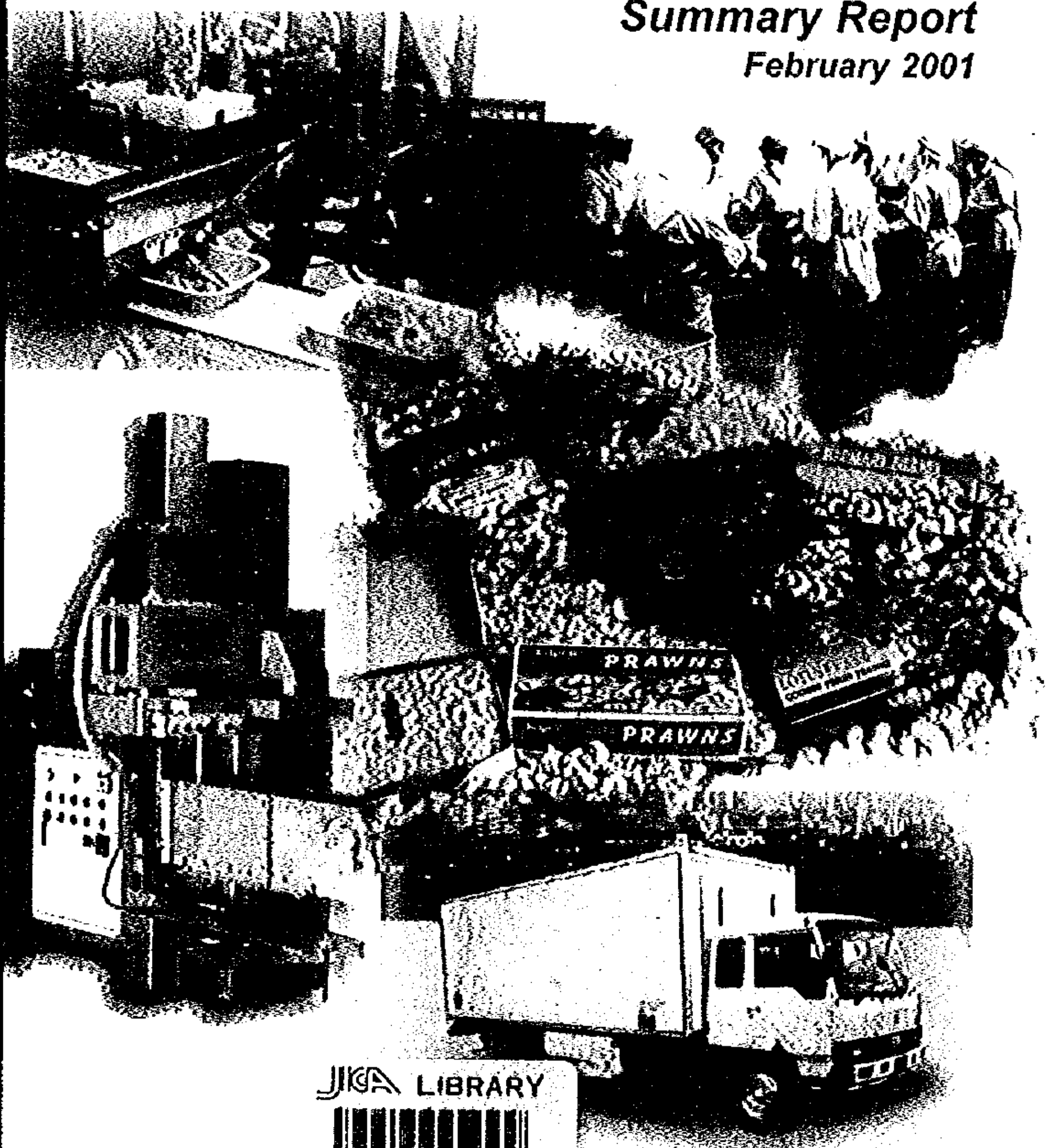
Study on the Marketing of Chilled and Frozen Food in Malaysia

Summary Report

February 2001



FAMA

Federal Agricultural Marketing Authortiy

JICA

Japan International Cooperation Agency (JICA) Malaysia Office

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February 2001

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The exchange rate used in the Study is:
RM1.00 = USD3.80
RM1.00 = ¥30.62
(as at 28 February 2001)

PREFACE

At the request of the Government of Malaysia, the Government of Japan has decided to conduct a Study on the Marketing of Chilled and Frozen Food in Malaysia and has entrusted the study to the Japan International Cooperation Agency (JICA).

JICA Malaysia Office has selected and engaged Deloitte Kassim Chan Management Consultants Sdn. Bhd. (DKC) as principal consultant to carry out the study. The study team is headed by Mr. Azman bin Mohd Zain of DKC and consists of other experts from DKC, the Food Quality Research Unit (UNIPEQ) of Universiti Kebangsaan Malaysia and Universiti Putra Malaysia.

The Steering Committee headed by Dato' Abi Musa Asa'ari bin Mohamed Nor, the Director General of the Federal Agriculture Marketing Authority (FAMA) , was set up to coordinate, examine and guide the study team.

In addition, JICA HQ dispatched to Malaysia Mr. Hidenori Maki and Mr. Akikazu Aoyagi, Japan Development Service Co., Ltd., five times between January 2000 and September 2000, who monitored and assisted in the conduct of the study.

The study team held discussions with the officials concerned of the Government of Malaysia, conducted field surveys, analyzed data collected and prepared this final report.

I hope that this report will contribute to the development of the chilled and frozen food industry in Malaysia and to the enhancement of friendly relationship between our two countries.

Finally, I wish to express my sincere appreciation to the stakeholders concerned from both the private and public sectors in Malaysia for their close cooperation extended to the study.

February 2001

Kazutoshi Iwanami
Resident Representative
Japan International Cooperation Agency
Malaysia Office

February 2001

Resident Representative
Japan International Cooperation Agency
Malaysia Office

Dear Mr. Kazutoshi IWANAMI,

Letter of Transmittal

We are pleased to formally submit herewith the final report on *The Study of Marketing of Chilled and Frozen Food in Malaysia.*

The main objectives of this study are to gather information on the current status, market potential and future directions for the industry. Appropriate strategies and action plans have been recommended for the development of the industry. Results of this study should serve as a basis for the Malaysian Government to formulate appropriate policies and programmes for the orderly development of the chilled and frozen food industry.

The successful completion of this project was made possible with the effort and contribution from many people. We would like to express our sincere gratitude and appreciation to all these people for the kind assistance and cooperation extended to the Study Team. In particular, we would like to thank members of the Study Steering Committee and senior officials from FAMA, who have provided invaluable assistance to the study team.

We would also like to acknowledge the kind help and assistance provided by the officials of your agency.

We hope that this report would be able to contribute substantially to the improvement of the chilled and frozen food industry in Malaysia.

Very truly yours,

AZMAN MOHD ZAIN
Study Team Leader,
Executive Director of
Deloitte KassimChan Management Consultants Sdn Bhd

STUDY CONSORTIUM

I) Steering Committee

1. FAMA

• Dato' Abi Musa Asa'ari b. Mohamed Nor	• Director General of FAMA and Chairperson
• En. Samah Hasan	• Senior Director of Corporate Planning, Market Intelligence and IT Division
• Pn. Sharifah Hashim	• Director of Supply Monitoring Department
• En. Lee Kam Chong	• Director of Demand Monitoring Department
• En. Teoh Sian Chew	• Director of Marketing Research and Market Potential Department
• Pn. Norma Mohd Salleh	• Officer and Secretary to the Steering Committee

2. JICA

• Mr. Naofumi Yamamura	• Assistant Representative, JICA Malaysia Office

3. Department of Statistics

• Ms. Kate Van	• Statistician

4. Economic Planing Unit (Prime Minister's Department)

• En. Aris Fadhilah b Sariat	• Assistant Director General, Agriculture section

5. Malaysian Agricultural Research and Development Institute (MARDI)

• Dr. Noraini Mohd Khalid	• Head, Food Processing and Product Development Program, Food Technology Centre

6. Ministry of Agriculture

• En. Bhaskaran	• Assistant Secretary, Commodity Development Division

II) Technical Advisors

Mr. Hidenori Maki	• Senior Consultant in Marketing, Japan Development Service Co. Ltd. (JDS)
Mr. Akikazu Aoyagi	• Senior Consultant in Food Processing, JDS

III) Study Team

Team members	Designation	Role
Deloitte KassimChan Management Consultants Sdn Bhd		
1. **En. Azman Mohd. Zain**	Executive Director	**Team Leader**
2. Mr. Koichi Hayase	Director	Industrial Strategy Consultant
3. Mr. M. Arrasu	Director	Institutional and Marketing Consultant
4. Mr. Chew Fun Sing	Assistant Manager	Economic Analysts / Strategy
5. Mr. Henry Victor	Consultant	Supply Chain Analyst
6. Mr. Hor Seer Foon	Consultant	Business Analyst
7. Ms. Chizuko Takenoyama	Senior Manager	Industrial Policy Analyst
Food Quality Research Unit (UNIPEQ), UKM		
8. Prof Nik Ismail Nik Daud	Director of UNIPEQ	Food Technologist
9. Mr. Lam Ah Chye	Consultant	Demand Analyst
10. Ms. Tih Sio Hong	Lecturer	Consumer Behaviour Analyst
Universiti Putra Malaysia (UPM)		
11. Prof. Yaakob Che Man	Professor	Halal Food Specialist
12. Prof. Mohd Zain Mohamed	Deputy Dean	Agribusiness Consultant

EXECUTIVE SUMMARY

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1 INTRODUCTION

1.1 Study Background and Objectives

There is an increasing demand for chilled and frozen food in advanced as well as developing countries and, therefore, an interest to understand the present state of the industry in Malaysia and to plan for its future development. In response to these requirements, the objectives of this Study are to assess the following:

- Market size, market potential, and consumer analysis for chilled and frozen food locally and abroad.
- Quality, technology, research and development, and human resource development programs associated with the chilled and frozen food industry.
- Potential for Malaysia to become the hub for the world's halal chilled and frozen food market.

1.2 Product Coverage and Definition

Fresh food by nature is perishable. The development of chilling and freezing processes has enabled the freshness of these products to be prolonged through temperature control. Generally, chilled food refers to food products that have to be stored at temperatures of minus 1°C to 10°C. Frozen food refers to food that has undergone a quick-freezing process and is required to be stored in temperature of at least minus 18°C.

This Study has covered four categories of chilled and frozen food products namely, **Ready-to-serve meals, Snacks, Food Ingredients** and **Ready-To-Serve, Ready-To-Cook Meat, Seafood, and Vegetables.**

2 PRESENT SITUATION OF THE INDUSTRY

2.1 Industry Players

It is estimated that there are 64 major manufacturers and 35 importers of chilled and frozen food in Malaysia.

- there is hardly any local player of substance in the chilled and frozen ready-to-serve meals category.

- the chilled and frozen **snacks** industry is currently dominated by only six companies, i.e., KG Pastry Sdn Bhd, Kart Food Sdn Bhd, Ben Fortune Sdn Bhd, P.A. Food Sdn Bhd, Anika Food Industries Sdn Bhd, and Sydney Cake House Sdn Bhd.

- there are about seven **food ingredient** manufacturers but only one of them, Sensori Food Industry, produces frozen coconut milk and has a more established market in this category.

- the main players in the chilled and frozen food industry are from the **meat, seafood and vegetable** categories. KFC Holding Bhd, Dinding Poultry Sdn Bhd, Sinmah Holding, and Leong Hup are few of the major players. The survey also indicates that most meat (except for poultry), seafood, and vegetables in Malaysia are imported.

2.2 Production Facilities and Technology

- Most manufacturers use locally fabricated machinery as imported machines are expensive. However, most manufacturers find the locally fabricated machines inferior to imported ones.

- Each market category calls for a different uptake on the level of technology. Companies producing ready-to-serve meals and snacks tend to use locally fabricated machinery of mediocre quality, while the seafood and meat companies use sophisticated imported machinery and employ proper production systems.

3 EXISTING MARKET SIZE AND CHARACTERISTICS

3.1 Existing Market Size

The total market size of chilled and frozen food for Malaysia is estimated at RM2 billion (including exports) in 1999 (refer table below). The industry registered an average of nine percent growth p.a. in 1999.

Estimated Market Size for Chilled and Frozen Food in Malaysia

Market size						
				1999		
In RM (million)	1996	1997	1998	Total market size	Export	Local consumption
Ready meals	6.3	7.2	8.3	9.5	NS	9.5
Snacks	N/A	N/A	N/A	62.9	20.2	42.8
Food Ingredients	N/A	N/A	N/A	5.6	NS	5.6
Vegetables	N/A	414.0	476.5	506.7	NS	506.7
Meat	N/A	N/A	769.7	853.7	NS	853.7
Seafood	439.0	519.3	584.7	610.0	468.1	141.9
Total	N/A	N/A	1,839.2	2,048.4	488.3	1,560.2

Notes: N/A – not available, NS – not significant.
Figures are obtained from Euro monitor, ROC, and the industry players. Some of the data involve projection based on experts' opinions

The meat, meat-based products, seafood, and vegetables category accounted for the biggest market size.

Generally, meat and meat-based segment is well-developed with the market dominated by a few large players, some of whom are also public-listed companies in Malaysia. These products make up the largest segment of the industry. Poultry products are the major component of this segment and are principally produced and consumed locally. Malaysia imports over 85 percent of its meat (except poultry) requirement while an insignificant quantity of poultry meat is exported to Sabah, Sarawak, and Singapore.

Seafood is the second largest product component after meat. Supplies from domestic landings are insufficient to meet the increasing local demand as almost 77 percent of the local production of seafood is exported. Hence, local demand for seafood, especially shrimp, is met by importing from India, Bangladesh and Myanmar.

There is a ready market for chilled pre-cut vegetables but the supply is currently met by imports.

3.2 Consumer Characteristics

A consumer survey was carried out to gather information on product awareness and perception, consumption patterns, purchasing patterns, future trends, and influences of some socio-demographic characteristics. 800 respondents from five areas (Klang Valley, Penang, Ipoh, Seremban, and Johor Bahru) were randomly sampled at shopping complexes using Mall-Intercept survey method.

The following are the findings:

a) Consumer Life-style and Perception

- In general, consumers still prefer fresh food to chilled and frozen food. If given a choice between chilled food and frozen food, however, consumers prefer chilled food. Some of them perceive frozen food as low quality.
- Among consumers, the higher educated and high-income group has a higher acceptance of chilled and frozen food and appreciate the product's value.
- There is a growing trend of eating out at food service outlets. The concept of convenience food with minimal preparation time is gradually being adopted among households.

b) Main Reasons for Consuming Chilled and Frozen Food

- The attraction to chilled and frozen food is not its taste, as most consumers expressed the factors of convenience, easy to get, as well as time saving/faster food preparation as the main reasons for buying chilled and frozen foods.

c) Price

- About 82 percent of the respondents feel that the overall price of chilled and frozen food is reasonable.

d) General Consumers' Preference and Taste

- Chilled and frozen Malay cuisine is the most favoured choice, followed by Western varieties and Chinese. The most preferred taste is hot and spicy food.

e) Types of Chilled and Frozen Food Consumed

- **Meals and Snacks:** *roti canai*, pizza, *karipap*, *pau*, and spring rolls.
- **Ingredients:** chilled fruits, tofu, and noodles.
- **Meat, Seafood, Vegetable:** nuggets, burgers, chicken, sausages, and frozen vegetable.

f) Consumers' Indication

- Consumers indicated they will consume more chilled and frozen food and are willing to try new products.

4 DISTRIBUTION SYSTEM

The cold chain is basically in place with all its necessary components. The functioning of the chain, however, is suspect though there are not many recorded incidents of economic losses due to the breakage of the cold chain

Most of the bigger companies in the industry employ their own cold trucks and cold rooms. Despite this, the cold chain in Malaysia breaks down very often as product handling is still poor. Transporters, cold room operators, retailers, and even consumers lack knowledge in handling chilled and frozen food.

5 INSTITUTIONAL SITUATION

5.1 Regulations

There are three principal legislations that govern food in general, and are, therefore applicable to the chilled and frozen food industry:

- Food Act 1983
- Food Regulations 1985
- Import regulations and restriction on meat and meat-based products

To a certain extent, the existing regulations are not as stringent and comprehensive as those in more developed countries, such as the US and Europe, and are usually not stringently enforced. Only 21 producers out of an estimated total of 5000 Malaysian food companies have the HACCP certification.

Currently, there is no well-defined quality standard for local chilled and frozen food, except for meat and meat-based products. Generally, consumers use fresh products as a benchmark for standards.

5.2 R&D and Human Resources

There is very little systematic R&D on chilled and frozen foods in Malaysia. R&D where carried out, is limited mainly to public research institutions. Work implemented outside the public research institutions are more of the product development type, and are done during formulation trials in conjunction with the machinery and ingredient suppliers. Private companies are also generally unaware of related R&D carried out by public research institutions.

The industry has not adequately used trained manpower, such as qualified food technologists available in the country, mainly because small-scale producers/ entrepreneurs are cautious of sharing their experience and knowledge. There is also a shortage of semi-skilled and unskilled workers in this sector due to the special nature of the chilled and frozen food operation, e.g., the harsh cold room working environment.

6 INTERNATIONAL MARKET

The global market for the chilled and frozen food in currently concentrated in developed countries such as, US, European countries, and Japan. The largest frozen food market is US, accounting for over 60 percent of the total sales.

The worldwide halal food market appears to be very big and growing, driven predominantly by the size and growth of the Muslim population worldwide. The current Muslim population worldwide is estimated at 1.5 billion and growing at about three percent a year. There is also a large Muslim population in Middle East, South and South East Asia, the East European states of the former Soviet Union, China, and United States.

Demand for halal food is currently estimated at USD80 billion a year. The halal frozen food segment alone is estimated at USD27 billion. Currently, halal chilled and frozen food accounts for about 85 percent of the total chilled and frozen food market in Malaysia and is estimated at RM1.7 billion.

7 MARKET POTENTIAL

7.1 Industry Drivers

Drivers for consumption of chilled and frozen food around the world are common. The following are factors that drive this industry:

- Changing socio-demography and lifestyle are the main demand drivers such as, increasing number of working woman, higher diffusion rate of electrical appliances, higher income, and education.
- Growing food service industry is also creating additional demand as the industry opts for more frozen food for convenience and to reduce labour costs.
- Increasing product varieties and merchandising space allocation for chilled and frozen food encourage more purchases.
- Marketing efforts are creating awareness and improving product perception.
- Growing improvements in the supply chain enable production of better quality products, output improvement, and cost reduction.

7.2 Market Size Projection

The market size for local chilled and frozen food is projected to be RM3.1 billion in 2005 and RM6.0 billion in 2010. Malaysia's chilled and frozen food consumption is projected to increase to 11.7 kg per capita by 2010. The halal frozen food market is projected to grow at 4.3 percent a year and by 2010, the market is expected to reach USD43 billion

In view of this, there is a growing demand for chilled and frozen food which would significantly impact the industry's market size.

8 KEY CHALLENGES AND ISSUES

8.1 Malaysian Market

Based on the study, the following are several key issues identified that can be generally divided into common and industry specific segments:

(a) Common Issues

Production	• Generally, industry players lack technical knowledge. • Lack of affordability in purchasing chilling and freezing machinery. • Lack of availability of local raw materials.
Technology and R&D	• SMIs with relatively smaller production scale benefit little from using good imported machines as these machines normally have high production capacity. • Most previous R&D projects often stop at the research stage with no commercial benefits derived from them.
Consumer Acceptance, Perception, and Awareness	• Frozen food is perceived to be inferior in quality. • Consumers generally do not appreciate the quality parameters of chilled and frozen food.
Cold Chain	• The cold chain is often broken mainly due to lack of knowledge in handling chilled and frozen food, poor equipment maintenance, improperly designed facilities for loading/unloading of the food, and poor quality of locally fabricated machines.
Human Resource	• The industry is not adequately using locally trained manpower. • Shortage of general workers in this industry.
Legislative and Institutional	• Local producers are having difficulties in meeting international food standards and requirements. • No organisation to spearhead the development of this industry and to coordinate efforts of the industry players.
Impact of Globalisation	• Local food producers will have to face greater competition from global liberalisation.

(b) Sector Specific Issues

Complete Meals and Snacks	• Most food producers have poorly designed manufacturing premises. • Food producers have difficulty meeting industry food standards such as GMP and HACCP. • Most snack products are developed on a trial and error basis. • Industry's main challenge for producers to produce food with similar qualities as the fresh alternatives. • Lack of experience in proper operations of central kitchen.
Food Ingredients and Vegetables	• There are very few players in the food ingredients sector. • About 60 percent of chilled and frozen vegetables are imported and consumed by local food service establishments. • Lack of minimally processed local ingredients and vegetables.

(b) Sector Specific Issues (cont'd)

Chilled and Frozen Seafood	• Inadequate supply of raw materials. • Industry's main challenge is to produce quality local products that could withstand the freezing process and distribution. • Industry may lose competitive price advantage if preferential treatment in Europe is retreated.
Chilled and Frozen Poultry	• High cost of raw materials for the production of animal feed. • Export market of poultry products is limited
Chilled and Frozen Meat Products (Beef, Lamb)	• Limited export markets for local production of these meat-based products. • Industry's main challenge is to penetrate more overseas markets with locally produced VAP.
Chilled and Frozen Pork Products	• Only a few major players. Disease outbreaks, such as the Nipah outbreak that occurred in 1999 have negatively impacted local and overseas demand.

(c) International Halal Food Market

Based on the study, the following identifies several key challenges and issues facing Malaysia should Malaysia position itself as the world hub for halal food:

Halal Food Hub	• The efforts of various Government agencies involved in crystallising the "Malaysia Halal Food Hub" concept are not concerted, and lack a common vision. Hence, it is important for the authorities to revisit the following strategic issues:
	  • **What should this Halal Food Hub be?**
	  • **What to hub?**

Production and Distribution	• Need to establish a comprehensive guideline and monitoring system for halal food production.
Technology and R&D	• Scientific advances such as, genetic engineering, pose a great challenge to halal certification. • Need to address the many technical and practical aspects of halal food production.
Legislation and Institutional	• Lack of coordination among Government agencies in promoting and implementing strategies. • No legal requirement for mandatory compliance of halal production and certification, and no standardisation of halal logo in Malaysia. • Fee structure for JAKIM halal certification is relatively high for SMIs. • Insufficient infrastructure to support halal food supply chain.
Consumer Education	• Lack of certification agencies' commitment to educate the public.
International Trade	• Sanitary & Phytosanity Measures are not included in halal principles. • No standardisation of international guidelines on halal certification. • Possibility of losing the prestigious "Malaysian Halal" logo once Halal Logo in ASEAN is standardised. • Limited internationally promotional activities on Malaysian halal food.

8.2 The Need for Intervention / Government Action

In view of this, the Malaysian Government has an important role to play in order to achieve the following:

- Achieve projected market potential
- Gain economic benefits from developing selected categories
- Ensure food safety
- Improve nation's overall food security

Therefore, appropriate recommendations for strategies and action plans are necessary to achieve the above.

9 DEVELOPMENT STRATEGIES AND ACTION PLAN

9.1 Vision

In order to capitalize the economic potential of the chilled and frozen food industry and to meet the challenges and issues, the study team proposes a strategic vision for Malaysia's chilled and frozen food industry.

The following is the vision recommended for the Malaysian chilled and frozen food industry:

> By **2010**, the consumption of chilled and frozen food will be **RM6.0 billion**, with the **infrastructure** fully developed to support the industry and there will be **sufficient range of products** to satisfy the needs of customers.
>
> The industry will be using **up-to-date technology**, some of which are home-grown, to produce **high quality products.**
>
> All chilled and frozen food producers will implement **GHP and GMP** while the **major** ones will have **HACCP** certification to gain acceptance overseas.
>
> For Malaysia to be the **International Halal Hub in 2010**, the country will produce **at least 10 percent** of world's halal food market.

9.2 Strategies and Action Plans

In order to achieve the vision and address and resolve the challenges, opportunities, and threats, seven key strategies and 27 action plans for the Malaysian chilled and frozen food industry are recommended.

The following graph describes the time frame and where applicable, the corresponding goals for each of the strategies and action plan:

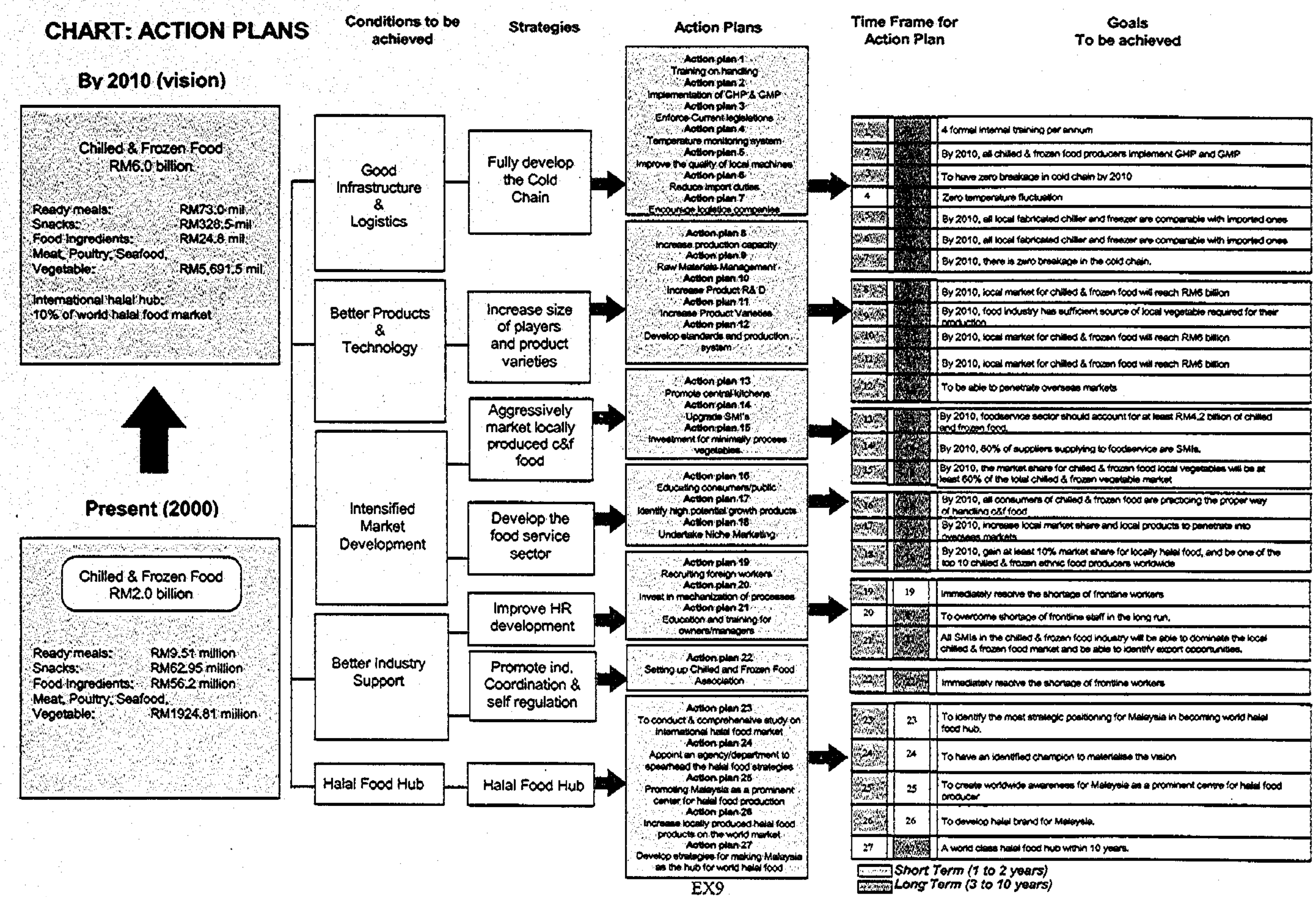
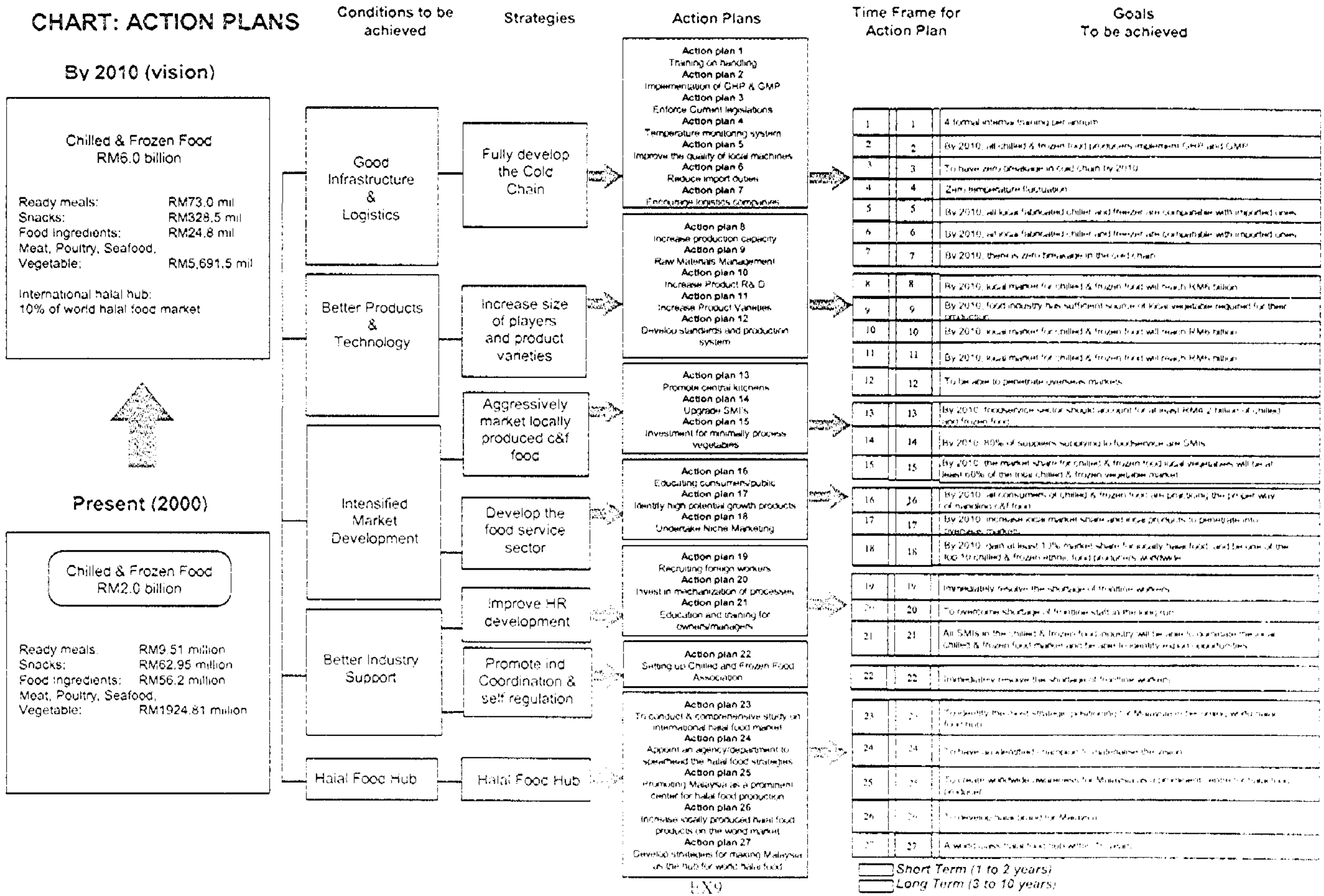


CHART: ACTION PLANS
Conditions to be achieved
Strategies
Action Plans
Time Frame for Action Plan
Goals To be achieved
By 2010 (vision)
Chilled & Frozen Food RM6.0 billion
Ready meals: RM73.0 mil
Snacks: RM328.5 mil
Food Ingredients: RM24.8 mil
Meat, Poultry, Seafood, Vegetable: RM5,691.5 mil
International halal hub: 10% of world halal food market
Present (2000)
Chilled & Frozen Food RM2.0 billion
Ready meals: RM9.51 million
Snacks: RM62.95 million
Food Ingredients: RM56.2 million
Meat, Poultry, Seafood, Vegetable: RM1924.81 million
Good Infrastructure & Logistics
Better Products & Technology
Intensified Market Development
Better Industry Support
Halal Food Hub
Fully develop the Cold Chain
Increase size of players and product varieties
Aggressively market locally produced c&f food
Develop the food service sector
Improve HR development
Promote ind. Coordination & self regulation
Halal Food Hub
Action plan 1 Training on handling
Action plan 2 Implementation of GHP & GMP
Action plan 3 Enforce Current legislations
Action plan 4 Temperature monitoring system
Action plan 5 Improve the quality of local machines
Action plan 6 Reduce import duties
Action plan 7 Encourage logistics companies
Action plan 8 Increase production capacity
Action plan 9 Raw Materials Management
Action plan 10 Increase Product R&D
Action plan 11 Increase Product Varieties
Action plan 12 Develop standards and production system
Action plan 13 Promote central kitchens
Action plan 14 Upgrade SMI's
Action plan 15 Investment for minimally process vegetables
Action plan 16 Educating consumers/public
Action plan 17 Identify high potential growth products
Action plan 18 Undertake Niche Marketing
Action plan 19 Recruiting foreign workers
Action plan 20 Invest in mechanization of processes
Action plan 21 Education and training for owners/managers
Action plan 22 Setting up Chilled and Frozen Food Association
Action plan 23 To conduct a comprehensive study on international halal food market
Action plan 24 Appoint an agency/department to spearhead the halal food strategies
Action plan 25 Promoting Malaysia as a prominent center for halal food production
Action plan 26 Increase locally produced halal food products on the world market
Action plan 27 Develop strategies for making Malaysia as the hub for world halal food
1 4 formal internal training per annum
2 By 2010, all chilled & frozen food producers implement GHP and GMP
3 To have zero breakage in cold chain by 2010
4 Zero temperature fluctuation
5 By 2010, all local fabricated chiller and freezer are comparable with imported ones
6 By 2010, all local fabricated chiller and freezer are comparable with imported ones
7 By 2010, there is zero breakage in the cold chain.
8 By 2010, local market for chilled & frozen food will reach RM6 billion
9 By 2010, food industry has sufficient source of local vegetable required for their production
10 By 2010, local market for chilled & frozen food will reach RM6 billion
11 By 2010, local market for chilled & frozen food will reach RM6 billion
12 To be able to penetrate overseas markets
13 By 2010, foodservice sector should account for at least RM4.2 billion of chilled and frozen food.
14 By 2010, 80% of suppliers supplying to foodservice are SMIs.
15 By 2010, the market share for chilled & frozen food local vegetables will be at least 60% of the total chilled & frozen vegetable market
16 By 2010, all consumers of chilled & frozen food are practicing the proper way of handling c&f food
17 By 2010, increase local market share and local products to penetrate into overseas markets
18 By 2010, gain at least 10% market share for locally halal food, and be one of the top 10 chilled & frozen ethnic food producers worldwide
19 Immediately resolve the shortage of frontline workers
20 To overcome shortage of frontline staff in the long run.
21 All SMIs in the chilled & frozen food industry will be able to dominate the local chilled & frozen food market and be able to identify export opportunities.
22 Immediately resolve the shortage of frontline workers
23 To identify the most strategic positioning for Malaysia in becoming world halal food hub.
24 To have an identified champion to materialise the vision
25 To create worldwide awareness for Malaysia as a prominent centre for halal food producer
26 To develop halal brand for Malaysia.
27 A world class halal food hub within 10 years.
Short Term (1 to 2 years)
Long Term (3 to 10 years)

EX9

CHART: ACTION PLANS



EX9

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LIST OF CHARTS

ABBREVIATIONS

3F	Fund for Food
ABAC	APEC Business Advisory Council
AFAPK	Association of Forwarding Agents at Port Klang
AFFI	American Frozen Food Institute
AFTA	ASEAN Free Trade Area
AMAF	ASEAN Ministers of Agriculture and Forestry
APEC	Asia Pacific Economic Co-operation
ASEAN	Association of Southeast Asian Nations
BNM	Bank Negara Malaysia (Central Bank of Malaysia)
BPM	Bank Pertanian Malaysia
C&F	Chilled and Frozen
CEO	Chief Executive Officer
CEPT	Common Effective Preferential Tariffs
CFFI	Chinese Frozen Food Institute
CIF	Cost, Insurance and Freight
CIS	Commonwealth of Independent States
CO_2	Carbon Dioxide
CPI	Consumer Price Index
DOE	Department of Environment
DVS	Department of Veterinary Services
ECR	Export Credit Refinancing Scheme
EIU	Economic Intelligence Unit
EPS	Expanded Polystyrene
EU	European Union
FAMA	Federal Agricultural Marketing Authority
FAS	Foreign Agriculture Service
FDI	Foreign Direct Investment
FMM	Federation of Malaysian Manufacturers
GAHP	Good Animal Husbandry Practices
GATT	General Agreement on Tariffs and Trade
GDP	Gross Domestic Product
GM	General Manager
GMP	Good Manufacturing Practices
GPR	Glass Reinforced Polyester
GSP	Generalised System of Preferences
HACCP	Hazard Analysis of Critical Control Points
HMR	Home Meal Replacement
IAP	Individual Action Plan
IDSB	Ihlam Daya Sdn Bhd
IFANCA	Islamic Food and Nutrition Council of America
IMP2	2^{nd} Industrial Master Plan
IPC	International Policy Council
IQF	Individual Quick Freezing Foods
IRPA	Intensified Research in Priority Areas
IRPA	Research Projects in Priority Areas
ITA	Investment Tax Allowance
ITAF	Industrial Technical Assistance Fund
JAKIM	Jabatan Kemajuan Islam Malaysia (Department of Islamic Development Malaysia)
JICA	Japan International Cooperation Agency

ABBREVIATIONS (cont'd)

KLAS	Kuala Lumpur Airport Services
LHRA	Leatherhead Food Research Association
LPKP	Lembaga Perlesenan Kenderaan Perniagaan (Commercial Vehicle Licensing Board)
MAFMAG	Malaysian Food Manufacturers Group
MAP	Mechanisation and Automation for Agriculture Program
MARDI	Malaysia Agricultural Research and Development Institute
MATRADE	Malaysian External Trade Development Corporation
MD	Managing Director
MFCA	Malaysian Food Canners' Association
MFFPA	Malaysian Frozen Foods Processors Association
MIDA	Malaysian Industrial Development Authority
MNC	Multinational Companies
MOA	Ministry of Agriculture
MOH	Ministry of Health
MOU	Memorandum of Understanding
MT	Metric Tonne
NAP3	3rd National Agricultural Policy
NEP	New Economic Policy
NERP	National Economic Recovery Plan
PAKSI	Pakej Kewangan Untuk IKS (Financial Package for SMI's)
PTA	Preferential Tariff Arrangement
QA	Quality Assurance
QAP	Quality Assurance Program
QC	Quality Control
QFF	Quick Frozen Food
R&D	Research and Development
ROC	Registrar of Companies
SANSHA	South Africa National Halal Authority
SC	Steering Committee
SIRIM	Standard and Industrial Research Institute of Malaysia
SMIDEC	Small and Medium Industry Development Corporation
SMP	7th Year Malaysia Plan
SPS	Sanitary and Phytosanitary Measures
SWOT	Strengths Weaknesses Opportunities Threats
TBT	Technical Barriers to Trade
TUF	Thai Union Frozen
UAE	United Arab Emirates
UKM	Universiti Kebangsaan Malaysia (National University of Malaysia)
UM	Universiti Malaya
UPM	Universiti Putra Malaysia
US	United States
USDA	United States Department of America
USM	Universiti Sains Malaysia (University Science of Malaysia)
VAP	Value Added Products
VHM	Veterinary Health Mark
WTO	World Trade Organisation

Chapter 1

INTRODUCTION

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1.1 Study Background and Objectives

Fresh food by nature is perishable. The development of chilling and freezing processes has enabled the freshness of these products to be prolonged though temperature control. The following are reasons why chilled and frozen food is important to the food industry:

- Provides convenience in food preparation
- Improves food distribution
- Lengthens food shelf life with minimal effect on quality
- Improves food supply and availability
- Reduces food wastage and spoilage
- Reduces post harvest losses
- Lowers cost and stabilises the supply of food products

There is an increasing demand for chilled and frozen food in advanced as well as developing countries and, therefore, an interest to understand the present state of the industry in Malaysia and to plan for its future development. As stated in the Terms of Reference, this study is undertaken in response to these requirements. The objectives of the study is to assess the following:

- Market size, market potential, and consumer analysis for chilled and frozen food locally and abroad
- Quality, technology, research and development, and human resource development programs associated with the chilled and frozen food industry
- Potential for Malaysia to become the hub for the world's halal chilled and frozen food market

1.2 Product Coverage and Definition

Generally, chilled food refers to food products stored at temperatures of minus 1°C to 10°C. Frozen food refers to food stored at temperatures of minus 18°C and below, and have undergone a quick-freezing process.

The Terms of Reference identified four product categories of chilled and frozen food to be studied. The product categories are shown in Table 1.1:

Table 1.1 Product Categories

Categories	Examples
1. **Ready-to-serve meals** are complete meals that require minimum re-heating time prior to serving.	• *Nasi lemak*, *nasi briyani*, pizza, *murtabak*, or other types of food either local, oriental or Western cuisine.
2. **Snacks** are cakes either sweet or savoury that require more elaborate re-heating process.	• *Popia*, *samosa*, egg rolls with various types of filling, *donut*, *pau* (steamed bun), *karipap* (curry puffs), and others.
3. **Food Ingredients** are prepared local spices and ingredients (either single or combination of spices in the form of paste) to be used during of meal preparations.	• Onions, lemon grass, galangal, and ginger.
4. **Chilled and frozen ready-to-serve, ready-to-cook meat, seafood, and vegetables.** The ready-to-serve category refers to cooked meat, seafood and vegetables that require re-heating prior to serving, while the ready-to-cook segment refers to pre-cut or marinated meat, seafood, and vegetables that need a more elaborate cooking process.	• Products that are in the original texture such as chilled and frozen poultry, beef, pork, mutton and seafood. • Products that are further processed such as chilled and frozen nuggets, burgers, sausages, fish balls, sotong balls, and crabmeat. • Chilled and frozen vegetables and pre-cut chilled and frozen vegetables.

1.3 Study Framework and Major Activities

1.3.1 Surveys

Two surveys, namely consumer survey and industry survey, were carried out to gather information on the consumers and industry players. Desk research was also conducted. These surveys covered various segments of the industry, i.e., consumers, food suppliers and processors, food service operators (wholesalers, distributors and retailers), and Government agencies.

The study team was guided and advised by a Steering Committee comprising of representatives from the relevant agencies, i.e., Ministry of Agriculture (MOA), Federal Agricultural and Marketing Authority (FAMA), the Economic Planning Unit (EPU), Department of Statistics (DOS), Malaysian Agricultural Research and Development Institute (MARDI), and the Japan International Cooperation Agency (JICA).

a) Consumer Survey

The objectives of the survey are to gather information on product awareness and perception, consumption pattern, purchasing pattern, future trend, and influence of some socio-demographic characteristics.

The survey was carried out from 4 April 2000 to 15 April 2000. A total of 800 respondents from five areas were randomly sampled at shopping complex using Mall-Intercept survey method. The major survey location was Klang Valley and four major towns (Penang, Ipoh, Seremban, and Johor Bahru) were selected.

b) Industry Survey

The main objectives of the industry survey are to understand the following aspects of the industry:

- Market Size
- Market Structure and Competition, Market Segmentation, Present Market Demand and Supply for each product category and / or the local chilled and frozen food industry
- Current Technology, Industry Practices, and Distribution of chilled and frozen food

In-depth interviews were conducted with local food manufacturers, importers, retailers, food service providers, trade associations, support service providers and industry experts. A structured questionnaire was also sent to those who could not be interviewed. A total of 47 parties were surveyed.

1.3.2 Secondary Research

A comprehensive secondary research was also carried out. The following are the various sources where relevant and essential materials and statistical data were gathered:

- Malaysian Government agencies
- Deloitte Touche Tohmatsu International offices
- Local and overseas publications
- Trade associations
- Private research companies and universities research works

1.3.3 Interviews and Workshops with Relevant Government Agencies and Industry Players

The study team also interviewed 10 relevant Government agencies. The purpose of the interview was to obtain information on general policy directions, trade policies and development relating to chilled and frozen food and other industries which may have the same impact.

In addition to the interviews, we also conducted the following two workshops with:

- relevant Government agencies - to gather their views and comments on the current status and future directions of the chilled and frozen food industry.
- FAMA and Key Industry Players - to obtain feedback on our findings and proposed strategies and action plans from key industry players.

1.3.4 Market Potential Projection Methodology

The qualitative nature of the market drivers (see Chapter 7) and the lack of historical statistics for the Malaysian chilled and frozen industry have made it difficult to implement the quantitative method in projecting future market potentials.

As an alternative, a "comparative model" approach was used based on the premise that the chilled and frozen food market in various countries are driven by similar market factors and would experience similar growth patterns.

In order to determine the likely growth scenario for the industry from now till 2010, there is a need to understand how this industry has grown and evolved in other more developed countries. This is because, as outlined later in this report, the drivers of the industry's growth are similar globally, resulting in similar growth patterns.

After taking into consideration the following factors, we selected Japan's chilled and frozen food industry as a model to project the future market potential of chilled and frozen food in Malaysia:

- Being an Asian country, there are more similarities in the demand side of the industry such as consumption patterns, tastes, and other requirements compared to Western countries.
- The Japanese have a record of more than 30 years of time series statistics for its chilled and frozen food industry.
- Since Japan is the best model of the chilled and frozen food industry in Asia, we can use Japan to benchmark the Malaysian chilled and frozen market.

1.3.5 Research Limitations

The following items need to be highlighted to users of this report in order to ascertain the reliability and accuracy of the findings:

- The statistics for estimating chilled and frozen food sub-sector industry is not readily available and limited data is found in the Registrar of Company (ROC). Further, data from ROC is not all relevant and up-to-date, hence, most of the latest information in relation to the import, export, and sales of chilled and frozen food are based on experts and major industry players' opinions. Issues in relation to the industry, market overview, gaps, potential and growth of the chilled and frozen food industry are heavily dependent on data gathered from interviews and discussions with major players in the industry. Hence, certain issues or statements in the report are subjective and judgmental.

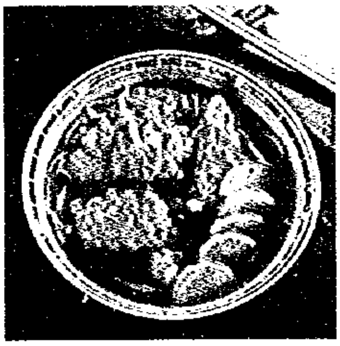
- Though purposefully drawn to meet specific requirements, the participants of the consumer survey represent a convenience sample, and all caveats about non-probability sampling are operative. The analyses of findings of the consumer survey results are derived from chilled and frozen foods consumers only and majority of them are from around Klang Valley.

- Only statistics on frozen food consumption in Japan is available. Chilled food in Malaysia, except for chilled vegetables, is relatively small (refer to further explanations in Chapter 7.2). The comparative model assumes that the growth trend of the Japanese frozen food industry is still a good proxy for the chilled and frozen food industry in Malaysia, given that the market drivers are similar. As such, the projection model employed herein would provide only an indicative future market size. It also implies that Malaysia has to take some interventions to stimulate / develop the industry, as done in Japan, in order to achieve the projected market size.

- The growth rate for each of the food category is obtained directly from the survey of industry players. As such, the survey has to be carried out periodically to update the said growth parameters.

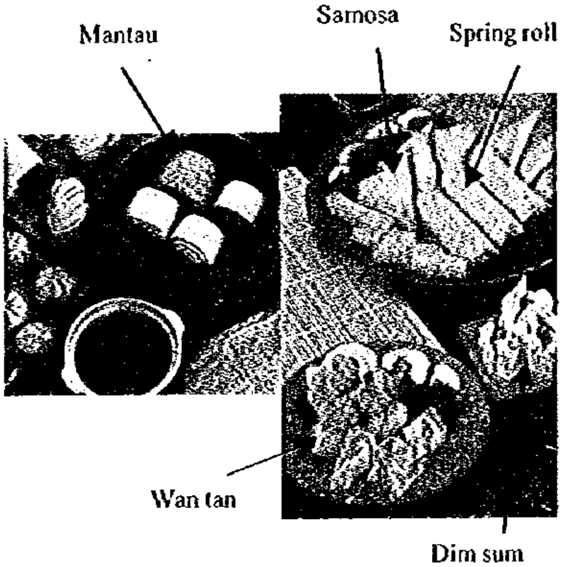
Examples of ready-to-serve meals

Japanese noodle



Nasi Lemak

Examples of snacks



Examples of food ingredients

Coconut milk *(santan)*

Examples of seafood