,000	19,950	16,667 - 21,083
Cattle price sold (IDR - million per head)	2.85 - 3.92	8.89	2.00 - 7.29	4.9 - 6.67	5.7 - 13.47	5.59	6.38	7.74	10.7
Cattle price sold (per kg CW)	2,425 - 3,333	3,555	2,315 - 4,736	3,896 - 6,678	4,114 - 5,385	4,058	4,297	4,775	4,200 - 4,713
Total returns all groups (IDR per kg CW)	2,722 - 3,644	3,989	2,597 - 4,541	4,056 - 5,332		4,183		4,200 - 4,739	
Total costs (IDR per kg CW)	1,593 - 4,324	3,581	2,873 - 5,032	5,032 - 7,387		6,229		3,875 - 5,431	
Profitability all groups (IDR per kg CW)	106 - 1,593	2,586	834 - 1,705	-596 - 1,518		-77		714 - 982	