

**FOOD LABELLING IN MALAWI AND SABAH,
MALAYSIA: CONSUMER, INDUSTRY AND
LEGISLATION PERSPECTIVES**

PERPUSTAKAAN
UNIVERSITI MALAYSIA SABAH



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UMS
UNIVERSITI MALAYSIA SABAH

**SCHOOL OF FOOD SCIENCE AND NUTRITION
UNIVERSITI MALAYSIA SABAH
2013**

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**THESIS SUBMITTED IN FULFILLMENT FOR THE
DEGREE OF DOCTOR OF PHILOSOPHY**

**SCHOOL OF FOOD SCIENCE AND NUTRITION
UNIVERSITI MALAYSIA SABAH
2013**

UNIVERSITI MALAYSIA SABAH
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JUDUL: **FOOD LABELLING IN MALAWI AND SABAH, MALAYSIA: CONSUMER,
INDUSTRY AND LEGISLATION PERSPECTIVES**

IJAZAH: **DOCTOR OF PHILOSOPHY (FOOD SCIENCE)**

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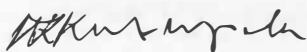
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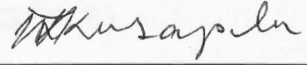
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DECLARATION

I hereby declare that the material in this thesis is my own except for some figures, tables, models and quotations, which have been duly acknowledged.

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A handwritten signature in black ink is written over a horizontal line. The signature is stylized and appears to be the name of the supervisor, Assoc. Prof. Dr. Sharifudin Md. Shaarani.

ACKNOWLEDGEMENT

I wish to express my sincere thanks giving and appreciation to the Ministry of Higher Education (MOHE) Malaysia for financial support, which has enabled me pursue my PhD studies smoothly at Universiti Malaysia Sabah (UMS).

My sincere gratitude and appreciation also go to my supervisor, Associate Professor Dr Sharifudin Md. Shaarani, for his patience, diligence and belief in me throughout the past few years of my PhD program. I sincerely thank him for being a great teacher that always advocates for academic excellence, and for providing me with the necessary skills of good research and academic writing that enabled me to publish most of the findings of this work in reputable Journals in the area of Food Science and Nutrition.

I thank the reviewers of this dissertation for the time and patience devoted to read this work and for their valuable comments and input.

I am kindly grateful to the subject experts in the School of Food Science and Nutrition, Universiti Malaysia Sabah (UMS), for their specialist contribution during the proposal presentation and a series of progress reporting tenable toward the end of every semester; under the smooth coordination by Dr Patricia Matanjun.

I thank Ahmad Riduan Bahauddin and Afif Saufi Mohd Sallih for helping with the translation of the consumer questionnaire from English to Malay; pre-test and study subjects, and the management of supermarket for their consent to participate in this study (without their permission, this study could not be possible); and Haneffa Muchlis Gazali and Arni BT Simbun for helping with data collection in Sabah.

Finally, I wish to thank my parents, McDonald and Ruth, for their moral support and patience during my three-year period of study.

William Kasapila
30 August 2013

ABSTRACT

FOOD LABELLING IN MALAWI AND SABAH, MALAYSIA: CONSUMER, INDUSTRY AND LEGISLATION PERSPECTIVES

This study aimed to describe legislation that govern labelling of food information on pre-packaged foodstuffs in Lilongwe and Blantyre (Malawi) and Kota Kinabalu in Sabah (Malaysia), and investigate industry and consumer practices to identify areas for improvement. Data were collected from November 2010 through March 2012. This involved a random survey of 2583 consumers and 2713 food products, and interviews with food experts. Consumers were approached and interviewed after they checked out at supermarkets. Shop managers gave their consent to conduct the consumer survey outside the shops to avoid affecting customer behaviour and revenues. A series of food categories were purchased and surveyed to capture relevant packaging data for further analysis and interpretation. The results of the study showed that 76.5% of the products surveyed carried nutrition information (68.6% for Malawi and 90.2% for Sabah), while 20.7% and 39% displayed nutrition and health claims, respectively. Compliance rates with Codex requirements for nutrition labelling and use of claims on products also varied significantly between the two countries, with Malawi comparing unfavourably. Such differences were also observed in the consumer survey. For example, self-reported use of nutrition labels was 70.8% for Sabah and 40.5% in Malawi. However, only 13.7% of the respondents had numerical ability to interpret the nutrition labels correctly in these countries. This meant that the majority of consumers read labels without understanding them. Results from principal components analyses showed that three main factors influenced consumers to use food nutrition labels, namely the marketing environment, nutrition knowledge, and product attributes. The study developed a conceptual model to put these factors into perspective that if well applied can help healthcare practitioners in the formulation of evidence-based plans and policies for nutrition. The research already established that food experts in the study countries valued and viewed food labelling as a viable way to ensure healthful diets.

ABSTRAK

Kajian ini bertujuan untuk mengkaji keberkesanan perundangan perlabelan makanan pada pembungkusan makanan di Lilongwe dan Blantyre (Malawi) dan Kota Kinabalu, Sabah di Malaysia serta melihat amalan di kalangan pihak industri dan mengenalpasti masalah yang dihadapi oleh pengguna untuk penambakan. Data dikutip bermula dari November 2010 sehingga Mac 2012. Ianya melibatkan 2583 pengguna, 2713 produk makanan dan 11 pakar secara rawak. Pengguna dikenali dan ditemuduga selepas mereka membeli-belah di pasaraya. Kebenaran bertulis telah diperolehi dari pihak pengurusan pasaraya yang terlibat bagi menemuduga pengguna dan syarikat menjual. Bagi tujuan analisis dan huraian yang lebih lanjut pelbagai jenis kategori makanan telah ditinjau dan dibeli. Hasil kajian ini menunjukkan 76.5% produk mempunyai label pemakanan (68.6% di Malawi dan 90.2% di Sabah), manakala 20.7% dan 39% mempamerkan jaminan pemakanan dan kesihatan. Kadar pematuhan kepada keperluan Codex bagi perlabelan dan tuntutan oleh produk adalah berbeza secara signifikan di antara kedua-dua Negara; di mana Malawi menunjukkan kadar yang rendah. Perbezaan yang sama juga terdapat pada bahagian kajiselidik pengguna. Sebagai contoh, laporan sendiri tentang penggunaan label pemakanan di Sabah adalah 70.8% manakala hanya 40.5% di Malawi. Hanya 13.7% daripada responden yang mampu memberikan penjelasan yang tepat mengenai label pemakanan pada produk. Ini menunjukkan majoriti pengguna hanya membaca tanpa mengetahui dan memahami label pemakanan yang terdapat pada label. Hasil dari Prinsip Analisis Komponen (PCA) menunjukkan 3 faktor utama yang mempengaruhi pengguna untuk menggunakan label pemakanan pada makanan iaitu persekitaran pemasaran, pengetahuan tentang nutrisi dan sifat dan atribut produk. Kajian ini membentuk satu model konsep yang mana meletakkan faktor-faktor dalam perspektif bahawa jika digunakan dengan baik boleh membantu pengamal-pengamal penjagaan kesihatan dalam merumuskan bukti dan dasar pemakanan berdasarkan formula yang diperdehi. Kajian ini mendedahkan bahawa pakar-pakar makanan iaitu di mana tempat kajian dilihat menyifatkan perlabelan makanan adalah sangat penting kerana ia adalah satu kaedah untuk memastikan pengamalan diet yang sihat dan seimbang.

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LIST OF STATISTICAL ACRONYMS AND TERMS

<	Less
>	More
C.I.	Confidence Interval
df	Degrees of Freedom
e	Margin of Error
n	Sample Size / Frequency
N	Population
OR	Odds Ratio
P	Probability
PCA	Principal Components Analysis
r	Correlation
SPSS	Statistical Package for Social Scientists
μ	Mean
χ^2	Chi-square
Z	Level of Confidence



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LIST OF ABBREVIATIONS

AFIC	Asian Food Information Centre
AOAC	Association of Official Analytical Chemists
ASEAN	Association of Southeast Asian Nations
BOP	Back of Pack
CAC	Codex Alimentarius Commission
DV	Daily Value (s)
EUFI	European Food Information Council
FAO	Food and Agriculture Organisation
FOP	Front of Pack
GDA	Guideline Daily Amount (s)
GDP	Gross Domestic Product
GHI	Global Harmonisation Initiative
HACCP	Hazard Analysis Critical Control Point
ISO	International Standardisation Organisation
MBS	Malawi Bureau of Standards
MOH	Ministry of Health
MTL	Multiple Traffic Lights
NCDs	Non-Communicable Diseases
NHMS	National Health and Morbidity Survey
NIP	Nutrition Information Panel
NRV	Nutrient Reference Value (s)
SD	Standard Deviation
SADC	Southern Africa Development Community
SMEs	Small-Scale Enterprises
SPS	Sanitary and Phytosanitary Measures
TBT	Technical Barriers to Trade
TL	Traffic Lights (Labels)
WHA	World Health Assembly
WHO	World Health Organisation
WTO	World Trade Organisation

CHAPTER 1

INTRODUCTION

Issues of food labelling and legislation are at the centre of policymaker's attention worldwide to help consumers make informed and healthier food choices based on safety, cultural, ethical, religious and dietary concerns (Grunert & Wills, 2007, Varma, 2008). For markets committed to cross-border trade, food labelling is the key to food trade that contributes hugely to foreign exchange. For example, according to international food statistics provided by the World Trade Organisation (WTO), world food trade and exports reached a total value of US\$1119 billion in 2010. This figure reflects an increase of US\$5 billion from 2008 (US\$1114 billion) (WTO, 2010). Not surprisingly, debates are on-going and inconclusive at national, regional and international levels regarding what goes into the label, the format, verifiability, size, impact and authority (Lang, 2006).

Many governments and international organisations have become actively involved in the area of food labelling and consumer health. Besides WTO, these organisations include, but are not limited to, the World Health Organisation (WHO), Food and Agriculture Organisation of the United Nations (FAO), Global Harmonisation Initiative (GHI), and the International Standardisation Organisation (ISO). In spite of the current best efforts to ensure good health, the prevalence of non-communicable diseases (NCDs) (in this study the term non-communicable diseases is used interchangeably with chronic diseases) continues to rise. Recent estimates suggest that more than half of the NCDs (60%) and close to 80% of all deaths due to chronic diseases now occur in developing countries (WHO, 2004) and affect lower socio-economic groups that may not have financial resources to afford the associated healthcare costs. In this regard, it is apparent that developing countries have to cope with a double burden of communicable and non-communicable diseases, a situation that Leeder (2003) has described as "a race against time".

While the causes of NCDs are multifactorial, unhealthy diets (defined as high intakes of foods rich in fat, sugar and salt and low consumption of fruits, vegetables and whole grains) are widely recognized as a major contributing factor (Tee, 1999; Blythe, 2002; Noor, 2002; Peltzer, 2004; Zingoni, Norris, Griffiths & Cameron, 2009; Jensen & Smed, 2007). Rapid economic growth, migration and modernization are key drivers in fuelling these dietary changes in developing nations. In cognizance of this, WHO (2004) suggests nutrition labelling, an aspect of food labelling, as a global strategy and viable population-based intervention to ensure healthful diets and possibly a decline in the NCDs epidemic.

There has been a growing amount of interest in food labelling research over the past decade. The vast majority of these studies originate from the United State of America, United Kingdom and some other north western European countries where they investigated how adult consumers from the general public process nutrition information on products and assessed their preferences, knowledge and attitude towards different label formats (Hassan, Shiu & Michaelidou, 2010; Campos, Doxey & Hammond, 2011; Tymms, 2011). In this regard, Van Dam and Van Trijp (2007) point out that there is a strong need for more research in a wider variety of countries considering that every consumer market is different with respect to consumer behaviour by virtue of cultural, economic and other variables. Malawi and Malaysia are among the countries that have limited data as regard food labelling. For example, some studies have been conducted to determine understanding and utilisation of nutrition labels in Malaysia (Sulong, Ismail & Tee, 2010). However, most of these studies are small-scale studies undertaken among various groups of consumers selected conveniently from specific geographical areas in the country.

To date, only the Third National Health and Morbidity Survey (2006) engaged 39,506 consumers from the general public to, among other things, investigate issues of food labelling (MOH, 2010a). In this nationwide survey, less than 15% of consumers reported consulting nutrition labels during food purchasing, while 60.6% said they understand well this information. Unfortunately, the survey included only a section on nutrition labelling, relied on self-reports that are

subjective and did not give any further analysis of the data obtained - making it difficult to assess the real situation on the ground. Conversely, in Malawi only Kasapila and Shawa (2011) documented an indicative study on nutrition labelling in Lilongwe that engaged 206 consumers. The small sample size employed in this study limited generalisation of the findings to the heterogeneous population of Malawi and also made it difficult to draw meaningful conclusions. A rigorous review of the extant literature reveals that no study has been documented to date on food industry's practices of food labelling in both countries. Many gaps exist and a number of questions remain largely unanswered in this regard. For example, the industry faces a number of problems, such as the cost of labelling, lack of incentives for labelling products and limited laboratory infrastructure for determination of food composition, which vary from one country to another and within a country, and affect food labelling practice. While small and medium-scale enterprises (SMEs) are generally the most affected, the extent and impact of such problems on food labelling are hitherto unknown in the vast majority of developing countries.

The aim of this study was to describe legislation that govern labelling of pre-packaged foodstuffs in Malawi and Sabah (Malaysia), and investigate industry and consumer practices to identify areas for improvement. The intention was to compare applicability of food labelling in the aforesaid countries, which are members of the Codex Alimentarius that follow different labelling regimens; for example, voluntary in Malawi (that means there is a natural limitation to the quantity of products that are labelled) and mandatory for Sabah. Notwithstanding this discrepancy, the study hypothesised no differences in consumer and industry practices between the two countries in view of the diet-related chronic diseases that are fast becoming a burgeoning threat to public health worldwide, attributed to poor diet. The following were the specific objectives:

1. To investigate understanding and utilization of food labelling information displayed on pre-packaged foodstuffs among consumers in Malawi and Sabah.

2. To identify manufacturers' practices of and compliance with the current food labelling regulations in Malawi and Sabah.
3. To determine perspectives of food experts regarding legislation and practices of food labelling in these two countries.



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CHAPTER 2

LITERATURE REVIEW

2.1 What is Food Labelling?

Food labelling refers to any written, printed, or graphic matter that is present on the label, accompanies the food, or is displayed near the food, including that for the purpose of promoting its sale or disposal (CAC, 1985a). In broad terms, food labelling aims to help consumers make healthier, safer and informed food choices based on their religious, health, economic and related concerns. It includes generic and nutrition labelling as discussed further below.

2.1.1 Generic Food Labelling

Generic food labelling gives details about a product in terms of the name of the product, a list of **ingredients**, the net contents or net weight, the name and place of business of the **manufacturer**, date marking as well as instructions for storage and use. The Codex *General Standard for the Labelling of Pre-packaged Foods* (CAC, 1985a), which Malawi and Sabah (Malaysia) follow, requires mandatory provision of this information on products as follows:

1. *The name of the food* means a specific designation or description of the foodstuff to indicate its true nature to the consumer. If the food has undergone processing or its physical condition has changed, this information should be added to the name of the food product to avoid confusion. A coined, fanciful brand name or trade mark that is not false or misleading may be given next to the name of the food in the principal display panel; nevertheless, these should not be used to replace the name of the product.
2. *A list of ingredients*. Food ingredients and other substances can cause allergies or intolerances in some consumers. For this reason, all ingredients, including those obtained through genetic modification and ionizing radiation must be listed on the label. The ingredients must also be identified by their common or usual names to help consumers identify the ones that they are

allergic to or want to avoid for other reasons. The ingredient that is present in the largest amount, by weight, must be listed first. Other ingredients must follow in descending order according to weight as recorded at the time of their use in the manufacture of the food. In general, the following ingredients, known to cause allergies in some people, should always be declared: cereals containing gluten (e.g. wheat, rye, barley, oat, spelt or their hybridized strain), crustaceans, eggs and egg products, fish and fish products, peanuts and soybeans, milk and milk products (lactose included), tree nuts and nut products, and Sulphites in concentrations of 10 mg/kg or more.

3. *Net contents and drained weight.* The net quantity of food should be expressed in metric units of mass, namely weight for solid foods, volume for liquid foods and weight or volume for semi-solid or viscous foods. For solid foods sold in liquid media, the drained net weight must be declared.
4. *Name and address of the manufacturer.* The name and address of the manufacturer, or packer or distributor or owner of rights of manufacture or brand owner, should be given in the case of food of local origin. For imported food, the name and address of local importer and/or distributor and the country of origin are required. When a food undergoes processing in the second country, which changes its nature, the country in which the processing is performed shall be considered to be the country of origin for the purposes of labelling.
5. *Date marking.* The manufacturing date and the date of minimum durability of the food (best before or use-by date) must be clearly marked on the label. "Best before" means the date which signifies the end of the period under any stated storage conditions during which the product will remain fully marketable and will retain any specific qualities for which claims have been made. Beyond the "Best-before" date, the food may still be perfectly satisfactory. Conversely, Use-by Date, or Recommended Last Consumption Date or expiration date, connotes the date which signifies the end of the estimated period under any stated storage conditions, after which the product probably will not have the quality attributes normally expected by the consumer. After this date, the food should not be regarded as

marketable. Depending on how long the food can keep, the Best before or Use-by date can be expressed by the day and the month, the month and year, or the year alone.

6. *Storage instructions.* Any special conditions necessary for proper storage of the food must be clearly stated on the label.
7. *Instructions for use, including reconstitution.* They are required when it would be impossible to make appropriate use of the food in the absence of such instructions.

2.1.2 Nutrition Labelling

Nutrition labelling entails declaration of amount of nutrients contained in food (CAC, 1985b). The aim is to inform consumers about the nutritional composition of the food so that they can make healthier food choices. Besides nutrient declaration through numerical values and claims (descriptors and statements about nutrients in food), supplementary nutrition information may also be given on products. This information is intended to increase the consumer's understanding of the nutritional value of the food and to assist in interpreting the nutrient declaration (CAC, 1985b). Manufacturers can use a number of ways to present such information on products, including the provision of food group symbols and other pictorial or colour presentations (CAC, 1985b). However, according to Article 5.2 of the Codex Guidelines on Nutrition Labelling, 'The use of supplementary nutrition information on food labels should be optional and should only be given in addition to, and not in place of, the nutrient declaration, except for target populations who have a high illiteracy rate and/or comparatively little knowledge of nutrition' (CAC, 1985b).

2.2 The Codex Alimentarius

The Codex Alimentarius, or Codex (a Latin word that means *food code*), is a collection of standards, codes of practice, guidelines and other recommendations for a wide variety of food products (The Codex Secretariat, 2006). It covers a number of areas including food labelling, food hygiene, food additives and contaminants, methods of analysis and sampling as well as Nutrition and Foods for Special Dietary Uses. Codex Committees prepares draft standards and submit them to the Codex Alimentarius Commission (CAC) for compilation and publication. The