



Laporan Akhir

Final Report

**PENILAIAN TERHADAP PENGOLAHAN SAPI
DAN OPSI PASAR DI INDONESIA**

**ASSESSMENT OF BEEF PROCESSING AND
MARKET OPTIONS IN INDONESIA**

**Coffey International
Development Limited**

**Kemitraan Indonesia-Australia untuk Ketahanan Pangan di Sektor
Daging Merah dan Sapi**

**Indonesia-Australia Partnership on Food
Security in the Red Meat and Cattle Sector**

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Table of Contents

1	Introduction.....	13
1.1	Background to the project	13
1.2	Study approach and methodology.....	13
1.3	Effects of the COVID-19 pandemic on the market and study.....	14
2	Market access outlook for Indonesian beef exports.....	14
2.1	Introduction.....	14
2.2	Indonesia's multilateral agreements	15
2.3	Regional trade agreements (RTA)	16
2.4	Summary of possible advantages for Indonesia through RTA's.....	20
2.5	SPS measures and other trade barriers	21
2.6	SPS import requirements in target markets.....	22
2.7	Non-tariff trade barriers	25
3	Results of market investigation	26
3.1	Brunei Darussalam.....	27
3.2	Cambodia.....	28
3.3	China.....	29
3.4	Laos PDR.....	31
3.5	Malaysia	31
3.6	Myanmar	33
3.7	Papua New Guinea	34
3.8	Philippines.....	35
3.9	Singapore	36
3.10	Thailand.....	38
3.11	Vietnam	39
3.12	Summary of market potential in the identified nearby markets.....	41
3.13	Assumptions about potential of target markets.....	41
3.14	Possible Halal markets.....	42
4	Prospects for exports of manufactured and processed beef from Indonesia	49
4.1	World trade in manufactured meat products.....	49
4.2	Indonesian exports of manufactured products.....	54
4.3	Summary	56
5	Results of industry gap analysis.....	57
5.1	Purpose and Methodology	57
5.2	Responses	58
5.3	Key findings.....	58
5.4	Other relevant information.....	65
5.5	Conclusions from the gap analysis	66
6	Export roadmap	68
6.1	Roadmap.....	68
6.2	Knowledge gaps.....	71
6.3	Role of Government.....	71
7	SWOT analysis of processing and market options	72
8	Options in the domestic marketplace	73
8.1	Creating Or Improving Value.....	74
9	Conclusions and Recommendations.....	76
10	References.....	79
11	Annexes	80

Table of Figures

Figure 1 - Map of ASEAN member states	17
Figure 2 - Depiction of entry points for export preparedness	68
Figure 3 - Export roadmap milestones	68

Table of Tables

Table 1 - Target markets in the study.....	15
Table 2 - Import tariffs by importing market for MFN, ASEAN and AANZFTA members.....	18
Table 3 - Comparison of Indonesia vs MFN and AANZFTA members by market	20
Table 4 - SPS import requirements for target markets.....	23
Table 5 - Ranking of difficulty for markets based on SPS and documentation requirements	25
Table 6 - Ranking of target countries by export potential for supply from Indonesia	41
Table 7 - Likely import tariffs into Middle East markets.....	44
Table 8 - Main import markets for HS 160100 in 2019 and average tariff rates	50
Table 9 - Main import markets for HS 160200 in 2019 and average tariff rates	51
Table 10 - Main import markets for HS 160250 in 2019 and average tariff rates	52
Table 11 - Main import markets for HS 160290 in 2019 and average tariff rates	53
Table 12 - Exports from Indonesia of sausages/manufactured meat products	55
Table 13 - Inter-Asian Imports and Global imports of Processed products -\$US m/ton	56
Table 14 – Market Destination	63
Table 15 – Product Despatch Format.....	64
Table 16 - SWOT analysis	72

List of Annexes

Annex 1 - Comparison Matrix for Five Processing Sites

Annex 2 - Sample Certificate of Origin, ASEAN

Annex 3 - Specific Requirements for Singapore Food Authority - Meat and Meat Products

Abbreviations

ANZFTA	ASEAN, Australia and New Zealand Free Trade Agreement
ADB	Asian Development Bank
ASEAN	Association of South East Asian Nations
ATIGA	ASEAN Trade in Goods Agreement
CN	Combined Nomenclature
FMD	Foot and Mouth Disease
FTA	Free Trade Agreements
GDP	Gross Domestic Product
HGP	Hormonal Growth Promotants
HS	Harmonised Commodity Description and Coding System
MFN	Most-Favoured-Nation
RI	Refrigeration Index
RMP	Red Meat Partnership
RTA's	Regional Trade Agreements
SOP	Standard Operating Procedure
SPS	Sanitary and Phyto-Sanitary
TAFE	Technical and Further Education
TOR	Terms of Reference
WTO	World Trade Organisation

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Ringkasan eksekutif

Laporan ini merupakan bagian dari Kemitraan Indonesia - Australia untuk Ketahanan Pangan di Sektor Daging Merah dan Sapi (Kemitraan) yang dirancang untuk memperkuat dan mengembangkan industri daging merah dan sapi di kedua negara yang saling menguntungkan.

Sebagaimana telah lama ditekankan bahwa, dengan sumber daya dan pemeliharaan yang memadai, sektor pengolahan daging sapi Indonesia dapat mengembangkan pasar luar negeri yang substansial bagi berbagai produk daging sapi, termasuk hasil olahan daging sapi. Oleh karena itu, kajian ini berfokus terutama pada eksplorasi peluang opsi ini digunakan untuk masa depan dan langkah-langkah yang perlu diambil untuk mewujudkannya. Metodologi memandang berbagai prospek pasar, keistimewaan tarif, kemampuan industri dalam negeri berupa swa-inspeksi pabrik, dan langkah-langkah lain untuk membentuk situasi saat ini.

Dengan menggunakan delapan pasar luar negeri yang diidentifikasi dalam laporan Kemitraan 2018 memiliki potensi bagus untuk ekspansi ekspor, ditambah tiga pasar lain yang dianggap menarik, kajian dimulai dengan analisis singkat tentang permintaan, pemasok yang bersaing, persyaratan produk, dan kriteria lainnya. Sebelas pasar yang termasuk dalam kajian pasar tersebut adalah Brunei, Kamboja, Laos, Malaysia, Papua Nugini, Myanmar, Filipina, Singapura, Thailand, Vietnam dan RRT (China).

Analisis awal menemukan bahwa, meskipun Indonesia memiliki keistimewaan tarif di beberapa pasar target, namun hal ini terus terkikis seiring dengan berlakunya kesepakatan-kesepakatan baru. Di sebagian besar pasar, Indonesia tidak memiliki keunggulan dibandingkan pemasok lainnya seperti Selandia Baru dan Australia karena mereka turut serta dalam kesepakatan perdagangan multilateral dan regional.

Tinjauan pasar juga dilakukan untuk lebih memahami komposisi dan permintaan konsumen dari pasar target tersebut, yang kebanyakan mengharapkan pertumbuhan yang baik pada Produk Domestik Bruto (PDB) setelah efek COVID-19 pada perekonomian berlalu. Dikombinasikan dengan hasil kajian tarif dan akses, laporan ini menyimpulkan bahwa prospek Indonesia terlihat paling menarik di tiga negara berikut: China, Thailand, dan Vietnam. Kajian tersebut menemukan bahwa untuk mencapai akses formal ke pasar-pasar ini dapat memakan waktu yang cukup lama dan bahwa proses persetujuan perlu dinegosiasikan dan dikelola dengan hati-hati. Selain itu, peluang keberhasilan terkait erat dengan standar dan program keamanan pangan yang diterapkan di pabrik kelas ekspor.

Analisis kesenjangan rumah potong hewan

Salah satu faktor yang diidentifikasi dapat mempengaruhi Indonesia dalam mendapatkan akses ke pasar target adalah standar dan operasi yang berlaku di sektor pengolahan. Untuk menilai situasi, dilakukan analisis kesenjangan, dengan menggunakan informasi yang diberikan oleh operator. Dari situ ditemukan bahwa detail bahan, konstruksi dan tata letak dari beberapa pabrik yang ada umumnya dianggap dapat diterima oleh otoritas impor asing. Ketidaksesuaian utama disebabkan oleh relatif tidak adanya kontrol sistem; sistem ketertelusuran yang kuat; prosedur untuk mengelola dan melacak kebersihan pekerja; keamanan produk; dan fitur penting lainnya dari manajemen rantai dingin modern sebagaimana ditemukan di Australia, Selandia Baru, AS, dan negara pengekspor lainnya. Poin-poin ini mungkin memerlukan waktu untuk dapat diatasi oleh perusahaan pemrosesan melalui praktik manajemen dan operasional mereka, tetapi dengan melakukan hal tersebut akan meningkatkan kesiapan industri secara substansial untuk mengekspor dan juga keyakinan atas kualitas produk yang dipasarkan di dalam negeri.

Peluang ekspor regional

ProAnd mempertimbangkan berbagai faktor dalam menentukan pasar berpotensi untuk ekspor daging sapi Indonesia, termasuk: statistik impor daging sapi untuk membantu menunjukkan tingkat permintaan; rentang potongan daging dingin dan beku yang diimpor; pengaturan tarif yang ada dan yang akan datang; sumber pasokan saat ini; dan riwayat harga yang pernah tercapai. Dalam mencapai kesimpulannya tentang pasar potensial, kajian ini mengasumsikan bahwa:

- Konsumsi akan kembali ke level sebelum Covid-19 dalam jangka menengah
- Beberapa pabrik pengolahan daging sapi harus dapat memenuhi standar internasional dalam hal bahan konstruksi dan tata letak; tetapi mungkin perlu berinvestasi lebih lanjut dalam pelatihan serta pemantauan dan pengendalian sistem prosedur kebersihan daging
- Pemerintah Indonesia akan dapat menegosiasikan protokol yang diperlukan dengan negara target
- Tindakan akan dilakukan untuk menciptakan permintaan dan meningkatkan nilai produk daging sapi Indonesia

Diasumsikan juga bahwa perdagangan awal akan berupa daging sapi beku. Apabila sistem dan proses rantai dingin telah dikembangkan lebih lanjut, produk dingin dapat ditambahkan ke ekspor.

Peluang yang paling menguntungkan untuk ekspor daging sapi Indonesia kemungkinan besar berada di Thailand, Vietnam, China, diikuti oleh Filipina dan Singapura. Perlu diperhatikan bahwa untuk mendapatkan persetujuan yang dibutuhkan untuk memasuki pasar China melibatkan proses yang rumit dan memakan waktu.

Pasar Target	Potensi
Brunei Darussalam	*
Kamboja	*
China, RRC	****
Lao PDR	*
Malaysia	**
Myanmar	**
Papua Nugini	*
Filipina	***
Singapura	***
Thailand	****
Vietnam	****

* potensi yang sangat terbatas;

**** potensi tertinggi

Akses pasar preferensial karena sertifikasi Halal

Potensi Indonesia untuk mensuplai produk daging potong halal ke negara-negara Islam seringkali dianggap sebagai peluang yang belum terealisasi. Kajian ini meninjau pasar Halal Arab Saudi, Kuwait dan Uni Emirat Arab (UEA) untuk menguji asumsi tersebut.

Ketiga negara target tersebut sudah mengimpor daging dari pemasok non-Muslim seperti Brazil, Australia, dan AS. Kegiatan yang terakreditasi yang dilakukan di negara-negara ini menghasilkan produk daging sapi halal yang telah diterima oleh negara-negara target selama bertahun-tahun. Kajian ini menyimpulkan bahwa Indonesia mungkin tidak memiliki pengaruh nyata hanya dengan mengandalkan kemampuan penyembelihan Halal.

Tarif terhadap produk daging sapi sudah rendah di negara-negara Halal target - maksimum 5%. Tidak ada tarif tarif preferensial¹ untuk produk daging sapi dari Indonesia.

¹ Berdasarkan informasi yang diterbitkan oleh laman web Organisasi Perdagangan Dunia (WTO)

Dengan asumsi bahwa tidak ada keuntungan yang diberikan kepada eksportir Indonesia melalui sertifikasi atau tarif halal, Arab Saudi masih menawarkan prospek yang wajar untuk produk beku asalkan Indonesia dapat memenuhi standar SPS² negara tersebut dan persyaratan pelabelan yang sangat ketat, dan menghasilkan produk daging sapi bebas hormon. UEA menawarkan peluang akan potongan daging sapi dingin dalam jangka panjang, asalkan umur simpan dan kualitas konsumsinya dapat diverifikasi oleh eksportir Indonesia dan diterima oleh importir/pelanggan di UEA.

Peta Jalan Ekspor

Salah satu hasil dari kajian ini adalah peta jalan ekspor untuk membantu industri dan pemerintah memulai perjalanan menuju akses ke berbagai pasar luar negeri. Kajian ini mengidentifikasi tujuh komponen yang perlu diatasi dalam persiapan untuk kesiapan ekspor. Sampai saat ini, keterlibatan sektor publik dalam kesiapan ekspor masih terbatas. Diperlukan kemitraan yang lebih erat antara industri dan pemerintah untuk mencapai tujuan ekspor daging ke negara tujuan baik regional dan internasional, tetapi hal itu dianggap dapat dicapai. Tujuan untuk dapat mengekspor produk daging olahan mungkin memerlukan waktu tunggu yang lebih lama dibandingkan pengiriman produk dingin/beku. Perlu dicatat juga bahwa berdasarkan pengalaman di industri lain, memenuhi dan mempertahankan standar ekspor seringkali berkontribusi pada biaya operasi yang lebih tinggi karena kebutuhan untuk memenuhi persyaratan peraturan.

Pemodelan keuangan sederhana yang diperoleh dari kajian ini memungkinkan para pemangku kepentingan untuk menilai daya saing relatif ekspor daging sapi Indonesia di sejumlah pasar luar negeri, dengan menggunakan biaya produksi yang ditetapkan dan input lainnya. Model tersebut dapat mencerminkan setiap tingkat investasi modal yang dibutuhkan di tingkat pabrik untuk mencapai akses pasar, juga mencatat bahwa eksportir/pengolah perlu mengelola risiko bisnis yang lebih luas daripada yang saat ini dihadapi untuk pasar domestik yang substansial.

Komponen yang berkaitan dengan persetujuan dan perjanjian pemerintah serta dokumentasi dan tarif akan membutuhkan kerja sama dan kepemimpinan dari Pemerintah Indonesia. Perbaikan fasilitas, sertifikasi dan inspeksi membutuhkan investasi dan kerjasama dari kedua pihak pemerintah dan sektor swasta. Komponen lain membutuhkan industri untuk memimpin dan berinvestasi. Semua komponen yang dimotori industri tersebut akan memberikan manfaat bagi perusahaan yang bergerak di bidang pemasaran dalam negeri sebelum tercapainya akses pasar ekspor.

Selain itu, perlu ada minat dan aktivitas yang nyata dan terpadu oleh para pengolah untuk terlibat dengan pemerintah Indonesia dalam memulai perjalanan khusus ini, dimulai dengan kementerian utama di pemerintahan dan bekerja dengan badan veteriner, inspeksi kesehatan, perdagangan dan badan-badan lain untuk mengembangkan kapasitas industri untuk memperoleh dan memenangkan akses ke pasar luar negeri, menggunakan kerangka usaha sukses lainnya dari masa lalu, termasuk Namibia, Uruguay, Afrika Selatan dan lain-lain.

Peluang pasar domestik

Berdasarkan impor produk daging sapi yang signifikan dari Australia, India, Brasil, Selandia Baru, dan negara lainnya, Indonesia memiliki pasar domestik yang besar untuk produk daging sapi. ProAnd menganalisa sistem di negara-negara pengeksportir daging sapi lainnya untuk menunjukkan bagaimana Indonesia dapat meningkatkan kemampuannya untuk memenuhi permintaan domestik. Yang pertama adalah mengembangkan standar nasional

² Standar Sanitasi dan Fito-sanitasi

yang lebih bermakna untuk menggambarkan karakteristik sapi, karakteristik karkas dan kualitas konsumsi.

Tanpa sistem pengelompokan atau kualitas konsumsi yang mendukung pemasaran, pembeli akan cenderung memandang penawaran dengan kualitas yang sama. Adopsi dan penggunaan sistem terverifikasi memungkinkan penjual untuk membandingkan produk mereka dengan pesaing, memastikan mereka menerima setidaknya nilai wajar.

Aus-Meat adalah sistem deskripsi produk Australia yang didasarkan pada pengukuran obyektif dari berbagai sifat karkas seperti bobot panas, kedalaman lemak, jenis kelamin, dan usia hewan. Bahasa ini memungkinkan pembeli di sepanjang rantai mulai dari pengolah hingga pengguna akhir untuk yakin bahwa mereka mendapatkan apa yang dipesan sesuai dengan spesifikasi. Standar Daging Australia (MSA) adalah langkah berikutnya, yang memberikan jaminan kualitas konsumsi kepada konsumen. Indonesia memiliki potensi untuk memilih dari sistem pengelompokan yang sudah berlaku dengan mapan di negara pengekspor.

Rekomendasi lain yang diperoleh dari laporan ini mencakup pengembangan merek, pengembangan efisiensi dalam pengemasan dan pemasaran, pemahaman yang lebih baik tentang preferensi konsumen, dan peningkatan pemasaran online.

Analisis dan rekomendasi pasar ekspor

Kajian ini merekomendasikan dilaksanakannya langkah-langkah untuk menilai lebih lanjut potensi ekspor daging sapi dari Indonesia ke China, Vietnam dan Thailand dari waktu ke waktu, dengan memaksimalkan potensi keuntungan tarif dengan China sebelum dihapus secara bertahap.

Selain itu juga perlu :

- Mendorong lebih banyak kolaborasi dari sektor pengolahan Indonesia untuk menyepakati suatu agenda, urutan prioritas, dan strategi untuk terlibat dengan lembaga pemerintah dan pembuat peraturan;
- Melakukan penelitian di lapangan yang sesuai tentang cakupan manajemen rantai dingin, serta kebersihan produk melalui serangkaian pencatatan suhu dan pengujian bakteri serta perbandingan terhadap hasil industri lain; dan
- Penelusuran lebih jauh tentang peluang untuk membuat konsep dan mengembangkan *branding* sejumlah produk daging sapi produksi Indonesia, yang pada gilirannya didukung oleh upaya pemasaran dan edukasi konsumen.

Executive Summary

This report is part of the Indonesia - Australia Partnership on Food Security in the Red Meat and Cattle Sector (the Partnership) designed to strengthen and develop the red meat and cattle industries in both countries for mutual benefit.

It has long been asserted that, if properly resourced and nurtured, Indonesia's beef processing sector could develop substantial offshore markets for a range of beef products, including manufactured beef items. Therefore the study has been mainly concerned with exploring whether this option is viable for the future and what steps would need to be taken to make it a reality. The methodology looked at different market prospects, tariff advantages, domestic industry capability in the form of a plant self-inspection, and other steps to establish the current situation.

Using eight foreign markets identified in a 2018 Partnership report as having good potential for export expansion, plus another three markets considered to be of interest, the study commenced with a brief analysis of demand, competing suppliers, product requirements and other criteria. The 11 markets included in the market study are Brunei, Cambodia, Laos, Malaysia, PNG, Myanmar, Philippines, Singapore, Thailand, Vietnam and PRC (China):

The initial analysis found that, while Indonesia has tariff advantages in some target markets, these are being eroded over time as new agreements come into place. In most markets, Indonesia has no advantage over suppliers such as New Zealand and Australia due to multi-lateral and regional trade deals to which they are all signatories.

A market review was also conducted to better understand the composition and consumer demand of these target markets, many of which are expecting good growth in Gross Domestic Product (GDP) once the COVID-19 effects on the economy have passed. Combined with the results of the tariff and access study, the report concluded that Indonesia's prospects look most attractive in these three countries: China, Thailand and Vietnam. The study found that achieving formal access to these markets could take considerable time and that approvals processes need to be carefully negotiated and managed. Also, the prospects for success are closely tied to the standards and food safety programs in place at export-grade plants.

Slaughterhouse gap analysis

One factor which could affect Indonesia gaining access to target markets was identified as the prevailing standards and operations in the processing sector. To assess the situation, a gap analysis was conducted, using information supplied by operators themselves. This found that the fabric, construction and layout details of some of the established plants would generally be considered acceptable by foreign import authorities. The important gaps were due to the relative absence of systems control; strong traceability systems; procedures for managing and tracking worker hygiene; product safety; and other important features of modern cold chain management found in Australia, New Zealand, USA and other exporting countries. These points may take some time to successfully address by processing firms through their management and operational practices, but doing so will substantially improve the industry's preparedness to export and also undoubtedly the quality of domestically marketed products.

Regional export opportunities

ProAnd considered a range of factors in determining the markets with potential for Indonesian beef exports, including: beef import statistics to help indicate demand levels; the range of chilled and frozen cuts imported; existing and future tariff arrangements; current supply sources; and historical prices achieved. In arriving at its conclusions about potential markets, the study assumed that:

Assessment of Beef Processing and Market Options in Indonesia

- Consumption would return to pre-Covid-19 levels in the medium term,
- Several beef processing plants should be able to meet international standards in terms of construction materials and layout; but may need to invest further in training as well as monitoring and systems control of meat hygiene procedures,
- The Indonesian Government will be able to negotiate the necessary protocols with target countries,
- Steps will be undertaken to create demand and improve value of Indonesian beef products.

It was also assumed that the initial trade would be for frozen beef. When systems and cold chain processes have been developed further, chilled products could be added to exports.

The most favourable opportunities for Indonesian beef exports are likely to be in Thailand, Vietnam, China followed by the Philippines and Singapore. It was noted that obtaining the required approvals for the Chinese market is complex and time-consuming.

Preferential market access due to Halal certification

Target Market	Potential
Brunei Darussalam	*
Cambodia	*
China, PRC	****
Lao PDR	*
Malaysia	**
Myanmar	**
Papua New Guinea	*
Philippines	***
Singapore	***
Thailand	****
Vietnam	****

* very limited potential;

**** highest potential

The potential for Indonesia to supply Halal slaughtered products to Islamic countries is often assumed to be an unrealised opportunity. The study examined the Halal markets of Saudi Arabia, Kuwait and United Arab Emirates (UAE) to test this assumption.

The three target countries already import beef from non-Islamic suppliers such as Brazil, Australia and the US. Accredited works in these countries produce Halal beef products that have been accepted by the target countries for many years. The study concluded that Indonesia might not find any real leverage solely on the basis of its Halal slaughter capabilities.

Tariffs on beef products are already low in the target Halal countries – a maximum of 5%. There are no preferential tariff rates³ covering beef products from Indonesia.

Assuming that no benefits are conferred to Indonesian exporters through Halal certification or tariffs, Saudi Arabia still offered reasonable prospects for frozen products provided Indonesia can meet the country's very stringent SPS⁴ and labelling requirements, and produce hormone-free beef products. The UAE offers prospects for chilled beef cuts in the longer term, provided shelf life and eating quality can be verified by Indonesian exporters and accepted by importers/customers in the UAE.

An Export Roadmap

One of the outcomes of the study is an export roadmap to assist industry and government to embark on the journey towards accessing a range of overseas markets. It identified seven components that need to be addressed in preparation for export readiness. To date, the public sector's involvement in export preparedness has been reasonably superficial. There will need to be closer partnership between industry and government to achieve the goals of exporting meat to regional and international destinations but it is deemed achievable. The goal of

³ According to information published on the World Trade Organisation's website

⁴ Sanitary and phytosanitary standards

exporting processed meat products may take a longer lead time than for chilled/frozen shipments to achieve. It is also noted that, judging by the experience in other industries, meeting and maintaining export standards can often contribute to higher operating costs due to the need to meet regulatory requirements.

Simple financial modelling produced in the study enables stakeholders to assess the relative competitiveness of Indonesian beef exports in nominal overseas markets, using established production costs and other inputs. The model can reflect any level of capital investment needed at plant level to achieve market access, noting as well that exporters/processors will need to manage a wider range of business risks than currently encountered for the substantial domestic market.

Components relating to government accords and agreements and documentation and tariffs will require cooperation and leadership from the Indonesian Government. Facility upgrades, certification and inspections require investment and cooperation from both government and the private sector. Other components require industry to lead and invest. All of the industry-led components will provide benefits to companies engaged in domestic marketing in advance of export market access being achieved.

In addition there needs to be real and concerted interest and activity by processors to engage with the Indonesian government to start this particular journey, starting with the key government departments and working with veterinary, health inspection, trade and other agencies to develop the capacity of the industry to take on and win access to foreign markets, using templates of other successful ventures of this kind from the past, including Namibia, Uruguay, South Africa and others.

Domestic market opportunities

Based on its significant importation of beef products from Australia, India, Brazil, New Zealand and elsewhere, Indonesia has a substantial domestic market for beef products. ProAnd examined systems in other beef exporting countries to suggest how Indonesia might improve its ability to meet domestic demand. The first of these is to develop more meaningful national standards for describing cattle characteristics, carcass characteristics and eating quality.

Without a grading or eating quality system supporting marketing, buyers will tend to treat offers as being of the same quality. Adoption and use of a verified system allows sellers to benchmark their product against competitors, ensuring they are receiving at least fair value.

Aus-Meat is Australia's product description system that is based on objective measurements of various carcass traits such as hot weight, fat depth, sex and age of animals. The language allows buyers all along the chain from processor to end-user to be confident that they are getting what is being ordered against the specification. Meat Standards Australia (MSA) is the next step, providing consumers with assurance on eating quality. Indonesia has the potential to select from grading systems already well-established in exporting countries.

Other recommendations flowing from the report cover brand development, developing efficiencies in packaging and marketing, better understanding consumer preferences and improved on-line marketing.

Export market analysis and recommendations

The study recommends that steps be taken to further assess the potential over time for beef exports from Indonesia to China, Vietnam and Thailand, maximising any potential tariff advantages with China before they are phased out.

It should also:

Assessment of Beef Processing and Market Options in Indonesia

- Encourage more collaboration on the part of the Indonesian processing sector in order to agree an agenda, an order of priorities, and a strategy to engage with government and regulatory agencies;
- Conduct appropriate on-the-ground research about the extent of cold chain management, as well as product hygiene through a series of temperature recording and bacteria testing and benchmarking against other industries' results; and.
- Explore further the opportunity to conceptualise and develop some product branding for Indonesian-produced beef, supported in turn by marketing and consumer education efforts.

1 Introduction

1.1 Background to the project

This study is an initiative of the Indonesia - Australia Partnership on Food Security in the Red Meat and Cattle Sector (also termed the Red Meat Partnership, RMP), the overarching objective of which is to explore how the red meat and cattle industries in both countries can be mutually developed and strengthened. An earlier study for the Partnership in 2018 looked at the potential for a bonded livestock and beef zone in Indonesia and whether it could offer advantages around the timing and extent of duties and taxes paid on imported livestock and meat.

The study commenced in March 2020. The main aims identified in the Terms of Reference were:

1. To increase domestic and foreign investment in the red meat and cattle supply chains;
2. To improve the security, prosperity and productivity of the Indonesian and Australian red meat and cattle industries;
3. To build a trusted relationship between Australian and Indonesian red meat and cattle industries and governments;
4. To increase Indonesia's cattle population to meet local demand and food security targets; and
5. To be able to respond to the increased demand for beef products in Indonesia across differentiated market segments with pricing meeting consumer demands.

1.2 Study approach and methodology

The earlier report in 2018 had identified eight markets which could offer potential for Indonesian beef exports, either locally-raised beef or beef derived from Australian feeder cattle. This is in keeping with the Partnership objective of developing the industries of both countries by using their respective advantages and capabilities.

As specified in the Terms of Reference (TOR), the current study made these eight countries the subject of more detailed market research in an effort to identify three with the best potential for future exports. The study was also to be cognisant of Indonesia's ability to supply Halal-slaughtered product since it has the largest population of Muslims in the world.

A gap analysis of Indonesia's processing sector was needed to compare the main slaughter and boning facilities against export-level plants elsewhere, using Australian standards as a reference point, and to present a preliminary capital budget for rectification of any problems found.

Lastly, the TOR required the development of an export roadmap to guide and support an export-focused effort by Indonesia's processing sector.

Although not specified in the TOR, the study also looked at the prospects for exporting cooked and processed beef products as well as chilled/frozen products.

The methodology consisted of the following steps:

1. Literature review
2. Review of Indonesian beef and live cattle import statistics
3. Determine Indonesia's current and anticipated market access status for beef exports

4. Review of import statistics and other market data for numerous countries to view their potential for Indonesian beef exports
5. Development of a questionnaire for the leading livestock slaughter and processing facilities in Java to understand the prevailing standards and practices
6. Gap analysis of these results against Australian construction and operating standards for meat processing facilities
7. Explore Indonesia's potential for beef exports however derived (local or imported)
8. Consultation with traders, exporters and importers
9. Financial modelling

1.3 Effects of the COVID-19 pandemic on the market and study

The study started just as the worldwide impact of the COVID-19 outbreak was becoming evident. The Indonesian economy has been severely affected by the measures taken to fight the pandemic. The red meat market has suffered from the mandatory lockdown because businesses had to cease trading, consumer confidence was battered and there has been great uncertainty about the future post-COVID. Foodservice was hit particularly hard by the outbreak and this has knock-on effects on meat and live cattle imports. The study team in Australia could not travel to the market due to government-imposed travel bans and have instead relied on the help of the RMP team and the guidance of their team members in Indonesia.

At the time of writing the Final Report, the Indonesian economy has started to re-open and its currency against the \$US has almost recovered to pre-COVID-19 levels. However, consumers are still extremely cautious and are reportedly using e-commerce and home delivery services more frequently.

2 Market access outlook for Indonesian beef exports

2.1 Introduction

When looking at potential export markets for frozen and chilled beef processed in Indonesia drawn largely from Australian bred cattle, raised in Australia, then exported live to Indonesia for finishing within feedlots before slaughter and processing, the question arises “Is this a new concept or is cross border movement of raw material already an established practice?” The answer is that there is certainly a precedent for this, for example, in the trade of feeder and slaughter cattle between Canada and USA; Mexican-bred cattle entering USA for feeding and processing; and movement of cattle across European borders such as UK cattle into Netherlands and Irish cattle into the UK.

A precedent within the Asian region was established between the Philippines and Singapore in 1998, which allowed the import of pork belly, pork trimmings, and pork fat from swine bred in Indonesia, processed in Singapore and shipped to the Philippines for the purpose of further processing.

Therefore, the practice of importing feeder cattle, finishing and processing them for both the Indonesian domestic and exports market potentially presents options to maximise financial returns for Indonesia. This section of the study will examine the market access issues around global and regional trade agreements and what advantage they bring to the table, as well as important non-tariff trade barriers that exporters might face in the identified eight target

markets. This will lead to a study of these target markets identifying which, on past import performance, have potential for Indonesia narrowing it down to the three most likely markets. A total of 11 markets are included: the original eight plus three others of interest. They are:

Table 1 - Target markets in the study

Brunei	Cambodia	Lao	Malaysia
Papua New Guinea	Myanmar	Philippines	Singapore
Thailand	Vietnam	PRC (China)	

The study also looked at several Middle Eastern markets with a view to their having particular appeal owing to the Halal capabilities of the Indonesian processing sector.

2.2 Indonesia's multilateral agreements

Rules-based multilateral trade applies to most of the world and these rules have been established via the World Trade Organisation (WTO) and /or Regional Trade Agreements known as RTA's or Free Trade Agreements (FTA). Not all trade is free from customs or import duties within these FTA's. One example of an RTA is ASEAN.

Members of the WTO set the level of import tariff on a whole range of goods which have both a Bound Rate (the maximum that can be applied) plus an Applied Rate (that which is actually applied). FTA's generally have a fixed tariff rate, which can be on a sliding scale once the FTA has come into force through to 0%, or the agreed minimum within the Agreement.

A crucial step in opening an export market is to understand the customs and duties framework that will be applied to the exporter's goods on entry into the target market, as well as what applies to competing countries, in order to establish whether an Indonesian supplier/exporter might have a competitive advantage, or actually be at a disadvantage.

In order to clearly identify market access conditions for Indonesia, this report looks at:

1. Indonesia's multilateral agreements
2. Regional trade agreements
3. Sanitary and phytosanitary requirements (SPS) and trade barriers

Indonesia has been a member of the WTO since 1995 and was a member of the predecessor organisation, the General Agreement on Tariffs and Trade. The WTO comprises a multilateral trading system which is based on a series of agreements that are the legal ground-rules for international commerce. Essentially, they are contracts, guaranteeing member countries important trade rights. They also bind governments to keep their trade policies within agreed limits to every country's benefit.

The aim of the WTO is to see further liberalising of trade among members, but this is far from completion. Agriculture issues and market access for agricultural products continue to be major hurdles for member nations with several countries being highly protectionist of their farm sectors and seeking greater concessions from developed nations. Partly as result of these impasses, there have been many regional and bi-lateral trade deals negotiated aimed at reducing barriers between countries with common interests.

Being a member of WTO gives Indonesia a forum for dispute resolution over market access issues via the WTO's Dispute Settlement Body where a member/s who believe that another member/s has violated an agreement or commitment made under the WTO trading system and this includes Sanitary and Phyto-Sanitary (SPS) matters. This point is reached when

parties cannot reach a settlement on a bi-lateral basis. This process can be lengthy to reach a resolution or outcome. Indonesia has used this mechanism for trade dispute resolution in the past.

It could be assumed that Indonesia's membership in the WTO gives it access to a wide range of bovine meat markets, including the high value import markets of USA, Japan, Russia and European Union (EU), however, this is not the case because access requires supplying countries to meet the SPS requirements of the importing country. This is discussed in more detail later in the report.

Members of the WTO set tariffs first as "Bound Rates" which are the maximum that can be levied against imports from across the globe. From there they set the "Applied Rate" which is available to all supplying countries, and is known as the Most Favoured Nation or MFN rate.

2.3 Regional trade agreements (RTA)

Many countries have resorted to bi-lateral or regional agreements to progress trade. A measure of their popularity in opening and sustaining trade relationships is that the WTO website shows 303 RTA's currently in force.

According to the WTO a key rule of the multilateral trade system is that reductions in trade barriers should be applied, on a most-favoured nation basis, to all WTO members. This means that no WTO member should be discriminated against by another member's trade regime. However, regional trade agreements are an important exception to this rule. Under RTAs, reductions in trade barriers apply only to the actual parties to the agreement and not to other countries, even if they are members of the WTO too.⁵

RTAs must be consistent with the WTO rules governing such agreements, which require that parties to a regional trade agreement must have established free trade on substantially all trade within the regional area, and that the parties cannot raise their tariffs or other barriers against countries outside the agreement. Examples of bi-lateral deals are Australia's trade agreements, some also known as Economic Partnership Agreements: The Republic of Korea (KAFTA) which came into force on 12th December 2014, Japan (JAEPA) shortly after on 15th January 2015 and the People's Republic of China (CHAFTA) which commenced in 2015. These agreements are outside the WTO MFN process and at times can give Australian beef exporters a competitive advantage against other supplying countries.

Several RTA's impact directly on the Indonesia's outlook for beef exports. They are:

2.3.1 ASEAN – ATIGA

The most important RTA impacting this is the Association of Southeast Asian Nations commonly known as ASEAN. ASEAN is an inter-governmental arrangement formed in 1967 by Indonesia, Malaysia, the Philippines, Singapore and Thailand to promote political, economic and social cooperation and regional stability. Brunei joined in 1984 and Vietnam in 1995. Laos and Myanmar became members in 1997 as ASEAN marked its 30th anniversary, with Cambodia becoming ASEAN's tenth member in 1999. ASEAN's activities are coordinated by the ASEAN Secretariat based in Jakarta. Figure 1 shows the ASEAN member

⁵ This exception is allowed under Article XXIV of the General Agreement on Tariffs and Trade (GATT) for trade in goods, in Article V of the General Agreement on Trade in Services (GATS) for Trade in Services and in the Enabling Clause for developing countries. Some countries may also sign interim agreements, which operate during a transition period, ultimately leading to the creation of a customs union or a free trade area.

Assessment of Beef Processing and Market Options in Indonesia

countries. Papua New Guinea has had observer status to ASEAN since 1976 and is seeking membership in the group.

Figure 1 - Map of ASEAN member states



ASEAN member countries have negotiated preferential trade arrangements between the partners, including tariffs applying to imports from fellow ASEAN members, known as the ASEAN Trade In Goods Agreement, or ATIGA. It includes several important elements to ensure the realisation of free flow of goods within ASEAN, including: tariff liberalisation, removal of non-tariff barriers, rules of origin, trade facilitation, customs, standards and conformance, and SPS measures. The importance of ATIGA for the potential export of beef from Indonesia to ASEAN members is highlighted when 0% import tariff is applied compared to higher tariff rates for other suppliers.

Table 2 shows the level of import tariff which is applied to product from Indonesia to specific ASEAN member countries on frozen boneless beef (under HS⁶ 020230) and chilled or fresh boneless beef (under HS 020130), compared to the tariff that applies on products from countries that have MFN status. Due to the terms of AANZFTA, products from Australia and New Zealand have similar or identical tariff rates as Indonesia into these markets, indicating there is no intrinsic tariff advantage for Indonesian-sourced products.

⁶ HS: Harmonised Commodity Description and Coding System

Assessment of Beef Processing and Market Options in Indonesia

Table 2 - Import tariffs by importing market for MFN, ASEAN and AANZFTA members

Most Favoured Nation and ASEAN Import Tariffs						
Importing market	FROZEN BONELESS BEEF HS 020230			CHILLED BONELESS BEEF HS 020130		
	Max. MFN Bound Rate	Applied Rate MFN	ASEAN Trade AANZFTA*	Max. MFN Bound Rate	Applied Rate MFN	ASEAN Trade AANZFTA*
Brunei**	20%	0%	0%	20%	0%	0%
Cambodia**	35%	35%	0% 25%*	35%	35%	0% 10%*2020 0% 2021
Lao PDR **	30%	30%	5% 5%-0% from 2023	30%	30%	5%-0% from 2023
Malaysia	50%	0%	0% 0%	50%	0%	0% 0%
Myanmar **	16.5%	15%	0% 0%*	16.5%	15%	0% 0%*
Papua New Guinea	20%	0%		20%	10%	
Philippines**	35%	10%	0% 0%*	35%	10%	0% 0%*
Singapore**	0%	0%		0%	0%	
Thailand**	50%	50%	0% 0% Aust	50%	50%	0% 0% Aust
Viet Nam**	14%	14%	0% 0%*	14%	14%	0% 0%*
China, People's Republic	12%	12%	4.8%*	12%	12%	4.8%*

*AANZFTA Import Tariffs. ** Countries requiring Certification of Origin

2.3.1.1 Product specific rules for beef in ATIGA trade

It is important to note that in order to qualify for the 0% import tariff, beef products must comply with Product Specific Rules (PSR) within Chapter 3 of ATIGA, which state that they must have a regional value content of not less than 40%, or they will face a higher tariff under the same HS heading. Beef imports from Indonesia to fellow ASEAN member

countries require a Certificate of Origin stating that the product/s meet this criteria (shown in Annex 2). However, the ASEAN Trade in Goods Agreement Chapter 3 covering Rules of Origin presents some uncertainty around this, because Article 27 defines Wholly Obtained or Produced Goods as “Goods obtained from live animals in the Member State” but does not define from where the said live animals may have originated.

Shipping documents accompanying beef consignments will include the Certificate of Origin and a Veterinary or Health Certificate. It would be normal for the Veterinary Certificate to show the origin of the live animals from which the exported beef is derived, which may possibly cause Customs in the importing member state to query the use of Article 27 certification on a Certificate of Origin.

Article 28 sets out the formula to be used to calculate regional value content, should Article 27 not be applicable or used. Therefore the viability of the plan to export beef derived from Australian feeder cattle in Indonesia may, in part, depend on obtaining entry into the target ASEAN markets at 0%. As such, obtaining a Customs ruling in each of the subsequent target markets should be considered a necessity once Sanitary and Veterinary Certification (SPS) matters are resolved.

ASEAN also has a regional trade agreement with India which will see import tariffs for ASEAN members move to 0% in 2022. (India is still pursuing a trade agreement with Thailand and it appears that until it is concluded buffalo meat imports could be levied with a 50% tariff.)

2.3.2 China-ASEAN Agreement on Trade in Goods (ACTIG)

ASEAN members and China negotiated and signed a Framework Agreement on Comprehensive Economic Cooperation in 2002. Following this the Agreement on Trade in Goods (ACTIG) of the Framework Agreement between ASEAN and China was signed in 2004 with 2020 being the year of full implementation. Both the Framework Agreement and the ACTIG have been revised since the original signings.

The ACTIG agreement set tariffs for the import of boneless beef, both frozen and chilled, from all ASEAN member states into China with full implementation from 2015 as follows:

- HS 202030 frozen boneless beef 0%
- HS 201030 chilled and fresh boneless beef 0%

It should be noted that the same Product Specific Rules that apply within the ASEAN membership also apply to imports into China from ASEAN members. This includes compliance with the Certificate of Origin rules under either Articles 27 or 28. Clarity on how China interprets Origin requirements need to be undertaken in the future and it is unlikely that a ‘blanket’ interpretation will be provided, but rather that it will be more effective to seek on a case-by-case or product basis, particularly for manufactured and processed items. In essence Indonesia has a working framework covering the Customs-related issues that will need clarification once the next steps covering SPS matters can be agreed and established. Also it should be noted that the favourable access available to Indonesian products imported into China under the terms of ACTIG are nominally available to other members of ASEAN as well.

2.3.3 AANZFTA

Negotiations for the AANZFTA commenced in March 2005 following the Joint Declaration of the Leaders at the ASEAN-Australia and New Zealand Commemorative Summit in Vientiane, Lao PDR the previous year. Following bi-lateral negotiations between ASEAN

Assessment of Beef Processing and Market Options in Indonesia

member states with Australia and New Zealand, they each have a set of schedules applied to all the ASEAN member states.

The legal text of the Agreement was finalized in 2008 and is broad-ranging, and includes significant reduction in tariff levels for goods from Australia and New Zealand including beef. The staggered phasing out of tariffs has resulted in the majority of members allowing entry of the two HS codes at 0% with Cambodia’s final phase to zero occurring in 2021 and Lao, PDR in 2023.

As can be seen from Table 2 there are advantages so that both Australia and New Zealand enjoy lower import tariffs levied against both frozen and chilled beef into most ASEAN markets but, at the same time, the terms of this arrangement mean that Indonesia has no real competitive advantage over products from Australia and New Zealand within the AANZFTA domain. Where there have been advantages in the past, these are slowly eroding or diminishing as the full terms of trade agreements come into effect.

2.4 Summary of possible advantages for Indonesia through RTA’s

Indonesia enjoys favourable market access through its WTO membership and the other regional and bilateral agreements it is party to. These agreements put exports from Indonesia either on a level playing field, or at an advantage, over exporters with MFN status from the perspective of tariff levels. This does not take into account SPS barriers which can be valid reasons for lack of market access. Table 3 shows the comparable tariff advantage for Indonesian beef exports over MFN-status supplying countries, by importing country.

Table 3 - Comparison of Indonesia vs MFN and AANZFTA members by market

Importing market	Frozen Beef MFN	AANZFTA	Chilled Beef MFN	AANZFTA
Brunei	Neutral – all 0%	Neutral	Neutral –all 0%	Neutral
Cambodia	+++ 35%	++ No Tariff	+++ 35%	Neutral
China	No tariff	Negative 4.8%	No tariff	Negative 4.8%
Lao, PDR	+++ 30% v 5%	Neutral 5% both	No tariff line	Negative
Malaysia	Neutral –all 0%	Neutral	Neutral – all 0%	Neutral
Myanmar	++ 15%	Neutral	++15%	Neutral
Papua New Guinea	Neutral – 0% for manufacturing	Neutral	Neutral	Neutral
Philippines	+ 10%	Neutral	+10%	Neutral
Singapore	Neutral –all 0%	Neutral	Neutral	Neutral
Thailand	+++50%	Neutral	+++50%	Neutral
Vietnam	++ 14%	Neutral	++14%	Neutral

Therefore, in comparing the content of Table 2 and Table 3, it is evident that:

- Indonesia has no comparative tariff advantage over any suppliers in the Brunei market because imports from all sources incur zero tariff.
- Currently there is no tariff line for imports into China from Indonesia, but it would be reasonable to assume that if Indonesia could satisfy China’s SPS requirements then a favourable tariff could be struck under the terms of China ASEAN Agreement (ACTIG), especially given recent efforts to develop agricultural trade between the two.

Assessment of Beef Processing and Market Options in Indonesia

- Indonesian frozen beef exports to Cambodia enjoy a 35% advantage over product which enters under the MFN Rate and a 10% advantage over Australia and New Zealand suppliers, since Indonesia is eligible for a 0% tariff. Chilled beef from Indonesia would have a similar 35% advantage over products that enter under MFN arrangements, but from 2021 Indonesia is on an equal footing with Australia and New Zealand when they will be able to supply at 0% tariff.
- Imports of frozen beef into Lao PDR from Indonesia would incur 25% advantage over MFN countries, with an equal footing against Australia and New Zealand suppliers both at 5%, but they are both reducing to 0% in Jan 2023. Currently there is no tariff line for chilled beef from Indonesia into Lao.
- Myanmar's imports of frozen as well as chilled beef from Indonesia would enjoy a 15% advantage over product from MFN suppliers but would have no advantage over product from Australia or New Zealand, with both supplying at 0% import tariff.
- Both Malaysia and Papua New Guinea offer the same treatment to imports from Indonesia as other suppliers so the advantage is nil.
- In the case of MFN countries supplying beef to The Philippines these are levied 10%, so Indonesia has an advantage with its 0% tariff, but it is on equal footing with Australia and New Zealand which also supply these products at 0% tariff.
- For Singapore, all these imports enter with zero tariff and therefore Indonesia is not at advantage.
- Thailand offers the greatest tariff advantage with MFN suppliers levied at 50%, whilst Indonesia and Australia and New Zealand enter at 0%.
- Exports of frozen boneless beef from Indonesia to Vietnam would enjoy a 14% advantage over MFN suppliers for both frozen and chilled, whilst it would be on equal terms with Australia and New Zealand, both at 0% tariff.

Therefore Indonesia has advantages over MFN suppliers in most of the selected target markets, but it has virtually no advantage compared to Australian and New Zealand suppliers in all markets due to the terms of the AANZFTA, and any existing advantages will reduce over the short term. Clarification on the treatment of Australian bred cattle processed in Indonesia being eligible for treatment under Product Specific Rules is critical to customs entry at 0% in the target markets. Possible advantage into the China market needs to be looked at on a case-by-case basis, but it is possible that manufactured products as well as frozen beef would have a lower tariff from Indonesia than from Australia.

It is important to understand that tariffs are only one piece in the jigsaw when assessing target markets. SPS rules and certification requirements are far more complex and ways to overcome these barriers are not always clear. The following section sets out the approach and rules around each of the target markets which Indonesian officials and industry must satisfy.

2.5 SPS measures and other trade barriers

WTO members operate under a set of rules covering SPS issues that govern how countries manage the import of agricultural goods, including bovine meat and bovine meat products. The rules allow governments to set their own standards or requirements in order to protect human, animal or plant life or health, provided they do not discriminate or use SPS rulings as disguised protectionism and provided they are science-based.

WTO rules encourage Member countries to use international standards, guidelines and recommendations where they exist and, in doing so, they are less likely to be challenged legally in a WTO dispute. In addition, members may adopt measures that have higher standards if there is scientific justification, and are able to set higher standards based on appropriate assessment of risks so long as the approach is consistent and not arbitrary.

The SPS agreement still allows countries to use different standards and different methods of inspecting products. An important part of the agreement covers the situation where an exporting country can demonstrate that the measures it applies to its exports achieve the same level of health protection as applied in the importing country. In this case the importing country is expected to accept the exporting country's standards and methods. The agreement includes provisions on control, inspection and approval procedures for the export/import process.

The health of animals in an exporting country is critical to its ability to gain access to markets and WTO members are able to study the status of a range of notifiable diseases listed with The World Organisation for Animal Health (OIE) to make decisions on whether to accept bovine meat products, and under what conditions, from a country or a zone within that country. The OIE is an intergovernmental organisation tasked with improving animal health worldwide. Apart from being a reference organisation to the WTO it maintains permanent relations with 35 other international and regional organisations. Currently the OIE is made up of 182 members. The OIE states that establishment and maintenance of a disease free status throughout the country should be the final goal for OIE Member Countries.

The official recognition of a Member country's disease status is of great importance to international trade and makes up a vitally important legal link between the OIE and the WTO. Current conventions under the link between OIE and WTO mean that, depending on a country's official disease status, importing countries can determine whether to import from that country, which effectively provides the prospect of a price premium for countries with a disease-free status. The OIE lists 14 notifiable diseases and infections for cattle and 26 diseases and infections affecting multiple species, of which Foot and Mouth Disease (FMD) is considered the most crucial. Indonesia enjoys a significant advantage being declared free of FMD.

2.6 SPS import requirements in target markets

Sourcing the actual import requirements proved to be challenging during lockdown, with some import requirements clearly set out on government websites, as in the case of Singapore, and others such as Lao PDR where significant searching of websites yielded only the bare bones of requirements.

The majority of the target countries under review are already well-established beef importers with experience in the rules and guidelines that apply to approved supplying countries about animal health and food safety. Indonesia will need to be able to comply with the treatment requirements within the importing country's rules and regulations around SPS issues under the WTO framework. Table 4 provides a summary of each market's SPS requirements.

Table 4 below sets out the chief documentation requirements for the target countries and the assumed degree of difficulty for Indonesia to meet the current import regulations for boneless beef. The ranking is based on known import regulations for each of the target countries, but it may change depending on what terms the Indonesian government is able to negotiate with each of the target countries.

Assessment of Beef Processing and Market Options in Indonesia

Table 4 - SPS import requirements for target markets

Target Market	Import Regulations	Plant Approval Needed?
Brunei Darussalam	Supplying country's Health Certificate to cover food safety and hygiene, plus Halal Certification http://www.moh.gov.bn/SitePages/Fresh%20Meat%20Import.aspx	No
Cambodia	Imports require issuance of Health Certificate from Food Safety Bureau prior to import; https://cambodiantr.gov.kh/index.php?r=searchProcedure/view1&id=8 https://cambodiantr.gov.kh/index.php?r=searchProcedure/view1&id=8	No
China	Individual meat processing plants must be fully integrated i.e. slaughter, boning and refrigeration under the same Establishment and number. http://english.customs.gov.cn/Statics/ef239690-feb3-43ce-9527-aa14c6432754.html Currently 850 meat processing plants are registered from 18 supplying countries and Indonesia does NOT appear on the listing. Additional mandatory requirements for labelling in Mandarin text and failure to comply can lead to plants being de-listed.	Yes
Lao, PDR	Imports require Health Certificate issued by the competent authority in the supplying country and obtains an Import Permit from the Livestock Veterinary Management Authority. https://www.wto.org/english/thewto_e/acc_e/lao_e/WTACCLAO36A1_LEG_11.pdf	No
Malaysia	Beef can only be supplied from establishments inspected and approved by both the Department Veterinary Services and the Halal body known as JAKIM http://www.dvs.gov.my/dvs/resources/auto%20download%20images/560b9bca7240c.pdf	Yes
Myanmar	Imports require an Import Permit from the Ministry of Commerce after approval to import from the Livestock and Breeding Veterinary Department (LBVD) https://www.myanmartradeportal.gov.mm/en/procedure/74 NB. A clause for Health Certificate states that they were born “or have been in the country of origin for not less than 4 months prior to slaughter”	No
Papua New Guinea	Import permits are required for meat products http://customs.gov.pg/trade-facilitation/importing-exporting/import-procedures/	No
Philippines	Importers require Accreditation and registration with the Bureau of Animal Industry's National Veterinary Quarantine Services Division. Imports require a Sanitary and Phytosanitary clearance prior to import. https://apps.fas.usda.gov/newgainapi/api/Report/DownloadReportByFileName?fileName=Food%20and%20Agricultural%20Import%20Regulations%20and%20Standards%20Country%20Report_Manila_Philippines_12-31-2019	No

Assessment of Beef Processing and Market Options in Indonesia

Singapore	Imports of beef can only be sourced from Singapore Food Agency (SFA) approved countries – currently Indonesia is NOT an approved source . Conditions for the import of Beef and Beef Products show at Clause m) The meat has been derived from animals which were born and bred in the country of origin since birth . Imports can only be done with a Traders Licence. https://www.sfa.gov.sg/food-import-export/commercial-food-imports#conditions-for-specific-types-of-food https://www.sfa.gov.sg/food-import-export/commercial-food-imports#conditions-for-specific-types-of-food	No
Thailand	Imports of frozen or chilled meat are controlled by the Department of Livestock Development and without complication for countries free of BSE. See Section 6.5 page 22 https://agriexchange.apeda.gov.in/IR_Standards/Import_Regulation/FoodandAgriculturalImportRegulationsandStandardsReportBangkokThailand4182019.pdf	No
Vietnam	Export plants must register a Decree 15 Appendix 3 with Department of Animal Health (DAH) and be listed on the DAH approved export establishment list before shipping product to Vietnam. A list of approved countries and their meat processing plants can be found at: http://cucthuy.gov.vn/Pages/danh-sach-cac-doanh-nghiep-cua-22-nuoc-du-dieu-kien-xuat-khau-thuc-pham-co-nguon-goc-dong-vat-tren-can-vao-viet-nam.aspx Indonesia is not currently listed .	Yes

Analysis of the information presented in Table 4 suggests that:

- China is probably the greatest challenge based on both its country approval and plant approval process and its strict enforcement of regulations like labelling. Currently China bans the import of beef from cattle treated with Hormonal Growth Promotants (HGP)'s although this may change in the future. Should cattle in Indonesian feedlots be treated with HGP's or other growth promotants, this would need inclusion in negotiations between Indonesian government officials and their Chinese counterparts.
- Malaysia requires both the plant and its operations to be inspected and approved by officials from its Department of Veterinary Services (DVS). This is subject to ongoing inspections and is usually linked with visits and approval by Department of Islamic Development Malaysia (JAKIM) covering the Halal slaughter programme and certification. These requirements can be onerous for plants seeking accreditation.
- Singapore with its clear requirement that beef can only be derived from animals born and raised in the supplying country presents a challenge for Indonesian government negotiators to overcome.
- Vietnam requires supplying plants to be registered and listed on their database and this will become a negotiation point with Indonesian government negotiators.

On the face of it, the balance of the target countries appear to have relatively low hurdles for the import of boneless beef, which will become clearer when formal protocols are negotiated between Indonesia and each of the countries.

Assessment of Beef Processing and Market Options in Indonesia

Table 5 is an attempt to rank the overall difficulty of each market for potential beef exports from Indonesia, based on SPS and documentation requirements. Degree of difficulty is indicated by number of asterisks, with one asterisk denoting simple documentation arrangements and four asterisks being more complex.

Table 5 - Ranking of difficulty for markets based on SPS and documentation requirements

Importing country	Ranking	Reasoning
Brunei Darussalam	*	No prior plant approval needed
Cambodia	*	No prior plant approval needed
China	***	Country and plants must be registered and on past history this is a lengthy process
Lao, PDR	*	Apparent ease of import procedure
Malaysia	***	Plants must be approved and inspected by both DVS and JAKIM
Myanmar	**	Provided cattle have been in supplying country at least 4 months.
Papua New Guinea	*	Only requires import permit
Philippines	*	No prior plant approval
Singapore	***	Regulation only beef from cattle born and raised in supply country
Thailand	*	Only Veterinary inspection on arrival
Vietnam	**	Country and supplying plants must be registered by Vietnam

2.7 Non-tariff trade barriers

Elements under this heading can be the responsibility of differing government department/s to the one which governs the import rules surrounding production and export of beef in the supplying country. The major items here include labelling requirements which can include the outer and/or inner packaging and the mandatory or acceptable languages for the labelling e.g. beef for China must have labels in the Mandarin language in set formats.



An example of an inner Australian frozen beef label which complies with China's regulations

Other examples of non-tariff rules requiring adherence might be:

- the need to have 'best before' or expiry dates appearing on the outer and inner packaging with the period from production to 'best before' set by the importing country; or agreement to accept the supplying countries' rules.
- Another barrier is meeting the importing countries' rules on Halal slaughter and certification e.g. Malaysia's Halal body, JAKIM, inspects and certifies the Halal slaughter process in supplying countries with imports only allowed from those approved plants.
- Maximum age of product, be it frozen or chilled, on entry into the importing country can be a requirement and requires further investigation in the target countries.

3 Results of market investigation

This section examines the import statistics and demand outlook for each target market that was also reviewed in the market access section of the report. The methodology consisted of two steps:

Step 1: Looks at import statistics over a five-year period by the key beef exporting nations (Australia, New Zealand, India, Brazil and others) in order to establish the size of the market and to show if there is growth or contraction within that market. To ensure that direct comparisons can be made, all statistics in the tables for each country have been drawn from www.trademap.org and all are under the HS classification code 0202 which covers frozen beef categories only and not chilled. The objective is to highlight the market size and supply sources for frozen boneless beef for each of the target markets, since this initially was perceived as the product category which Indonesia would most likely be able to export.

Assessment of Beef Processing and Market Options in Indonesia

Step 2: Uses export statistics from Meat and Livestock Australia (MLA) to investigate products exported from Australia to the specific market, because the beef that would be exported from Indonesia is arguably closer to Australian sourced beef than to beef from other supplying countries. This data also shows the types of prime beef and other cuts exported, as well as the volumes of higher value cuts, which are the items that may offer higher returns than the Indonesian domestic market is currently paying.

3.1 Brunei Darussalam

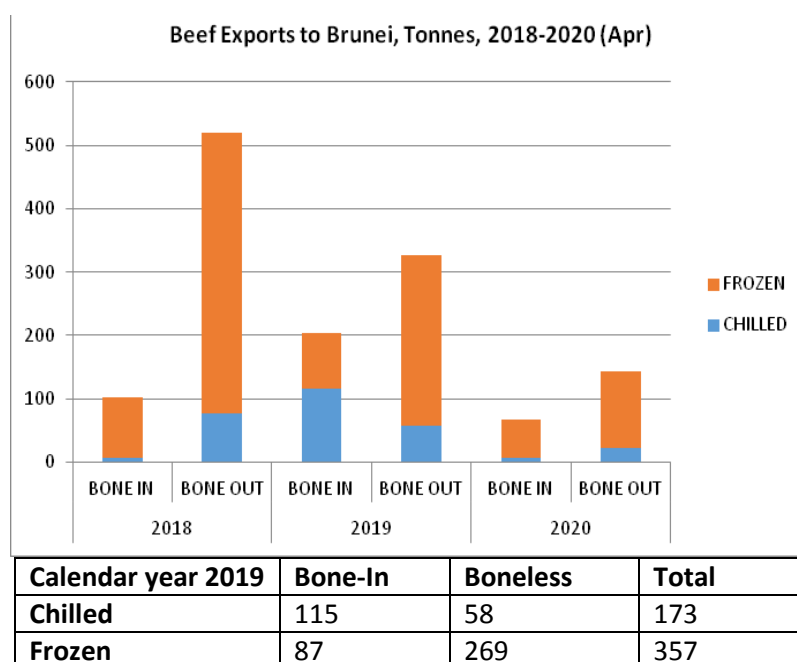
Population 437,439 (2020 estimate) GDP per capita US\$30,105 (2020 nominal estimate)

Step 1: Brunei is one of the richest countries in the world on a per capita basis, with a very small population and a small tourist trade. GDP growth has hovered around 3% for many years but 2021 is expected to be a modest 1.3% according to World Bank forecasts.

Supplying Country (tonnes)	2015	2016	2017	2018	2019 prov.
Argentina	-	-	-	-	-
Australia	659	564	648	835	366
Brazil	-	-	48	54	-
India	2468	1740	3347	2856	2492
New Zealand	-	-	-	-	-
USA	-	-	-	-	-

Comment: Indian buffalo makes up the majority of imports with volumes being relatively stable from 2015 except for a dip in 2016. The buffalo meat lends itself to Malaysian style cuisine of Rendang curries since it is lean and suitable for long slow cooking. Australia provides almost the balance of imports, all of which must be Halal slaughtered and certified.

Step 2: Australian exports to Brunei 2018- 2020 (up to April)



Assessment of Beef Processing and Market Options in Indonesia

- Major prime cuts **chilled**: 17mt striploins, 8mt tenderloins, 5mt cube roll =30mt or 17.3% of total
- Prime cuts **frozen**: 19mt striploins, 18mt tenderloins, 6mt cube roll =43mt or 12% of total
- **Combined Total: 73mt**

Quantities from Australia are a relatively high percentage of total imports with a high percentage of chilled product being bone-in, but available data does not specify the cuts in the bone-in content.

Conclusion: A small market with a high content of prime cuts and a drop in quantities from Australia from 2018 for which we have no reliable explanation.

3.2 Cambodia

Population 16.72 million (2020 estimate) GDP per capita US\$1338 (estimate nominal 2020)

Step 1: Cambodia has enjoyed GDP growth of around 7+% over recent years but the Asian Development Bank (ADB) projects GDP in 2020 and 2021 to be – 5.5% due to impacts of Covid-19, then rebounding to +5.9% in 2021. Cambodia remains one of the poorest countries in the world.

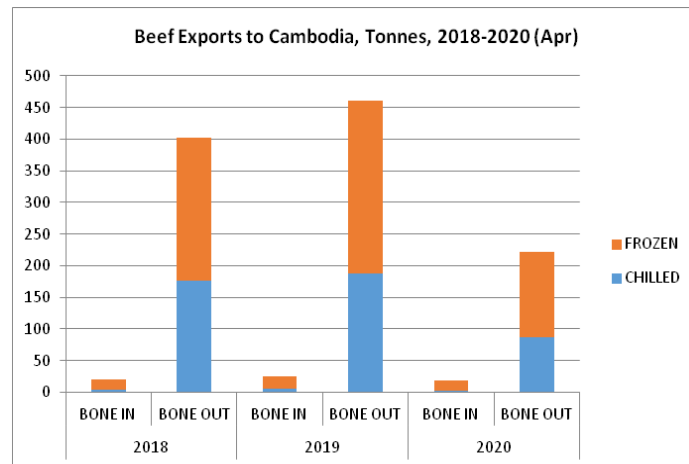
Supplying Country (tonnes)	2015	2016	2017	2018	2019 prov.
Argentina	-	-	-	-	-
Australia	251	228	244	312	343
Brazil	-	-	-	-	-
India	61	48	30	259	1361
New Zealand	138	241	259	296	249
USA	175	306	377	495	681

Comment: Imports from the US have increased share of the market steadily over the years 2017-2019 with Australia also increasing its tonnages, whilst New Zealand declined in the 2019 provisional figures and growing tourism in the Cambodia has most likely driven these growth figures. The US and Australasian suppliers target the “luxury” market, as described by a Ministry of Agriculture and Fisheries spokesman in April 2020, with nearby countries supplying “normal” consumption segments. India makes up just under 50% of shipments to Cambodia and is the obvious supplier satisfying this “normal” demand.

Interestingly a study of export of frozen beef from Japan to Cambodia under code 0202 reveals significant tonnages with 544 tonnes in 2017, 786 tonnes in 2018 and 1158 tonnes in 2019, yet only 5 tonnes appears to have been imported in 2018. An article in the Nikkei Asia Review asserts that this product is actually destined for China via the “grey trade” in Cambodia.

Assessment of Beef Processing and Market Options in Indonesia

Step 2: Australian exports To Cambodia 2018 -2020 (April)



Calendar year 2019	Bone-In	Boneless	Total
Chilled	5	188	193
Frozen	19	274	293

The figures support the Cambodians’ assertion that imports from industries like Australia and New Zealand are targeting the “luxury” market with 66% of exports being in chilled form.

- Major prime cuts **chilled**: 25mt Striploins, 15mt Tenderloins, 42mt Cube Roll =82mt or 42.5% of total
- Prime cuts **frozen**: 31mt Striploins, 21mt Tenderloins, 43mt Cube Roll =95mt or 32.4% of total
- **Combined Total: 187mt**

In addition, exports included 48 mt frozen rump and 3 mt chilled rump, highlighting the high proportion of premium cuts.

Conclusion: The import market, India aside, is aimed at the high end with strong competition from New Zealand and the US. Prospects may well be dependent on the return of a growing tourism market in Cambodia.

3.3 China

Population 1.439 billion (2020 estimate) GDP per capita US\$10,099 PPP (2020 nominal estimate)

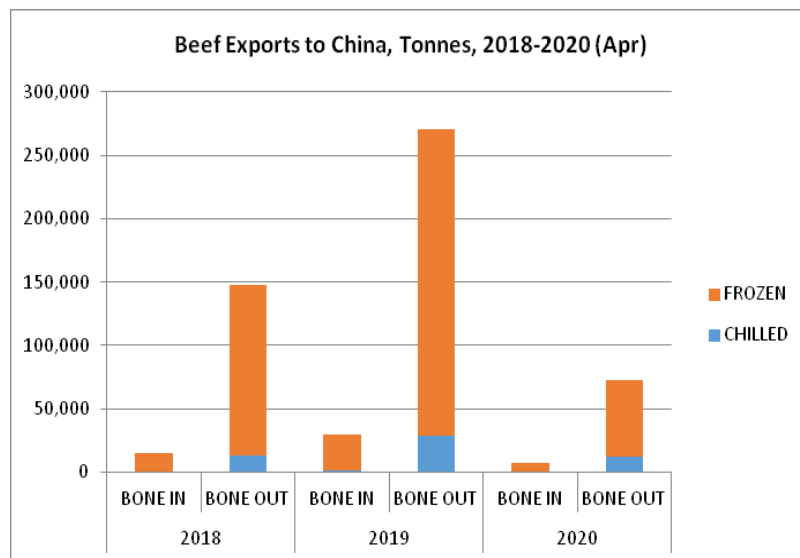
Step 1: China’s GDP growth hovered between 6-7% through 2017-2019 but was forecast by the IMF to decline to 1.1% in 2020 and to rebound to 9.2% in 2021. However Q2 figures for 2020 showed a rebound to 3.2% after a serious decline in Q1 due to Covid-19 and trade disputes with the USA.

Assessment of Beef Processing and Market Options in Indonesia

Supplying Country (tonnes)	2015	2016	2017	2018	2019 prov.
Australia	145819	91816	111636	163852	302267
New Zealand	76787	73510	86757	116130	216735
Brazil	97478	164754	211229	322292	494028
Argentina	40806	54937	96373	208927	408975
USA	-	-	2505	6630	9308
India	-	-	29	-	-

Comment: Clearly China is the world’s largest importer of red meat according to official figures and that does not include that which enters via the “grey channels,” making it even larger. South American beef from Brazil and Argentina dominates the figures with Australia a close third in 2019 figures. US figures have increased in 2019 due to its trade agreement with China, which has a specific clause for improving beef access into China, which may lead to a softening of China’s stance of only wanting HGP free beef.

Step 2: Australia’s chilled and frozen beef exports to China 2018-2020(April)



Calendar year 2019	Bone-In	Boneless	Total
Chilled	884	28965	29849
Frozen	28295	241989	270284

The 2019 export figures from Australia are spectacular and the range of cuts both in chilled and frozen form is very diverse including items like ribeye caps, rib end meat and oyster blades particularly in the frozen category.

- Major prime cuts **chilled**: 1208mt striploin, 189mt tenderloin, 8833mt cube roll =2280mt or 7.64%
- Prime cuts **frozen**: 6321mt striploin, 1106mttenderloin, 3090mt Cube roll =10517mt or3.89%
- **Combined Total: 12,797mt**

Conclusion: The tonnage of prime cuts is both significant in terms of tonnage and percentage of the chilled category and, whilst less in percentage terms of the frozen category, these remain impressive figures in tonnage terms making it a major destination for Australian exports. The road to listing as an approved export plant for China has proven to be a difficult one with lengthy periods between application, inspection and final approval. China inspects and lists approved supply plants which can be delisted without warning for infractions such as incorrect labelling or “failure” to meet microbiological testing on entry, and although remedies are typically made in a speedy timeframe to rectify the faults, relisting can be a lengthy and frustrating process: therefore an element of risk exists in trade with China.

3.4 Laos PDR

Population 7.25 million (2020 estimate) GDP per capita per US\$2919 (2020 estimate)

Step 1: ADB predicts that Lao’s GDP growth will end the year at -0.5%, falling from 6% in 2019 but rebounding to 4.5% in 2021. Agriculture makes up more than 21% of the country’s GDP.

Supplying Country (tonnes)	2015	2016	2017	2018	2019 prov.
Australia	17	9	11	-	27
New Zealand	-	-	-	-	-
Brazil	-	-	-	18	-
Argentina	-	-	-	-	-
USA	-	-	-	-	-
India	5004	458	493	203	259

Comment: Apart from a bubble from India in 2015 imports of beef into Lao PDR are very low with India the major supplier, albeit in relatively small volumes.

Step 2: Australian export statistics have no record of shipments to Lao, yet import figures suggest 27mt entered which may well have been supplied from Australian imports into a nearby country.

Conclusion: Given the low, almost non-existent level of imports, Lao PDR is a low priority for targeting beef produced in Indonesia.

3.5 Malaysia

Population 32.37 million (2020 estimate) GDP per capita US\$11,484 (2020 nominal estimate)

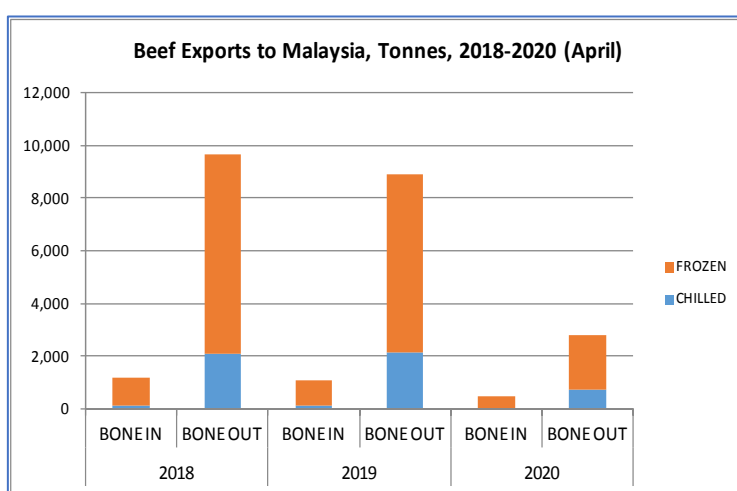
Step 1: Malaysia’s GDP growth was 4.33% in 2019, 4.74% in 2018 and 5.74% in 2017 but in 2020 it is expected to exhibit negative growth of around 4% due to the impacts of Covid-19. The World Bank sees it as a strong economy with strong monetary policies able to weather the Covid-19 storm overall.

Assessment of Beef Processing and Market Options in Indonesia

Supplying Country (tonnes)	2015	2016	2017	2018	2019 prov.
Argentina	-	-	16	-	140
Australia	13709	10427	11547	10803	10776
Brazil	2997	3958	3092	5501	5616
India	135628	117061	115239	113882	116135
New Zealand	8133	6169	6540	6742	5216
USA	-	8	38	55	47

Comment: Malaysia is a well established beef import market with 80% of requirements coming from Indian plants approved and inspected by DVS and JAKIM and annual tonnages relatively stable at around 115,000 tonnes. The bulk of the Indian imports meet the needs of the market in rendang curry cooking supplied from wet markets and retail outlets. Supply of products from Australia has been relatively stable although off a high in 2015, whereas New Zealand has gradually declined from 2015 levels. Brazil has increased its market share steadily since 2015.

Step 2: Australian beef exports to Malaysia 2018- 2020 (April)



Calendar year 2019	Bone-In	Boneless	Total
Chilled	142	2152	2294
Frozen	936	6756	7692

Imports from Australia comprise 30% of chilled imports, servicing high end retail and food service with the total tonnages of chilled and frozen being relatively stable over the review years.

- Prime cuts **chilled**: 374mt striploin, 120mt tenderloins, 317mt cube roll =811mt or 35.4% of total
- Prime cuts **frozen**: 532mt striploins, 73mt tenderloins, 223mt cube roll =828mt or 10.8% of total
- **Combined Total: 1639mt**

Conclusion: Australia is the next largest supplier after India, servicing retail and food service as evidenced by the significant volumes of prime cuts both chilled and frozen. Competition for this sector comes from New Zealand and Brazil.

3.6 Myanmar

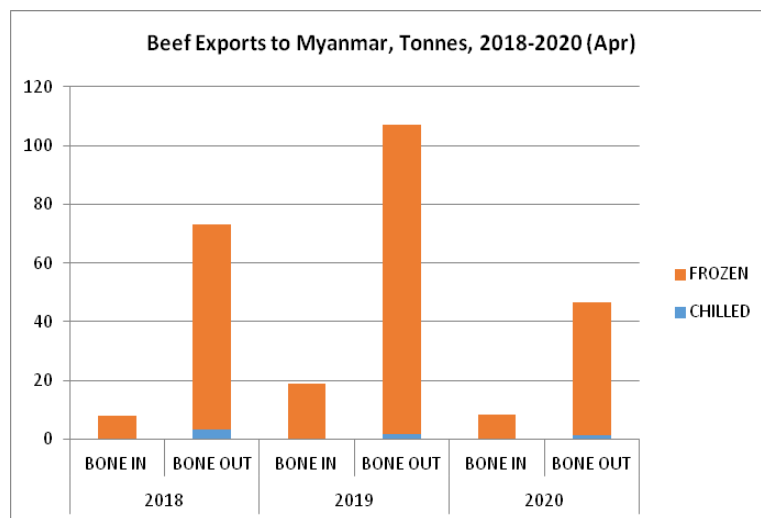
Population 54.409million (2020 UN estimate) GDP per capita US\$1723 (2020 estimate)

Step 1: Myanmar’s economy has been growing steadily with GDP growth running at 6.8% in 2019 but has fallen sharply in 2020 due to the impact of Covid-19 and is expected to be 0.5% according to some agencies but may recover to 6.1% in 2021 should the pandemic be contained.

Supplying Country (tonnes)	2015	2016	2017	2018	2019 prov.
Argentina	-	-	-	-	-
Australia	49	82	52	98	137
Brazil	1	-	-	108	81
India	-	-	-	32359*	35933*
New Zealand	8	9	15	6	4
USA	4	17	9	23	51

Comment: The 2018 and 2019 tonnages showing as exported from India to Myanmar do not match the import tonnages, which show nil for both years on the Trademap database. Given the significant tonnage it could be safely assumed that the tonnages were destined for a nearby market via what is termed the “grey trade”. So, if these tonnages are omitted in assessing the market potential, it is a small but growing import market with Australia being the principal supplier to the higher end of the consumption plane. According to a report featured in *Beef Central* in May 2020, covering a trip to Myanmar, the cattle industry there exports about 1,000 head of slaughter cattle per day into China via the Shan state border crossing of Muse. Otherwise tonnages from other sources are increasing.

Step 2: Australian chilled and frozen beef exports to Myanmar 2018 -2020 (April)



Assessment of Beef Processing and Market Options in Indonesia

Calendar year 2019	Bone-In	Boneless	Total
Chilled		2	2
Frozen	19	105	124

Chilled exports in 2019 were only 2mt with 124mt of frozen products of which 20mt are tenderloins, 19mt are striploins and 16mt are cube rolls which **total 55mt** or 44.34% of shipments.

Conclusion: The very high proportion of prime cuts in the export mix indicates a market in either High end Food service and/or high end retail and, when added to product from Brazil and exports from the USA, indicate growing demand in this sector.

3.7 Papua New Guinea

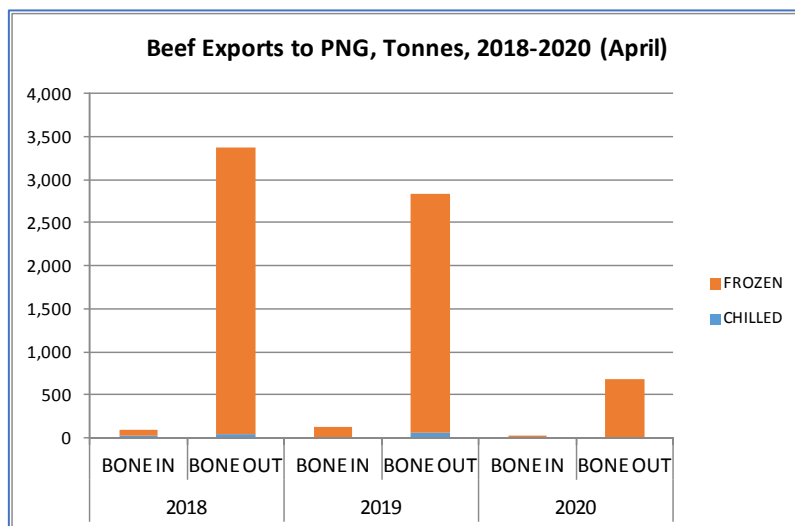
Population 8.947 million (2020 estimate) GDP per capita US\$2527 (2020 nominal estimate)

Step 1: PNG's economic growth rebounded in 2019 on increased revenue from mining and minerals to 5.6% according to The World Bank but is expected to fall to 3.0% in 2020 with further low figures in 2021

Supplying Country (tonnes)	2015	2016	2017	2018	2019 prov.
Argentina	-	-	-	-	-
Australia	3048	2003	2214	2610	2639
Brazil	-	-	-	-	-
India*	3	22	-	5	40
New Zealand	497	1089	1023	928	883
USA	-	-	-	-	-

Comment: Australia is the key supplier to PNG with New Zealand's share about one-third of that from Australia.

Step 2: Australian chilled and frozen beef exports to PNG



Assessment of Beef Processing and Market Options in Indonesia

Calendar year 2019	Bone-In	Boneless	Total
Chilled	4	64	68
Frozen	123	2778	2901

Australian beef exports to PNG are largely frozen with 68% classed as manufacturing bulk pack beef and only 95mt of frozen striploins, 46mt frozen cube roll and 19mt frozen tenderloins.

- **Combined Total: 160mt**

Conclusion: PNG is a relatively small but stable market for Australian and New Zealand exports, but beef imports are dwarfed by the tonnages of lamb and mutton imports (mainly lower value bone-in residual cuts) from both these countries. The tonnages show relatively low demand for higher value prime beef cuts. The TradeMap data shows exports from India to PNG but there is doubt they actually reached PNG shores.

3.8 Philippines

Population 109.581million (2020 estimate) GDP per capita US\$3400 (2020 estimate)

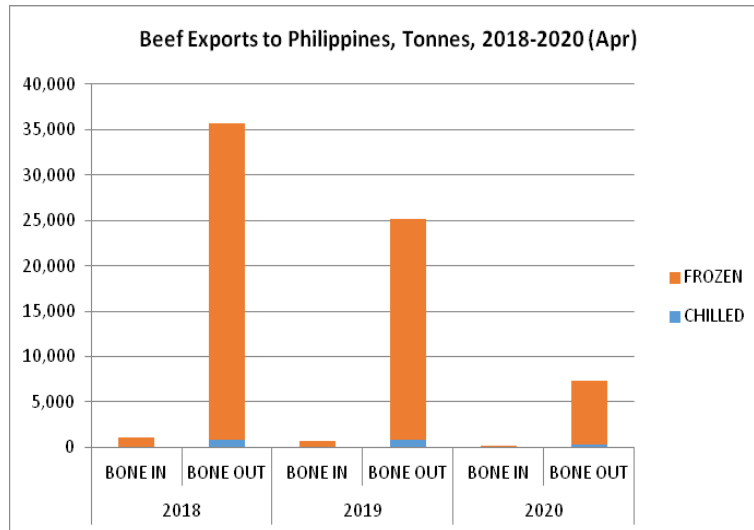
Step 1: The ADB's data shows GDP growth running at 6.3% in 2018, 6.0% in 2019 but is expected to fall to -3.8% in 2020 then recover to approximately +6.5% in 2021.

Supplying Country (tonnes)	2015	2016	2017	2018	2019 prov.
Argentina	-	-	1630	450	-
Australia	26014	29852	34736	37822	31339
Brazil	11321	19942	9346	26541	33859
India	42417	41697	43730	44821	31973
New Zealand	4421	3932	5265	5593	3257
USA	9545	7423	9248	11914	13576

Comment: The Philippines is classed as a mature import market with a strong history over many years of importing from a wide range of countries. Imports from India are controlled and supposed to be used in manufacturing processes and not made available for sale in retail or wet markets. Supply from the USA has increased steadily from 2015 levels to be 42% higher in 2019 estimated figures. Supply from Australia for frozen beef has been relatively steady except for a spike in 2018, whereas New Zealand exports declined sharply in 2019 from 2018 levels. The supply of product from Brazil increased sharply in 2018 and 2019, taking the volumes of frozen beef slightly above the tonnages from Australia and India.

Step 2: Australian chilled and frozen beef exports 2018 -2020 (April)

Assessment of Beef Processing and Market Options in Indonesia



Calendar year 2019	Bone-In	Boneless	Total
Chilled	65	821	886
Frozen	661	24297	24958

At first glance the Australian total tonnages give an impression of a sizeable market but the majority of frozen product is manufacturing grade e.g. trimming 18,897mt, plus with the addition of forequarter, hindquarter, ground beef, and other similar packs they total 23,971mt, leaving less than 1,000mt for all other beef cuts/packs from which the following figures emerge:

- Major prime cuts **chilled**: 95mt striploins, 31mt tenderloins, 44mt cube roll =82mt or 19.2% of total
- Prime cuts **frozen**: 52mt striploin, 19mt tenderloin, 281mt cube roll =352mt or 1.4% of total
- **Combined Total: 434mt**

The frozen category includes sizeable quantities of cube rolls and striploins.

Conclusion: Without precise breakdown of cuts from the USA it can only be assumed that a fair percentage of the tonnage would be prime cuts for the higher end retail and food service sector. Brazil exports slightly greater quantities than Australia to The Philippines with no precise breakdown available about product types. The relatively large volume of frozen cube rolls in Australia's mix indicates sound demand for that item, as it is more than four times the combined tonnage of frozen striploins and tenderloins.

3.9 Singapore

Population 5.84million (2020 estimate) GDP per capita US\$60,500 (2020 nominal estimate)

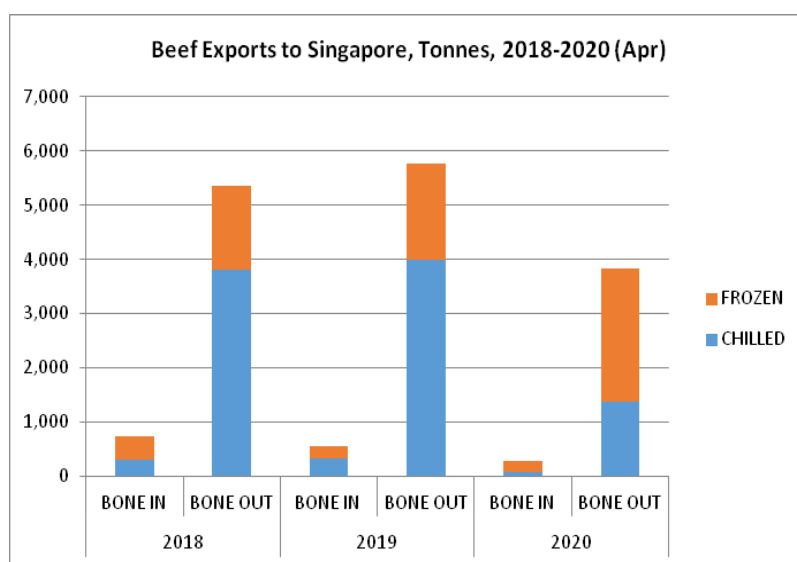
Step 1: Singapore's GDP growth in 2010 was 14.526% from where it steadily declined to 3.44% in 2018 and is forecast to decline between -7 to -4% in 2020 with one key sector, accommodation and food service declining 23.8% in Q1 in 2020, all Covid-19 related.

Assessment of Beef Processing and Market Options in Indonesia

Supplying Country (tonnes)	2015	2016	2017	2018	2019 prov.
Argentina	641	108	34	180	481
Australia	6380	4875	3855	3784	3103
Brazil	15061	15283	17421	17374	19877
India	524	2117	1281	389	114
New Zealand	2246	1300	1632	937	919
USA	1837	1331	2274	2006	2648

Comment: Supply ex Australia, New Zealand and Argentina all declined from 2015 levels, whereas Brazil has steadily increased its market share and is by far the dominant supplier to Singapore. USA beef exports also increased steadily over the same period with 2019 exports being 50% higher than 2015.

Step 2: Australian chilled and frozen beef exports to Singapore 2018-2020 (April)



Calendar year 2019	Bone-In	Boneless	Total
Chilled	327	3990	4317
Frozen	233	1786	2019

- Chilled beef from Australia represented 68.1% of total beef exports in 2019, the opposite to most markets under consideration and these products were destined for higher end retail and food service in competition with products from USA and, to a lesser degree, from Brazil and New Zealand.
- Major prime cuts **chilled**: 688mt striploin, 228mt tenderloin, 486mt cube roll =1402mt or 32.5%
- Prime cuts **frozen**: 134mt striploin, 106mt tenderloin, 60mt cube roll =310mt or 15.4%
- **Combined Total: 1712mt**

Conclusion: Singapore has the highest GDP per capita in Asia and is higher than USA GDP per capita, making it a wealthy market. Like the Philippines, Singapore has a long established

Assessment of Beef Processing and Market Options in Indonesia

beef import history from a wide range of countries, with Brazil clearly the largest supplier to the wider market. The balance of the frozen market is divided between Australia, USA and New Zealand. The frozen beef market is highly competitive with buyers able to easily source product from Brazil, Australia, New Zealand and USA.

3.10 Thailand

Population 69.8m (2020 estimate) GDP per capita US\$6606 (2020 nominal estimate)

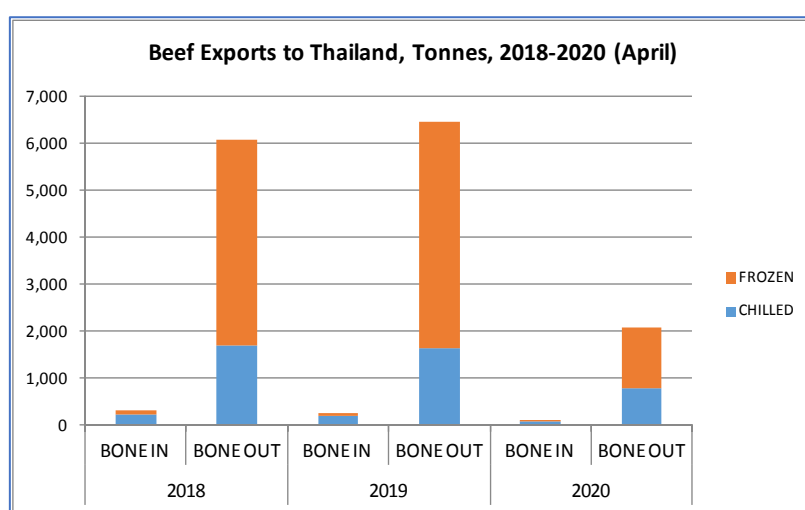
Step 1: Thailand's GDP growth was about 2.4% in 2019 and is expected to decline to -5.0% in 2020 but recover to 4.1% in 2021 with slowdown in both Manufacturing and Tourism.

Supplying Country (tonnes)	2015	2016	2017	2018	2019 prov.
Argentina	8	102	359	202	88
Australia	4672	3313	3770	4069	4164
Brazil	104	618	1361	634	1218
India	63327	20420	8876	4939*	19579
New Zealand	1608	1365	2717	2065	1029
USA	166	373	480	763	1377

**see note below in Conclusion section about shipments of Indian bovine meat to Thailand.*

Comment: There is no consistent pattern in supply from major exporters to Thailand, with each experiencing dips in at least one of the years in the period 2015-2019, with Australia gradually building on 2016 levels but failing to reach 2015 levels in 2019. US exports have recorded solid growth from a low base in 2015 through to 2018, then almost doubling in 2019 to 1377 tonnes higher than both New Zealand and Brazil.

Step 2: Australian chilled and beef exports to Thailand



Calendar year 2019	Bone-In	Boneless	Total
Chilled	159	1625	1825
Frozen	62	4834	4896

Assessment of Beef Processing and Market Options in Indonesia

Whilst frozen beef exports made up 72.8% of the 2019 total, the percentage of prime cuts at 8.7% was significantly lower than in chilled form which were 45%.

- Major prime cuts **chilled**: 300mt striploin, 232mt tenderloins, 289mt cube roll =821mt or 45%
- Prime cuts **frozen**: 155mt striploin, 182mt tenderloin, 90mt cube roll =427mt or 8.7%
- **Combined Total: 1248mt**

Conclusion: Thailand’s tourism trade contributes between 9%-17% of its GDP, clearly making it a major factor in the economy and imported beef is routinely used to satisfy the demands of foreign tourists. A range of beef qualities is imported, with high end from the USA and some Australian product, and other Australian and New Zealand product servicing the next tier in both retail and food service.

The table on the previous page shows official export data from India for 4939 tonnes of bovine product in 2018, however, this volume is not reflected in Thailand’s import figures on the TradeMap database, showing only 28 tonnes being imported. Speculation is that these volumes are entering China via the “grey channels” through nearby neighbouring countries, of which Vietnam was the first. Therefore, if we disregard tonnages attributed to India, there is a strong import market in Thailand with Australian product well-established in the marketplace.

3.11 Vietnam

Population 97.338 million (2020 estimate) GDP per capita US\$2185 (2020 nominal estimate)

Step 1: GDP growth is expected to decline from 6.73% in 2018, 6.88% in 2019 to 3-4% in 2020 due to the global impact on the burgeoning economy and reliance on the global economy.

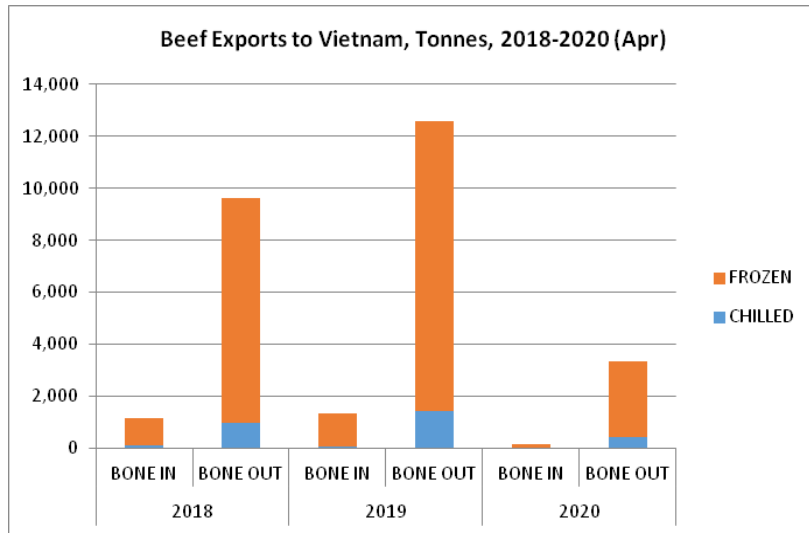
Supplying Country (tonnes)	2015	2016	2017	2018	2019 prov.
Argentina	54	507	757	905	104
Australia	3972	6073	5709	12442	16018
Brazil	10958	6591	3628	1966*	2771
India	564980*	589974*	727863*	522517*	405922
New Zealand	421	833	698	389	224
USA	4022	6051	9738	12061	11936

*See assumption in Conclusions

Comment: Both Australia and USA experienced significant growth in 2018-2019 compared to earlier years, the years from 2015 with both New Zealand and Argentina declining in the same period.

Step 2: Australia’s chilled and frozen beef exports to Vietnam

Assessment of Beef Processing and Market Options in Indonesia



Calendar year 2019	Bone-In	Boneless	Total
Chilled	67	1411	1478
Frozen	1289	11158	12447

The percentage of prime cuts is far higher in the chilled category and relatively low in the frozen category at 8.6%. Competition for these items in the frozen category comes from Brazil and the USA.

- Major prime cuts **chilled**: 135mt striploin, 209mt tenderloin, 403mt cube roll =747mt or 50.5%
- Prime cuts **frozen**: 433mt striploin, 186mt tenderloin, 454mt cube roll =1073mt or 8.6%
- **Combined Total: 1820mt**

Conclusion: Vietnam enjoys strong trade relations with the USA and this may in part account for the growth in US exports of beef from 2017-2019. Australian beef has a significant presence in the chilled category servicing the high end retail and food service but, despite a lower percentage of the frozen trade, it ships a larger quantity of frozen prime cuts than chilled.

According to TradeMap, Vietnam has imported the following quantities from India: 2015-16417 tonnes, 2016 – 22546 tonnes, 2017 – 17994 tonnes, 2018 – 16783 tonnes which is significantly lower than Indian export data showing Vietnam as a destination. Clearly the balance which is significant in volume terms is finding its way into China via the “grey channels”.

The Vietnam import data still makes India the major supplier, with Australia close behind in 2019, followed by the USA. Interestingly, the TradeMap data covering Vietnam’s imports from the USA being: 2015 – 5,957 tonnes, 2016 – 7,287 tonnes, 2017 – 12,083 tonnes and 2018 – 13,805 tonnes, all higher than the USA export data.

Brazil export data is at odds with import data, only showing the following tonnages: 2015 – 469 tonnes, 2016 – 526 tonnes, 2017 – 181 tonnes which strongly suggests that the difference

for those three years being 20,001 tonnes were destined for China via the “grey channels” and that it did not enter Vietnam’s domestic market.

Import data for Australian product is much closer to the export figures on TradeMap, which gives some comfort when seeking an answer as to whether there is market acceptance of Australian sourced frozen beef.

3.12 Summary of market potential in the identified nearby markets

Taking the raw figures which define the major supply sources of frozen beef into the target markets, the following table identifies those destinations with the most potential for beef from Indonesia, purely from a statistical viewpoint and outlook for market growth, and not taking into account market access requirements. This is presented in which attempt to rank the overall difficulty of each market for potential beef exports from Indonesia, taking into account market demand, tariff arrangements, documentation requirement and SPS factors. Degree of difficulty is indicated by number of asterisks, with one asterisk denoting simple documentation arrangements and four asterisks being more complex.

Table 6 ranks the overall potential for beef exports from Indonesia of the 11 markets considered, taking into account market demand, tariff arrangements, documentation requirements and SPS factors. The rank ranges from least attractive (one asterisk) to most attractive (four asterisks).

Table 6 - Ranking of target countries by export potential for supply from Indonesia

Target Market	Potential
Brunei Darussalam	*
Cambodia	*
China, PRC	****
Lao PDR	*
Malaysia	**
Myanmar	**
Papua New Guinea	*
Philippines	***
Singapore	***
Thailand	****
Vietnam	****

3.13 Assumptions about potential of target markets

Before considering the import statistics and the range of cuts between chilled and frozen for each of the target markets to determine where most likely reward is to be found, the following assumptions have been made:

- There will be a return to something like pre-Covid-19 levels of tourism throughout the target countries, which have been a key driver for prime cut demand to date.

- The economies in the target countries and Indonesia are not so seriously impacted by Covid-19 that they will enter a prolonged recession. Both the IMF and the World Bank have been relatively upbeat on a return to GDP growth in 2021 and beyond and the same level of confidence has been used in this report when assessing potential demand going forward.
- The Indonesian Government officials are able to negotiate protocols with target countries that allow export production of beef for shipment to any or all of them.
- That beef processing plants will be able to meet international standards in terms of construction and operating procedures to enable export listing for each of the target countries.
- That supply of raw material from Australia continues without hindrance.
- That initial trade is made in frozen form and, when systems and cold chain processes have been developed further, move to a mix of chilled and frozen products.
- That steps will be undertaken to create demand and improve value.

Therefore taking these considerations into account, the most favourable opportunities are likely to be in **Thailand, Vietnam, China** (although based on experience from other supplying countries the timeframe from go to export is lengthy and difficult for Chinese approval) followed by **The Philippines and Singapore**.

3.14 Possible Halal markets

The capacity of the Indonesian processing sector to supply Halal slaughtered product is often described as a key advantage, since Indonesia is the most populous Islamic country in the world and has close ties with Islamic countries around the globe, slaughters and processes cattle in the Islamic way and, when coupled with Australia's reputation for quality beef supply to the same countries, may unlock opportunities for the supply of beef from Australian-born cattle finished and processed in Indonesia. Therefore this section of the report looks at several key Halal markets to identify what market potential may exist in any of them.

Three key Middle Eastern markets have been selected: Saudi Arabia, Kuwait and United Arab Emirates (UAE), separating out Dubai and Abu Dhabi where possible. The section will follow the same format as used in the Asian markets looking at Market Access with Tariffs, SPS issues and a study of beef imports into each marketplace leading to conclusions on market potential.

3.14.1 Market access

3.14.1.1 WTO

All three countries are members of the WTO and thereby are obliged to operate under its rules and guidelines.

3.14.1.2 Regional trade agreements and Organisation of The Islamic Conference (OIC)

ASEAN does not have any Regional Trade Agreements with any of the three countries.

However Indonesia is a member of The Organisation of The Islamic Conference (OIC) which has a Trade Preferential System (TPS) among its 56 Member States of the OIC (TPS-OIC) EC to foster intra-OIC trade. This system is based on three agreements, namely the

Framework Agreement, the Protocol on Preferential Tariff Scheme (PRETAS) and the Rules of Origin.

The Framework Agreement, which sets out the general rules and principles for the negotiations towards the establishment of the TPS-OIC, entered into force in 2002. The PRETAS, which complements the Framework Agreement by laying out the concrete reduction rates in tariffs in accordance with a time-table for implementation, entered into force in February 2010. The Rules of Origin, which will be applied for the identification of the origin of products eligible for preferential concessions under the TPS-OIC, entered into force in August 2011 which completed the legal basis of the system.

Saudi Arabia, Kuwait and UAE are all members of the OIC.

At the time of writing this report there are no preferential tariff rates lodged and published on the WTO website covering beef products from Indonesia into the three markets under investigation.

Should tariffs be reduced from the already low maximum 5% in each of the markets, they would be subject to Rules of Origin which states as follows:

- Article 4: Within the meaning of Article 3(1), the following shall be considered as wholly produced or obtained in the exporting Participating State complying with sub para d) products obtained from animals born and/or raised there: or where goods are not wholly originating in the exporting member:
- Article 5 para 1 states: For the purposes of Article 3, non-originating materials which are used in the manufacture of the products obtained in a Participating State shall be regarded as sufficiently worked or processed provided that the value of such materials does not exceed 60 percent of the ex-works price of the product.

Conclusion: A watch should be kept on any concessions offered to members of the OIC should they give some additional advantage over the already low applied MFN Rates.

3.14.1.3 Import tariffs

The differences in import tariffs are relatively minor with Saudi Arabia and the UAE holding a slight edge over Kuwait, which is reversed in the case of chilled boneless beef where Kuwait has the slight edge.

Saudi Arabia increased import tariffs by between 0.5% and 15% on over 2,000 tariff lines on 10 June 2020, which includes poultry meat and some processed meat but not frozen or chilled beef under the above HS codes. Falling petroleum revenues has brought about the increase in tariffs to bolster the Kingdom's revenues. A watch needs to be kept should further tariff lines including beef be subjected to increases.

Table 7 - Likely import tariffs into Middle East markets

Country	Frozen Boneless Beef		Chilled Boneless Beef	
	HS 020230		HS 020130	
	Max. Bound Rate	MFN Applied Rate	Max. Bound Rate	MFN Applied Rate
Kuwait	100%	5%	100%	0%
Saudi Arabia	5%	0%	6%	5%
UAE	15%	0%	15%	5%

3.14.2 SPS factors

Being members of the WTO obliges each member to follow guidelines in its treatment of SPS matters and each of the member countries, Kuwait, Saudi Arabia and UAE adhere to these when assessing how countries and its meat processing industry can prepare meat for export to its country.

3.14.2.1 Kuwait

Imports of beef are under the control of the Health Department of Kuwait Municipality with Halal Certificates checked and approved by the Customs Department.

From 2017 Kuwait required certificates accompanying shipments to be in alignment with GCC (Gulf Cooperation Council) Food Guide.

3.14.2.2 Saudi Arabia (KSA)

The responsibility for imports of meat products, amongst other food products, is handled by the Saudi Food and Drug Authority (SFDA) within the Kingdom. The first step is to gain country approval which is a formal application process, covering the country agencies and its export administration and processing plants wishing to be listed for approval to export to Saudi Arabia. After acceptance of the application a technical team visits the prospective exporting country to evaluate the competency of the authority charged with administering supervising the export programme and whether it can meet Saudi Arabian regulations. The visit will likely include visits to processing plants, reference laboratories and farms. Once country approval is gained the competent authority can list plants for export to KSA provided they meet the requirements. SFDA has an ongoing system of reviewing countries and a selection of processing facilities to ensure that SFDA requirements are being met.

Imports are subject to strict controls on entry which can include testing for residues including HGP’s which are not permitted in beef destined for Saudi Arabia.

Approved establishments are listed on the SFDA website and only those listed are permitted to export to KSA. Currently Australia has 101 active listed establishments which include slaughter plants, processing plants and cold stores.

All products must be labelled in accordance with Saudi regulations on both outer and inner packaging in English and Arabic.

3.14.2.3 United Arab Emirates (UAE)

Import rules are governed by the Ministry of Climate Change and Environment in the UAE and a listing dated 9 July 2020 found at <https://www.moccae.gov.ae/en/our-services/approved-slaughterhouses.aspx>

Slaughterhouses in countries that are not mentioned in the list are required to be approved by Ministry of Climate Change and Environment in UAE using the following link <https://www.moccae.gov.ae/en/our-services/licensing/newislamicabattoire.aspx>

Therefore Indonesian authorities will need to apply for country recognition and to negotiate which plants are eligible and to then meet UAE requirements

All products must be labelled in accordance with UAE regulations on both inner and outer packaging and show production and expiry periods also in accord with UAE regulations.

In summary, Kuwait and the UAE present similar SPS requirements with Saudi Arabia having slightly more arduous steps to receiving accreditation followed by stringent testing and inspection on arrival.

3.14.3 Beef import demand

This section examines the import statistics for each of the target markets in two steps as outlined previously, viz:

Step 1: Takes import statistics over a five-year period from the key beef exporting nations in order to establish the size of the market, showing whether there is growth or contraction within that market.

Step 2: Highlights the market size and supply sources for frozen boneless beef for each of the target markets to give a broad picture of the potential market. The next step, using MLA data, extracts the volumes of higher value cuts, which are the items that may offer higher returns than the current Indonesian domestic market.

3.14.3.1 Kuwait

Population 4.27million (2020 estimate) GDP per capita nominal US\$20,882 (2020 estimate)

Step 1: Subdued oil prices and reduced production saw 2019 GDP growth slow to 0.73% then with the impact of Covid-19 GDP is expected to fall to -1.11 in 2020 but recover to 3.41% in 2021.

Supplying Country (tonnes)	2015	2016	2017	2018	2019 prov.
Argentina	4	3	-	-	-
Australia	2479	1891	1918	1437	1372
Brazil	15	77	-	-	-
India	33215	12800	6672	6178	6276
New Zealand	93	37	74	89	54
USA	2317	1853	2287	2453	2164

Assessment of Beef Processing and Market Options in Indonesia

Supply of beef from Australia has gradually declined from 2015 levels, whilst the USA has increased exports from 2016 which subsequently tapered off in 2019. Australian export data shows greater tonnages than those recorded in TradeMap. Buffalo exports from India had a huge spike in 2015 then fell sharply in 2016 to levels that remained consistent over 2017-2019.

Step 2: Australian exports to Kuwait 2019

Calendar year 2019	Bone-In	Boneless	Total
Chilled	54	1030	1084
Frozen	141	1322	1463

- Major prime cuts **chilled**: 13mt striploin, 66mt tenderloins, 36mt cube roll =115mt or 10.6%
- Prime cuts **frozen**: 3mt striploin, 42mt tenderloin, 13mt cube roll =58mt or 3.89%
- **Combined Total: 173mt**

Chilled prime cuts exceed frozen both in terms of tonnage and percentage of exports under each category.

Conclusions: A relatively small market for Australian product.

3.14.3.2 Saudi Arabia

Population 34.81million (2020 estimate) GDP per capita nominal US\$22,533 (2020 estimate)

Step 1: The reduction in petroleum demand and lower prices has heavily impacted Saudi Arabia's GDP growth with 0.3% in 2019 and predictions of 0.2% in 2020, followed by modest increases to 2.1% in 2021 and 2.6% in 2022 according to World Bank updates.

Supplying Country (tonnes)	2015	2016	2017	2018	2019 prov.
Argentina	105	49	121	-	-
Australia	19538	8270	6310	4602	5263
Brazil	-	18555	29751	32205	29881
India	64070	52123	26437	28165	30346
New Zealand	2185	1363	1103	438	446
USA	23	-	122	1062	1158

Comment: With the exception of Brazil the major beef suppliers all saw reductions in tonnages from 2016 through to 2019. Brazil and India dominate the supplies to Saudi Arabia with Australia well behind but third in line.

Step 2. Australian Beef Exports to Saudi Arabia 2019

Calendar year 2019	Bone-In	Boneless	Total
Chilled	362	3211	3573
Frozen	4089	4834	8923

Assessment of Beef Processing and Market Options in Indonesia

- Major prime cuts **chilled**: 245mt striploin, 300mt Tenderloins, 136mt cube roll =681mt or 19%
- Prime cuts **frozen**: 162mt striploin, 257mt tenderloin, 181mt cube roll =600mt or 6.7%
- **Combined Total 1281mt**

This is a significant market for Australian prime cuts, particularly if 3,731mt of frozen bobby veal in assorted specification (mainly bone-in) are deducted from the frozen bone-in figure, the percentage of the three prime cuts increases to 11.6%.

Conclusion: A significant market for Australian beef, which can only be sourced from certified HGP free cattle with a high proportion of tenderloins required.

3.14.3.3 UAE including Dubai and Abu Dhabi

Population 9.89 million (2020 estimate) includes Dubai 2.88million, 1.48million Abu Dhabi. GDP per capita nominal US\$37,375 (2020 estimate)

Step 1: Reduced petroleum production coupled with lower prices has impacted adversely on GDP growth in the UAE where 2019 was 1.7% and is predicted to fall to -1.1% in 2020 but recover to 1.2% in 2021 with 2.3% in 2022. Reduced travel and tourism within the region and reduced air travel for UAE-operated airlines also weigh heavily on the forecasts.

Supplying Country (tonnes)	2015	2016	2017	2018	2019 prov.
Argentina	-	-	15	-	-
Australia	4363	4039	3310	2818	3052
Brazil	9270	9903	12376	26157	59272
India	30127	28520	26566	34009	26490
New Zealand	263	188	146	256	210
USA	2762	3794	3792	3523	3349

Comment: Brazil has been the dominant supplier for the period 2017-2019 increasing tonnages sixfold since 2015. Indian buffalo supply is relatively steady over the five years with Australian exports also steady after falling from 4363mt in 2015 with USA exports steady over the five years.

Step 2: Australian beef exports to Abu Dhabi and Dubai within the UAE 2019

Abu Dhabi 2019	Bone-In	Boneless	Total
Chilled	26	278	304
Frozen	-	1955	1955
Dubai 2019	Bone-In	Boneless	Total
Chilled	532	4468	5000
Frozen	484	1097	1581

3.14.3.4 Abu Dhabi

- Major prime cuts **chilled**: 16mt striploin, 24mt tenderloins, 21mt cube roll =61mt

Assessment of Beef Processing and Market Options in Indonesia

- Prime cuts **frozen**: 0mt striploin, 0mt tenderloin, 0mt cube roll = 0mt or 0.0%
- **Combined Total 61mt**

3.14.3.5 Dubai

- Major prime cuts **chilled**: 520mt striploin, 580mt tenderloins, 380mt cube roll = 1480mt or 29.6%
- Prime cuts **frozen**: 0mt Striploin, 0mt Tenderloins, 0mt Cube Roll = 0mt or 0.0%
- **Combined Total: 1480mt**

All shipments of prime cuts from Australia has been supplied in chilled form by both sea-freight and airfreight, given the significant airport hubs operating both in Dubai and Abu Dhabi. Within the frozen total of 1955mt shipped to Abu Dhabi were 1573mt of beef trimmings leaving 382mt for other cuts or bulk packs. Dubai like Saudi Arabia was the destination of some 500mt bobby veal in a range of specifications, mainly bone-in similar to Saudi Arabia.

Conclusion: These two key destinations within the UAE are key prospects for prime cuts, but only in chilled form based on the export statistics. Chilled prime cuts are sold at retail in the modern supermarket / hypermarket sector featuring European retailers such as Carrefour and Tesco, plus a myriad of Emirati-owned supermarkets and world-class food service sector outlets, hotels and restaurants. The UAE has a highly-developed and modern meat supply chain, demanding the best in shelf-life and eating quality for prime cuts.

3.14.4 Summary of opportunities in the Middle East

Looking at export/import figures alone gives the impression that prospects abound in the Middle East but the following needs to be considered.

Saudi Arabia already imports significant quantities of prime cuts from processors approved to export from cattle certified HGP free, labelled on outer packaging and inner pieces in accord with Saudi Arabian regulations and subjected to intense inspection processes on arrival.

The UAE market for Australian prime cut product is aimed at the chilled sector with no frozen cuts shipped in 2019 leading to the conclusion that these are supplied from other countries like Brazil.

Kuwait's import tonnages based on 2019 statistics do not give encouragement for export potential from Indonesia and unless tonnages increase it should be discarded in favour of other markets.

Overall, Saudi Arabia offers the better prospects in the region for frozen products provided Indonesia can meet the SPS requirements of HGP free beef and the stringent labelling requirements. The UAE offers prospects for chilled beef cuts provided shelf life and eating quality can be verified by Indonesian exporters and accepted by importers/ customers in the UAE.

Since the three selected countries already import beef from non-Islamic suppliers (like Brazil, Australia and US) this tends to suggest that Indonesia might not find any real leverage solely on the basis of its Halal slaughter capabilities. Credentials of existing suppliers it seems are already established. Overall, Saudi Arabia offers the better prospects in the region for frozen products, provided Indonesia can meet the very stringent SPS requirements and also the country's labelling requirements which are also known to be demanding. The UAE offers prospects for chilled beef cuts but that is provided shelf life and eating quality can be verified by Indonesian exporters and accepted by importers/customers in the UAE.

4 Prospects for exports of manufactured and processed beef from Indonesia

4.1 World trade in manufactured meat products

It is worthwhile looking at the world trade statistics for prepared or preserved meat products against what is being processed and exported from Indonesia. When extracting data from the reliable TradeMap site, the list of countries importing these products is extremely long, so for this exercise the largest 20 importing markets have been selected under three relevant Combined Nomenclature (CN) headings: CN160100, CN1602, CN 160250 and CN 160290.

Manufactured meat products can include raw or cooked sausages; comminuted products like pre-minced beef; raw or cooked meat balls; raw or cooked patties. Part of the thinking around the project is that Indonesian businesses, particularly those that already have investment in further processing and value adding, could utilise raw ingredients from Australia in their facilities in Indonesia and take advantage of tariff and other trading advantages with potential markets. The prospect of using raw material generated from Indonesian slaughtering facilities seems more distant due to cold chain requirements but could potentially be an option.

An overview of global trade for the three main processed meat categories is set out below.

4.1.1 160100 – Sausages and similar products of meat, offal or blood, food preparations based on these products. NOT restricted to beef, other species included.

The trade is extremely large with over US\$5billion purchased worldwide in 2019 for a total of over 1.278 million tonnes. Countries within the European Union make up a large portion of imports, which has strict rules concerning livestock slaughter and processing requirements for supplying countries. The United Kingdom is the largest importer of this category: even with Brexit negotiations under way it is expected it will continue to apply EU standards to imports. The main Asian markets for sausages under HS 160100 include Japan, Hong Kong and Republic of Korea. It should be noted that this covers meat sausages and the products may be based on poultry or other species.

Figure 9 below shows the chief import markets in 2019 under this tariff heading, along with the annual growth rate in the value of imports in the period 2015-2019. The last column in each of the tables shows the estimated tariff applied to the category by the importing country. Readers will note that none of the 11 target markets is among the list of major importers in these product categories, including China, although it is likely that high volumes of product enter China's domestic market through the grey channel.

Assessment of Beef Processing and Market Options in Indonesia

Table 8 - Main import markets for HS 160100 in 2019 and average tariff rates

CN 160100 Importing country	Value imported in 2019 (\$US '000)	Quantity imported in 2019 Tons	Unit value (\$US/unit)	Annual growth in value between 2015-2019 (%)	Annual growth in quantity between 2015-2019 (%)	Share in world imports (%)	Average tariff (estimated) applied by the country (%)
World	5,058,220	1,278,376	3,957	6	1	100	
UK	641,581	138,465	4,634	5	3	12.7	6.3
Germany	610,481	99,733	6,121	8	7	12.1	6.3
France	340,937	69,595	4,899	10	6	6.7	6.3
Belgium	226,952	46,232	4,909	7	3	4.5	6.3
Canada	215,934	43,464	4,968	1	3	4.3	67.5
Netherlands	201,518	49,497	4,071	12	4	4	6.3
Japan	189,668	36,566	5,187	-2	-3	3.7	7.6
Mexico	175,000	42,360	4,131	6	3	3.5	14.2
Hungary	151,938	49,541	3,067	13	6	3	6.3
Slovakia	120,921	34,625	3,492	8	6	2.4	6.3
Denmark	118,273	30,224	3,913	4	4	2.3	6.3
Spain	107,873	27,767	3,885	-5	-9	2.1	6.3
Sweden	102,123	17,487	5,840	5	3	2	6.3
Czech Republic	86,994	22,991	3,784	9	8	1.7	6.3
Austria	83,384	12,681	6,576	3	-1	1.6	6.3
Hong Kong, China	72,337	20,163	3,588	-1	-5	1.4	0

Assessment of Beef Processing and Market Options in Indonesia

4.1.2 160200 – Prepared or preserved meat or offal (excluding sausages and similar products, and meat extracts and juices) i.e. all species

World trade in this category declined between 2015 and 2019 but still totalled over US\$16billion in 2019 with Japan being the largest market. European markets are among the larger markets with Hong Kong also conspicuous, notwithstanding a 12% decline in the five-year period under review.

Table 9 - Main import markets for HS 160200 in 2019 and average tariff rates

	Value imported in 2019 (USD thousand)	Quantity imported in 2019 Tons	Unit value (USD/unit)	Annual growth in value between 2015-2019 (%)	Annual growth in quantity between 2015-2019 (%)	Share in world imports (%)	Average tariff (estimated) applied by the country (%)
World	16,192,764	0		3	-22	100	
Japan	3,166,788	719,679	4,400	6	5	19.6	7.8
United Kingdom	2,472,930	583,512	4,238	0	0	15.3	18
Germany	1,037,952	228,253	4,547	4	-2	6.4	18
United States of America	1,000,283	145,738	6,864	6	5	6.2	1.8
Netherlands	832,168	198,527	4,192	-4	-6	5.1	18
France	710,952	146,167	4,864	9	6	4.4	18
Canada	628,840	90,829	6,923	-2	-1	3.9	82.9
Hong Kong, China	573,712	185,116	3,099	-5	-12	3.5	0
Belgium	454,694	91,594	4,964	3	1	2.8	18
Ireland	404,678	101,892	3,972	6	5	2.5	18
Denmark	361,939	74,945	4,829	6	-9	2.2	18
Austria	232,558	45,163	5,149	10	8	1.4	18
Spain	231,240	52,933	4,369	-1	-5	1.4	18
Korea, Republic of	229,093	54,665	4,191	15	12	1.4	29.8
Italy	224,700	46,414	4,841	-3	-6	1.4	18

Assessment of Beef Processing and Market Options in Indonesia

Sweden	217,875	47,055	4,630	-1	-1	1.3	18
Singapore	164,526	0*		4		1	0
China	50,844	18,179	2,797	109	252	0.3	12.1

* Aberrations of this kind are difficult to resolve with recent data in TradeMap.

China imported an estimated 18,000 tonnes in 2019. The average tariff applied by the market is in the order of 12% ad valorem, however, Indonesia may be able to negotiate a lower concession based on its existing regional trade agreement with China through ACTIG.

4.1.3 160250 - Prepared or preserved meat or meat offal of Bovine animals (excluding sausages and similar products, and meat extracts).

Prepared meat specifically from bovine animals is a small portion of the HS 1602 category: only US\$2 billion traded in 2019. North American countries and European nations imported a significant quantity of the total. Interestingly, Hong Kong imports declined 33% in volume whilst China's imports increased 753% in volume over the five-year period. In 2019 China's value of imports was about 50% of Hong Kong's so 2015 must have commenced from a low base. Indonesia is as showing having imported some 4207 tons in 2019.

Table 10 - Main import markets for HS 160250 in 2019 and average tariff rates

CN 160250 Importers	Value imported in 2019 (USD thousand)	Quantity imported in 2019 Tons	Unit value (USD/unit)	Annual growth in value between 2015-2019 (%)	Annual growth in quantity between 2015-2019 (%)	Share in world imports (%)	Average tariff (estimated) applied by the country (%)
	World	2,190,534	421,621	5,196	0	-3	100
USA	504,028	58,735	8,581	4	4	23	0.9
United Kingdom	239,546	52,910	4,527	-7	-8	10.9	10.4
Canada	180,816	26,551	6,810	-2	0	8.3	3.3
Germany	126,482	22,510	5,619	10	7	5.8	10.4
Netherlands	88,249	16,977	5,198	5	6	4	10.4
France	74,759	15,445	4,840	6	5	3.4	10.4
Belgium	64,058	11,409	5,615	-2	-4	2.9	10.4
Italy	49,999	8,062	6,202	-4	-6	2.3	10.4

CN 160250 Importers	Value imported in 2019 (USD thousand)	Quantity imported in 2019 Tons	Unit value (USD/unit)	Annual growth in value between 2015-2019 (%)	Annual growth in quantity between 2015-2019 (%)	Share in world imports (%)	Average tariff (estimated) applied by the country (%)
Japan	43,829	9,167	4,781	-1	2	2	19.5
Hong Kong, China	41,341	10,807	3,825	-24	-33	1.9	0
Czech Republic	25,293	5,815	4,350	19	11	1.2	10.4
China	22,928	7,821	2,932	439	753	1	12.1

4.1.4 160290 - – Prepared or preserved meat or offal (excluding meat or offal of poultry, swine or bovine species, sausages and similar preparations, finely homogenised preparations put up for retail sale as infant food or for dietetic purposes, in containers of a net <-250g, preparation of liver and meat extracts and juices).

European imports feature prominently in this ranking, with the UK again a prominent buyer. Hong Kong imports declined 16% in the five years under review, whereas imports to China increased 1050% with imports in 2019 twice the volume of Hong Kong’s imports.

Table 11 - Main import markets for HS 160290 in 2019 and average tariff rates

CN 160290 Importers	Value imported in 2019 (USD thousand)	Quantity imported in 2019 Tons	Unit value (USD/unit)	Annual growth in value between 2015-2019 (%)	Annual growth in quantity between 2015-2019 (%)	Share in world imports (%)	Average tariff (estimated) applied by the country (%)
World	415,581	118,400	3,510	4	0	100	
United Kingdom	74,868	13,231	5,659	-7	-16	18	6.6
Kuwait	72,376	16,726	4,327	54	45	17.4	3.7
Saudi Arabia	30,855	8,974	3,438	32	44	7.4	11.9
China	22,498	9,481	2,373	800	1,090	5.4	12.1

Assessment of Beef Processing and Market Options in Indonesia

CN 160290 Importers	Value imported in 2019 (USD thousand)	Quantity imported in 2019 Tons	Unit value (USD/unit)	Annual growth in value between 2015-2019 (%)	Annual growth in quantity between 2015-2019 (%)	Share in world imports (%)	Average tariff (estimated) applied by the country (%)
Belgium	20,007	5,670	3,529	8	4	4.8	6.6
Netherlands	17,677	7,452	2,372	6	3	4.3	6.6
Ireland	15,024	4,657	3,226	-12	-13	3.6	6.6
France	11,626	2,455	4,736	-2	-12	2.8	6.6
Iraq	11,118	5,014	2,217	21	22	2.7	...
Thailand	10,137	5,589	1,814	18	14	2.4	22.4
Portugal	9,918	3,600	2,755	-1	0	2.4	6.6
Hong Kong, China	9,875	4,645	2,126	-16	-16	2.4	0
Germany	9,767	1,375	7,103	-1	-3	2.4	6.6
Korea, Republic of	7,953	4,574	1,739	0	-7	1.9	26.9
Finland	7,277	1,200	6,064	5	5	1.8	6.6
Poland	6,251	1,878	3,329	48	23	1.5	6.6
Italy	5,906	1,318	4,481	9	6	1.4	6.6
Austria	5,535	815	6,791	21	21	1.3	6.6

In summary, the world trade in manufactured products containing meat is quite significant, although the values and volumes involved are not large for most of the target markets. It is also important to remember that these are product volumes of which meat (not necessarily beef) may be only a small ingredient. Further processed products normally require significant expenditure on retail branding: the cost and effort required to establish brands in the market. Co-packing could be explored as an opportunity if this were found to be competitive and efficient.

4.2 Indonesian exports of manufactured products

Looking specifically at trade data for manufactured meat products exported from Indonesia, it is clear that there is some regular trade occurring with a handful of overseas markets, in

particular Hong Kong and Singapore which is somewhat surprising as this fact was not widely appreciated before. Data in Figure 10 extracted from BPS-Statistics Indonesia via TradeMap shows that shipments in 2019 of sausages and similar products totalled only 47 tons (with a \$US296,000 value), Timor Leste taking 50% followed by Saudi Arabia in second place and the balance having no consistent quantities or trends. The statistics also show Australia as a destination in 2015-17, however, corresponding import data does not show these shipments, highlighting the risks of relying on statistics alone.

Table 12 - Exports from Indonesia of sausages/manufactured meat products

160100 –Sausages and similar products of meat, offal or blood – all species										
Importing country	2015 - tons	Value US\$ K	2016 - tons	Value	2017 - tons	Value	2018 - tons	Value	2019 - tons	Value
World	29	60	33	68	45	83	25	90	47	296
Timor Leste	24	54	19	50	39	65	21	46	21	73
South Korea			1	7	2	12				
S. Arabia							3	32	16	191
Myanmar							-	4		
Malaysia			-	1	-	3	-	5	2	6
Iraq			1	2						
Hong Kong					-	1	1	3	2	22
Australia	6	4	10	6	4	2	-		-	

Attempting to obtain accurate data on prepared or processed meat products is difficult for two reasons. Firstly, export documentation on which the analysis is based can be misleading due to incorrect CN codes being chosen. Second, the CN codes themselves do not specify the percentage of bovine meat found in these processed products. Therefore, attempting to draw a finite picture about the market and its future potential from the trading data is inherently risky.

Statistics for heading CN 1602 - prepared meat products excluding sausages and similar products - shows that total shipments in 2019 was 195 tonnes with a combined value of \$US489,000. Shipments to Hong Kong in the five-year period 2015-2019 expanded significantly under this tariff code and in fact represented 50% of shipments in 2019. Other main markets were Singapore (40 tons) and Japan (25 tons). During the review period Hong Kong was an entry port for a wide range of meat products from where they entered China via the grey channel, particularly where either the exporting country or the processing plants were not approved by Chinese authorities. It is unclear whether goods declared with Hong Kong as the destination remained in that market or were moved onto China. Singapore was the only destination to show some tonnages in each of the five years under review, but even so the volumes were not high. The balance of the markets reveals no consistency in exports, meaning they could be classed as opportunistic or intermittent and not established as regular buyers.

The volumes of prepared or preserved meat across all categories are in themselves small, with Hong Kong showing as the major destination recently, and it could be argued that shipments either were for Hong Kong consumption or may have landed there for forwarding to China. The balance of the markets are small tonnages and intermittent with the exception of Timor –Leste which experienced some consistency.

In summary, the export statistics for 2015-2019 through TradeMap reveal a relatively small and, in the main, inconsistent business of Indonesia exporting small quantities of prepared and processed meat products, with beef products being a small portion of the overall mix.

Assessment of Beef Processing and Market Options in Indonesia

Exports mostly appear to be *ad hoc*, perhaps responding to a short term opportunity, which seems to have little repeat or ongoing shipments to consolidate a market.

That is a summary from the statistical viewpoint, however markets for prepared and preserved products do and are being developed in other beef producing/exporting countries, so markets do exist. This is clear from the following table drawn from TradeMap data showing Asian imports from within the same Asian region alongside Asian imports from the world under the CN Code 160250: Prepared or Preserved Meat or Offal of Bovine Animals- (excluding sausages and similar products).

Table 13 - Inter-Asian Imports and Global imports of Processed products - \$US m/ton

Asian imports from Asia - Tariff code 160250					Asian imports from World - Tariff code 160250				
2015	2016	2017	2018	2019	2015	2016	2017	2018	2019
\$123.1	\$142.7	\$125.7	\$136.1	\$116.9	\$380.9	\$336.1	\$303.9	\$317.7	\$296.1

Taking Asian imports from Asia in the 2019 year, being the lowest, which totals US\$116.9 m versus Indonesian exports of US\$50,000 in the same year, highlights a significant market opportunity with Indonesia's performance well below 1%. Adding Asian imports from the world further highlights a market of considerable value in \$US terms and the associated market opportunity.

For this approach to be successful it requires capital, export-compliant premises and a processing capability that can meet world class standards. Proponents should also be able to undertake market research and development of recipes /ingredients to meet the target markets, locating and partnering with offshore importer distributors who can translate their market needs against Indonesian production, marketing and sales capability, and, finally faith and commitment to an export programme running either stand alone or joined to domestic production and sales.

It should also be noted that exports of manufactured and processed beef products from Indonesia would be likely to require considerable effort in the way of product branding, promotion and marketing than for frozen or chilled product destined for the wholesale and foodservice markets. Aside from extra governmental/regulatory requirements for these products, supermarkets and other channels would likely require certification of contents, manufacturing conditions and other criteria.

4.2.1 The crucial role of tariff rulings

Bakso or meat balls are highly popular within Indonesia and nearby countries like Singapore. Meat balls are popular in a number of countries and cuisines and have wide-ranging recipes with ground meat comprising the bulk of the items within. Provided Indonesian processor /exporters can comply with the export regulatory issues raised in the report there is also a customs/duty matter to be considered in the proposed export markets. Each market will determine whether any or all of the ingredients in a meat ball are subject to any import duty or other restriction and under which CN code they will be classified. Depending on the market and the CN code, the import tariff could differ by as much as 50% and exporters would often be well-advised to seek a tariff ruling on the specific formulation they are considering.

4.3 Summary

The above information illustrates the steps an exporter/importer needs to undertake in gaining smooth customs entry and under what, if any, tariff and conditions may be imposed on the

import. Each potential export market has its own rulings and interpretations on these points and therefore they require market research and rulings running in parallel with market research on manufacturing requirements and customer acceptance of meat balls or similar preparations produced in Indonesia.

5 Results of industry gap analysis

5.1 Purpose and Methodology

In order to establish the current standards and practices at larger slaughter and meat processing facilities in Indonesia, a detailed questionnaire was developed during the study and distributed by the study team with a covering letter and request for cooperation. The results received back from the operators/owners of the processing facilities were then reviewed and compared to provide a snapshot of Indonesia's current processing capacity and standards.

5.1.1 Participants

Five slaughter houses were sent the self-assessment tool:

- Dharma Jaya Cakung
- Kibif Subang
- Pramana Food Utama (Bogor Agricultural University)
- Santori Abattoir Wabin
- Widodo Cianjur Arta Makmur

All five had participated in the 2014-2016 programme conducted by the Indonesia-Australia Partnership with the objective of propelling “existing Indonesian category 2 slaughter-houses towards a Quality Assurance culture which will assist with International Market Acceptance”.

That earlier programme had two components and generated detailed reports on internal assessment, pre-operational sanitation, operational sanitation and personal hygiene at these facilities as well as other elements of the business.

Of the five plants, three responded with information. The results from the 2016 study were used to represent Plants 4 & 5, although it is acknowledged the information may now need updating.

5.1.2 Questionnaire

The self-assessment questionnaire was developed in BI to determine the capability of individual slaughter house operators to process cattle to standards that correlate with standards in Australia.

The questionnaire was designed to extract as much information as possible from management to illustrate the current facilities and operational standards.

5.1.2.1 *Priority One Scope*

- Structural standard of premises
- Facilities (water quality, hot water supply, pest control, hygiene & sanitation, waste disposal etc)
- Hygienic processing procedures
- Boning standards and specifications

5.1.2.2 *Priority Two Scope*

- Meat inspection procedures
- Identification & traceability system

- Auditable systems (Standard Operating Procedures, Work Instructions, monitoring systems)
- Government certifying protocols

5.2 Responses

5.2.1 Limits of analysis due to COVID-19

As mentioned earlier, COVID-19 restrictions meant that the facilities, procedures and quality assurance provisions had to be self-assessed. Several respondents also provided photographs of different departments of their premises.

It is appreciated that this approach has limitations. Plant operators are encouraged to review and update the survey responses if they believe the analysis for their operation overlooks anything.

5.2.2 International trading standards

The gap analysis refers to hygiene, welfare and other provisions and requirements found in key Australian industry standards, including:

- Approved Arrangement Guidelines (Commonwealth Department of Agriculture)
- AS 4696 - Australian Standard for the Hygienic Production and Transportation of Meat and Meat Products for Human Consumption (AS Standards)
- Construction and Equipment Guidelines for Export Meat (1988 and subsequent)
- Various EMSAP (Australian Export Meat System Audit Procedure) Checklists e.g. new plant registration. EMSAP incorporates a standard approach to export meat system reviews to help verify if the processes and practices at establishments comply with relevant export legislation, Australian standards and importing country requirements.

These documents can be made available as e-documents to processors who are interested in exporting. It is recommended that any firm considering the export market should conduct an initial assessment of the enterprise's internal operations and standards against the audit checklist provided in the EMSAP.

5.3 Key findings

This section summarises the main conclusions from the three completed questionnaires and the information available from the 2016 visits to two plants (total of five). A matrix is presented at Annex 1 which compares results across the different plants and makes some conclusions about the range of responses and where they place in relation to Australian Standards, as best as can be accomplished currently.

5.3.1 Built environment

- Site conditions were reported as adequate in the self-assessment
- All plants stated that they have room for expansion and are separate from residential zones
- Plans of the buildings can be provided in two out of five cases
- Perimeter security – four have perimeter fencing, one did not answer

Assessment of Beef Processing and Market Options in Indonesia

- All plants indicated they have dependable solid and liquid waste disposal systems.

Observation: Typically in a plant review the operator should be able to provide a suitable plan or drawing showing the physical layout of the establishment with buildings, the various rooms (processing, amenities, ante-mortem yards, storage, etc.) being marked on the plan. The floor plan should show product flow and people flow.

Construction Guidelines 1988 - Clause 3.4.1

The area surrounding buildings, stockyards, roads and pathways should be suitably graded, grassed and landscaped. In addition to enhancing the appearance of the works this will reduce the risk of problems with dust or stagnant water.

5.3.2 Pest control

- All plants stated they have pest control done by external providers

Observation: Australian Standards facilities will have a pest control program. Its procedures should include actions to ensure that surrounds are clean, rubbish is removed, old equipment is cleaned and stored so as not to become a harbourage for pests and vermin, grass is mowed, etc

AS4969 - Pest control Clause 4.10

There is an effective and continuous programme for the control of pests.

5.3.3 Hot water

Hot water is critical for the production of safe, hygienic meat products so this is a major gap to be identified and rectified.

To supply hot water to the processing plant:

- one plant has a boiler
- one plant uses several electric hot water systems around the site
- one plant indicated that it does not have a supply of hot water, it uses cold, soapy water.

Observation: Construction Guidelines (1988 and subsequent) notes that where necessary in an export works, provision should be made for sterilisation, equipment wash facilities as well as hand wash facilities throughout. These should be supplied with hot water and cold water hose points, drained as for other wash areas; and provided with steam removal equipment.

Construction Guidelines 1988 - Clause 5.9.1 - Hot potable water

An adequate supply of hot potable water must be provided. Water provided for the purpose of sterilisation must not be less than 82°C at point of use, while that provided for hand washing must be delivered at between 35°C and 45°C.

AS4969 – Clause 20.5

The facilities for cleaning and sanitising implements:

- a) are used only for the purpose of cleaning and sanitising the implements; and
- b) are conveniently located for the use of personnel during operations; and
- c) are provided with an adequate supply of hot potable water at no less than 82°C or an equivalent method of sanitising; and
- d) overflow directly to the drainage system.

5.3.4 Plant maintenance

The age of the premises can have significant bearing on the standard of the facilities. One plant is in excess of 30 years old but two other sites have been constructed in the past 20 years. Older facilities tend to show much more wear and tear, particularly from growth of mould in the buildings, and damage and decay in building materials.

5.3.5 Workers' hygiene and amenities

- All plants have workers' amenities for both male & female staff
- All workers are provided with uniforms
- All workers are trained in hygiene & sanitation requirements

Observation: the EMSAP gathers information about worker's awareness of relevant procedures and work instructions with respect to hygiene practices. The plants confirm this is the case but the degree of compliance cannot be verified at this stage.

Construction Guidelines 1988 - Clause 36.2.1

Amenities for employees should be convenient to the workplace in an area free from undue noise and odour. Access to the amenities must not cause employees from edible product departments to pass through the inedible product departments or vice versa. Paved walkways should be provided from the workplace in the amenities. It is recommended that where practical the walkways be covered. Amenities for male employees should be separate and distinct from those of female employees, except that common dining rooms may be provided.

5.3.6 Water supply, chlorination, equipment testing and record-keeping

- Three plants source water from bores and one from a nearby major education facility
- Two chlorinate their water
- Record keeping about water chlorination and water testing could be improved in four out of five sites, on current information.

5.3.7 Animal Welfare

Observation: Plants should ensure the water maintains a level of free chlorine and that adequate records are kept of compliance

ESMAP provisions:

There should be a documented procedure for supply of water and it should include a water distribution map. The water should be treated according to relevant/local Drinking Water Guidelines. In particular pre-chlorination microbial tests should be conducted and recorded. A free residue chlorine level of not less than 0.25ppm should be maintained in the Australian processing environment.

In all the elements of plant operation it is important that records be maintained, including calibration of machinery and equipment. The EMSAP suggests a suitable register of measuring and test equipment is kept, likewise register of water chlorination, dosage, time and other pertinent measurements.

The facility should also be able to verify through its record keeping that staff and employees are competent in terms of the relevant procedures and work instructions.

- Two facilities are ESCAS approved
- The status of other facilities is unknown
- At all sites, animals have access to water at all times and are fed where required
- Facilities are stated as being adequate

5.3.8 Ante and Post-Mortem inspection

- Plants report that all animals are subjected to ante-mortem inspection
- A company vet does the ante-mortem at one premises

Observation: Export-registered plants should have the facility to conduct post-mortem inspection and test carcasses and meat products for E.coli and salmonella in order to comply with food safety programs.

EMSAP M03-Good Hygienic Practice:

There should be standard procedures to prevent contamination and cross contamination. These should include all equipment being sterilised and washed between carcasses prior to post-mortem inspection; equipment being sterilised when it becomes contaminated during dressing, and contamination trimmed from the carcass and its parts. Carcass by carcass assessment and inspection facilities should include adequate space to perform a carcass assessment, suitable lighting e.g. 600 lux lighting on all surfaces; a sterilizer unit to facilitate hygienic trimming of pathology, faeces and ingesta; and hand wash facilities.

- In two plants the qualifications of persons doing the task is not stated
- All carcasses & viscera are given a post mortem inspection however the qualifications of persons doing the task are not clear
- No plants recorded taking swabs of carcasses to check for microbial levels nor having any laboratory facilities on the site for this purpose. Operators may wish to clarify if this is not the case.

5.3.9 Knocking and Slaughter areas

- All plants have livestock restrainers although the type differs
- One facility has pneumatic stunning equipment
- All are Halal certified with Indonesian Ulema Council
- All have carcass rail systems for slaughtering and dressing operations, however, rail heights could not be confirmed from the questionnaire
- Height of slaughter rails may be an issue when Australian-sourced cattle are being processed as there is evidence of carcasses being in contact with the floor once hung on the rails.
- Bleeding, skinning, eviscerating, splitting and carcass washing areas are stated as being adequate
- All premises have digital scale to weigh carcasses

Observation: The self-assessment results in most cases did not indicate the extent of rails used within the facilities, however the Construction Guidelines 1988 notes that “a branch rail leading directly to an adjacent room or area for cutting down condemned carcasses should be provided at a point on the dressing chain immediately after carcass inspection has been completed.”

Construction Guidelines 1988 and subsequent notes

A bleeding rail of sufficient height and length to permit thorough bleeding should be provided. A minimum carcass spacing of 1.5 m should be provided on gravity rails and moving chain systems. When indexing carcasses after primary bleeding there should not be an excessive accumulation of carcasses.’ One of the supplementary reports noted that this occurred commonly during the 2016 study, however, the operator may have rectified it. The Guidelines also note the requirement to place hand-wash and steriliser unit together with an apron wash facility adjacent to the sticking station. It is assumed that such facilities are in the five plants, but it is not confirmed.

Observations: It is difficult to assess the level of staff training from the questionnaires however the overall impression from the self-assessments is that training is yet to become a high-order priority and that staff currently perform adequately without much provision for improvement.

EMSAP – M01 Quality System Support

Slaughter tasks in an export-registered plant that passes assessment under the EMSAP will have training available for all tasks for staff and employees and training needs that are regularly identified and addressed.

5.3.10 Offal handling

- Offal is handled in a separated area in all facilities
- At four sites this occurs in separate rooms to the slaughter operations
- At one site offals are processed in an outside annex
- Offal is only chilled at one facility
- In other facilities it is either sent to wet markets or to the livestock owners in unchilled condition.

5.3.11 Temperature control and record-keeping

- All the sites have carcass chilling facilities which are set at between 0 – 5°C
- Importantly there is no evidence provided at any of the five sites that they can achieve 7°C surface temperature within 24 hours of stunning
- All boning rooms are nominally temperature controlled. One is set at 5°C (temperature at others is unknown)
- All have carton chilling facilities set at 0 - 2°C
- One has temperature data logging capability
- Other sites report that they perform temperature data logging manually each day.

Observation: There is a real need to keep records of temperature control in order to help insure product safety and wholesomeness.

EMSAP – M01 Quality System Support

The facility should, using the EMSAP process, incorporate checklists, reviews and summaries and reports of similar critical control points. This was not fully exhibited in the self-assessment by the relevant plants, with most just indicating the required temperatures are achieved but no record made of time it takes to achieve these surface temperatures.

The use of data loggers is encouraged as they provide information about temperatures over time.

5.3.12 Processing

The situation regarding beef processing at these sites was broken into two sections, starting with their key markets. The primary market for each processing plant is shown in Table 14. Of the three plants which provided this type of data, traditional wet market was an important destination, followed closely by the supermarket channel for two of three plants that responded. Sales to foodservice and to retail butchers are of lesser importance. With the single largest market being the wet market it is reasonable to assume that most product is despatched in the form of carcasses as borne out in Table 15.

Table 14 – Market Destination

Product type	Plant 1	Plant 2	Plant 3	Plant 4	Plant 5
Wet market	0%	25%	70%	unknown	unknown
Retail butcher outlet	15%	21%	0%		
Supermarket	55%	30%	0%		
Food service/Hotels	25%	13%	0%		
Further processing	5%	11%	30%		

All plants are performing boning “on the rail” and slicing on stainless steel tables. Currently, most product volumes are sent to market in the form of chilled or fresh carcasses. Only one plant was predominantly focused on shipment of boneless cuts, although all the plants nominated that they had boning rooms and adequate deboning equipment and work tables as well as basic packaging equipment.

Assessment of Beef Processing and Market Options in Indonesia

Table 15 – Product Despatch Format

Product Form	Plant 1	Plant 2	Plant 3	Plant 4	Plant 5
Fresh carcase	0%	0%	50%*	unknown	unknown
Chilled carcase	0%	55%	0%		
Chilled bone-in cuts	5%	1%	0%		
Fresh boneless	0%	0%	50%*		
Chilled Boneless	95%	42%	0%		
Frozen	0%	2%	0%		

5.3.13 Packing

- All plants have facilities to vacuum pack meat
- Two premises do labelling manually
- One has a mechanised labeller connected to an IT system which provides information on the label including content & bar code, production information, name of product, weight etc

Observation: While two of the five plants appear to be labelling products with a product description and production information, it is likely that they will need to upgrade facilities to comply with export customer requirements.

EMSAP- M12 – Product Supply & Integrity

Plants should be able to point to a quality system that complies with a traceability and product description system that complies with trade description and labelling requirements for destination countries and customers.

5.3.14 Marshalling areas

- Two premises have temperature controlled marshalling areas

5.3.15 Freezing

- All facilities have freezers.
- One has a blast freezer to reduce temperatures rapidly before storing the product in a holding freezer.

5.3.16 Refrigeration Control

- All five facilities have refrigeration arrangements. The self-assessment did not suggest a high level of control of refrigeration levels at all plants, even though this is a vital component of the product cold chain.

5.3.17 Despatch

- At least three of the five plants have refrigerated meat delivery vehicles
- One has GPS equipment that provides location and temperature of meat delivery vehicle.

Observation: Temperature control is crucial to the maintenance of food safety throughout the product cold chain. There should be documented procedures for temperature control which include the following:

- i) For product and processing rooms (where required)
- ii) For active refrigeration, adequate refrigeration is applied to all goods in the chamber to ensure they all meet the relevant requirements
- iii) Raw meat and meat products must also meet the Refrigeration Index, an index to predict the log growth of E. Coli on meat from temperature and other data using values for pH and water activity.

5.3.18 Evidence of management and record-keeping systems including product traceability

- All plants indicated they have a QA system.
- Two have indicated that they are ISO accredited.
- All have indicated they have Standard Operating Procedures (SOPs) for all re-requisite programs
- Two do not have SOPs for chemicals.

Observation: The plant should have its recall procedures developed and understandable by all workers. On this basis none of the plants gave information about these elements in their plans but this could be explicable. If the plants are ESCAS-approved there should already be a traceability competency built in to the daily operations. Additionally EMSAP standards indicate that the facility should keep records of inventory including product movements in and out of the establishments, corrective action needed by official inspectors and verifications. It was not clear that this was occurring in any of the five plants.

EMSAP Checklist

The EMSAP checklist provides comprehensive guidance on compliance with Quality Assurance, traceability and product description systems. EMSAP requires that adequate record keeping be maintained to demonstrate compliance with quality systems, HACCP, hygiene practices, sanitation, hazardous substance, pest control, water, refrigeration, product supply & integrity, importer requirements, animal welfare and inspection. Successfully audited plants will have provision for tracing product: “one step forwards one step backwards:” from the immediate supplier and to the immediate customer.

5.4 Other relevant information

The drawbacks associated with any questionnaire can be the low response rate. In this particular case, where three out of the five (60%) of slaughter house operators responded, the gap analysis has had to rely on the respondents themselves to give accurate and complete information about the situation. Their feedback has been reviewed with notes taken during the previous study (2016) and these notes are also the basis for the review of a further two processing sites included in the analysis.

5.5 Conclusions from the gap analysis

The gap analysis outcomes have been impacted by the fact that no inspection of the premises could occur due to travel restrictions and that a self-assessment was completed by the operators. This means that there could be some different perspectives and opinions about the standards and systems currently in place. Reports completed on various premises during the 2016 visit were useful but the results could be redundant as the plant may have been upgraded.

A good example of this is the presence or absence of written SOP's and monitoring programs. Several plants only have a few SOP's in place, or keep temporary records of temperature control and cleaning schedules. This means that should a problem be detected with a product batch, it may not be possible to correlate the batch with time/date records and other traceability elements.

The gap analysis therefore takes into account the information supplied in the self-assessment process but poses several questions about the completeness of the systems and practices in place in order to mitigate risk, or provisions not being comparable with international standards. For example, from the information supplied it can be assumed that the design, structure and fabric of the participating slaughterhouses are suitable for meat processing at an export standard. However the fact that some plants have no detailed plans/layouts, and are located in a crowded environment suggests that these premises might not achieve export approval.

One of the premises appears to be showing signs of some deterioration in the plant and equipment in accompanying photographs: this was corroborated from the earlier situation report conducted in 2016-17 by SW Qld TAFE (Technical and Further Education) and no refurbishment has taken place. Another slaughter-house has carcass rails that reportedly are not high enough to accommodate Australian cattle carcasses with the risk that carcasses drag along the floor during processing.

All participating slaughter houses are supplied with suitable facilities such as water, electricity, lighting, waste control, pest control, refrigeration and processing equipment. The lack of sufficient hot water at any premises is a concern as this is a basic requirement for hygiene and sanitation processes and would inhibit the plant achieving export approval.

All questionnaire responders indicated that they have Standard Operating Procedures (SOPs) for the listed pre-requisite programme which support their claims of having QA programs in place. Daily maintenance needs to be monitored carefully to prevent unhygienic conditions become entrenched e.g. poor drainage, the visible presence of mould and other factors. It is difficult to assess the effectiveness of these procedures from the information supplied in response to the questionnaire.

Considering the findings from the survey and from the ex post facto information from 2016, the overall results suggest that some infrastructure and building fabric/material could in some instances be comparable with export-standard plants elsewhere. The main elements which require investment and effort are extensive in some cases and include refrigeration and temperature monitoring, training in skills and hygiene practices, development of systems and controls which dovetail with information management systems to record daily operational conditions; and record keeping which anchors the verification of systems reportedly in place.

Summary of Gap Analysis Results Based on Self-Assessment 2020

Element	Prime Facie Comments
Infrastructure	Preliminary conclusion is that building fabric and upkeep can vary greatly between sites. Export registration is predicated on a sound, clean and well-maintained building, equipment and refrigeration.
HACCP	Few plants mentioned the existence of a HACCP plan. Developing an understanding of these systems is crucial to gaining approval to export
Hygiene of workers	Most examples indicated this is well in hand and that workers are equipped properly for hygienic performance of work tasks.
Inspection services	The lack of clarity around provision of inspection services at ante-mortem, post-mortem and loadout areas suggests this needs further work. In particular the role of government officers in these tasks needs to be better understood as this would underpin a successful attempt to gain approval to export to key regional markets.
Services	Lack of access to hot water systems is a definite risk for meat hygiene and worker safety. Provision of potable water in some instances was unclear and could not be documented adequately at this stage. In all cases good record keeping of water testing results is essential for export approval
SOP's	More extensive development and use of SOP's can assist with staff development, avoid contamination of product and pinpoint breaches for rectification
Quality Assurance	While plants indicate that QA programs are in place, it is apparent from the results that monitoring practices, record keeping and internal and external checks will need to be addressed.
Temperature control and refrigeration	Few plants provided evidence of temperature in processing areas being measured and recorded. This is necessary for gaining export approval. The Refrigeration Index is a useful and reliable tool to forecast produce wholesomeness and assists with traceability efforts.

In particular the following points were observed when relating the current situation to the 2016 observations:

1. Greater adoption of Standard Operating Procedures (SOP's) than previously, including SOP's for Animal welfare, deboning, calibration, carcass inspection, maintenance, use of external labs and temperature monitoring.
2. This means that there will be documents that reflect their operations and support participation in compliance programs in the future.
3. Responsibility for inspection (carcass, head and offal) continues to be unclear. There is increased use of company quality assurance personnel, however, in some cases it is unclear if government veterinarians or inspectors are also on the site or what their roles consist of.
4. Temperature logging in the chillers and deboning rooms is taking place, however, further investigation of the adequacy of refrigeration to bring surface temperatures of carcasses down to <7 ° C within 24 hours of stunning is warranted.

6 Export roadmap

6.1 Roadmap

This section of the report identifies the steps & stages of a ‘roadmap’ that could facilitate beef exports (chilled, frozen and manufactured) from Indonesia to the target export markets. The roadmap is very much about preparation, planning and building dialogue, not just with authorities in the importing markets, but also between government and industry in Indonesia itself and the systems that processors/exporters should adopt and maintain to ensure markets are retained.

Figure 2 - Depiction of entry points for export preparedness

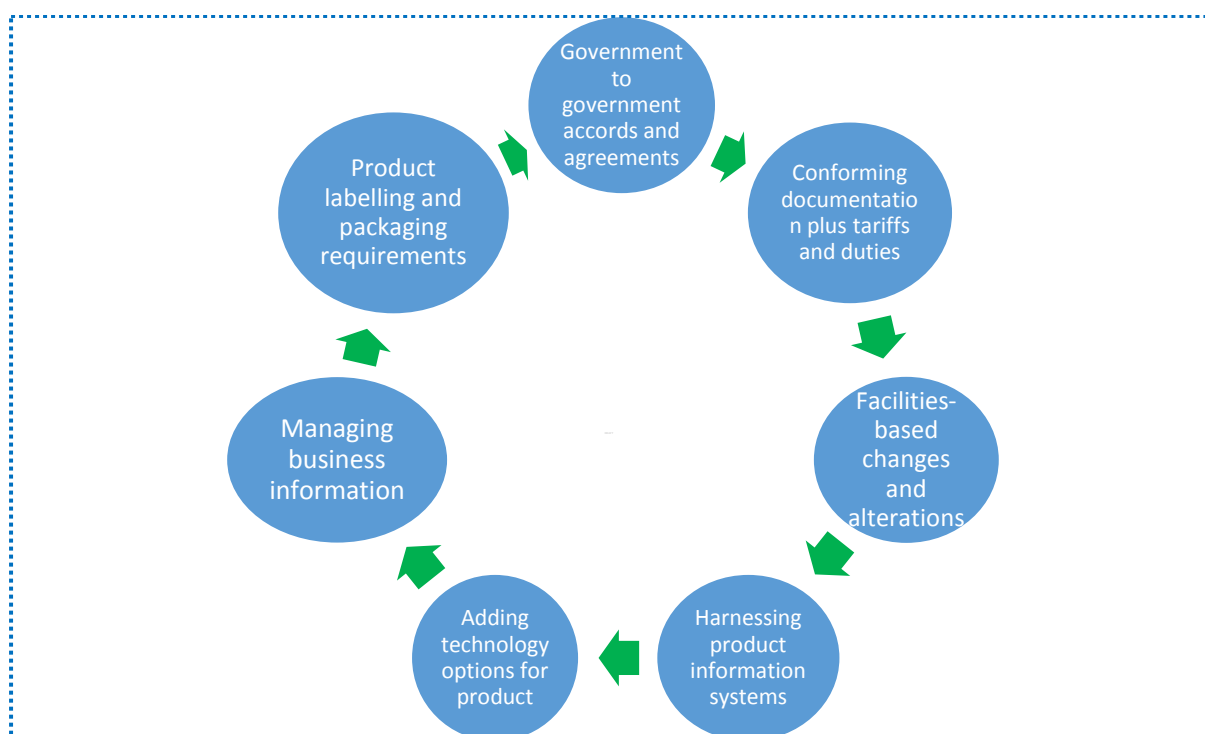


Figure 12 above depicts some of the many entry points through which processors can start their enterprise’s journey towards supplying products into an export market and which will all need consideration. In the wider environment other steps are necessary and these are presented in Figure 13 below. It is recognised that there will likely be business practitioners, aside from those who participated in the gap analysis, who may wish to avail of foreign market opportunities and that this should be an inclusive but efficient exercise.

Figure 3 - Export roadmap milestones

Description of milestone and objective
Preliminary tasks
Establishment of a taskforce to lead the effort on behalf of industry and private companies/processors
Interested processors should conduct an internal audit of their compliance against,

Description of milestone and objective
for example, the checklists found in the EMSAP checklist as an indicator of their relative preparedness for export.
Identification of appropriate federal government department to partner with in developing export capacity
Commitment of resources to either build or update a comprehensive list of slaughterhouses/processing plants as part of a formal industry capability audit. (The basic fields in the EMSAP Self-Assessment document could be a starting point if such a list does not yet exist). This list will be needed in due course for the government to be able to supply its counterpart agency in the importing market with details of the relevant processing facility. An index or numbering system will also be needed for this purpose.
Approach to government by taskforce group to seek its support in establishing and maintaining an agency within the appropriate ministry to represent Indonesia in discussions with foreign import authorities/counterparts
Assessment of the current Indonesian meat description system against that of competing suppliers and level of appropriateness/relevance. Depending on outcome, determine if wider changes are needed to this scheme to reflect Indonesian processing norms and functions.
The timeframe needed for this step may be extensive but the relevant ministry/department needs to signal to the relevant importing authority in principle its intention to seek market access for chilled/frozen/manufactured products i.e. to open a dialogue. These would be Department of Livestock Development; Singapore Food Agency; and General Administration of Customs of P.R. China, for Thailand, Singapore and PRCC markets respectively.
Government tasks
Building capacity to form and operate a responsive, independent oversight system and certification program
Develop capability to negotiate and introduce/enforce principles behind the meat import protocols with foreign markets
Efficiently manage Government to government accords and agreements Oversee and strengthen a programme of facilities improvements to achieve export standard operations and systems control
Business practitioner tasks
Using the gap analysis results as a starting point, relevant processing plants should conduct a detailed assessment of their capabilities and set in place a programme to address the likely requirements for an export standard approval for their site in terms of animal health certification, meat inspection and cold chain management and food safety overall. This could span across several areas of the site as well as the systems for managing what happens on the site: elements such as refrigeration capability, temperature monitoring systems, access arrangements for staff, hygiene systems, hot water availability and the like
In the case of manufactured or prepared products, seek an appropriate ruling on

Description of milestone and objective
percentage content where relevant with the aim of reducing applicable tariff.
<p>Relevant processing plants should consider these aspects of their business:</p> <ul style="list-style-type: none"> • Appropriate systems and food safety controls in place at plant level • Staff training requirements to include awareness of importing country requirements • Introduction of HACCP and/or GMP provisions as appropriate • Consider development of company ‘backstory’ to support eventual marketing efforts • Labelling equipment and capability able to be introduced and operated at plant level • Halal certification requirements • ISO certification if customer requests • Traceability programme in place and functioning • Other technology options that support the export drive • Develop data handling arrangements to capture production and shipping information as well as proof of cold chain and traceability systems integrity • Development of laboratory/testing capabilities
Compliance with market requirements
<p>If considering one or all of the three target markets identified in this study, the taskforce members should familiarise themselves with current requirements which could include certificates relating to animal health, certificates of origin of the livestock, issuance of health certificates, import permit arrangements</p>
<p>China: In the case of exports to China, Indonesian authorities should be able to present a comprehensive and formal advice about the country’s animal quarantine situation, with reference to the OIE risk assessments and general conditions about how the country’s animal quarantine system functions. It should be able to provide similar advices around veterinary and public health arrangements in the country and in the processing sector specifically, the organizational structure for overseeing this, the system of veterinary services, the existence of a quality control system, production methods for the meat products, health safety control system, residue control systems in place and how these are monitored.</p> <p>Singapore: Meat products cannot be imported without the supplying country being on an approved list held by the Singapore Food Authority and currently Indonesia is not included on this list. The first step here is to have Indonesia added to the relevant list and then for specific sites/ to be included as well, depending upon approval from SFA. The authorities there also have requirements around livestock traceability from which the meat was derived. More information contained at Annex 3. Processed meat products may not be derived from mechanically separated meat. All products must have been derived from livestock slaughtered and processed in plants under official veterinary supervision in establishments approved by the Director-General, Food Administration or an equivalent entity. The product must be accompanied by a Health Certificate issued by the competent authority of the exporting country and indicates that the product complies with Singapore’s</p>

Description of milestone and objective

animal health and food safety requirements.

Labelling requirements for Singapore are extensive and subject to change: they must include the country of origin and other details. In the case of processed meat products, the name and designation number of the relevant slaughterhouse and date of slaughter must be included.

Thailand: Thailand requires that foreign suppliers for 61 types of products including meat products and manufactured meat products must adhere to Good Manufacturing Practice (GMP). The Department of Livestock Development (DLD) of the Ministry of Agriculture and Cooperatives directly monitors the importation of meat into Thailand and requires an import permit to be issued for chilled, frozen meat as well as for manufactured meat products. Product must also be accompanied by a Health Certificate issued by the competent authority in Indonesia.

The desired outcome in most cases will be discussion and eventual negotiation around the content of a protocol for the inspection and quarantine of meat products between Indonesia and the relevant market. When the content is satisfactory to both sides, the content and format of the health certificate or other documentation can be agreed. This may be preceded by the establishment of a Memorandum of Understanding (MOU) between Indonesian bureaucracy (Ministry of Agriculture as well as Ministry of Trade), to certify exports, and the foreign counterparts, to permit imports

Businesses need to understand the MOU conditions and requirements as they relate to facilities, whether there is a need for inspection of facilities, documentation required, and rules around packaging and labelling.

Aligned documentation for Health certificates, import certificates and other papers should be considered.

6.2 Knowledge gaps

Knowledge gaps identified through the study are:

- Level of interest by the relevant government departments to support an export drive for beef
- Other deficiencies in services, operations, cold chain integrity and systems audits on the part of processing plants outside the few that were included in self-assessment gap analysis.
- Understanding of the complexity and the impact on the three target markets to establish appropriate approval systems for imports with counterpart agencies.

6.3 Role of Government

Currently the processing sector in Indonesia is organised very much around the massive domestic market and there are a large number of slaughterhouses of varying standards and capacity.

The study has tried to establish the facts around how government and its agencies would approve and regulate meat products for export. The viability of any proposed beef export programme is dependent on Indonesia having a government department responsible for and overseeing the following:

- clean health of animals presented for slaughter

- the oversight of humane slaughter in the abattoirs
- the inspection of carcasses for disease
- certifying meat as fit for human consumption
- oversight of the boning, packing and cold chain
- oversight of the movement to export.

This would usually be under the control of government veterinarians at plant level and a team of trained meat inspection staff under the control of the government veterinarian. Typically the latter workforce could either be employed by the government (preferred model for a new entrant to the export field) or in the company’s employ (as occurs in more mature environments). This is somewhat different to existing operations in Indonesia, where veterinary and inspection services are employed and funded by the company with relatively low level of involvement on the part of federal or regional authorities.

The results of the study suggest that there is currently:

- no federal body is currently overseeing meat inspection at bovine processing plants
- that the logical authority for this to occur would be the Ministry of Agriculture and specific directorates within the Ministry

7 SWOT analysis of processing and market options

A SWOT (strengths-weaknesses-opportunities-threats) analysis is presented below on the market options under discussion.

Table 16 - SWOT analysis

STRENGTHS	WEAKNESSES
<ul style="list-style-type: none"> • Longstanding trading relationship between Australia and Indonesia • RMP has set a framework of shared cooperation for prosperity • Indonesia has excellent transport links to major consumer markets • Favourable tariff arrangements with several ASEAN markets • Halal capability may give an edge for Halal products into niche Chinese markets • Utilises lower cost environment of Indonesian processing sector in some areas 	<ul style="list-style-type: none"> • It is established that there is a higher cost of compliance to become an export establishment plus higher compliance costs in daily production. • Reliance on government to negotiate timely protocols to facilitate export to selected markets • Reliance on government to commit funds to set up an oversight capability for export registration and compliance • Challenges of securing and training appropriate staff for a plant with greater compliance requirements • Management of trade risks in export markets covering market closure, product rejection, trade disputes • The lack of a robust industry-wide product description system in Indonesia • Export quantities for foreseeable future may be too small to achieve any critical mass across several facilities.

OPPORTUNITIES	THREATS
<ul style="list-style-type: none"> • Substantial growth expected in Chinese and other SE Asian consumer markets once COVID-19 defeated. • Having a mix of markets to offset closure or downturn in any particular market • Processed meat exports are currently under-developed portion of Australian meat industry export portfolio. • Potential ability to provide health certificate from Australia as well as from Indonesia 	<ul style="list-style-type: none"> • Export of processed meat products can be very competitive • Meat is generally a very low proportion of ingredients in processed meat products • Developing markets could prefer more established suppliers • Management of trade risks must cover market closure, rejection of cargo through the import process and risk of non payment and handling of commercial claims e.g. late delivery, non- delivery, quality disputes • Management of receipts for sales negotiated in currencies other than Indonesian Rupiah

8 Options in the domestic marketplace

This section of the report briefly considers the Indonesian domestic market which is characterised in non-COVID times by strong growth potential, a lower set of regulatory barriers and other factors which should increase its attractiveness to importers and local processors.

Taking into account the volume of prime cuts imported into Indonesia from Australia (3497mt in 2019 including 1914mt of chilled and frozen Striploins and almost 900 tonnes of cube rolls), as well as the yield from over 670,000 head of cattle during the 12-month period (representing a non-COVID marketplace), it is evident that Indonesia itself is a substantial market which needs domestic beef production as well as considerable import volumes to be addressed.

Indonesia theoretically has a great deal in common with some of the world’s main beef exporting countries vis-à-vis the domestic market component:

- **Australia:** exports more than 60% of its beef production from a relatively small herd (~25 million head) but has a strong domestic consumer market (25 million head of population). Beef consumption is strong and consumer perceptions around beef are underpinned by sophisticated marketing campaigns as well as cutting edge technologies that enhance ideas around beef eating qualities, wholesomeness and integrity. All major exporters have to focus on the domestic market, as well as exporting to their key markets. Imports of beef into Australia are minimal at best and they are completely restricted by Australia’s stance on SPS matters, specifically its FMD-free status.
- **Brazil:** exports approximately 25% of its production from one of the world’s largest cattle populations, so it is heavily focussed on the vast domestic market (210 million head of population). Processors here seek to maximise returns from a diverse range of offshore and consumer markets, yet it cannot access some international markets due

to its FMD status. Brazil imports small quantities of beef from its neighbours, Argentina and Uruguay as well as from the USA.

- **USA:** beef exports amount to approximately 12% of total production in the USA so the domestic market is by far its biggest single customer: 330 million head of population. The US industry is based on corn or grain feeding slaughter cattle to market weights, and the higher grading prime cuts are sought after in key export markets like Japan, China and South Korea. Japan in particular takes heavy grain fed forequarter cuts that the domestic consumer market shuns. Domestic beef consumption is promoted through industry funded as well as company branding promotions. The US imports beef from Australia and New Zealand, the majority of which is manufacturing grade used to blend with trimming from lot fed cattle for the production of ground beef and patties. In addition there is cross border trade of live cattle and meat products with Canada and Mexico.

The above information is presented in order to suggest that Indonesian processors may be better served by directing their energies into replacing a percentage of the prime cut imports, rather than looking over the fence at “greener grass” markets. To assist this process the following key points should be considered:

In a number of cases cattle exiting the feedlot are sold to local butchers who process them either at abattoirs associated with the feedlot or some other approved slaughter facility. This then poses the question “how many Australian bred cattle are or could be processed through an export approved facility/ies from which prime cuts could be harvested for export?” This is an important question when assessing the potential returns versus the cost of embarking on and maintaining an export focussed programme, both at government and at export processor levels.

In trying to assess the potential for exporting the prime cuts, leaving aside market access requirements and capacity to deliver products with the same/similar specifications to other suppliers, the significant tonnages being imported from Australia into Indonesia pose a crucial question for the industry. Namely, if it cannot replace some or all of the imported products on its home soil, then how can it replace or compete with the same or other Australian exporters in any of the numerous markets considered in this project?

The answer to this may well be in the uptake or improving on current practices found in section 8.1 entitled “Creating or Improving Value”.

8.1 Creating Or Improving Value

The path to an export focussed industry can be slow and arduous, beset by high costs of infrastructure, the labour intensive operation of beef processing and at times uncertain returns, but to be successful in creating or improving value, there must be a strong foundation of infrastructure, standardised practices and food safety practices.

Each of the major beef exporting countries and their exporter processors have developed systems and practices designed to meet consumer needs for quality and these have evolved over many decades with refinements and upgrades made as both science provided solutions and consumer expectations increased. The USDA utilises a relatively simple carcass grading system for fed cattle visually placing them into Prime (the highest level of marbling) Choice the next and largest category with less marbling followed by Select all available to consumers via Badges on retail or food service packaging. Brazil and New Zealand both operate their own grading system, but considering that this project is focussed on Australian bred cattle processed in Indonesia, the potential wider adoption of Australian systems is considered in more detail.

Adoption of an industry cattle /carcase language. Aus-Meat as it is known in Australia “is based on product description and objective measurements of various carcase traits such as hot weight, fat depth, sex and age of animals”. Processors use the language to define company specifications, which determine particular “grades”. The language allows buyers all along the chain from processor to end-user to be confident that they are getting what is being ordered against the specification. Plants are assessed and approved by Aus-Meat, audited along with Aus-Meat accredited staff and Aus-Meat offers training to a range of users of the language.

The next step in the chain is meeting consumers’ expectations for eating quality and the Australian industry developed over several decades a system known as Meat Standards Australia (MSA). The MSA website states MSA accredited graders collate information from the producer, supervise processing standards and collect individual carcase attributes using a uniform set of standards. Results are allocated to an individual carcase and the outcome results in eating quality information for individual cuts combined with days of ageing required and recommended cooking methods. More information can be found at <https://www.mla.com.au/marketing-beef-and-lamb/meat-standards-australia/>

Beef derived from Bos Indicus cattle, which make up the bulk of exported cattle to Indonesia, can potentially have a negative impact on eating quality in prime cuts, due to connective tissue, but MSA measures make allowances for this possibility and enables these cattle to be included in the MSA offering. Implementation of these measures or interventions is crucial in meeting consumers’ expectations.

More information can be found at https://www.mla.com.au/globalassets/mla-corporate/marketing-beef-and-lamb/msa_tt_beefinfokit_jul13_lr.pdf

It is important that a common language is used for all in the beef chain from cattle farmer to consumer, so that fair comparisons can be made between competing products. It is critical that all production within Indonesia is processed and labelled consistently against one set of rules, whether it is destined for the domestic market or an export one. Without a grading or eating quality system supporting export marketing, buyers have no option but to treat offers at the lowest rung on the ladder, which is far from adding value. Adoption and use of a verified system allows sellers to benchmark their product against competitors ensuring they are receiving at least fair value.

The Aus-Meat language is currently in use in some operations in Indonesia, but to achieve greater value across the industry its principles should be adopted by all the major processors, backed by auditing that ensures uniformity across all processors leading to wider customer confidence in and acceptance of the products on offer.

Brand Provenance or The Story behind the Beef. Consumers around the world are becoming more conscious of, and want to know more about, where their food is being produced and under what conditions. This applies equally to beef products with treatment of animals on farm, transport handling and conditions and the treatment of cattle in the slaughter process under the spotlight.

Considering that cattle exported to Indonesia are drawn from across the vast region of northern Australia, shipped and then placed into a large number of feedlots may limit the ability to build a one-picture-fits-all, “good news” story behind the beef produced. However there may be several aspects of the production cycle that can be used to highlight the ethical production of the beef e.g. the use of waste material from pineapple production, tapioca by-product or sugarcane tops that may normally go to some less valuable use or the recovery of the manure for production of fertiliser. Any claims made need to be justifiable and backed with supporting documentation.

Generic branding of the beef utilised under an Umbrella Brand or via an Industry Logo provided the product meets minimum specifications may be beneficial to increasing value. The Brand or Logo ideally should reflect the Australian bred / Indonesian fed and processed components of the products, which could be left to a media specialist or brand generator expert to explore possibilities and concepts.

Pooling of marketing efforts or cooperative marketing. Consideration could be given to consolidating marketing efforts under one central office to increase the size of offers and reduce competition between say 6-8 offers of the same product. Achieving this in practice is no easy step with differing company philosophies and approaches often putting stumbling blocks in the way, but with unanimous clearly defined support by owners or boards of the processing companies it has the potential to reduce marketing costs and increase returns via offering larger parcels of product and holding the line on pricing.

Getting as close to the end customer as possible. The traditional method of the sales process in the meat industry, particularly the export industry, largely evolved around traders or brokers, buying from packers and selling to their customers who in many cases were import agents or traders both aiming to maximise their individual profits. This served the industry well, but with the growth of market information on the internet, coupled with food retailers becoming more sophisticated some of whom operate in multiple countries a significant change occurred. Many processors now deal directly with the retailer or its dedicated buying arm in a transparent way, both understanding cost of production for the processor and the costs of shelf space and shrinkage for the retailer coupled with the levels of margin required by each party. Market signals are quickly relayed to each party reducing waste and increasing margins for both parties, plus development of new or re-jigged products can lead to greater margins for less valuable cuts of beef.

Similarly, getting closer to the end-user in the food service is desirable, but a little more complicated given the greater number of end customers, but building a transparent relationship with a food service distributor in the potential market offers the opportunity to increase margins.

Neither steps are easy, as trust and confidence in each party needs to be established and nurtured from day one of the negotiation and then reinforced on a daily basis.

Pooling of purchasing packaging consumables. The on-ground research for the initial report highlighted the relative high cost of packaging particularly barrier bags imported from China and further investigation into potential cost savings by bundling individual processor requirements under one bulk order warrants further investigation.

Use of On-line marketing platforms. The growth in on-line marketing has been explosive, particularly in Asia and this has extended its reach to include meat products both for the retail customer and buyer for food service outlets. This sales medium with its relative anonymity has allowed less than scrupulous people to operate scams which can include poor quality merchandise at inflated prices, leaving the consumer with a bad taste in the mouth. It is imperative that on-line marketing of beef is backed by products produced to the highest standards of food safety, graded and/or produced with guarantees of eating quality and with some story backing its ethical farming and processing links in the chain to the final customer. It does not replace in total the marketing and sales programmes in a processors sales division but has the possibility to increase demand and increase revenue and margin.

9 Conclusions and Recommendations

The study looked at the potential to develop an export capability in the Indonesian meat sector, based initially on target markets identified in an earlier study. Currently Indonesia

does not export beef products internationally, although some trade databases show small volumes these are believed to be incorrect. The relevant ministry is focussed on overseeing operations for the considerable domestic population (an estimated 267 million inhabitants).

A market study determined several markets that could be attractive for Indonesian beef export activities, based largely on market growth potential and size of market now. However, tariff advantages can be outweighed by sanitary and phyto-sanitary standards imposed by the importing country, as well as other non-tariff barriers, which make trade cumbersome and risky.

When combined with the results of a tariff analysis, where Indonesia has some leverage due to its membership in global and regional agreements, these possible markets were narrowed down to China, Singapore and Thailand. Each of these is quite stringent about beef imports and have strict guidelines, chief among which is the need to supply appropriate documentation that has been issued by a competent authority, nominally a government-controlled body like a ministry or directorate.

The study examined the potential for Halal products to Middle East markets but did not discern any real advantages as the main markets like Saudi Arabia already accept Halal-certified products from countries like Australia and Brazil without any issues emerging.

A gap analysis of five processing plants was conducted on a self-assessment basis, owing to the pandemic. This initially was designed to give an idea of the extent of capital costs that might be required to address any deficiencies in infrastructure including refrigeration, facility layout and standard of services like hot water and fuel. This should be incorporated into the financial modelling being prepared.

In the meantime, it became apparent from the gap analysis using international standards that the surveyed facilities could lift their performance in the areas of hot water provision; cold chain management and temperature control; efficient introduction and use of control systems; data capture and management; incorporation of traceability elements into daily operation and hygiene programs. It was also noted that currently there is no effective meat description or grading system in use in Indonesia which will tend to hinder the uptake of export product in better-paying markets.

An effective and well-planned partnership between the Indonesian government and the wider processing community is essential if Indonesian firms are to achieve success in the export arena. This should start with a desktop audit of the number, location and capacity of larger works which will in time underpin a certification system for export-standard plants. Government's role is vital in establishing a competent inspection system to underpin health and other guarantees to the foreign government and by negotiating workable protocols throughout.

For their own part, processors which are motivated to export to target markets should be consistent about the standards and practices of their day-to-day operations, control measures and the management of plant and production data (for example water treatment and chlorination programs, maintenance schedules, and other hallmarks of a well-managed site).

Judging by existing trade data there is some scope for Indonesia to ship processed/manufactured product however the largest markets worldwide for these items are found within the European Union and it is not considered feasible at this stage for Indonesia to compete in this market. Instead, if it can surmount specific requirements around product documentation and product origin, it could reasonably expect to achieve import approval for Singapore and Thailand. It would be advisable for individual companies to seek a tariff ruling in terms of the imported/domestic content of ingredients in these products as some jurisdictions can differ markedly.

Success will ultimately depend on the strength of the partnership between business and government to engineer a cogent and resilient system of plant inspection and certification and, ultimately, the ability of plant operators/businesses to consistently adhere to the import requirements of the foreign agency controlling the trade. The recommendations and tips provided in the export roadmap provide a direction for the Indonesian beef sector to develop export capacity.

10 References

11 Annexes

Annex 1 - Comparison Matrix for Five Processing Sites

Annex 2 - Sample Certificate of Origin, ASEAN

Annex 3 - Specific Requirements for Singapore Food Authority - Meat and Meat Products

Assessment of Beef Processing and Marketing Options in Indonesia

Annex 1 - Comparison matrix of five processing sites

	Plant 1, 2020	Plant 2, 2020	Plant 3, 2020	Plant 4 ⁷	Plant 5
ESCAS-approved?	Yes	Yes	Yes	Yes	Yes
Site conditions and access from self-assessment	adequate	adequate	adequate	adequate	Good
Distance from housing	favourable	favourable	favourable	favourable	favourable
Perimeter fencing	yes	yes	yes	Yes	Yes
Structural standard of premises including rust and surfaces	Fair	Good	Aging	Good	Good
<p>OBSERVATION: Meeting International Trading Standards. Regulations about plant construction and design require sturdy, non-toxic building materials, good perimeter security, buffer zones from residential/sensitive neighbours and suitable road surfaces to minimise dust and particulate matter. e.g. (i) Paved and graded access ways should be available to connect receipt and dispatch areas to streets or highways. (ii) Materials used should be: impervious to moisture, smoothly finished, rust resistant, resistant to or protected from impact and not subject to chipping or flaking.⁸</p>					

⁷ Results for Plants 4 and 5 are based on earlier data gathered in 2016 as part of a Red Meat Partnership study.

⁸ Commonwealth of Australia. Construction and Equipment Guidelines for Export Meat (1988)

Assessment of Beef Processing and Marketing Options in Indonesia

	Plant 1, 2020	Plant 2, 2020	Plant 3, 2020	Plant 4 ⁷	Plant 5
Lairage design and condition	Basic; significant exposure to elements	Good; drainage is adequate	Basic; some exposure to elements	Good; drainage is adequate	Good; drainage is adequate
Knocking and slaughter areas	Restrainer; rail height possibly an issue	Restrainer: not always used.	Restrainer	Restrainer: possibly not always in use.	Restrainer
Bleed area	Crowded	Adequate	Space described as adequate to prevent cross-contamination	Adequate area; well drained and sufficient rail length but overcrowded during last review (2016)	Adequate area
Evisceration	Poor design suggests possible cross-contamination	Inadequate inspection by qualified staff	unknown	unknown	No retain rail; company inspection
<p>OBSERVATION: Working towards <i>International Trading Standards</i>. Australian Standards require that:</p> <p><i>'Slaughter and dressing is to be done in a way that: (i) reduces the risk of contamination of carcasses and carcase parts to a level that ensures the wholesomeness of meat and meat products is not jeopardised; and (ii) ensures an accurate post-mortem disposition to carcase and carcase parts.'</i></p> <p><i>Other points concern inconsistent use of restrainer and inadequate supervision of evisceration operations. Bleed areas can also be congested due to design and operation.</i></p>					
Water source and chlorination	Bore water, chlorination	Chlorination	unknown	Bore water	Municipal source

Assessment of Beef Processing and Marketing Options in Indonesia

	Plant 1, 2020	Plant 2, 2020	Plant 3, 2020	Plant 4 ⁷	Plant 5
Monitoring of water quality	Not recorded	Unknown	Not recorded	Not recorded	Unknown
Hot water supply	Hot water systems around site	On-site boiler	Not used	Inadequate for throughput levels at last review (2016)	Boiler and electric elements; consistent supply
Lighting	Adequate	Good	Good	inadequate	adequate
Pest control services	Yes	Yes	Yes	Yes	yes
Hygiene and sanitation measures	Good	Good	Unknown	Good	Good

OBSERVATION: Working towards International Trading Standards. Overall the plants in the study accept the need to keep monitoring staff constantly for hygiene and sanitation procedures. Training in these elements could be strengthened in most cases as workers often lack knowledge about meat hygiene and the need to carefully manage surfaces, refrigeration levels and to maintain a hygienic envelope and work environment, including in areas where carcasses are being dressed, chilled and broken into primals for shipment. Ideally they will use systems and controls that are comparable to the Approved Arrangements (Australian Department of Agriculture 2015), for example, seeking an outcome whereby “the plant and equipment are not a source of contamination to carcasses, meat or meat products.” This means that during operational hours key procedures are in place to ensure:

- production areas and equipment, including contact surfaces, are kept in a suitable sanitary state
- that edible, inedible and condemned material are identified, handled and kept separate during production

Assessment of Beef Processing and Marketing Options in Indonesia

	Plant 1, 2020	Plant 2, 2020	Plant 3, 2020	Plant 4 ⁷	Plant 5
Amenities and clothing for workers	Yes	Both	Both	Both	Both
Hygienic processing procedures	Yes	Yes	Unknown	Unknown	Good
Waste disposal	Adequate	adequate	adequate	Yes	Good
Workers' training in hygiene	Yes	Yes	Basic	Unknown	Good
<p><i>Meeting/exceeding/working towards International Trading Standards.</i></p> <p>A primary provision for export plants is covered in the Approved Arrangements: (a) Persons handling edible product or working in or entering edible product handling areas are wearing clean protective outer clothing; (b) Personal hygiene practices ensure that meat and meat products are not contaminated; (c) Persons handling edible product or working in or entering edible product handling areas are medically fit for purpose</p>					
Boning standards and specifications	Good standards	Good standards		Good standards	Good standards
Digital scales to weigh carcass	Yes			Yes	Yes
Meat inspection procedures	Company inspectors	Company inspectors	Company inspectors	unknown	Company inspectors

Assessment of Beef Processing and Marketing Options in Indonesia

	Plant 1, 2020	Plant 2, 2020	Plant 3, 2020	Plant 4 ⁷	Plant 5
<p>Meeting/exceeding/working towards International Trading Standards</p> <p><i>It was not apparent from the self-assessment that there is extensive control in this area as it occurs after slaughter and carcass dressing. An export-approved plant will follow through with details plans and training to ensure continuation of hygienic conditions and uniform standards during this part of the processing chain.</i></p> <p><i>For example there should be written work instructions and continued training to ensure personnel are competent in the application of these instructions. All tasks involving the boning of meat should be detailed in the written work instructions and workers should at all times ensure (direct) and cross contamination (indirect) is prevented. A performance checklist for these work teams would normally be required to show:</i></p> <ul style="list-style-type: none"> • Contamination and cross contamination is prevented? • There is provision for monitoring and corrective action • Individuals responsible for corrective action are identified 					
Halal certification	Yes	Yes	Yes	Yes	Yes
Systems, certification and record-keeping				Basic	
Written quality assurance systems	Yes	Yes	Yes	Yes: HACCP-based	Yes
Availability of compressed air	Unknown	unknown	No	Yes	Yes

Assessment of Beef Processing and Marketing Options in Indonesia

	Plant 1, 2020	Plant 2, 2020	Plant 3, 2020	Plant 4 ⁷	Plant 5
Government certifying protocols	no	no	no	no	no
ISO Certification					
SOP's for chemicals	Yes	No	no	Yes	Yes
SOP's for animal welfare	Yes	Yes	Not stated	Yes	Unknown
Written SOP's for hygiene	Yes but detail unknown	Yes but detail unknown	Unknown	Yes but detail unknown	Yes but detail unknown
Written SOP's	Yes, several	Yes, several	Some	Yes, several	Yes, several
<p>Meeting/exceeding/working towards International Trading Standards</p> <p><i>Most plants had a few SOP's but no overarching programme was presented of how the plant operates, is regulated and monitored, or how the need for corrective action is identified and addressed.</i></p>					
Identification & traceability plan	Yes	Yes	no	Unknown	Unknown
<p>Meeting/exceeding/working towards International Trading Standards</p>					
Carcase chilling facilities	Yes	Yes	Yes	Yes	Yes

Assessment of Beef Processing and Marketing Options in Indonesia

	Plant 1, 2020	Plant 2, 2020	Plant 3, 2020	Plant 4 ⁷	Plant 5
Freezers	Yes	Yes	Unknown	Yes	Yes
Offal inspection and handling procedures	This occurs but inspector qualifications unknown	Veterinarian inspects	Inspected by the veterinarian; unchilled	This occurs but inspector qualifications unknown	Company inspection
Refrigeration in marshalling areas	Yes	Yes	Unknown	Unknown	Poor; ventilation and condensation issues
Refrigerated meat delivery vehicles	Yes	Yes	Unknown	Unknown	Unknown
Temperature monitoring system for chillers	No	No	Yes	Inconsistent; no records kept at last review (2016)	Adequate at last inspection
Vehicle tracking and temperature monitoring		yes			unknown

Meeting/exceeding/working towards International Trading Standards

Plants report that most inspection occurs from privately-employed inspectors or in-line workers. Normally there would be a requirement for a government officer to have oversight of offal inspection as well as checking the refrigeration and seal arrangements for shipments ex dock. For example under DA Approved Arrangements the plant should have Performance Indicators as follows (A) Meat is chilled or frozen in a manner that achieves the Refrigeration Index (RI) criteria; (B) Storage and transport temperatures ensure the product remains wholesome; (C) Monitoring procedures based on a significant number of samples or a 'worst case scenario' is developed for temperature controls.

ANNEX 7

Original (Duplicate/Triplicate)

1. Goods consigned from (Exporter's business name, address, country)		Reference No. ASEAN TRADE IN GOODS AGREEMENT/ ASEAN INDUSTRIAL COOPERATION SCHEME CERTIFICATE OF ORIGIN (Combined Declaration and Certificate)			
2. Goods consigned to (Consignee's name, address, country)		FORM D Issued in _____ (Country) See Overleaf Notes			
3. Means of transport and route (as far as known) Departure date Vessel's name/Aircraft etc. Port of Discharge		4. For Official Use <input type="checkbox"/> Preferential Treatment Given Under ASEAN Trade in Goods Agreement <hr/> <input type="checkbox"/> Preferential Treatment Given Under ASEAN Industrial Cooperation Scheme <hr/> <input type="checkbox"/> Preferential Treatment Not Given (Please state reason/s) Signature of Authorised Signatory of the Importing Country			
5. Item number	6. Marks and numbers on packages	7. Number and type of packages, description of goods (including quantity where appropriate and HS number of the importing country)	8. Origin criterion (see Overleaf Notes)	9. Gross weight or other quantity and value (FOB) where RVC is applied	10. Number and date of invoices
11. Declaration by the exporter The undersigned hereby declares that the above details and statement are correct; that all the goods were produced in (Country) and that they comply with the origin requirements specified for these goods in the ASEAN Trade in Goods Agreement for the goods exported to (Importing Country) Place and date, signature of authorised signatory			12. Certification It is hereby certified, on the basis of control carried out, that the declaration by the exporter is correct. Place and date, signature and stamp of certifying authority		
13 <input type="checkbox"/> Third Country Invoicing <input type="checkbox"/> Exhibition <input type="checkbox"/> Accumulation <input type="checkbox"/> De Minimis <input type="checkbox"/> Back-to-Back CO <input type="checkbox"/> Issued Retroactively <input type="checkbox"/> Partial Cumulation					

OVERLEAF NOTES

1. Member States which accept this form for the purpose of preferential treatment under the ASEAN Trade in Goods Agreement (ATIGA) or the ASEAN Industrial Cooperation (AICO) Scheme:

BRUNEI DARUSSALAM	CAMBODIA	INDONESIA
LAO PDR	MALAYSIA	MYANMAR
PHILIPPINES	SINGAPORE	THAILAND
VIETNAM		

2. CONDITIONS: The main conditions for admission to the preferential treatment under the ATIGA or the AICO Scheme are that goods sent to any Member States listed above must:

- (i) fall within a description of products eligible for concessions in the country of destination;
- (ii) comply with the consignment conditions in accordance with Article 32 (Direct Consignment) of Chapter 3 of the ATIGA; and
- (iii) comply with the origin criteria set out in Chapter 3 of the ATIGA.

3. ORIGIN CRITERIA: For goods that meet the origin criteria, the exporter and/or producer must indicate in Box 8 of this Form, the origin criteria met, in the manner shown in the following table:

Circumstances of production or manufacture in the first country named in Box 11 of this form	Insert in Box 8
(a) Goods wholly obtained or produced in the exporting Member State satisfying Article 27 (Wholly Obtained) of the ATIGA	“WO”
(b) Goods satisfying Article 28 (Non-wholly obtained) of the ATIGA <ul style="list-style-type: none"> • Regional Value Content • Change in Tariff Classification • Specific Processes • Combination Criteria 	Percentage of Regional Value Content, example “40%” The actual CTC rule, example “CC” or “CTH” or “CTSH” “SP” The actual combination criterion, example “CTSH + 35%”
(c) Goods satisfying paragraph 2 of Article 30 (Partial Cumulation) of the ATIGA	“PC x%”, where x would be the percentage of Regional Value Content of less than 40%, example “PC 25%”

4. EACH ARTICLE MUST QUALIFY: It should be noted that all the goods in a consignment must qualify separately in their own right. This is of particular relevance when similar articles of different sizes or spare parts are sent.
5. DESCRIPTION OF PRODUCTS: The description of products must be sufficiently detailed to enable the products to be identified by the Customs Officers examining them. Name of manufacturer and any trade mark shall also be specified.
6. HARMONISED SYSTEM NUMBER: The Harmonised System number shall be that of in ASEAN Harmonised Tariff Nomenclature (AHTN) Code of the importing Member State.
7. EXPORTER: The term “Exporter” in Box 11 may include the manufacturer or the producer.
8. FOR OFFICIAL USE: The Customs Authority of the importing Member State must indicate (√) in the relevant boxes in column 4 whether or not preferential treatment is accorded.
9. MULTIPLE ITEMS: For multiple items declared in the same Form D, if preferential treatment is not granted to any of the items, this is also to be indicated accordingly in box 4 and the item number circled or marked appropriately in box 5.
10. THIRD COUNTRY INVOICING: In cases where invoices are issued by a third country, “the Third Country Invoicing” box should be ticked (√) and such information as name and country of the company issuing the invoice shall be indicated in box 7.
11. BACK-TO-BACK CERTIFICATE OF ORIGIN: In cases of Back-to-Back CO, in accordance with Rule 11 (Back-to-back CO) of Annex 8 of the ATIGA, the “Back-to-Back CO” box should be ticked (√).
12. EXHIBITIONS: In cases where goods are sent from the exporting Member State for exhibition in another country and sold during or after the exhibition for importation into a Member State, in accordance with Rule 22 of Annex 8 of the ATIGA, the “Exhibitions” box should be ticked (√) and the name and address of the exhibition indicated in box 2.
13. ISSUED RETROACTIVELY: In exceptional cases, due to involuntary errors or omissions or other valid causes, the Certificate of Origin (Form D) may be issued retroactively, in accordance with paragraph 2 of Rule 10 of Annex 8 of the ATIGA, the “Issued Retroactively” box should be ticked (√).
14. ACCUMULATION: In cases where goods originating in a Member State are used in another Member State as materials for finished goods, in accordance with paragraph 1 of Article 30 of the ATIGA, the “Accumulation” box should be ticked (√).
15. PARTIAL CUMULATION (PC): If the Regional Value Content of the material is less than forty percent (40%), the Certificate of Origin (Form D) may be issued for cumulation purposes, in accordance with paragraph 2 of Article 30 of the ATIGA, the “Partial Cumulation” box should be ticked (√).
16. DE MINIMIS: If a good that does not undergo the required change in tariff classification does not exceed ten percent (10%) of the FOB value, in accordance with Article 33 of the ATIGA, the “De Minimis” box should be ticked (√).

VETERINARY CONDITIONS FOR IMPORTATION OF BEEF AND BEEF PRODUCTS

Singapore Food Agency (SFA)

BEEF AND BEEF PRODUCTS

- a) Country/zone has been free from Foot and Mouth Disease (FMD) with or without vaccination for six (6) months immediately prior to the date of slaughter of animals and the date of export of meat and meat products to Singapore. The FMD free status with or without vaccination is officially recognised by the OIE.
- b) Bone-in meat and offal are eligible for export from FMD-free country/zone with vaccination, with the exception of the head, including the pharynx, tongue and associated lymph nodes.
- c) Where the products are exported from FMD-affected country/zone, the products have been subjected to heat treatment that is sufficient for inactivation of FMD virus in accordance with OIE guidelines.
- d) Where the country is recognised by the OIE as having a negligible BSE risk, beef cuts (bone-in and bone-less), derived from cattle of all ages are eligible for export.
- e) Where the country is recognised by the OIE as having a controlled BSE risk, deboned beef cuts from cattle of all ages and bone-in beef cuts derived from cattle less than thirty months of age are eligible for export.
- f) Where the country has an undetermined BSE risk, only deboned beef cuts from cattle of all ages are eligible for export, subject to the following conditions:
 - i. The meat was derived from cattle that have not been fed meat-and-bone meal or greaves derived from ruminants.
 - ii. The meat was not contaminated with nervous or lymphatic tissue exposed during the deboning process.
 - iii. The meat was not contaminated with mechanically separated meat.
- g) Traceability of the animals through a reliable system is in place.
- h) The products have not been derived from suspect or confirmed BSE cases, or suspect or confirmed progeny or cohorts of BSE cases, as described in the Terrestrial Animal Health Code.
- i) The products have been derived from cattle that were not subjected to a stunning process with a device injecting compressed air or gas into the cranial cavity, or to a pithing process.

- j) Specified risk materials¹ have been cleanly removed from products for export to Singapore without contamination of the meat.
- k) The products have been prepared in an establishment accredited by SFA and is audited regularly by the competent authority for compliance with conditions for import into Singapore.
- l) For processed beef, the products do not contain mechanically separated/recovered meat.
- m) The meat has been derived from animals which were born and bred in the country of origin since birth.
- n) The meat has been derived from animals which have passed ante-mortem and post-mortem inspection and found to be free from infectious and contagious diseases. Ante-mortem and post-mortem inspections have been carried out by veterinarians or meat inspectors under direct supervision of government veterinarians.
- o) The meat has been derived from animals which were slaughtered, processed, packed and stored under sanitary conditions under official veterinary supervision in establishments approved by the Director-General, Food Administration for export to Singapore.
- p) The meat has not been treated with chemical preservatives or other substances injurious to health.
- q) The meat has been inspected and found fit for human consumption and every precaution must be taken to prevent contamination prior to export.
- r) Retort processed meat products (e.g. canned meat) have been heat treated (sterilising process with sterilising value of not less than Fo3) to commercial sterility in hermetically sealed containers and are shelf stable at ambient temperatures.

¹ For BSE negligible and controlled risk countries, SRM refers to brain, eye, spinal cord, skull and vertebral column from cattle 30 months and older, and the distal ileum and tonsils from all cattle. For BSE undetermined risk countries, SRM refers to brain, eye, spinal cord, skull and vertebral column from cattle 12 months and older, and the distal ileum and tonsils from all cattle.