

Beef Cattle

Priority statement

There is no doubt the beef sector is a **VERY HIGH** priority for pro-poor agribusiness development. Beef industry development has been given the highest policy focus at national and sub-national levels. There are numerous on-farm and off-farm opportunities to significantly increase efficiency, competitiveness and income for over two million poor beef households, and thousands of people in the beef market chain.

East Java, East Nusa Tenggara and West Nusa Tenggara contribute to more than 40% of national herd inventory. The beef sector in Eastern Indonesia produces over 120,000 tons of beef, mainly from smallholders, which is 29% of total Indonesian production. Very large numbers of specialised smallholder cattle producers in EJ, many of them landless women, could benefit from better integration with more efficient beef markets (see Table 1). The number of producers in NTT and NTB is smaller and there are fewer off-farm employment opportunities, however cattle play a more significant role in household income of poor families. Improved on-farm productivity and reduced mortalities, along with improved market access and competitiveness and market development in these two provinces have the potential to directly address rural poverty.

Table 1. Cattle and beef production indicators in selected provinces in Indonesia, 2011

Basic Statistic	East Java	West Nusa Tenggara (NTB)	East Nusa Tenggara (NTT)	Indonesia
Cattle (head)	4,727,298	685,610	779,633	14,824,373
% of national herd	31.9%	4.6%	5.3%	
Rank in country*	1	6	4	
Slaughter number (head)	528,050	54,476	42,279	2,239,149
Beef (tonnes)**	110,900	7,300	6,500	435,200
Cattle producers***	1,978,768	164,619	33,917	4,167,894

Source: * BPS- PSPK 2011;
 **2010. http://aplikasi.deptan.go.id/bdsp/hasil_kom.asp;
 *** National Animal livestock Census 2011 (refers to livestock producers, a large proportion are cattle producers).

Poverty and sustainability

Is there potential to reach large numbers of poor households in production and post-production?

- Yes, most definitely. Beef sector development has the potential to benefit over 2.2 million smallholder households raising cattle in EJ, NTB and NTT. This is more than half (52%) of the total cattle raising households in Indonesia.

- Of the 1.9 million cattle raising households in EJ (47% of total), many are landless poor, especially women with limited income options.
- In NTB and NTT there is potential to significantly reduce very high rates of poverty in almost 300,000 households.
- The beef sector also supports large numbers of cattle traders, and many thousands of small-scale and labour-intensive enterprises involved in forage supply, slaughter, processing (bakso/meatballs) and retail sectors.

What is the potential to increase income for producers?

- Very high. Cattle will often contribute to at least 50% of household income in Eastern Indonesia, with reported values ranging from 13% (total household income) to 61 - 84% (farm cash income). Income from cattle is particularly important for thousands of landless families in East Java.
- Net income from smallholder cow-calf and beef fattening operations has been shown to range from IDR 1-3 million per head per year (excluding opportunity cost of labour, land and capital). However current productivity is very poor and adoption of simple proven management packages can increase farm cash flow by 60 - 120%.
- Breed choice, superior bulls, earlier weaning, controlled natural mating, strategic supplementation, use of tree and forage legumes, disease management and penning facilities implemented in an Integrated Village Management System can increase cow weaning rates (60% up to 83%), reduce calf mortality (10 - 15% to 8%), concentrate calving and increase calf growth rates (0.3 kg/d to 0.4kg/d), significantly increasing the number and weight of cattle for sale.
- Beef demand and prices in Indonesia have remained relatively high, however inefficiencies, costs and margins occur in marketing, transport, fees/taxes, and the margins of traders. Institutional and off-farm development (groups, information, credit, input supply) have the potential to increase competitiveness, incomes and transfer more value towards small-holder producers.

What is the agro-ecological feasibility?

- High. In EJ extremely high human, livestock and land use densities means that higher incomes is driven by improved animal productivity and market efficiency and development. Here the feasibility of larger-scale or more specialised feeding operations is determined by the availability of and access to crop residues, agro by-products, cut and carry forages and tree legumes used for livestock feed.
- In NTB and NTT there is also scope for increasing cattle populations and household scale of production. Cow-calf production in (seasonal) grazing systems is an area of comparative advantage for some areas of NTT and NTB, but there is a risk that expansion may place further grazing pressure on already degraded grasslands.
- There is a low risk that institutional barriers will hinder farmer access to credit and ability to form functional beef marketing groups.
- There is a low to moderate risk that little progress will be made on efficient policy measures to promote public private partnerships and an efficient business enabling

environment necessary to promote private sector investment and overcome infrastructure, institutional, market and supply chain inefficiencies.

- The risk of major disease outbreaks (e.g. FME, brucellosis) that could disrupt production and inter-regional trade is currently low but could be enhanced by policy decisions that lead to increasing unofficial and official imports from less bio-secure markets.

Sustainability (economic and environmental)

Economic sustainability is very high. There are some environmental sustainability issues.

- Demand for beef is increasing at 4% per annum due to sustained population growth, income growth, ongoing urbanisation and changing consumer trends.
- Moslem preferences mean that pork is not a substitute product for beef and that demand is in high demand for religious festivals.
- Beef supply has increased only slowly in recent years due to productivity and resource constraints and trade policy (import quotas on live cattle and beef).
- If high and increasing beef prices can be relayed back to cattle producers, and if producers respond, then sustained industry growth could be expected.
- While environmental issues are not yet a major concern of policy-makers, industry expansion may exacerbate negative environmental effects (resource depletion, over-grazing, effluent) that occur along with positive effects (manure/organic fertiliser). Animal welfare and food safety issues are becoming prominent in some market segments.

Does the chain/commodity fit with the focus of Government programs and priorities?

Yes, beef is a very high priority at national and provincial Government levels. Specifically:

- Beef is one of five agricultural sectors, along with maize, rice, sugar and soybean identified by the National Government as the top priorities for development and funding support necessary to achieve 90% self-sufficiency by 2014.
- East Java has implemented the Madura “Diamond Cattle” program to develop the artificial insemination system and increase calf numbers to 5 million calves over a 5 year period.
- The government of NTB has launched the BSS “Bumi Sejuta Sapi – land of one million cattle” program, which aims to make the province a key source of local breeds and to increase the beef cattle herd from 685,000 to 1 million head by 2014.
- In NTT, provincial government has launched the “anggur merah” program to speed up economic growth and reduce poverty in which the beef cattle sector development is a strategic focus.
- In 2013 DGLAHS will spend approximately IDR 1.5 trillion to implement beef development policies, strategies and targets at national and provincial levels in areas such as supply chain management, reducing slaughter of productive females and targeting improved animal husbandry and breeding strategies.

How project-crowded is the sector? (To what extent are sector needs addressed by current donors?)

- There is currently limited non-Gol investment in beef research and development.
- Australian agencies (ACIAR, AusAID, MLA, DAFF) have a long-standing and ongoing beef research and industry development programs. While the level and scale of investment is modest, these activities provide a strong base from which to scale up and apply to development activities.
- IFAD, The World Bank, JICA and DFID have in the past provided intermittent support to the cattle and beef sector.

External risk

- There are a number of low to moderate risks that could jeopardise the likelihood of achieving significant income benefits to the poor.
- Technical innovations are proven and relatively simple, however will require significant institutional resources to support scaling-out and widespread adoption across huge numbers of farmers.
- The risk of reduced support for the domestic industry at national and provincial levels is probably low. However there is a moderate risk that changing trade policy, policy distortions and policy inconsistencies occurring.

Structure of the chain

What is the potential for improving market access?

- There is significant potential for domestic beef to compete with imported beef markets in particular segments.
- Industry development and investment is necessary to improve: physical and institutional access to markets; cattle handling facilities; inefficient road, port, market and sea infrastructure; efficiency, professionalism, food safety and animal welfare standards of beef slaughter and processing facilities; and simple innovations in wholesale and retail meat marketing and value adding.
- Improving information about cattle and markets to the farmer, building confidence in dealing with traders and reducing reliance of credit from traders that tie them into reciprocal sales arrangements will increase farmer's access to and competitiveness in cattle markets.

What is the scalability and transferability potential?

- Technical innovations leading to income gains are highly scalable and transferable. Recent research has demonstrated more profitable management practices e.g. IVMSs are readily adopted by farmers, but need strong technical and policy support.
- While industry activity is relatively concentrated in geographical pockets of EJ, NTB and NTT, cattle, many areas have bio-physical and economic conditions for expansion. The constraints to development outlined for many sectors of the industry

are common across the region, so technologies, interventions, infrastructure and systems generated by the project may facilitate this expansion.

- Successful industry development will need to address availability and cost of credit, livestock feeds, suitable quality breeding stock, technical support services, transport and market access. Effective public-private sector partnerships and investment and harmonised policy at all levels of government are required.

Is there potential for post-harvest productivity / value-added?

- Yes, Significant potential. In addition to the value generated from productivity gains, input-output conversion and heavier turn-off and carcass weight, the large number and type of cattle products provide opportunities for value-adding. For example targeted promotion and marketing of higher value primal cuts and improved utilisation and value adding of sub-primals.
- Inappropriate pre-slaughter management and slaughter techniques result in dark cutting beef, reducing shelf life and overall product value, leading to meat being discounted by as much as 30% in the wet market. Improved handling and slaughter techniques through training and infrastructure investment will not only improve animal welfare, but will result in increased financial returns through improved meat colour quality and shelf life.
- Innovative marketing in traditional wet market and modern retail can capture latent demand for beef with particular quality, brand, food safety or animal welfare characteristics/standards.
- Other products include offal, hides, pharmaceutical products, and processed beef that generate value and employment accessible to small-scale actors.

Is there sufficient infrastructure availability?

- No. Marketing and inter-regional cattle trade is constrained by the under-development of livestock selling and market infrastructure, cattle handling and purpose-built transport facilities (truck and sea), cold storage/transport facilities, and slaughter facilities.
- In-depth research is required to understand infrastructure constraints and the costs and benefits of addressing them at critical control points along the beef supply chain, including livestock handling on-farm, road and sea transport and at ports, markets and slaughterhouses. Public-private investment in integrated supply chain infrastructure is urgently needed.