ASSESSMENT AND RESEARCH IN CHILD FEEDING (ARCH): LABELING STUDY REPORT TANZANIA

Report on commercially produced complementary foods and selected commercially produced foods not specifically marketed for but commonly consumed by infants and young children

KEY MESSAGES

1. Nutrition is central to strengthening the health and development of individuals and nations.
The 1,000 days of a mother's pregnancy until her child's 2nd birthday is a particularly critical window of opportunity during which the right nutrition gives children a healthy start at life.

- The Government of Tanzania joined the Scaling Up Nutrition (SUN) Movement in 2011, committing to invest in policies and programs to improve nutrition.
- In Tanzania 42% of children under-five years of age are stunted, never reaching their full cognitive or physical development.

2. Optimal feeding leads to children reaching their full potential.
Exclusive breastfeeding during the first six months of life, with continued breastfeeding until 2 years of age or beyond, together with the addition of safe, appropriate complementary foods from 6 months provides the best nutrition for a young child. To protect these optimal feeding practices, the marketing practices of all products aimed at infants and young children, not only breast-milk substitutes, are under the spotlight.

- In Tanzania, early initiation of breastfeeding is 23%, exclusive breastfeeding at 6 months 50% and continued breastfeeding at the age of two years 61%.
- In Tanzania complementary feeding is initiated between 6-8 months for 92% of infants.

3. Evidence must guide policy development.
Recognizing that commercially produced complementary foods are often a part of a child's diet, Helen Keller International's Assessment and Research on Child Feeding (ARCH) Project is gathering data on the promotion of foods consumed by infants and young children in Senegal, Cambodia, Nepal and Tanzania. As countries work to scale up nutrition, the ARCH Project serves as a resource, providing an evidence base to guide development of policies and programs.

- In Tanzania, there are currently 26 different commercially produced complementary foods available for sale to mothers/caregivers.
- In Tanzania 69% of commercially produced complementary foods specified an appropriate age of introduction of six months or more. However 42% of commercially produced complementary foods produced by manufacturers that also produce breast-milk substitutes had similar color schemes/designs, names and/or slogans/mascots/symbols to the breast-milk substitutes.
- In Tanzania many of the labels of energy dense commercially produced foods commonly fed to children under the age of two in the study had images, shapes, colors, messages and packaging that could be considered to imply that the product is suitable for children.

4. Consistent information supports informed choices.
Providing consumers with important and valuable information on products labels is critical as it is this information that mothers/caregivers are likely to use to make their product choices when selecting from available commercially produced complementary foods in store.

- In Tanzania the information provided on product labels is not presented in a consistent manner.
- In Tanzania manufacturers present nutrition information in a variety of formats which makes valuable comparisons difficult.

5. A global market requires global guidance.
There were a number of commercially produced complementary foods available in Tanzania, including 26 products that were made up of 12 brands, produced by 11 different manufacturers.

- In Tanzania the majority of commercially produced complementary foods are imported (69%), with the United Kingdom (UK), Spain and Kenya supplying the majority of products. This indicates that, while national governments could take action, shared guidance from the WHO is critical to support common standards of product promotion across member states.
- In Tanzania on average, imported cereals cost twelve times as much as locally produced products.

6. Detailed and specific guidance is required.
There are a number of elements on product labels around which specific guidance is required to

ensure that commercially produced complementary foods provide factual information, promote optimal infant and young child feeding and never undermine breastfeeding while still allowing the right to freedom of choice.

- The Tanzania ARCH Project labeling study results highlight areas where detailed global guidance is required and include:
  - provision of clear and consistent infant and young child feeding messages for optimal infant and young child feeding;
  - appropriateness and types of invitations to interact that should appear on the labels of commercially produced complementary foods;
  - provision of nutrition claims;
  - provision of manufacturer endorsed nutrition information tables/nutrition plans.

7. Guidance should not result in unintended consequences.

Consideration needs to be given not only to the promotion of commercially produced complementary foods, but also to foods not specifically marketed to but commonly fed to children under-2 years of age. It is important to ensure that restrictions on the promotion of the former do not result in mothers/caregivers selecting the latter, which often have a poor nutrient profile, due to the fact that they are less restricted. As such, foods not specifically marketed for but commonly fed to children under-2 years can imply to mothers/caregivers that they are suitable for infants and young children as they are able to make nutrition and health claims and are less regulated in terms of images and other marketing techniques used on labels.

- In Tanzania the label assessment of selected commercially produced foods for general consumption commonly fed to children under the age of two years shows that certain practices could be considered to imply that these products are suitable for infants/young children or children in general.
- In Tanzania the nutrient content of selected commercially produced foods for general consumption commonly fed to children under the age of two years indicate that they are relatively low in protein and high in fat with correspondingly low levels of micronutrients.

8. Monitoring and enforcement of existing policies can be strengthened.

The WHO recommends that countries should periodically review their regulations in line with the Code and its subsequent WHA resolutions and that monitoring and enforcement requires continued strengthening.

- Tanzania adopted all provisions of the *International Code of Marketing of Breast-Milk Substitutes* as national legislation, by enacting the *National regulations for marketing of breast-milk substitutes and designated products (Tanzania)* in 1994 which was updated in 2013, to become the *Tanzania Food, Drugs and Cosmetics (Marketing of foods and designated products for infants and young children) Regulations, 2013*. The Tanzanian law is comprehensive but does not cover all labeling provisions of the Code and yet in some cases goes beyond the provisions of the Code, such as including children up to 5 years in its definition of young children, and thus restricts the marketing of all foods and beverages for children up to this age.
- In Tanzania the ARCH Project labeling study results demonstrate that manufacturers are not fully complying with Tanzanian legislation. For example, 12% of labels of commercially produced complementary foods recommended an age of introduction of less than six months and 19% of the labels provided no age of introduction.

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List of Abbreviations

ARCH	Assessment and Research on Child Feeding (ARCH) Project
BMS	Breast-milk substitute
CPCF	Commercially produced complementary food
CPF	Commercially produced foods for general consumption commonly fed to children < two years
FAO	Food and Agriculture Organization of the United Nations
GUM	Growing-up milks
HKI	Helen Keller International
IBFAN	International Baby Food Action Network
IYCF	Infant and young child feeding
MIYCN WG	Maternal, Infant and Young Child Nutrition Working Group
MNP	Micronutrient powder
UN	United Nations
WHO	World Health Organization
WHA	World Health Assembly

Definitions

For the purposes of this report, definitions of the product categories are defined as follows:

Commercially produced complementary foods (CPCF)	Any commercially produced food or beverage product, excluding breast-milk substitutes, that contains a label indicating the product is intended for children younger than two years of age, by: • Using the words baby/babe/infant/toddler/young child in the context of a child's age e.g. baby food (food for babies), not size/maturity of the product e.g. baby potato (young potato); • Recommending an age of introduction less than two years on the label; • Using an image of a child appearing younger than two years of age or an image/text of infant feeding (which could include a bottle).
Commercially produced foods for general consumption commonly fed to children under the age of two years (CPF)	Foods commonly fed to, but not marketed specifically for, children younger than two years of age e.g. soda/carbonated beverages, 100% juice/juice drinks, bottled water, condensed milk/evaporated milk, chocolate/milk beverages, biscuits/cookies, savory snacks (chips, crisps), sweet snacks (cakes/doughnuts and candy/sweets/chocolate), processed cereals (e.g. maize meal), breakfast cereals, instant noodles and peanut butter).
Breast-milk substitute (BMS)	The *Code* defines a breast-milk substitute as, "*any food being marketed or otherwise represented as a partial or total replacement for breast milk, whether or not suitable for that purpose*" (WHO, 1981). The ARCH Project defines breast-milk substitutes to include: • infant/starter formula (to be used from birth up to six months of age), including formula for special dietary or medical purposes; • follow-up formula (to be used from 6 months to 12 months), including formula for special dietary or medical purposes; • growing-up milk (to be used from 12 months to 36 months) and; • other milk or milk-like products (in liquid or powdered form) marketed or otherwise represented as suitable for feeding children younger than two years of age BUT excludes other beverages and foods marketed or otherwise represented as a partial or total replacement for breast milk. Note: The breast-milk substitute data is not included in this report.

For the purposes of this report, it is important to provide clarity between the interpretation and use of the terms 'marketing' and 'promotion' and their use in context of the ARCH Project:

Marketing: Defined by Article 3 of the *International Code of Marketing of Breast-milk Substitutes* (the *Code*) as **distribution, selling, product promotion, advertising, product public relations, and information services** (WHO, 1981). With regards to the Code, the distribution and selling of designated products is allowed.
Promotion: Marketing techniques to increase sales (**advertising, sampling, or any other activity to encourage or induce the purchase of a product**) (IBFAN, 2007). Promotion is a type of marketing activity. With regards to the *Code,* the promotion of designated products is not allowed. Examples of promotion techniques include discounts, coupons, gifts, samples and adverts.

From the *Code Training Manual, Making Sense of the Code: Hand-outs* (IBFAN-ICDC, 2006):

- The term "**appropriate marketing**" should not be confused with "**appropriate promotion**". There is an absolute prohibition of the promotion of designated products, but some forms of marketing (such as distribution and selling) are allowed. "**Appropriate marketing**" refers to distribution and selling (but does not include promotion and advertising).
- In addition one should not confuse **promotion** of products with **availability** of products.
- One also needs to distinguish between "**public promotion**" and "**promotion within health facilities**".
- The cornerstone of the Code is the prohibition of the promotion of products which undermine breastfeeding.
- Promotion to the public occurs via: TV/radio advertising, newspapers, magazines, billboards, websites, special offers, reduced prices, discount coupons, mailing to pregnant women and mothers of educational materials, phone help lines, posters, calendars in the offices of health professionals, free gifts, samples issued from health facilities.
- Art. 5.1 of the Code states that: There should be no advertising or other form of promotion to the general public of products that fall within the scope of the Code.

In terms of international guidance, the main reference documents used in the ARCH Project all refer to **marketing**:

- *International Code of **Marketing** of Breast-milk Substitutes* (1981)
- *Using the Code to Guide **Marketing** of Complementary Foods to Protect Optimal IYCF Practices* (2010)
- *WHO Set of Recommendations on **Marketing** of Foods and Non-alcoholic Beverages to Children* (2010)

These documents see promotion as a sub-element of marketing.

The WHA Resolutions that are of specific reference to the ARCH Project however refer to **promotion**:

- *WHA Resolution 63.23 (2010):* 1. URGES Member States to: (1) to end **inappropriate promotion** of food for IYC and to ensure that nutrition and health claims shall not be permitted for foods for IYC, except where specifically provided for, in relevant Codex Alimentarius standards or national legislation;
- *WHA Resolution 65.6 (2012):* 3. REQUESTS the Director-General: (1) to provide clarification and guidance on the **inappropriate promotion** of foods for IYC cited in resolution WHA63.23, taking into consideration the on-going work of the Codex Alimentarius Commission;

This can result in some confusion as to when the definition of marketing applies versus the definition of promotion in the context of the ARCH Project. The ARCH Project Labeling study evaluates both **promotion and marketing practices**.

1 INTRODUCTION

1.1 Background

There is an increasing global focus on infant and young child feeding practices as the 1,000 Days window of opportunity (conception to two years of age) has been recognized as being key to improving infant and young child health outcomes. Evidence based interventions to address the high rates of infant and young child undernutrition and morbidity include the promotion of exclusive breastfeeding from birth to six months postpartum and continued breastfeeding to two years and beyond along with complementary feeding from the age of six months (PAHO, 2003; WHO, 2003). Meeting the high nutritional requirements from the age of six months is especially challenging when children's diets are low in micronutrients and high quality protein/fat, or high in factors that inhibit absorption of nutrients. The WHO Global Strategy for Infant and Young Child Feeding (WHO, 2003) states that its aim is to "improve – through optimal feeding – the nutritional status, growth and development, health, and thus the survival of infants and young children." The objectives of the strategy include "providing guidance on appropriate complementary feeding with emphasis on the use of suitable locally available foods which are prepared and fed safely and promoting adequate intake of essential nutrients through access to suitable – including fortified – local foods and, when necessary, micronutrient supplements".

This has placed the marketing practices of all products aimed at this critical stage, not only breast-milk substitutes, under the spotlight. Commercially produced products such as fortified complementary foods, micronutrient supplements, and other foods consumed by young children need to be promoted in a way that protects and promotes optimal infant and young child feeding, including breastfeeding and the consumption of high-quality local foods.

A history of inappropriate marketing of breast-milk substitutes by the food industry (Aguayo *et al*., 2003; Ergin *et al*., 2013; Salasibew *et al*., 2008; Taylor, 1998) has contributed to decreased breastfeeding rates in many parts of the world and associated increases in infant morbidity and mortality, especially in resource poor countries (Brady, 2012). The *International Code of Marketing of Breast-milk Substitutes* (the *Code*) was developed by the WHO to eliminate harmful marketing practices (WHO, 1981). However no international guidance is available to address the promotion of foods consumed by children ages six months and above and few data have been collected to document current promotion practices of these foods.

In addition, many low income families spend a percentage of their limited resources on commercially produced foods of poor nutritional quality such as biscuits/cookies, chips and crisps, cake/doughnuts, candy/sweets/chocolate and soda/carbonated/sweetened beverages (Anderson *et al*., 2008; MOHP *et al*., 2007). In the case of infants and young children, these may compete with optimal home-prepared, local foods or commercially produced fortified complementary foods. However, there is insufficient information about whether these foods are promoted in a way that implies they are appropriate for young child feeding. Policy makers could benefit from a clearer understanding of promotional efforts being carried out for these products.

1.2 WHO STAG proposed definition of inappropriate promotion of foods for infants and young children

In May 2012, resolution 65.6 of the Sixty-fifth World Health Assembly requested the Director General to provide clarification and guidance on the inappropriate promotion of foods for infants and young children in resolution 65.6 (WHA, 2012). In response WHO established a Scientific and Technical Advisory Group (STAG) on Inappropriate Promotion of Foods for Infants and Young Children was formed and had its first meeting in June 2013 (WHO, 2013a). This group developed a *Technical paper on definition of inappropriate promotion of foods for infants and young children* (WHO, 2013b). A report on this paper, *Inappropriate promotion of foods for infants and young children* was presented as Annex 2 to the Maternal, Infant and Young Child Report (EB 134/15) to the Executive Board at its meeting in January 2014 (WHA, 2014). The STAG has suggested five provisional criteria that could be used to evaluate whether or not promotion of foods for infants and young children is appropriate.

The STAG suggests that:
"…promotion of foods for infants and young children is inappropriate if:

1. It undermines recommended breastfeeding practices;
2. It contributes to childhood obesity and non-communicable diseases;
3. The product does not make an appropriate contribution to infant and young child nutrition in the country;
4. It undermines the use of suitable home-prepared and/or local foods;
5. It is misleading, confusing, or could lead to inappropriate use." (WHA, 2014)

The STAG meeting report provides further details on each of the five criteria (WHO, 2013a).

The results of this labeling study (whereby labeling is considered to be a sub-set of promotion practices) will present and classify the findings of the labels of products available in Tanzania, where possible, according to these five criteria. Results that are not considered to form part of these 5 criteria will be reported as a separate category named 'Other'.

1.3 Assessment and Research on Child Feeding (ARCH)

In response to resolution 65.6, Helen Keller International (HKI) conducted a four-country study entitled "Assessment and Research on Child Feeding" (ARCH) to gather information on the promotion of foods consumed by infants and young children under the age of two years. This project collected quantitative data in four low and middle income countries (Cambodia, Nepal, Senegal and Tanzania) using three types of studies in each country.

The labeling study, the results of which are described in detail in this report, assessed the labels of commercially produced complementary foods based on the document '*Using the Code of Marketing of Breast-milk Substitutes to Guide the Marketing of Complementary Foods to Protect Optimal Infant Feeding Practices'* (Quinn *et al*., 2010) and using the methodology developed by Sweet *et al*. in South Africa (2012a; 2012b). In addition, this study also assessed labels of a sample of commercially produced foods for general consumption commonly fed to, but not directly marketed for, infants and children under the age of two years, such as soda, savory snacks (chips, crisps), biscuits/cookies and other sweet snacks (cakes/doughnuts, candy/sweets).

A component of the labeling study that assesses the labeling of breast-milk substitutes compared to a set of criteria based on the *Code* and subsequent relevant World Health Assembly (WHA) Resolutions will be reported on elsewhere.

A second study has assessed the retail promotion of breast-milk substitutes, commercially produced complementary foods and a sample of commercially produced foods for general consumption commonly fed to children under the age of two years in selected retail outlets in each site. The results of this study are reported on elsewhere.

A third study will collect information from caregivers of children under the age of two years on promotional practices inside and outside health facilities for breast-milk substitutes, commercially produced complementary foods and commercially produced foods for general consumption that are commonly fed to, but not directly marketed, for infants and young children under the age of two years. Caregivers will be asked about health system practices surrounding infant feeding advice and support. Additionally, they will be questioned about foods commonly consumed by young children (home-prepared and commercially produced complementary foods and commercially produced foods for general consumption). The results of this study will be reported elsewhere.

This research is not meant to be a replacement for *Code* monitoring, which in its entirety includes other components not included in this research. “Code monitoring requires the investigation of promotion to the public in all its forms, promotion in health care facilities (including observation of materials and equipment present in the health facility, analysis of informational materials provided to health care staff and pregnant women and mothers), labeling, promotional practices in shops and pharmacies” and interviews with health workers (David Clark, personal communication).

1.4 Background to the labeling study

Food labels function as a vehicle for food marketing, promotion and advertising (via label vignettes, promotional information and the use of claims), as well as providing basic product information and health, safety and nutrition information to the users of the product (CFIA, 2011). Failure of the labels of foods fed to infants and young children to perform these functions adequately and in an appropriate manner can undermine the nutritional status of the child by increasing the risk of inappropriate use of the product and by undermining optimal infant and young child feeding (IYCF) practices. It was therefore deemed necessary to identify current labeling practices for such foods in order to monitor adherence to existing guidance on the appropriate labeling of foods for infant and young children, and to inform the strengthening and development of guidelines. This study has identified current labeling practices for commercially produced complementary foods and some commercially produced foods for general consumption that are commonly fed to, but not directly marketed, for infants and young children under the age of two years.

This report only addresses the labeling of commercially produced complementary foods and commercially produced foods for general consumption that are commonly fed to, but not directly marketed, for infants and young children under the age of two years.

1.4.1 Labeling of commercially produced complementary foods

Complementary foods, introduced from six months together with continued breastfeeding to two years and beyond, should complement rather than compete with breast milk in the diet. There are concerns that the inappropriate marketing of complementary foods could undermine optimal breastfeeding practices (Lutter, 2003; Piwoz *et al*., 2003) by, for example, encouraging the early introduction of complementary foods or recommending an excessively large daily ration of the product that could interfere with continued breastfeeding (Quinn *et al*., 2010). Incorrect use of complementary foods (such as excessive dilution, inadequate or excessive intake and unhygienic preparation) also has the potential to undermine rather than promote good nutrition (Faber *et al*., 2005; Lutter, 2003; PAHO, 2003). It is therefore crucial that manufacturers, distributors and retailers of commercially produced complementary foods and national governments receive and implement guidance on how to market these products in a manner that protects and promotes optimal infant and young child feeding, including exclusive and continued breastfeeding and the use of a variety of locally available and appropriate foods (Clark & Shrimpton, 2000), while also ensuring that the complementary foods themselves are nutritionally adequate.

The *Code* was designed to address breast-milk substitutes and so offers little guidance on the marketing of complementary foods as they are not included in the scope of the *Code* unless they are marketed or represented as a partial or total breast-milk substitute (WHO, 2008). The lack of formal guidelines from international normative bodies on the appropriate marketing of complementary foods, which are acknowledged as having a role to play in optimal infant and young child feeding, led to resolution 65.6 at the 65th WHA in 2012 to request that the Director-General "provide clarification and guidance on the inappropriate promotion of foods for infants and young children cited in resolution WHA 63.23, taking into consideration the on-going work of the Codex Alimentarius Commission" (WHA, 2012).

In recognition of the need for interim guidance, between 2007 to 2010, the Maternal, Infant and Young Child Nutrition Working Group (MIYCN WG) of the 10 Year Strategy to Reduce Vitamin and Mineral Deficiencies developed a working paper "*Using the Code of Marketing of Breast-milk Substitutes to Guide the Marketing of Complementary Foods to Protect Optimal Infant Feeding Practices"* (Quinn *et al*., 2010). This document provides practical guidance on how the marketing of commercially produced complementary foods and supplements can be guided by the *Code* and subsequent relevant WHA resolutions passed before 2010 and can be done in a manner that supports optimal infant and young child feeding. This preliminary guidance, if field-tested, could lead to the generation of evidence towards what could be considered "appropriate" and "inappropriate" and could be used to inform future guidelines (Quinn *et al*., 2010) requested in WHA 65.6.

There is only one published study that provides quantitative data on labeling practices of commercially produced complementary foods. The study by Sweet *et al*. (2012a; 2012b) field-tested in South Africa, the interim guidance as a potential tool for use by manufacturers and national governments for guiding the appropriate labeling of complementary foods. The study assessed 160 product labels against a checklist developed from *Using the Code of Marketing of Breast-milk Substitutes to Guide the Marketing of Complementary Foods to Protect Optimal Infant Feeding Practices.*

The study found that none of the labels complied with all the checklist criteria. The authors found the checklist to be useful but also recommended some changes and additions to the guidance provided by the document upon which it was based.

The ARCH Project assessed the labels of commercially produced complementary foods purchased in four low and middle income countries, using a checklist that was based on that developed by Sweet *et al*. but that also included their revisions (2012a; 2012b), in order to gather data from additional countries. This study therefore adds to the body of evidence required to inform the WHO and its STAG in developing guidelines for the appropriate marketing of complementary foods as requested by WHA 65.6.

1.4.2 Labeling of commercially produced foods for general consumption that are commonly fed to, but not directly marketed, for infants and young children under the age of two years

In addition to breast-milk substitutes and commercially produced complementary foods, there is a group of commercially produced foods for general consumption that are commonly fed to infants and young children in low and middle income countries. These products are often considered to be of a poor nutritional quality and to compete with more optimal complementary foods and/or breast-milk in the diet, therefore potentially undermining appropriate breastfeeding and complementary feeding practices and potentially affecting the nutritional status of infants and young children (Huffman *et al*., 2014).

These products may include soda/carbonated beverages, bottled water, condensed milk/evaporated milk, chocolate/malt beverages, other sweet beverages (e.g. fruit juices, probiotic drinks), biscuits/cookies, savory snacks (chips, crisps), sweet snacks (cakes/doughnuts and candy/ sweets/chocolate), processed unfortified cereals, breakfast cereals, instant noodles, peanut butter, yoghurt and other commonly consumed desserts. These products may or may not be of poor nutritional quality, depending on their composition. For example, peanut butter and yoghurt could be considered nutritious or could contain excessive amounts of sugar. It was thus considered important to assess how such products are marketed and if their nutritional profiles can be considered optimal for young child feeding. Commercially produced foods for general consumption that are commonly fed to, but not directly marketed, for infants and young children under the age of two years need to be promoted in a way that protects and promotes optimal infant and young child feeding, including breastfeeding and the consumption of high-quality local foods.

In recent years, international, regional and national documents have been developed that provide guidance on the marketing (as well as the packaging and labeling) of foods and beverages to children. Most documents recommend that marketing directed to children should not be misleading and should not take advantage of a child's naivety (WHO, 2004).

A WHO Forum and Technical Meeting stated that "exposure to the commercial promotion of energy-dense, micronutrient-poor foods and beverages can adversely affect children's nutritional status" and recommended the development of an international code on marketing of food and beverages to children (WHO, 2006).

Formal recommendations as to the guidance suggest that “there should be no marketing to children of energy-dense, nutrient poor foods that are high in fat, sugar or salt and brands associated with such foods” (CI, 2008). These recommendations also suggest that non-broadcast techniques be included as part of the definition of marketing. Non-broadcast techniques include overall presentation, content, language, colors and images used; whether children are represented; use of cartoon characters; the inclusion of free gifts, toys or collectible items with appeal to children; and the inclusion of competitions, vouchers or games with appeal to children (i.e. anything that could make the product appear to be intended for consumption by children). In 2010, the WHO released a set of recommendations on the marketing of foods and non-alcoholic beverages to children. These recommendations call for an overall reduction in all forms of marketing to children of foods high in saturated fats, trans fatty acids, free sugars or salt - especially in settings where children gather such as nurseries, schools, pre-schools, playgrounds, clinics, sporting and cultural activities (WHO, 2010).

Various companies that produce such food products and the industry associations that represent the manufacturers of these foods have also developed self-regulatory guideline documents and issued pledges, but these are considered difficult to assess due to the inconsistency in implementation, together with the subjectivity of the guidelines themselves (IASO, 2012).

It is clear that significant attention is being paid to the marketing of food and beverages directly to children, especially the marketing of energy-dense, nutrient poor foods that are high in fat, sugar and/or salt. However, it is generally accepted that children only begin to recognize brands from about three years of age (Fischer *et al*., 1991; McAllister & Cornwell, 2010), and so the caregiver would have the dominant influence over what products are bought to be fed to younger children, who are themselves too young to be directly affected by marketing strategies. Little attention has been given to the possible effect that the marketing of such products may have on the caregiver’s perception of the suitability of the product for infants and young children. Since this study is concerned with the labels of foods and beverages for children under the age of two years, it is necessary to gather information on the label content of commercially produced foods for general consumption that are commonly fed to, but not directly marketed for, infants and young children in order to assess if the label content contributes to the appearance that the product is appropriate or offers nutritional benefits for a child under the age of two years.

There is research to demonstrate that the information provided on food labels influences the consumers’ choices to purchase a specific product (Campos *et al*., 2011). A study done by Page *et al*. (2008) that assessed the packaging of breakfast cereals discussed the impact of the product packaging on both children and parents, and recommended that more research be done to determine how various packaging techniques influence decisions made regarding the purchase of cereals for children.

A study by Barennes *et al.* (2008) investigated reasons for the misuse of a particular brand of coffee creamer as an infant food in Laos.

It was found that the use of a logo, of a cartoon baby bear being held by its mother in the breastfeeding position, on the front panel of Bear Brand coffee creamer resulted in almost half of the adults surveyed believing that the product is “good for infants” or “a replacement for breast-milk”, despite a written warning to the contrary and a picture of a bottle with a cross through it being provided on the back panel. This is an example of how a product that is inappropriate for infant and young child feeding can be misrepresented as such.

Further research is necessary to define appropriate and inappropriate labeling practices by manufacturers and distributors of commercially produced foods for general consumption that are commonly fed to, but not directly marketed, for infants and young children under the age of two years. This is especially important for products that are energy-dense, nutrient poor and high in fat, sugar and/or salt.

1.4.3 Nutrient composition

Supporting optimal infant and young child feeding practices also requires ensuring that complementary foods are nutritionally adequate – providing sufficient (quality and quantity) energy, macronutrients and micronutrients to meet a growing child’s needs (WHO, 2003). Infants require nutrient-dense foods due to their high nutritional requirements relative to their body size and because they consume small amounts of food (Faber, 2005).

Increasing urbanization, reliance on a cash economy, and employment of women outside of the home have contributed to a growing demand for commercially produced complementary foods that are quick and easy to prepare (Euromonitor International, 2011; Lutter, 2003; Van der Merwe *et al*., 2007). Such products are an important option for some mothers who have the means to buy them and the knowledge and facilities to prepare and feed them safely (WHO, 2003).

This study therefore gathered the nutrition information provided on the labels of commercially produced complementary foods and commercially produced foods for general consumption that are commonly fed to, but not directly marketed for, infants and young children under the age of two years in order to make this information available for future analysis, linear programming studies and to supplement national food composition tables where the nutrient composition of commercially manufactured products are not available. For selected product categories, the nutrient composition of the products is described and compared to selected nutrition composition guidelines for foods for infants and young children.

1.5 Infant and young child nutrition and feeding in Tanzania

Malnutrition in Tanzania is a recognized public health problem and Tanzania signed up to the SUN movement during 2011, illustrating its commitment to improving the nutrition status of its population, with a focus on the first 1,000 Days.

The first 1,000 days, from a mother’s pregnancy until her child’s 2nd birthday, is a critical window of opportunity for nutrition, having great long-term impact on a child’s health and well-being. In Tanzania, 42% of children less than 5 years of age are stunted, 16% are underweight, 5% are wasted and 59% are anemic (NBS & ICF Macro, 2011).

In Tanzania, early initiation of breastfeeding is 23%, exclusive breastfeeding at six months of age is 50% and continued breastfeeding at the age of two years 60.5%. Complementary feeding is initiated by 6-8 months for 91.6% of infants in Tanzania (NBS & ICF Macro, 2011).

1.5.1 Relevant legislation

In 1994, Tanzania legislated the *National regulations for marketing of breast-milk substitutes and designated products (Tanzania)* (MOH, 1994). This was considered to be an 'all provisions law' by UNICEF (UNICEF, 2011). This legislation was updated in 2013, to become the *Tanzania Food, Drugs and Cosmetics (Marketing of foods and designated products for infants and young children) Regulations, 2013* (Ministry of Health and Social Welfare, 2013). This legislation is comprehensive and has legislated most, but not all, provisions of the Code and in some instances goes above and beyond the provisions of the Code. For example, the Tanzanian legislation includes children up to the age of five years in its definition of 'young children' and therefore restricts the marketing (advertising and promotion) of all foods and beverages marketed to infants and young children up to this age and so has wide ranging implications for numerous products beyond breast-milk substitutes and complementary foods (MOH, 1994).

The general food labeling regulation for Tanzania, the *Tanzania Food, Drugs and Cosmetics (Food Labelling) Regulations of 2006* requires that the label of any food should appear in Kiswahili or English or both Kiswahili and English (Ministry of Health and Social Welfare, 2006).

With regard to language, the 2013 regulations contain provisions for information that needs to be on the labels of infant formula, follow-up formula, formula for special medical purposes intended for infants or complementary foods in Kiswahili and English.

1.5.2 Previous associated research

There is increasing evidence that infants and young children are being fed commercially produced food products intended for general consumption, which may have poor nutritional content. The Demographic and Health Survey (DHS) data from 18 countries in Asia and Africa (and that included data from Tanzania), showed that >20% of infants 6-8 months consumed sugary snacks (range for all countries: 5%-46%) (Huffman et al. *in press).* A study conducted in Cambodia found that general snacks, such as crisps, biscuits and sponge cake, were often given to young children 12-42 months of age, with the purchase and consumption of these snacks often not supervised by an adult (Anderson, et al., 2008). Of concern is that this dietary pattern may simultaneously contribute to stunting and other nutritional deficiencies as well as the risk of overweight and obesity in young children. Data from the Tanzania Demographic Health Survey shows that on average 49% of neonates are breastfed within the first hour of delivery and 97% of infants were 'ever' breastfed (TNBS and ICF International 2012).

2 AIMS AND OBJECTIVES

The aim of this cross-sectional study was to describe the extent to which the labels of commercially produced foods marketed for, or commonly fed to, infants and young children under the age of two years in Tanzania comply with both local and international guidance on the marketing of such foods and to describe the practices observed.

2.1 Primary objectives

1. To assess the labels of commercially produced complementary foods purchased in selected stores in one of the largest cities/metropolitan areas in Tanzania against labeling guidance provided in *Using the Code of Marketing of Breast-milk Substitutes to Guide the Marketing of Complementary Foods to Protect Optimal Infant Feeding Practices* (Quinn *et al*., 2010) and subsequent relevant WHA Resolutions using an adaptation of the methodology developed by Sweet *et al*. (2012a; 2012b) in South Africa, and to describe the labeling practices observed.
2. To document selected label content provided on the packaging of selected commercially produced foods for general consumption that are commonly fed to, but not directly marketed for, infants and young children under the age of two years purchased in selected stores in one of the largest cities/metropolitan areas in Tanzania, in order to describe the labeling practices observed.

2.2 Secondary objectives

1. To report on the nutrient composition as stated on the product label of commercially produced complementary foods and commercially produced foods for general consumption that are commonly fed to, but not directly marketed for, infants and young children under the age of two years purchased in selected stores in one of the largest cities/metropolitan areas in Tanzania.
2. To compare the labels of commercially produced complementary foods to selected requirements of relevant national legislation in Tanzania, in order to determine adherence to national regulations that differ from the guidance provided by *Using the Code of Marketing of Breast-milk Substitutes to Guide the Marketing of Complementary Foods to Protect Optimal Infant Feeding Practice*s.
3. To determine whether or not the checklists used in this study provided a practical tool for the monitoring of food labels of commercially produced complementary foods and commercially produced foods for general consumption that are commonly fed to, but not directly marketed for, infant and young children. This aspect of the research will be undertaken in 2015.

3 METHODS

3.1 Study design

Products, based on the definitions used in the study, that were determined to be commercially produced complementary foods and selected commercially produced foods for general consumption commonly fed to children under the age of two years available for sale in the largest metropolitan area of Tanzania were purchased and the information on their labels were captured and analyzed.

To ensure a consistent methodology in the four study countries, training was provided to the HKI Country staff and consultants responsible for data collection for the labeling study. For all three phases of the data collection process, activity plans were developed providing detailed instructions for each activity within each phase of the research. To verify consistency, country staff were trained on how to record the exact steps outline in the activity plan into an activity report for each phase. The activity reports were monitored by the research team.

3.2 Research setting

Data collection was conducted in the urban areas of Dar es Salaam. Dar es Salaam comprises 7% of Tanzania's population (PPU, 2013). Although the food products available in Dar es Salaam may not have been fully representative of the country, based on research conducted by Sweet et al. (2012a; 2012b), it was expected that the majority (80%) of the products available nationally would be available in the largest city.

3.3 Selection and sampling of products and stores

An initial scoping phase sought to identify all commercially produced complementary foods available for purchase in the country. For the commercially produced foods for general consumption commonly fed to children under the age of two years, a strategically selected sample of these products was obtained for the study.

A three-phased approach was used to collect data for the study:

3.3.1 Phase 1: Scoping the market

3.3.1.1 Commercially produced complementary foods:

Distributors and manufacturers of commercially produced complementary foods, their brands and products were identified using a combination of methods. HKI country staff developed an inventory of the commercially produced complementary foods available in Tanzania by visiting stores and physically writing down all complementary food products that were available for sale. In addition, they contacted the local offices of manufacturers/distributors (including retailers/wholesalers) of these products and requested a list of all brands and product descriptions available for sale in the country, as well as requesting from government authorities any lists of registered commercially produced complementary foods that were available in the country. Finally a search of any commercially produced complementary food market analysis reports conducted in the country together with an internet search of manufacturer websites as well as any other available documents, to obtain a comprehensive view on commercially produced complementary foods available in the country, was undertaken.

Using this information, a master list of all known commercially produced complementary foods products available in Tanzania was compiled. For the commercially produced foods

for general consumption commonly fed to children under the age of two years, a list of a subset of such products in Tanzania was compiled from scientific literature and interviews with local nutrition experts.

3.3.1.2 Commercially produced foods for general consumption commonly fed to children under the age of two years:

A strategically selected list of commercially produced foods for general consumption commonly fed to children under the age of two years was identified through gathering country literature on infant feeding and obtaining expert opinions.

Commercially produced foods for general consumption commonly fed to children under the age of two years were selected according to eight product sub-categories - soda/carbonated beverages, biscuits/cookies, chips/crisps, cakes/sponge cakes, candy/sweets/chocolates, yoghurt, other sweetened beverages and country specific products. An effort was made to determine which brands and products from these product sub-categories are commonly fed to children under two years of age.

The following strategies were used to identify products/brands in each category: literature searches were conducted to obtain country DHS/food consumption survey data and any local or national studies that documented diets of children under two years of age or documenting consumption of 'snack foods' or commercially produced foods for general consumption; consultation with in-country stakeholders/researchers/market researchers/ health workers/parents of children under two years of age/individuals of the country ARCH Project Advisory Committee; adults and children in small corner stores or at health facilities were observed on an ad hoc basis in order to identify which specific brands of products are commonly purchased.

The final list of products was selected by consultation and consensus between the ARCH Project global research team. Where possible one locally produced and one imported product per product sub-category was selected.

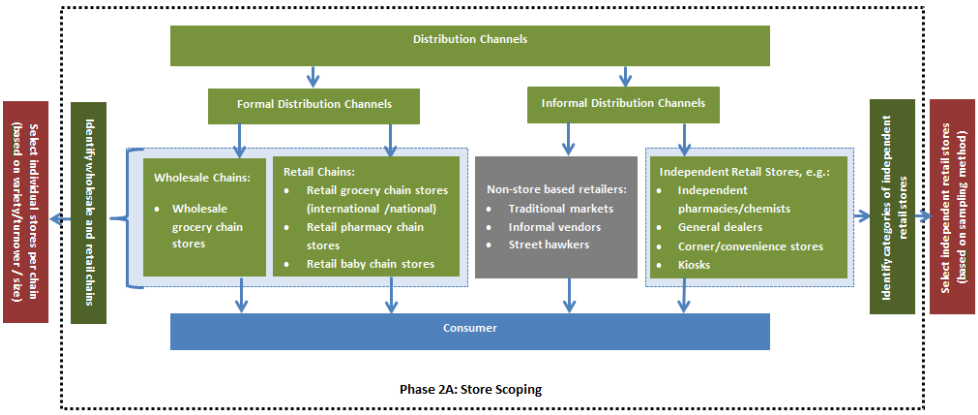
Only the specific brands of products selected were sought out and purchased from the same stores selected for the purchasing of the commercially produced complementary foods.

3.3.2 Phase 2A: Store selection

Two processes were followed for store selection, with the aim to obtain as many commercially produced complementary foods available in the country as possible. The commercially produced foods for general consumption commonly fed to children under the age of two years were also purchased from these same stores (see Figure 3-1):

1. Large and generally formal stores (supermarket chain stores, independent supermarkets and pharmacies) were strategically selected based on HKI in-country staff knowledge that they potentially stocked the greatest variety of commercially produced complementary food products.
2. Smaller and less formal stores (independent corner or convenience stores, and independent pharmacies) were selected using a random sampling method. It was decided that these stores were seen to be very similar in structure with no means to differentiate certain stores as selling a wider range of commercially produced complementary foods. Thus for these stores, a random sampling approach was deemed to be more appropriate than strategic selection. See Appendix A for the informal store sampling methods.

Figure 3-1 Distribution channels through which foods for infants and young children may be sold to be identified during Phase 2A: Store scoping.



A total of 30 stores were included in the study. Ten larger stores were purposively sampled to ensure that sufficient relevant products would be available (one international retail grocery chain, three national retail grocery chains, one national retail independent supermarket, one international retail independent supermarket, two national independent wholesalers, one national retail pharmacy chain and one national retail independent pharmacy) and 20 smaller stores were randomly sampled (16 corner/convenience stores and four pharmacies). The purchase of all 43 commercially produced complementary foods (n=26) and foods not marketed to but commonly fed to children under two years of age included in the study (n=17) took place between June and August 2013.

In Tanzania, there were three cereals/porridges (commercially produced complementary foods) that were available in smaller convenience stores that were not available in the larger supermarkets.

Discrepancies were noted when assessing the preliminary results and as a result it was decided that the informal stores needed to be revisited. The re-visits took place during September 2013 and two additional CPCF products were identified, that were missed during the original store visits.

3.3.3 Phase 2B: Product purchasing (data collection)

One of each available commercially produced complementary food was purchased from the selected stores according to specified selection criteria. See Table 3-1 Inclusion and exclusion criteria of products for the ARCH Project labeling study. Only one flavor and size variant of each product was purchased from the first store visited. The remaining stores were cross-checked for products.

Products were identified as different if they differed according to any of the following variables: brand name, sub-brand name, descriptive name, age category and if they were available in a single/double serving size (versus multiple servings). In addition, any other commercially produced complementary foods that were found in the stores during the visits, but were not on the original scoping list, were purchased. For the selected commercially produced foods for general consumption commonly fed to children under the age of two years, only the specific brands of products identified during the product scoping were sought out and purchased.

Any additional products that had a point-of-sale promotion that made the product appear suitable for children were also purchased. All products purchased were recorded on a data collection form (see Appendix B).

Table 3-1 Inclusion and exclusion criteria of products for the ARCH Project labeling study.

INCLUSION CRITERIA	EXCLUSION CRITERIA
Commercially produced complementary foods	
• Commercially produced food/beverage products found in the non-perishable section of the store designated for infant and young child foods AND in the refrigerated or frozen sections of the store, that are marketed as suitable* for feeding children under the age of two years e.g.: o Cereal/porridge; o Homogenized/pureed food; o Snacks/finger food; o Gravy/soup; o Fresh/frozen food; o Tea/juice/water; o Milkshake powder; o Lipid nutrient supplements (LNS); o Micronutrient powders (MNP).	• Breast-milk substitutes • Products whose labels state that they are intended only for pregnant women, mothers or children older than two years. • Meal replacements, nutritional supplements (except for complementary food supplements e.g. LNS) and micronutrient supplements (except for MNPs). • Products not available to customers through retail/wholesale outlets (e.g. products only distributed through government/humanitarian programs or products only available for purchase online).
Commercially produced foods for general consumption commonly fed to children under age-2 years	
• Branded products appearing on the *Master List* of commercially produced foods for general consumption commonly fed to children under the age of two years created during 'Phase 1: Scoping of the breast-milk substitute, commercially produced complementary food and commercially produced foods for general consumption commonly fed to children under age-2 years market'. These are foods commonly fed to, but not marketed as suitable* for, children under the age of two years e.g. o soda/carbonated beverages, o bottled water, o condensed milk/evaporated milk, o chocolate/malt beverages, o other sweet beverages (e.g. 100% juice/juice drinks, probiotic drinks [e.g. Yokult]), o biscuits/cookies, o savory snacks (chips, crisps), o sweet snacks (cakes/doughnuts and candy/sweets/chocolate),	• All other products.

o processed cereals (e.g. maize meal), o breakfast cereals, o instant noodles, o peanut butter, o yoghurt, and o other commonly consumed desserts	

*Marketed as suitable: Labels indicate that the product is intended for children under the age of two years by (a) making use of the words baby/babe/infant/toddler/young child in the context of a child's age e.g. baby food (food for babies), not the size/maturity of the product e.g. baby potato (young potato), (b) by recommending an age of introduction less than two years on the label, or (c) using an image of a child appearing younger than 2 years of age or an image or text of infant feeding (which could include a bottle).

3.3.4 Phase 3: Cross-checking of purchased versus scoped products

After the products were purchased from selected stores, they were compared to the products on the master list, and the percentage of purchased versus scoped products was calculated. If less than 80% of scoped products were purchased, then further purchases were required to reach the target of 80% based on the methodology used in the study of Sweet et al. (2012a; 2012b).

In Tanzania, 30 commercially produced complementary foods were scoped. Of these, 20 products (66%) were purchased during data collection. An additional five new products where identified during the product purchasing phase. Because less than 80% of scoped products were purchased, further store visits were necessary in order to reach the target for 80% of scoped products purchased. A further eight stores were re-visited and it was only possible to purchase an additional one product. This resulted in a total of 26 commercially produced complementary foods being purchased for inclusion into the study.

After detailed investigation and discussion with store owners it was determined that due to the distribution channels of commercially produced complementary foods in Tanzania, it would not be possible to purchase 80% of the products that were scoped. The manner in which commercially produced complementary foods are distributed in Tanzania is complex and this results in a market that is volatile, with different products being available at different times in Tanzania. The Tanzania Food and Drug Authority (TFDA) requires that all products are registered before being allowed to be imported, and the TFDA provided their list of registered products for the purposes of this study and these products were included on the Master List. It was found that some products that were listed by the TFDA as being registered as available in Tanzania were not available in the stores when visited by the researchers. Furthermore, there were many products available that were not included on the TFDA list. Following discussions with some informal store owners, it appears that, individuals import products (mainly from Kenya or Europe) on an ad hoc basis and this is done without permission or knowledge of the formal or official manufacturers or distributors. Such products sold by unauthorized dealers are often termed 'grey market' products. Therefore, some products that were available when product scoping was done were no longer available when product purchasing took place and, five additional products that were not scoped were purchased during the store visits. Therefore, in Tanzania only 70% of scoped products were purchased. The final analysis therefore included 26 products determined to be commercially produced complementary foods.

Fourteen commercially produced foods for general consumption commonly fed to children under the age of two years were identified during the scoping phase of research. Two additional products were identified during the product purchasing phase both of which were added due to having a point-of sale promotion that appeared to target children at the time of product purchasing. Although over 80% of the commercially produced foods for general consumption commonly fed to children under the age of two years were purchased, there was one missing sub-category of product and therefore the additional purchase of one product was required for this product category. Thus, the

final analysis included 17 commercially produced foods for general consumption commonly fed to children under the age of two years.

3.4 Ethical considerations

Ethics approval was obtained from the Tanzania Commission for Science and Technology (COSTECH 2013), in July 2013 (Reference number: 2013-236-NA-2013-87) before data collection started.

As the researchers were required to enter stores and purchase available product, it was deemed necessary to explain the research and request permission to collect data from the store manager (see Appendix C for letter of request to store managers).

3.5 Data extraction and data entry

Data extraction, data entry and analysis were conducted by a single team in South Africa to ensure consistency across all four countries.

Following product purchasing, all the product labels were photographed or scanned and uploaded to a central digital folder by HKI country staff. As Tanzania food labeling regulations require all food products to be in Swahili and/or English, all labels that were in Swahili and not English were translated by a professional translator appointed by the HKI country office. Only one commercially produced complementary food had some or all of the information translated from Swahili to English.

If a label contained text that was not in Swahili or English, as required by the Tanzanian regulations, only the images on the label were assessed. This was done in order to analyze the labels as it was assumed a Tanzanian mother would if there was no text in Swahili or English. None of the commercially produced complementary foods and one of the commercially produced foods for general consumption commonly fed to children under the age of two years were assessed only for images.

One trained researcher carried out data extraction, where all predetermined categories and themes of the product label were entered into a Microsoft Excel database. Data extraction quality was assessed by a second trained researcher randomly selecting and cross-assessing 10% of the data extracted. Any disagreements regarding the information extracted were resolved by consensus and where consensus could not be reached, a third researcher made the final decision in consultation with the first and second researchers.

3.6 Labeling practices checklists

The cleaned database was used to complete one of two labeling practices checklists which was completed independently by two researchers and the results were compared and any discrepancies resolved by consensus and where consensus could not be reached, a third researcher made the final decision in consultation with the first and second researchers.

The commercially produced complementary food labeling practices checklist (Appendix D) was based on the checklist used by Sweet, et al. (2012), which was constructed using guidance provided in the document *Using the Code of Marketing of Breast-milk Substitutes to Guide the Marketing of Complementary Foods to Protect Optimal Infant Feeding Practices* (Quinn, et al., 2010) and relevant WHA Resolutions, that has been modified to incorporate the recommendations

for improvement made by Sweet, et al. (2012).

Since there is no formal guidance for the marketing of this group of products, the structure of the commercially produced foods for general consumption commonly fed to children under the age of two years labeling practices checklist (see Appendix E) was based on the commercially produced complementary foods checklist and adapted to include the principles of international guidance available on the marketing of foods and beverages to children (WHO, 2004; CI, 2008; WHO, 2010; IASO, 2012). Table 3-2 below, gives an outline of the themes covered in the checklists.

Table 3-2 Summary of themes covered by the checklist questions

Commercially produced complementary foods (CPCF)	**Commercially produced foods for general consumption commonly fed to children under the age of two years (CPF)**
• Language • Inserts • Age related recommendations • Feeding instructions and phrases • Feeding practices messages • Preparation and use instructions • Consistency • Portion size and daily ration • Storage instructions • Warnings • Images • Cross-promotion • Nutrition and health claims • Mandatory label information	• Language • Age related recommendations • Preparation and use instructions • Consistency • Portion size and daily ration • Storage instructions • Warnings • Images • Cross-promotion • Nutrition and health claims • Mandatory label information • Various labeling practices that could imply suitability to children (e.g. images of cartoons or toys, shapes that could appeal to children, jokes or stories, etc.)

In order to compare the labels of products included in this study to the relevant Tanzanian national legislation, it was determined whether additional country-specific questions needed to be added to the checklists. The checklist question on languages was adapted to incorporate the Tanzania general food labeling language requirements, which prescribe that labels need to contain text in English and/or Swahili (Ministry of Health and Social Welfare, 2006). These are incorporated into Question 1 of the commercially produced complementary food labeling practices checklist (see Table 4-4) and Question 32 of the commercially produced foods for general consumption commonly fed to children under the age of two years labeling practices checklist (see Table 5-5). With regard to product-specific questions, for commercially produced complementary foods and for commercially produced foods for general consumption commonly fed to children under the age of two years, there were no additional questions that needed to be added to the checklists.

3.7 Data analysis

Once the labeling practices checklists were completed, product names were replaced with a product code created by a random number generator, product identifiers such as manufacturer/distributor name, brand and sub-brand name, descriptive name and variant were blinded and the order of the products randomly shuffled in order to 'blind' the completed database. This was done in order to reduce bias.

The categorized descriptive data was imported into statistical software (STATA version 10™) and simple frequencies calculated for each possible category under each field in the database.

These frequencies, together with some of the original descriptive data were used to present:

- A record of labeling practices for current commercially produced complementary foods / commercially produced foods for general consumption commonly fed to children under the age of two years in Dar es Salaam;
- A discussion on labeling trends of interest for commercially produced complementary foods / commercially produced foods for general consumption commonly fed to children under the age of two years; and
- Examples and prevalence of:
    - Inappropriate labeling practices;
    - Practices that may be inappropriate but were not detected by the labeling practices checklist;
    - Practices which were particularly commendable.

In addition, the nutrient composition of the foods, where it was provided on the label, was captured. Where possible, the content of macro- and micro-nutrients per 100g and per 100kcal, and the contribution to the daily DRI/RNI of the 100kcal portion was determined (see Appendix G).

No further analysis of the nutrient composition could be undertaken without a detailed assessment of the Tanzanian food labeling regulation requirements specifically in terms of declaration requirements (e.g. provision of total sugar) and associated definitions (e.g. what constitutes total sugar). This assessment was outside the scope of the current research but could be undertaken as future research using the ARCH Project database.

4 RESULTS AND DISCUSSION OF COMMERCIALLY PRODUCED COMPLEMENTARY FOODS LABELS

4.1 Description of commercially produced complementary food products

The characteristics of the 26 commercially produced complementary foods included in the study are shown in Table 4-1**.**. All products in the sample were shelf stable and none were either fresh or frozen. Only three sub-categories of products were found in the stores where data collection took place: cereal/porridge (77%); homogenized/pureed food (15%) and snacks/finger food (8%). None of the following sub-categories were found: tea/juice/water, fresh/frozen food, milkshake powder, gravy/soup, multiple micronutrient powder/lipid nutrient supplements.

Thirty-one percent of products were locally produced. Nineteen percent were imported from the UK, 15% from Spain and 11% from Kenya (see Table 4-2 for a full breakdown of the respective countries of origin). The products were manufactured by 11 different companies (Figure 4-1) and represented 12 different brands (Figure 4-2).

As described in the methodology section of this report the database was blinded so results are not provided by manufacturer.

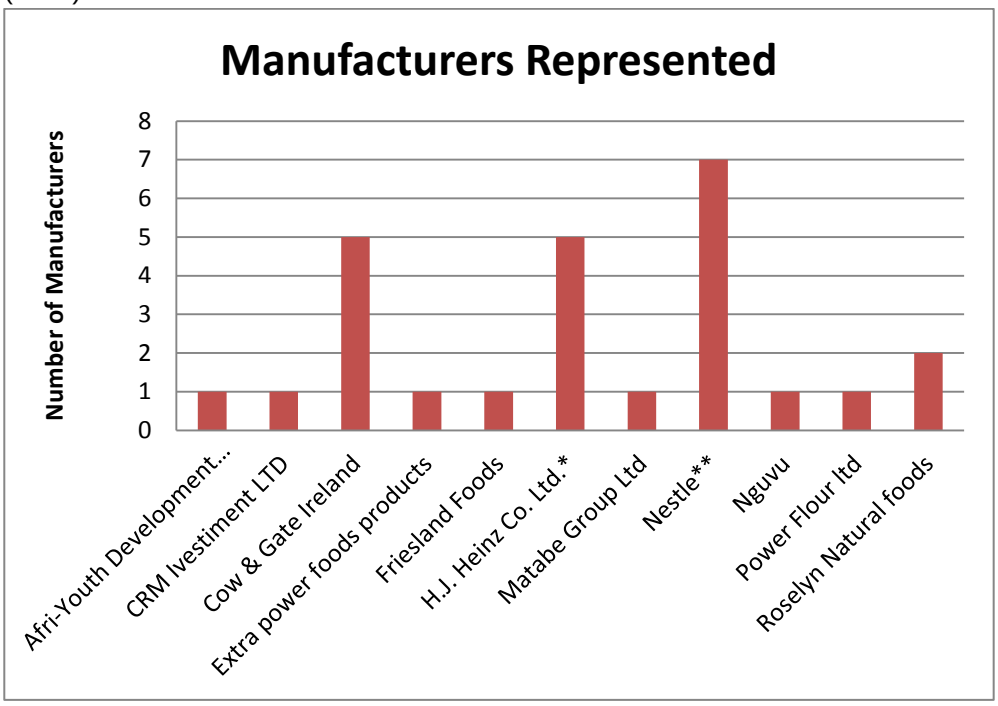
Table 4-1 Characteristics of commercially produced complementary food products included in the study in Tanzania (n=26).

Product characteristics	Number of products	Percentage of products (%)
Product origin:		
Locally manufactured products	8	31
Imported products	18	69
Product format:		
Food	26	100
Beverage	0	0
Product category:		
Cereal/porridge	20	77
Homogenized/pureed food	4	15
Snacks/finger food	2	8
Storage:		
Shelf stable	26	100

Table 4-2 Country of origin of commercially produced complementary foods included in the study in Tanzania (n=26).

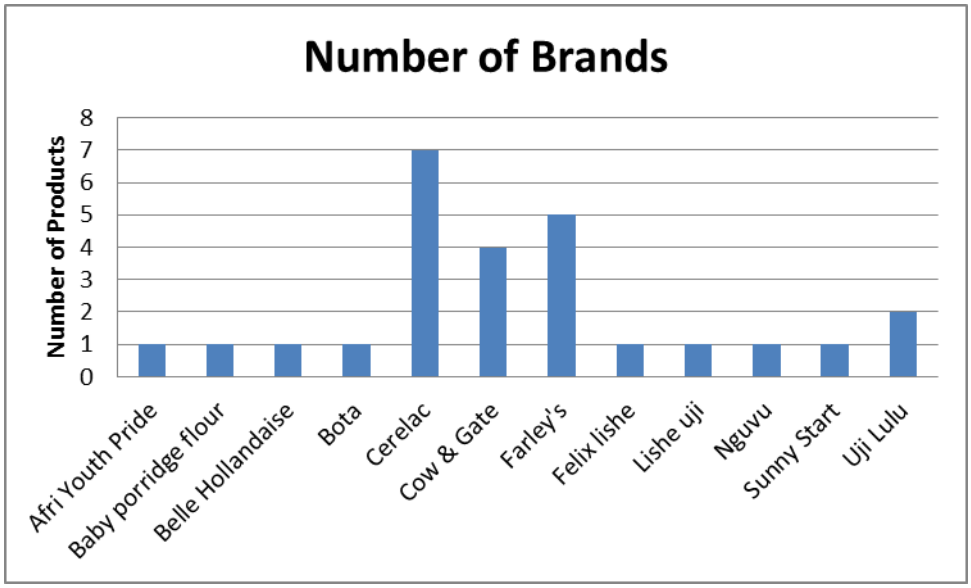
Country of origin	Number of products	Percentage of products (%)
Tanzania	8	31
UK	5	19
Spain	4	15
Kenya	3	11
England	2	8
Netherlands	1	4
Oman	1	4
U.A.E	1	4
Unclear	1	4

Figure 4-1 Manufacturers of commercially produced complementary foods represented in Tanzania (n=11).



*5 Heinz products: Heinz Africa & Middle East Free Zone Establishment (n=3) and H.J. Heinz Co. Ltd (England) (n=2).
**7 Nestle products: Nestle Spain (n=4), Nestle Foods Kenya Ltd (n=2) and Nestle Kenya Ltd (n=1).

Figure 4-2 Brands of commercially produced complementary foods represented in Tanzania (n=12).



The cost of the product was captured at the first store where the product was found and purchased. Therefore, the costs shown in Table 4-3 are not average costs, but rather represent a single price paid for the product. Gathering of price information of the products across the range of outlets where they were available was not part of the scope of this study.

Table 4-3 provides information on the cost of the products per 100g and per serving size. The cereal product serving size was based on 25g, which is considered the serving size that should provide approximately 100kcal or half the daily energy requirement from complementary food of the breastfed child 6 – 8 months of age. The serving size for the pureed product was 128g which provides 106 kcal which is approximately half the daily energy requirement from complementary food of the breastfed child 6 - 8 months of age. In Tanzania on average, imported cereals cost twelve times as much as locally produced products.

Table 4-3 Costs of commercially produced complementary foods included in the study in Tanzania per unit (g) and mean cost per serving by product category (n=26) presented in two currencies [Tanzanian Shilling (TZS) and United States Dollars (USD)].

Product category	Mean cost per 100g/ml (Lowest price – Highest price)	Mean cost per serving (g)* (Lowest price – Highest price)
Cereals/porridges		
All products (n=20)		
TZS	2965.86 (300.00 – 15700.00)	707.83 (71.40 – 3905.39)
USD	1.82 (0.19 – 9.69)	0.43 (0.04 – 2.41)
Imported products (n=12)		
TZS	4697.26 (2125.00 – 15700.00)	1120.75 (510.97 – 3905.40)
USD	2.89 (1.31 – 9.68)	0.69 (0.32 – 2.41)
Locally manufactured products (n=8)		
TZS	368.75 (300.00 – 500.00)	88.45 (71.40 – 124.52)
USD	0.23 (0.18 – 0.31)	0.05 (0.04 – 0.08)
Homogenized/pureed foods		
All products (n=4)		
TZS	3765.00 (2500.00 – 6400.00)	5788.00 (3533.78 – 9808.65)
USD	2.32 (1.54 – 3.94)	3.57 (2.18 – 6.05)
Imported products (n=4)		
TZS	3765.00 (2500.00 – 6400.00)	5788.00 (3533.78 – 9808.65)
USD	2.32 (1.54 – 3.94)	3.57 (2.18 – 6.05)
Locally manufactured products		
	-	-
Snacks/finger food		
All products (n=2)		
TZS	5850.00 (4966.67 – 6733.33)	1430.00 (1196.35 – 1665.03)
USD	3.61 (3.06 – 4.15)	0.88 (0.73 – 1.03)
Imported products (n=2)		
TZS	5850.00 (4966.67 – 6733.33)	1430.00 (1196.35 – 1665.03)
USD	3.61 (3.06 – 4.15)	0.88 (0.73 – 1.03)
Locally manufactured products		
	-	-

[a] Cereal/porridge =25g portion; pureed food=128g portion; snacks/finger food=25g portion. These servings are based on a serving believed to provide 100 kcal that is approximately half the daily requirement from complementary food of the breastfed child 6-8 months of age.

In addition, a calculation was undertaken to determine the total daily cost of a product based on the suggested daily ration and serving size provided by the manufacturer, as opposed to the theoretical serving size of 25g/128g/270g used above. Due to the limited information provided by the manufacturers, this calculation could only be computed for 5 cereal products. The mean cost of the manufacturer's suggested daily ration for cereal products was TZS 2587 (2125 – 3200) [USD 1.59 (1.31 – 1.97)].

4.2 Summary of answers to commercially produced complementary foods checklist questions and data generated by the labels database

The results of the labeling practices checklist (Table 4-4) together with data generated by the labels database, which documents current complementary food labeling practices in Tanzania, are presented here.

Table 4-4 Tanzania checklist results: Commercially produced complementary food labeling practices (n=26).

	Checklist of labeling practices	Potential answers	Number of labels	Percentage of labels	Percentage of labels (excl. NA)
1	Is the product label written in the appropriate language(s) of the country in which the product is sold?	Yes	25	96	
		Partial	1	4	
		No	0		
2	Does the insert contain any **required label information** that is NOT present on the label?	Yes	0		
		No	1	4	100
		NA[a]	25	96	
3	Does the product label specify a recommended age of introduction that is less than 6 months of age?	Yes	3	12	19
		No	18	69	81
		NA[a]	5	19	
4	Does the product label give instructions indicating how to feed the product to infants younger than six months?	Yes	0	0	
		No	26	100	
5	Does the product label include phrases such as 'from the start'; 'for the whole family' or 'first stage'?	Yes	3	12	
		Partial[b]	5	19	
		No	18	69	
6	Does the product label include the following messages:				
6.1	An appropriate/recommended age for use of the product that is six months (180 days) or more.	Yes	18	69	
		No	8	31	
6.2.1	The importance of exclusive breastfeeding for the first six months of life;	Yes	7	27	
		No	16	62	
		Partial[b]	3	11	
6.2.2	Is the exclusive breastfeeding recommendation weakened[c] by an additional message regarding feeding practices for infants and young children?	Yes	4	15	
		No	6	23	
		NA[a]	16	62	
6.3.1	The importance of the addition of complementary foods from six months of age with continued breastfeeding up to two years or beyond;	Yes	0		
		Partial[b]	5	19	
		No	21	81	
6.3.2	Is the complementary feeding recommendation weakened by an additional message regarding feeding practices for infants and young children?	Yes	8	31	
		No	2	8	
		NA[a]	16	61	
6.4	Instructions for safe and appropriate preparation and use.	Yes	21	81	
		Partial[b]	2	8	
		No	3	11	
6.5	A recommendation to feed the product with a spoon. *Select 'Not applicable' for Tea / Juice / Water / Milkshake powder AND Snacks / Finger Foods (excluding rusks that are used to make porridges)*	Yes	17	65	
		Partial[b]	2	8	
		No	7	27	
		NA[a]	0		
6.6	A proposed daily ration/serving. (Or recommended number of servings per day and serving)?	Yes	6	23	
		Partial[b]	7	27	
		No	13	50	
6.7	Instructions for safe and appropriate storage?	Yes	23	89	
		No	3	11	

	Checklist of labeling practices	Potential answers	Number of labels	Percentage of labels	Percentage of labels (excl. NA)
6.8	Ingredients list?	Yes	26	100	
		No	0		
6.9	The nutrition composition/analysis of the product?	Yes	20	77	
		No	6	23	
6.10	Batch number?	Yes	21	81	
		No	5	19	
6.11	Best before date?	Yes	26	100	
		No	0		
7	Does the product label recommend feeding the product in a bottle?	Yes	0		
		No	26	100	
8	Does the product label show an image of a feeding bottle?	Yes	0		
		No	26	100	
9	Does the product label recommend feeding the product in a soft or semi-soft form? *Select 'Not Applicable' for all categories of products except Cereal/Porridge. Applies to rusks that are used to make porridges.*	Yes	0		
		Partial[b]	1	4	
		No	21	81	
		NA[a]	4	15	
10	Does the product label recommend feeding the product in a liquid form? *Select 'Not Applicable' for Gravy / Soup Mix; Tea / Juice / Water / Milkshake Powder.*	Yes	0		
		Partial[b]	0		
		No	20	77	
		NA[a]	6	23	
11	Does the daily ration (or a recommended serving size combined with a recommended frequency of feeds per day) included on the product label exceed the recommended energy intake from complementary foods for a breastfed child provided below?				
11.1	6 - 8.9 months : 837 kJ/day (200 Kcal/day)	Yes	10	38	40
		No	1	4	4
		Insufficient Information	14	54	56
		NA[a]	1	4	
11.2	9 - 11.9 months : 1,255 kJ/day (300 Kcal/day)	Yes	2	8	8
		No	7	27	28
		Insufficient Information	16	61	64
		NA[a]	1	4	
11.3	12 - 23.9 months : 2301 kJ/day (550 Kcal)	Yes	0		
		No	8	31	
		Insufficient Information	18	69	
		NA[a]	0		
12	Does the product label include a stipulated warning?	Yes	14	54	
		No	12	46	
13	Does the product label include images of babies appearing to be older than six months of age?	Yes	8	31	80
		Unclear	0	0	0
		No	2	8	20
		NA[a]	16	61	
13.1	Does the product label include an image/ images of baby animals displaying physical or developmental milestones commonly associated with infants younger than six months of age?	Yes	2	8	100
		No	0		
		NA[a]	24	92	
14	Is the product labelled in a way that also promotes the company's infant or follow up formula by using similar: ❶ Colour schemes or designs ❷ Names ❸ Slogans, mascots or other symbols as used for their infant formula or follow up formula brands?	Yes	5	19	42
		No	7	27	58
		NA[a]	14	54	
14.1	Is the product labeled in a way that also promotes the company's breast-milk substitutes (e.g. infant or follow-up formula) by including pack-shots of such products on the label and/or directly referring to the company's IF/FUF/GUM? (e.g. to prepare the cereal with the manufacturers FUF)	Yes	0		
		No	12	46	100
		NA[a]	14	54	

	Checklist of labeling practices	Potential answers	Number of labels	Percentage of labels	Percentage of labels (excl. NA)
14.2	Is there an invitation on the label to make contact (direct or indirect) with the company's marketing personnel?	Yes	10	38	83
		No	2	8	17
		NA[a]	14	54	
15	Does the product label make any nutrient content claims?	Yes	18	69	
		No	8	31	
16	Does the product label make any nutrient comparative claims?	Yes	1	4	
		No	25	96	
17	Does the product label make any nutrient function/other function claims?	Yes	23	88	
		No	3	12	
18	Does the product label make any reduction of disease risk claims?	Yes	0		
		No	26	100	

[a]Refers to the number of products which were excluded from a particular checklist Question since the label information / product information was not relevant to that Question. Therefore read both percentage columns; percentage column 1 contains all product labels in the sample; percentage column 2 contains only those product labels which were appropriate / applicable to the respective Question. For example, 4 product labels were excluded from the Question on daily ration exceeding the recommended energy intake for 6 – 8.9 months; since those 4 product labels were not marketed to infants of this age group and as such the energy content information was not relevant to answering this Question.

[b]Partial responses are indicated when a label meets one or some, but not all, possible criteria for choosing the answer. (i.e. includes one or two out of three components of an answer, or includes one of two components of an answer).

[c]In some cases, the label did not state a feeding message for the preceding Question but ambiguous messages regarding either breastfeeding or complementary feeding were presented on the labels, for example: One product did not refer to breastfeeding or complementary feeding but the manufacturer did expand on a complementary feeding message: "*Each baby growing at his/her own pace ask your doctor some advice when to start giving him or her the product*." Another example: "*This product cannot be used as a breast milk substitute during the first 4 months of life*". However this particular product does not previously refer to exclusive breastfeeding anywhere else on the label.

[d]The scope of questions 6.2.2 and 6.2.3, which previously considered messages on the label that weakened appropriate breastfeeding or complementary feeding messages also provided on the same label, has been expanded to include all infant and young child feeding messages that undermine the public health recommendation to exclusively breastfeed for the first six months of life/introduce complementary foods at six months together with continued breastfeeding to two years or beyond.

4.3 Labeling practices according to the STAG five criteria for inappropriate promotion

4.3.1 STAG 1: Promotion is inappropriate if it undermines recommended breastfeeding practices

4.3.1.1 STAG 1a: Products should not be promoted as suitable before 6 months.

There are numerous ways in which a product label can imply suitability for before six months. These include a recommended age of introduction that is less than six months, the provision of feeding instructions for less than six months, phrases for use that imply less than six months and images of children displaying developmental milestones that are reached before six months, presented below.

4.3.1.1.1 Age related recommendations, feeding instructions and phrases

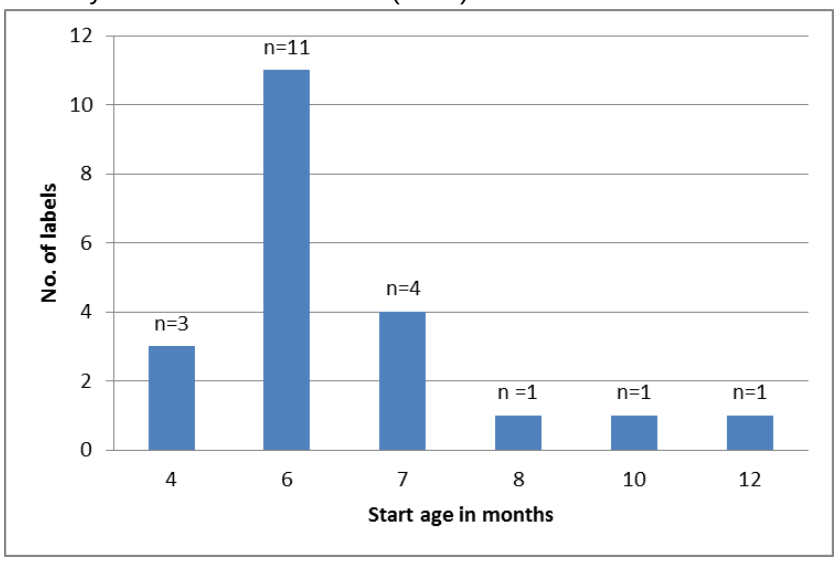
From the checklist results (Question 3 and 6.1, Table 4-4), it can be seen that 69% of the labels specified an appropriate age of introduction of six months or more, while 12% of the labels recommended an age of introduction of less than six months and 19% of the labels provided no age of introduction.

The recommended age of introduction and the wording used on the labels can be found in Table 4-5 and Figure 4-3 respectively.

Table 4-5 Wording used for the recommended age of introduction on commercially produced complementary food labels in Tanzania (n=21).

Age of introduction	Number of labels	Percentage of labels
From 4-6 months onwards	3	14
From 6 months/onwards	11	52
From 7 months/onwards/7+ months	4	19
From 8 months	1	5
From 10m onwards	1	5
From 12 months; from 1 year	1	5

Figure 4-3 Recommended age of introduction given in months, on commercially produced complementary food labels in Tanzania (n=21).



None of the product labels of the commercially produced complementary foods displayed instructions on how to feed the product to infants younger than six months of age.

Different stage age descriptors (information that was not documented by the checklist questions) such as ‘stage 2’ and ‘children of all ages’ were used on 58% (n=15) of the labels (see Table 4-7). Nine (35%) of product labels used a phrase which could directly or indirectly indicated or imply that the product may be suitable for infants younger than 6 months. Four of these product labels did not provide an appropriate age of introduction of 6 months or more (see Figure 4-4, Image A), whereas 5 labels did indicate an appropriate age of introduction of over 6 months (see Figure 4-4, Image C).

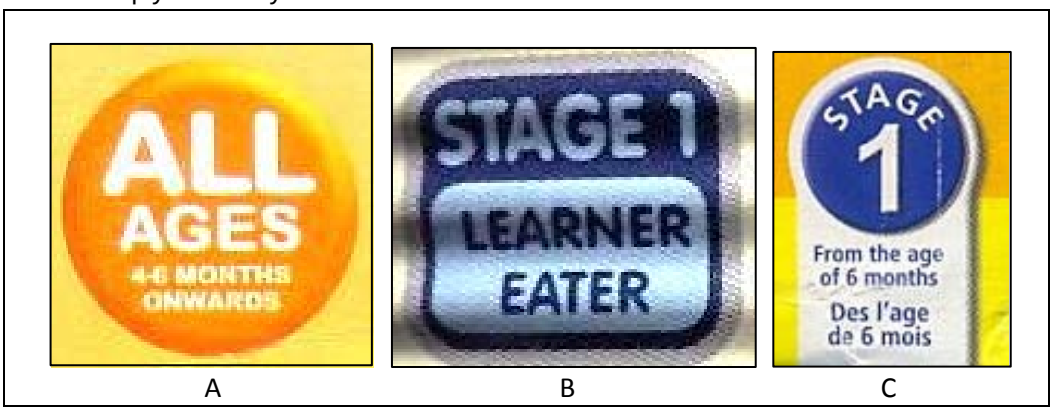
The wording used when such phrases were provided includes the following examples (and image examples are presented in Figure 4-5):

- *Baby/babies*
- *Stage 1/Stage 1 learner eater*
- *Children of all ages*
- *All ages*
- *It is for people of all ages, particularly children from six months and above, pregnant mothers, lactating and patients.*

Table 4-6 Stage age descriptors which are not written in months or years on commercially produced complementary food labels in Tanzania (n=15).

Stage descriptor	Number of labels	Percentage of labels
Baby	3	20
Stage 1	3	20
Children	2	13
Babies	1	7
Children of all ages	1	7
From six months to old age	1	7
Stage 1: Learner eater	1	7
Stage 2: Explorer Eater	1	7

Figure 4-4 Examples of labeling practices on commercially produced complementary foods in Tanzania that could imply suitability for children under 6 months.



A B C

4.3.1.1.2 Images: Developmental milestones

The physical or developmental milestones displayed by the infant or young child in the images are listed in Table 4-7. More than one milestone may be displayed in each image.

Of the 10 product labels that included an image of an infant or young child, 20% of these images showed an infant displaying a developmental milestone commonly associated with infants younger than six months of age (Question 13, Table 4-4). In addition, 2 (8%) of the labels contained an image(s) of baby animals displaying physical or developmental milestones commonly associated with infants younger than six months of age (Question 13.1, Table 4-4).

Figure 4-5, images A and B display examples of images of infants that are clearly displaying developmental milestones reached after 6 months, Figure 4-5, image C shows an example of an infant with a developmental milestone reached before 6 months and Figure 4-5, image D displays an image of an infant where it is unclear whether the milestones reached are under or over 6 months. It is noted that the Tanzanian legislation states '…labels and marks on any Infant formula, follow-up formula, formula for special medical purposes intended for infants or complementary food shall not show any photographs, drawings or pictorial presentations or graphic representations other than for illustrating methods of preparation and in no case, shall it depict a feeding bottle or teat' and therefore prohibits the use of any images other than for showing the preparation and use instructions of the product.

Table 4-7 Physical or developmental milestones displayed by images of infants/young children used on commercially produced complementary food labels in Tanzania (n=10).

Age of milestones reached	Physical or developmental milestone[a]	Number of labels	Percentage of labels
Infant 0-6 months	Sitting with support	3	30
	Head shot	2	20
	Heavily stylized image	1	10
	Sitting without support	1	10
After 6 months	Holding objects such as a spoon/cup and self-feeding	3	30
	Two Teeth	2	20
	More than 2 teeth	1	10
	Standing alone	2	20

[a]Sweet, et al, 2012b

Figure 4-5 Images used on commercially produced complementary food labels in Tanzania displaying developmental stages.

Milestones achieved after 6 months: Milestones achieved before 6 months:

A B C D

4.3.1.2 STAG 1b: Products should not be promoted to be given by bottles or using teats.

Products can either promote that they could or should be given in a bottle or with use of a teat by providing instructions to prepare the product in a bottle (see also, Section 4.3.7.2.3 Preparation and use); providing instructions to prepare the product in a liquid consistency; or containing an image of a feeding bottle on the product label. Such practices undermine breastfeeding.

4.3.1.2.1 Recommendation to feed with a bottle

In Tanzania, none of the product labels recommended feeding the product from a bottle (see Table 4-4, Question 7) and no product labels showed an image of a feeding bottle (see Table 4-4, Question 8).

4.3.1.2.2 Consistency

Of the applicable products (cereals, homogenized and pureed foods and rusks if made into a porridge), 65% of the labels directly included the recommendation, and 8% implied (by use of an image of a spoon) the recommendation to feed the product with a spoon (Question 6.5, Table 4-4). Furthermore, of the applicable products (20 cereals in total), no labels qualified as a 'yes' and 4% qualified as 'partial' compliance to the recommendation to state that the product should be fed in a soft or semi-soft form (Question 9, Table 4-4). None of the non-liquid products recommended that they be fed in a liquid form, which based on international guidance is inappropriate for a cereal type product (Question 10, Table 4-4).

4.3.1.3 STAG 1c: Products should not be portrayed as equivalent or superior to breast milk.

Infant and young child feeding practices messages may imply that the complementary food is equivalent or superior to breast milk. Such statements are often not directly stating that the product is equivalent or superior to breast milk and determining if this is the case is generally subjective. See Table 4-10 for a full list of examples of feeding practices listed on the product labels. Nutrient

content claims can also sometimes be considered to imply that the complementary food is equivalent or superior to breast milk. In Tanzania, no labels were found to contain messages that could portray the product as equivalent or superior to breast milk.

4.3.1.4 STAG 1d: Products should not be promoted as a replacement for breast milk.

The use of the word 'weaning' generally implies the cessation of breastfeeding. According to the HKI country staff, in Tanzania, although the term 'weaning' is no longer promoted, there is still reference to it in communities and it may be understood that 'weaning' is from 6 months onwards. This highlights that more country specific research should be undertaken as to the generally accepted age that the use of the term weaning implies, if the term is permitted on labels so as to ensure that it does not undermine breastfeeding recommendations.

The following are examples of feeding practice messages that makes use of the word 'weaning':

- *[Product name] are a great way to gradually introduce your baby to solid foods. Use as first food: [Product name] are an ideal weaning food for your baby.*
- *Use as part of a varied weaning diet.*
- *At the start of weaning use small quantities of [product name]. As your baby gets older and weaning progresses gradually increase the amount according to your baby's appetite and stage of development, working up to 50g of [product name] powder mixed with 150 ml of pre-boiled, lukewarm drinking water, in order to get the full nutritional benefits.*
- *Dry wheat cereal for infants from 6 months onward. Important notice: breast milk gives your baby the best possible start in life. It is advised to consult your doctor before starting to use [product name]. Your baby will be ready to move to mixed feeding - which is part of weaning - at about 6 months.*

There is a need for specific guidance on terminology or specific wording that is considered to be inappropriate so as to ensure that label text does not imply that the product is a replacement for breast milk.

Product labels could also imply that they are to be used as a replacement for breast milk if there is a recommendation to feed in a bottle or as a liquid. This practice has been covered under sub-section 4.3.1.2.

4.3.1.5 STAG 1e: Products should not be promoted using brands/labels/logos that are the same/similar to those used for breast-milk substitutes.

4.3.1.5.1 Cross promotion

It was found that 46% (n=12) of the commercially produced complementary foods included in the study were manufactured by companies that also manufacture breast-milk substitutes that are available in Tanzania. Amongst these manufacturers, the checklist questionnaire showed that cross promotion practices did take place. There was either a resemblance between the product color schemes/designs, names and/or slogans/mascots or other symbols on 42% of the product labels (Question 14, Table 4-4). No products that were produced by a manufacturer that also produces breast-milk substitutes were labeled in a way that also promoted the company's breast-milk substitutes by including pack-shots of these products on the label and/or directly referring to the company's infant formula/follow-up formula/growing-up milks in the preparation instructions (Question 14.1, Table 4-4).

Of the 12 relevant labels, five (42%) had a similar color scheme or design to the breast-milk substitute, a similar name was used by four (33%) and none had a similar slogan, mascot or symbol (Table 4-8). See Figure 4-6 for pictorial examples.

Table 4-8 Similarities between the labels of commercially produced complementary foods and breast-milk substitutes manufactured by the same companies in Tanzania (n=12).

Similarities	Number of labels	Percentage of labels
Similar color schemes/designs	5	42
Similar names	4	33
Similar slogans/mascots/symbols	0	0

Figure 4-6 Example of cross-promotion between breast-milk substitutes and commercially produced complementary food labels in Tanzania.

Similarity between product label color schemes/designs and names of breast-milk substitutes and complementary foods:

Infant formula

Complementary food

4.3.1.6 STAG 1f: Daily ration size should not exceed the amount of energy needed from complementary foods by breastfed children.

4.3.1.6.1 Daily ration

Fifty percent of the labels (13) provided a daily ration or serving size, and only 23% of the labels provided enough information to calculate the total daily ration (Question 6.6, Table 4-4). In addition, most of the labels did not provide sufficient information to determine if a daily ration of the product exceeded the recommended energy intake from complementary foods for a breastfed child.

Of products for which calculations could be made, the single serving size or daily ration for children 6 to 8.9 months exceeded the daily energy intake for complementary foods for a breastfed child (38%). This figure decreased to 8% for products for the older age category of 9 to 11.9 months and further decreased to zero for products for the 12 to 23.9 month age group (Questions 11.1, 11.2 and 11.3 respectively, Table 4-4).

4.3.1.7 *Suggested addition to STAG criterion 1*

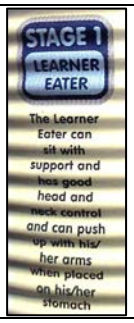
4.3.1.7.1 Infant and young child feeding messages

4.3.1.7.2 Feeding practices

A message or recommendation regarding feeding practices for infants and young children was found on 65% (n=17) of labels of commercially produced complementary foods, including messages on breastfeeding and complementary feeding and these messages have been categorized and examples provided in Table 4-9.

Table 4-9 Messages/recommendations regarding feeding practices for infants and young children used on commercially produced complementary food labels in Tanzania (n=17).

Categories of messages regarding feeding practices for infants and young children	Number of labels	Percentage of labels	Example text from labels
Breastfeeding / Milk feed messages:			
Breastfeeding is recommended for up to 6 months	7	41	*The Department of Health recommends exclusive breastfeeding for the first 6 months.*
Recommendation: DoH	4	24	*The Department of Health recommends exclusive breastfeeding for the first 6 months.*
Recommendation: WHO	3	18	*The World Health Organisation recommends exclusive breastfeeding for the first 6 months.*
Breast milk/infant formula is insufficient from 6 months	3	18	*It may be introduced from 6 months when breast milk alone or infant formula can no longer totally fulfil your baby's increasing nutritional requirements.*
Breastfeeding is best for your baby	3	18	*Breast milk is the best food for the child; Important notice: breast milk gives your baby the best possible start in life.*
Milk feeds should continue as long as possible	2	12	*Milk feeds, ideally breastfeeding should continue for as long as possible.*
Breastfeeding should continue as long as possible	1	6	*Breastfeeding should continue for as long as possible after introduction of complementary foods.*
Breastfeeding continued while introducing solids	1	6	*Breastfeeding should continue for as long as possible after introduction of complementary foods.*
Complementary feeding messages:			
Readiness: Age	11	65	*Your baby will be ready to move to mixed feeding - which is part of weaning - at about 6 months. You can start feeding your baby with [Product name] cereal from 6 months onwards…*
Readiness: Ask health professional	9	53	*Since babies' growth rates are different, consult your health professional for advice on when to introduce complementary foods.*
Type: Cereals	9	53	*Cereals are the ideal foundation of a healthy complementary feeding diet.*
Use: Not a breast-milk substitute	6	35	*[Product name] is a complementary food. Not to be used as a breast-milk substitute.*
Manufacturer's Nutrition Plan (with stages, flavors and actual products)	6	35	*[Manufacturer's name] Developmental Nutrition plan helps your baby grow through each unique stage, so that he/she always gets the right amount of nutrition at the right moment of growth. Stage 1. Learner Eater. Gentle first foods. Stage 2. Explorer Eater. New Tastes. Stage 3. Confident Eater. Richer tastes & textures. Junior. Strong foundation.*

			 
Frequency: Regular meals	5	29	*You can serve for breakfast.* *[Product name] is a part of the daily diet.*
Overfeeding baby	4	24	*Be mindful not to overfeed when your baby shows signs of being full e.g. turning his head away.*
Type: Range of tastes	4	24	*Enjoying different tastes and texture.*
Don't start solids before 4 months	4	24	*Unless otherwise advised by your health care professional, solid foods should not be given before 4 months, and not delayed beyond 6 months.*
Other	4	24	*For more information on feeding your little one please call our friendly care line. Join our [product name] baby club free today. As a member you can look forward to: mail packs with free product samples, money off vouchers and feeding guides, monthly emails with expert advice, nutritional information recipes and meal planners.*
Readiness: Developmental milestones	3	18	*[Manufacturer's name] Developmental Nutrition plan helps your baby grow through each unique stage, so that he/she always gets the right amount of nutrition at the right moment of growth. Stage 1. Learner Eater. Gentle first foods. The Learner Eater can sit with support and has good head and neck control and can push up with his/her arms when placed on his/her stomach*
Readiness: Dietary milestones	3	18	*Our 7+ month dinners are made especially for babies who are beginning to explore more adventurous tastes and textures.*
Type: Other foods	3	18	*From 6 months, in addition to milk and cereals, it may be also appropriate to give your baby other foods.*
Type: Texture	3	18	*Its texture and taste is good for baby.*
Type: Vegetables	3	18	*From 6 months onwards, in addition to milk and cereals, it is also appropriate to give your baby other foods like meat, fish, vegetables, etc.*
Type: Fish	2	12	
Type: Meat	2	12	
Type: Fruit	2	12	*As tastes develop: As your baby's tastes develop [product name] can be crushed up and added to fruit or vegetable purees.*
Type: Variety	1	6	*Use as part of a varied weaning diet.*

Using the Code of Marketing of Breast-Milk Substitutes to Guide the Marketing of Complementary Foods to Protect Optimal Infant Feeding Practices (Quinn *et al.*, 2010) recommends that complementary food product labels should emphasize the importance of exclusive breastfeeding for the first six months followed by the addition of complementary foods with continued breastfeeding for two years and beyond.

The checklist data revealed that only 27% of product labels stressed the importance of exclusive breastfeeding for the first six months of life (Question 6.2.1, Table 4-4) and 15% of labels included a message which weakened this recommendation (Question 6.2.2, Table 4-4). See Table 4-9 for examples of young child feeding messages that were contained on the labels.

The full message of the importance of the addition of complementary foods from six months of age together with continued breastfeeding up to two years or beyond was stated by none of the labels (Question 6.3.1, Table 4-4) and 19% of these labels 'partially' highlighted this message. Thirty-one percent of labels undermined the complementary feeding recommendation by including text

regarding feeding practices for infants and young children (Question 6.3.2, Table 4-4). See Table 4-10 for examples.

This research shows that the STAG could consider expanding STAG 1 to ensure that messages/recommendations regarding infant and young child feeding practices should support and not undermine exclusive breastfeeding for the first 6 months of life followed by the introduction of complementary foods together with continued breastfeeding to 2 years or beyond.

Table 4-10 Infant and young child feeding messages on commercially produced complementary food labels in Tanzania.

Example of messages on Tanzanian commercially produced complementary food labels that support and undermine **breastfeeding**	
Supporting the breastfeeding message	**Undermining the breastfeeding message**
Important notice: breast milk gives your baby the best possible start in life.	*Unless otherwise advised by your health care professional, solid foods should not be given before 4 months, and not delayed beyond 6 months.*
Example of messages on Tanzanian labels that support and undermine **continued breastfeeding when introducing commercially produced complementary foods**	
Supporting the continued breastfeeding when introducing complementary foods message	**Undermining the continued breastfeeding when introducing complementary foods message**
It [Product] may be introduced from 6 months when breast milk alone or infant formula can no longer totally fulfil your baby's increasing nutritional requirements.	*Since babies' growth rates are different, consult your health professional for advice on when to introduce complementary foods.*

This highlights the importance of providing countries with detailed guidance on what constitutes appropriate messaging and to ensure that global standard setting bodies are aligned in their recommendations / requirements.

Gaps in available guidance on the labeling of complementary foods:

"*Recommendations regarding consulting a healthcare professional for advice on infant feeding may have been provided by manufacturers on the basis of the Codex Standard for Processed Cereal-based Foods for Infants and Young Children (Codex Alimentarius, 2006) which states that "the label shall include a statement indicating that the decision when precisely to begin complementary feeding, including any exception to six months of age, should be made in consultation with a health worker, based on the individual infant's specific growth and development needs". Quinn et al. (2010) argue that the Guiding Principles for Complementary Feeding of the Breastfed Child (PAHO, 2003), which explicitly call for the introduction of complementary foods at six months of age, supersede this recommendation. These guiding principles are based on a WHO Expert Consultation on the Optimal Duration of Exclusive Breastfeeding (WHO, 2001b) that considered the results of a systematic review of the evidence. The 2012 update of the original systematic review by Kramer and Kakuma (2012) supports recommending, as a general policy, exclusive breastfeeding for the first six months of life in both developing- and developed-country contexts. Messages regarding feeding practices for infants and young children provided by complementary food labels should not contradict, undermine, offer an alternative to or imply an exception to the recommendations of Code and WHA resolutions, other normative guidance such as the WHO Global Strategy for Infant and Young Child Feeding (WHO, 2003) and the Guiding Principles for Complementary Feeding of the Breastfed Child, and should be consistent with and supportive of national nutrition policy. This does not negate the need for health professionals to manage infants individually and to address adverse outcomes appropriately (Kramer & Kakuma, 2012)."*

Sweet et al., 2012b

4.3.2 STAG 2: Promotion is inappropriate if it contributes to childhood obesity and non-communicable diseases.

4.3.2.1 STAG 2a: Products should be limited in saturated fat, trans-fatty acids, free sugars and salt.

Table 4-11 shows the nutrients included on the labels of the commercially produced complementary foods.

4.3.2.1.1 Nutrient Composition

The nutrient composition extracted from the commercially produced complementary foods labels are presented in Table 4-11. The information is stratified by product category: cereal/porridge, homogenized/pureed foods, tea/juice/water and snacks/finger food.

The nutrient content per 100g provided on the label was then used to calculate a 100kcal serving. The last column of the table presents the calculated percentage of DRI/RNI or recommendations given by the WHO in each 100kcal serving.

In total 18 labels displayed nutrient composition on the labels, 13 porridges, three homogenized/pureed foods and two snack/finger foods. As the homogenized/pureed foods and snack/finger foods have small sample sizes they therefore are not a good representation of the whole category.

Nutrition information on 18 of the products was provided per 100g but the nutritional content for some nutrients on one label were given as a '% daily value', with no value or reference provided for these daily values. This could make it challenging for mothers to compare products.

Even though nutrition data was not provided for each micronutrient, the findings show that cereal products (n=13) tended to provide adequate amounts of energy, protein, fats, and key micronutrients, especially when it is considered that a 100kcal portion provides 50% of the daily energy needs of complementary foods for a 6-8 month old breastfed child. In the 6 – 8 month group, both the carbohydrate component and the sugar component are high. There are currently no guideline recommendations on the proportion of sugar to total energy for those aged <24 months. However since sugar is under scrutiny, a reference for those >24 months was used (see Appendix G).

The homogenized pureed food (n=3) which included 2 products that included meat contained less energy and carbohydrate per 100g and their sugar content per 100kcal was less than that of the cereal products. However their protein content was comparable with the cereal products.

Only two snack foods were included and they were comparable in terms of energy, fat, carbohydrate and sugar to the cereal products but with slightly less protein.

Table 4-11 Nutrient composition of commercially produced complementary foods in Tanzania (n=26).

Nutrient	100 g Mean (minimum – maximum)	100 kcal Mean (minimum – maximum)	% DRI / RNI per 100kcal[a]		
			6 – 8 months	9 – 11 months	12 – 23 months
Cereals/porridges (n=13)					
Energy (kJ) (n=13)	1755 (1674 – 1829)	418 (398 – 435)	-		
Energy (kcal) (n=13)	421 (398 – 462)	100 (95 – 110)	50	33	18
Protein (g) (n=13)	14.8 (14.0 – 16.2)	3.5 (3.3 – 3.9)	39	42	40
Carbohydrates (g) (n=13)	68.4 (63.4 – 71.6)	16.3 (15.1 – 17.0)	71 - 91	48 - 63	26 – 34
Sugar[b] (g) (n=6)	30.8 (10.5 – 41.8)	7.3 (2.5 – 9.9)	146		

Nutrient	100 g Mean (minimum – maximum)	100 kcal Mean (minimum – maximum)	% DRI / RNI per 100kcal[a]		
			6 – 8 months	9 – 11 months	12 – 23 months
Dietary fibre (g) (n=10)	2.3 (1.3 – 3.8)	0.5 (0.3 – 0.9)	-		
Total fat (g) (n=13)	9.6 (6.5 – 14.2)	2.3 (1.5 – 3.4)	19 - 23	13 - 15	7 - 8
SFA (g) (n=6)	4.1 (2.9 – 5.4)	1.0 (0.7 – 1.3)	-		
MUFA (g)	-	-	-		
PUFA (g)	-	-	-		
Trans FA (g)	-	-	-		
LA (g) (n=3)	1.4 (1.3 – 1.6)	0.3 (0.3 – 0.3)	30 - 43	20 - 30	11 - 17
ALA (g)	-	-	-		
Vitamin A (µg RE) (n=11)	447.3 (310.0 – 700.0)	106.5 (73.8 – 166.6)	27		
Vitamin A (IU) (n=4)	1306.0 (1030.0 – 1664.0)	310.8 (245.1 – 396.0)	-		
Sodium (mg) (n=12)	124.2 (0.25 – 210)	29.6 (0.1 – 50.0)	8		
Calcium (mg) (n=13)	432.4 (100.0 – 690.0)	102.9 (23.8 – 164.2)	26	26	21
Iron (mg) (n=13)	7.8 (4.0 – 13.0)	1.9 (1.0 – 3.1)	21	21	32
Zinc (mg) (n=9)	3.4 (1.5 – 5.3)	0.82 (0.36 – 1.26)	20	20	17
Homogenized/pureed foods (n=3)					
Energy (kJ) (n=3)	274 (260 – 296)	420 (399 – 454)	-		
Energy (kcal) (n=3)	65 (62 – 70)	100 (95 – 107)	50	33	18
Protein (g) (n=3)	2.9 (1.4 – 4.2)	4.4 (2.1 – 6.4)	39	52	50
Carbohydrates (g) (n=3)	8.4 (7.1 – 9.3)	12.9 (10.9 – 14.3)	56 - 72	35 - 50	21 – 27
Sugar[b] (g) (n=2)	2.6 (1.8 – 3.4)	4.0 (2.8 – 5.2)	80		
Dietary fibre (g) (n=3)	1.7 (0.9 – 2.4)	2.6 (1.4 – 3.7)	-		
Total fat (g) (n=3)	1.8 (1.6 – 2.1)	2.8 (2.5 – 3.2)	23 - 28	16 - 19	8 - 10
SFA (g) (n=3)	0.10 (0.02 – 0.20)	0.21 (0.03 – 0.31)	-		
MUFA (g)	-	-	-		
PUFA (g)	-	-	-		
Trans FA (g)	-	-	-		
LA (g)	-	-	-		
ALA (g) (n=3)	0.16 (0.12 – 0.19)	0.24 (0.18 – 0.29)	185 - 300	120 - 185	65 – 100
Vitamin A (µg RE)	-	-	-		
Vitamin A (IU)	-	-	-		
Sodium (mg) (n=3)	33.3 (20.0 – 60.0)	51 (30.7 – 92.0)	15		
Calcium (mg)	-	-	-		
Iron (mg)	-	-	-		
Zinc (mg)	-	-	-		
Snack/finger foods (n=2)					
Energy (kJ) (n=2)	1715 (1692 – 1737)	419 (413 – 424)			
Energy (kcal) (n=2)	406 (400 – 411)	100 (98 – 100)	50	33	18
Protein (g) (n=2)	6.5 (6 – 7)	1.6 (1.5 – 1.7)	18	19	18
Carbohydrates (g) (n=2)	79.5 (79.4 – 79.5)	19.4 (19.4. – 19.4)	84 - 107	27 - 75	31 - 40
Sugar[b] (g) (n=2)	28.3 (27.5 – 29.0)	6.9 (6.7 – 7.1)	138		
Dietary fibre (g) (n=1)	2.1 (2.1 – 2.1)	0.51 (0.51 – 0.51)	-		
Total fat (g) (n=2)	6.9 (6.5 – 7.2)	1.7 (1.6 – 1.8)	14 - 17	9 - 11	5 - 6
SFA (g) (n=1)	3.1 (3.1 – 3.1)	0.76 (0.76 – 0.76)	-		
MUFA (g)	-	-	-		
PUFA (g)	-	-	-		
Trans FA (g)	-	-	-		
LA (g)	-	-	-		
ALA (g)	-	-	-		
Vitamin A (µg RE) (n=1)	450 (450 – 450)	109.8 (109.8 – 109.8)	27		
Vitamin A (IU)	-	-	-		
Sodium (mg) (n=2)	8.5 (7.0 – 10.0)	2.1 (1.7 – 2.4)	0.6		
Calcium (mg) (n=1)	390 (390 – 390)	95.2 (95.2 – 95.2)	24	24	19
Iron (mg) (n=2)	14.5 (7.0 – 22.0)	3.5 (1.7 – 5.4)	39	39	58
Zinc (mg)	-	-	-		

[a] See Appendix G for recommendations and calculations

[b] Sugar values were captured from any mention of sugar in the nutritional information on the label and not specifically added sugar. Currently there are no guidelines for recommendation on the proportion of sugar from total energy for those aged <24 months however since sugar is under scrutiny, we used a recommended cut-off for those >24 months: Total sugars should not exceed 5.0 gr / 100 gr of solid food or 2.5 gr / 100 ml of beverage (PAHO 2011), see appendix G for further details.

4.3.2.2 STAG 2b: The portion size shown or recommended should provide an appropriate energy amount for the meal or part of a meal that it is designed to provide.

The energy needs from complementary foods for infants with 'average' breast milk intakes in developing countries are provided in Table 4-13 (PAHO, 2003). These values were calculated by estimating children's total energy requirements at different ages and subtracting the average energy intake from breast milk (PAHO, 2003). Complementary food labels should recommend a daily ration that does not exceed the energy needs from complementary foods, in order to discourage overconsumption of the product which could result in the partial or total displacement of continued breastfeeding as well as other locally available and appropriate foods forming part of the diet (Quinn et al., 2010). From six months of age, caregivers should feed their child a variety of foods to ensure that their nutrient needs are met (PAHO, 2003). It follows that complementary food products should also not recommend a daily ration that provides 100% or near to 100% of the energy needs from complementary foods, in order to allow for variety in the complementary diet (Sweet, et al., 2012b).

Table 4-12 Daily energy needs from complementary foods and recommended number of meals for the breastfed child.

Age (months)	Daily energy needs from complementary foods for the breastfed child [kJ/day (kcal/day)]	Number of meals of complementary foods per days
6-8	837 (200)	2-3 (plus 1-2 snacks)
9-11	1,255 (300)	3-4 (plus 1-2 snacks)
12-23	2301 (550)	3-4 (plus 1-2 snacks)

Adapted from PAHO (2003)

In this study, except for cereal products, most of the labels did not provide enough information to calculate a proposed daily ration (based on the serving and recommended number of servings per day on the label).

In this study, only five of the labels (all cereal products) provided enough information to calculate a proposed daily ration (based on the serving and recommended number of servings per day on the label). Table 4-13 shows the energy provided by the products per manufacturers recommended serving; without milk (as directed by the product label). It can be seen that most of the products' energy serving provided between 155 – 210 kcal per portion.

Although none of the product labels provided a daily ration, it was calculated and it was determined that the daily ration ranged between 310 – 421 kcal per day. Of concern was that all of these products' daily ration amounted to more than 200 kcal/day. The study did not consider the appropriateness of the portion size but this would valuable in meeting the STAG recommendation and should possibly be added to the checklist (Table 4-4).

Table 4-13 Energy calculations per portion, per daily ration, without the addition of milk, of commercially produced complementary foods in Tanzania.

Cereal Products	Number of products	Mean (minimum – maximum)
Energy / 100g (kcal)	5	416 (408 - 421)
Serving size (g)	5	47.6 (38- 50)
Daily ration (g)	5	95.2 (76 - 100)
Energy per serving (no added milk) (kcal)	5	198 (155 - 210)
Energy per daily ration (no added milk) (kcal)	5	396 (310 – 421)

4.3.3 STAG 3: Promotion is inappropriate if the product does not make an appropriate contribution to infant and young child nutrition in the country.

4.3.3.1 STAG 3a: Products that do not adhere to applicable standards for safety and nutrient composition.

The scope of this research did not include any assessment of the product contents.

4.3.3.1.1 Mandatory and other label information

It is a globally accepted practice/requirement for all food labels to provide certain information regarding ingredients, traceability and even nutritional information. This study found that 100% of the labels provided an ingredients list, 81% included a batch number and 100% included a best before date. Seventy-seven percent of the labels also provided the nutrition composition/analysis of the product and this information was used for the nutrient content calculations. No products were purchased after their best before dates (see Table 4-14 and Questions 6.8 – 6.11 of Table 4-4).

Table 4-14 Selected label information included on the labels of commercially produced complementary food labels in Tanzania (n=26).

Mandatory Information	Number of labels	Percentage of labels
Batch number	21	81
Expiry date	26	100
Past expiry date	0	0
Ingredients list	26	100
Nutrition information	20	77

4.3.3.2 STAG 3b: Products should provide essential nutrients other than calories.

See Table 4-11 for a summary of the nutrition composition of commercially produced complementary food products found in Tanzania, based on the information provided on the label. The findings illustrate that manufacturers are inconsistent with the information provided on product labels.

4.3.4 STAG 3c: Promotion should encourage a diet based on a wide variety of foods, including minimally processed fruits, vegetables, and animal-source foods.

See Table 4-9 for a summary and examples of the infant and young child feeding practices messages provided on commercially produced complementary food labels in Tanzania.

Only one label in this study was considered to provide a message which encouraged a diet based on a wide variety of foods:
'*From 6 months onwards, in addition to milk and cereals, it is also appropriate to give your baby other foods like meat, fish, vegetables, etc.'*

4.3.5 STAG 4: Promotion is inappropriate if it undermines the use of suitable home-prepared and/or local foods.

In Tanzania, the majority of the available commercially produced complementary foods are imported. See Table 4-2 for the country of origin of the products. The ARCH Project Health Systems Study will provide data on whether the imported or locally produced complementary foods are more commonly fed to infants and young children in Tanzania. See Table 4-9 for the infant and young child feeding practices messages that are provided on the commercially produced complementary food labels. It appears that none of these messages directly undermine home-prepared and/or local foods.

It was noticed that some products made use of flavors that could be considered inappropriate, since they are not normally found in family foods and could therefore undermine the traditional diet. Examples of flavors that could be considered to be inappropriate include '*Tuna pasta in a creamy tomato sauce*'. There were some examples of flavors that could be considered to be appropriate, since they could be normally found in family foods, such as '*Banana*'. See Figure 4-7.

Figure 4-7 Examples of images displaying flavors that could potentially be appropriate or inappropriate, from labels of commercially produced complementary foods in Tanzania.

Images of flavors that may be considered to be based on the local diet and therefore could be appropriate

Images of flavors that are potentially not based on the local diet and therefore could be inappropriate

Data analysis on the flavor variants of products has not been done, and based on the methodology of this study it would not be meaningful to conduct analysis on flavors, since only one flavor variant of each product was chosen. This practice however highlights the need for more detail regarding what constitutes undermining (or supporting) local foods.

4.3.5.1 STAG 4a: Products should not be marketed as a complete substitute for home-prepared and/or local foods.

This research shows that this (STAG 4a) is a difficult and highly subjective criterion to assess and it would be valuable for the WHO STAG to provide more detailed guidance on the types of

messages that could be perceived to be included. Alternatively, suggested wording could be provided that should be on the labels of products, that clearly states that such products should be used together with / as part of the traditional diet and not as a substitute to a varied, balanced diet. The assumption made is that home-prepared / local foods are sufficiently nutritious to meet all the infant and young child's requirements, but this may not always be the case.

No product labels explicitly stated that they were a complete substitute for home-prepared and/or local foods, however a number of products contained text that could be considered to suggest that the product is beneficial / potentially similar to or as good as home-prepared and/or local foods:

- *We prepare them with the finest baby grade ingredients and enrich them with a 1/3 of the essential vitamins and minerals that you baby needs to grow and develop.*
- *Your baby's requirement for iron increases after the age of 6 months. So it is important to supplement your baby's diet with iron rich food. [Product name] rusk is fortified with iron making it a good choice to add iron in your baby's diet.*
- *During the critical period of rapid growth and development [manufacturer's name] plays an important role in providing enough energy, protein, vitamins and minerals required at the different stages of growth.*

These examples highlight the subjectivity of this criterion.

4.3.5.2 STAG 4b: Promotion should not suggest that commercial products are inherently superior to home-prepared foods.

As with STAG 4a, this is a difficult and subjective criterion and more detailed guidance is required.

No commercial products explicitly stated that they are superior to home-prepared foods. However a practice was observed whereby manufacturers provided images and text of 'nutrition development plans'. These plans generally provided feeding practice messages that cross-promoted other products from the manufacturer by making use of stages and flavors that are part of the manufacturer's portfolio of products. See Figure 4-8 for an example. It could be considered that these plans subtly imply that the manufacturer's products are superior to or could replace traditional diets. This highlights the need for the WHO STAG to give further guidance as to promotion practices that suggest the products superiority to home-prepared foods.

Figure 4-8 Image showing a manufacturer-endorsed nutrition plan on commercially produced complementary foods in Tanzania that cross promotes other products in the manufacturers portfolio.

Furthermore, certain non-nutrition claims could potentially infer superiority of a product over that of the local diet. See Table 4-18 for examples of non-nutrition claims, some of which (for example claims regarding quality) could highlight a benefit of the product

4.3.5.3 STAG 4c: Promotion should not imply that home-prepared or local foods should be delayed until after commercial products are fed.

None of the labels directly stated that the feeding of home-prepared or local foods should be delayed until after commercial products are fed. However, some feeding practices messages may be considered to imply that the commercially produced complementary foods should be offered before home-prepared or local foods. For example, some cereal products included the messages:

- *Our wide range of delicious fruits and healthy grains are ideal for your 4-6 month old baby - smooth in texture, simply flavored and with key nutrients.*
- *Give your baby the Pure Start Advantage, developed by [manufacturer's name] the nutrition experts which guarantees:* [Text provided]
- *[Product name] with 5 fruits is a nutritional and tasty porridge and excellent first solid food for your baby. It is enriched with proteins, vitamins and minerals and can be easily digested by your baby.*

Manufacturers commonly include phrases on product labels regarding the use of the product that could be interpreted to mean that the product is suitable for children less than six months of age and this could imply that the product be given before home-prepared or local foods. See section 4.3.1.1 for a description of practices that could imply suitability before six months.

See Table 4-9 for a full list of the prevalence and examples of feeding practices messages.

This research highlights that all of the STAG 4 criteria are difficult and highly subjective and it would be valuable for the WHO STAG to provide more detailed guidance on the types of messages that are appropriate/inappropriate. Alternatively, suggested wording could be provided that should be on the label of commercially produced complementary foods, that clearly states that such products should be used together with / as part of the traditional diet and not as a substitute to a varied, balanced diet. The assumption made is that home-prepared / local foods are sufficiently nutritious to meet all the infant and young child's requirements but this assessment was not part of the scope of this study.

4.3.6 STAG 5: Promotion is inappropriate if it is misleading, confusing, or could lead to inappropriate use.

4.3.6.1 STAG 5a: Health claims should not be allowed unless specifically approved by national or international authorities.

The STAG criteria refer only to health claims being inappropriate. Various claims were found on commercially produced complementary foods in Tanzania. These included nutrient content claims, nutrient function/other function/implied health claims, nutrient comparative claims and non-nutrition claims. See section 4.3.6.1.1 for a complete description of the prevalence of as well as examples of the various categories of claims.

Denoting key information such as a nutrient content claim may be seen as helpful, since some claims could highlight nutrients of public health importance to this age group (e.g. iron and zinc) and are clearly measurable (e.g. according to Codex guidelines, a 'source of…' claim requires that the product provides 15-30% of the NRV of the specific vitamin per serving). Guidance is however necessary to help countries establish which nutrition claims could be considered appropriate, how they should be worded and the appropriate nutrient profile of the products that could carry such claims.

4.3.6.1.1 Nutrition and Health Claims

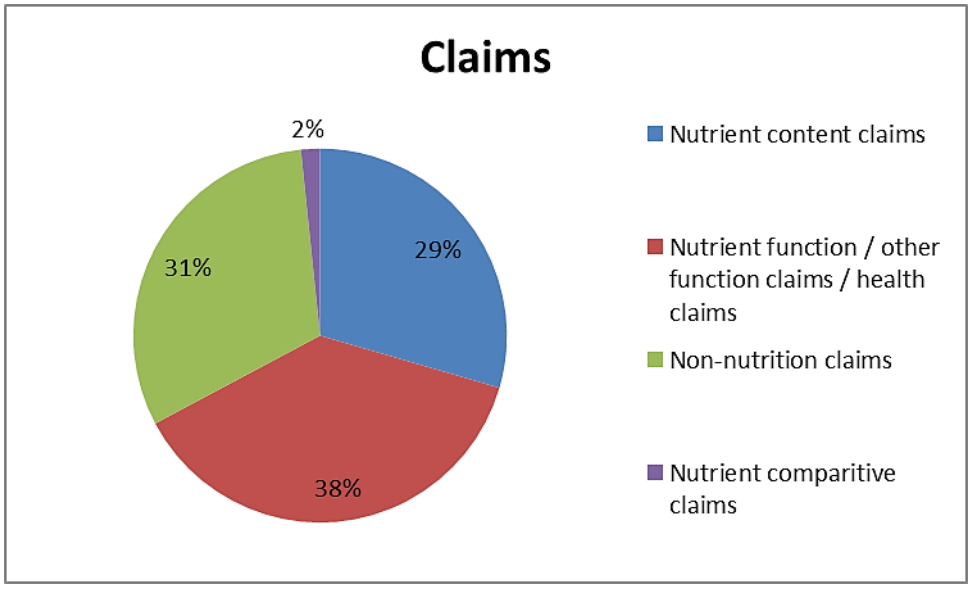
Codex Alimentarius has clear definitions for the various categories of nutrition and health claims commonly used/permitted on foods (see Table 4-15).

Table 4-15 Codex Alimentarius definitions of categories of nutrition and health claims.

Nutrition claim	Any representation which states, suggests or implies that a food has particular nutritional properties including but not limited to the energy value and to the content of protein, fat and carbohydrates, as well as the content of vitamins and minerals. The following do not constitute nutrition claims: the mention of substances in the list of ingredients; the mention of nutrients as a mandatory part of nutrition labeling and quantitative or qualitative declaration of certain nutrients or ingredients on the label if required by national legislation. Nutrition claims include nutrient content claims and nutrient comparative claims.
Health claim	Any representation that states, suggests, or implies that a relationship exists between a food or a constituent of that food and health. Health claims include nutrient function/other function/implied health claims and reduction of disease risk claims.
Nutrient content claim	A nutrition claim that describes the level of a nutrient contained in a food e.g. source of calcium.
Nutrient comparative claim	A claim that compares the nutrient levels and/or energy value of two or more foods. Examples: “reduced”; “less than”; “fewer”; “increased”; “more than”.
Nutrient function claim	A nutrition claim that describes the physiological role of the nutrient in growth, development and normal functions of the body. “Nutrient A (naming a physiological role of nutrient A in the body in the maintenance of health and promotion of normal growth and development). Food X is a source of/ high in nutrient A.”
Other function claim	Concerns specific beneficial effects of the consumption of foods or their constituents, in the context of the total diet on normal functions or biological activities of the body. Such claims relate to a positive contribution to health or to the improvement of a function or to modifying or preserving health e.g. ‘Substance A (naming the effect of substance A on improving or modifying a physiological function or biological activity associated with health). Food Y contains x grams of substance A.’
Reduction of disease risk claim	Relates to the consumption of a food or food constituent, in the context of the total diet, to the reduced risk of developing a disease or health-related condition. Risk reduction means significantly altering a major risk factor(s) for a disease or health-related condition. Diseases have multiple risk factors and altering one of these risk factors may or may not have a beneficial effect. The presentation of risk reduction claims must ensure, for example, by use of appropriate language and reference to other risk factors, that consumers do not interpret them as prevention claims e.g. ‘A healthful diet low in nutrient or substance A may reduce the risk of disease D. Food X is low in nutrient or substance A.’

Claims are commonly made on labels and Figure 4-9 shows that of the claims made, the majority were nutrient function/other function/implied health claims (38%), non-nutrition claims (31%) or nutrient content claims (29%). A small percentage of claims (2%) were nutrient comparative claims and there were no reduction of disease risk claims.

Figure 4-9 Claims made on commercially produced complementary food labels in Tanzania.



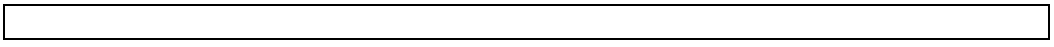
Sixty-nine percent of the labels included some form of nutrient content claim (Question 15, Table 4-4). Table 4-16 lists the claim categories and examples, and an extensive list with examples of the wording on the label can be found in Table 8-1, Appendix H**.** Certain of these claims may be considered as appropriate, depending on their structure and wording, if they address nutrients of public health concern. For example a product stating: "*Iron fortified*" or "*Source of iron and calcium*." Other non-nutrient content claims may be considered inappropriate. For example: "*With immunonutrients (Iron, Zinc, Vitamins A & C) & Bifidus BL Culture."* Four labels (15%) contained branded ingredients all of which were 'Bifidus BL Culture'. See Figure 4-10 for examples of images (such as the tick symbols and circle with arrow) associated with nutrient content claims.

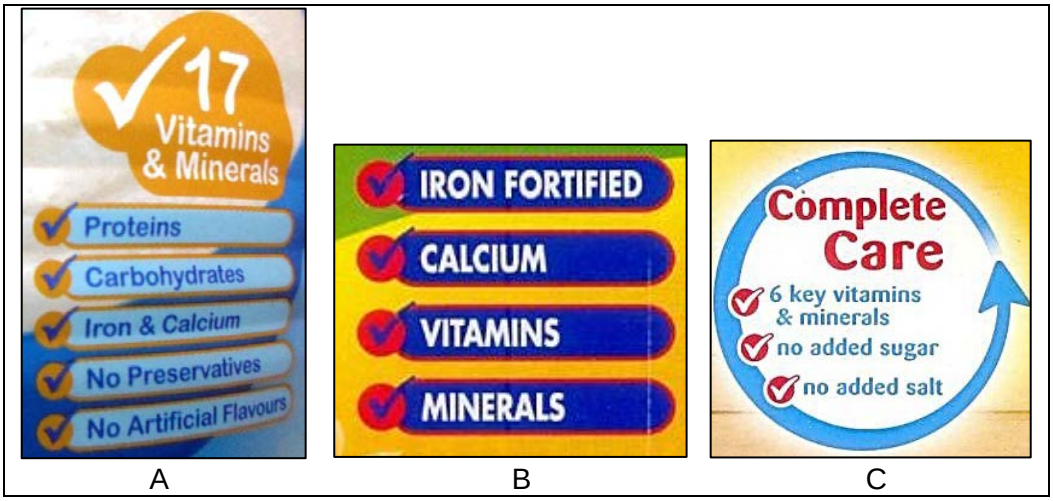
Table 4-16 Nutrient content claims on commercially produced complementary food labels in Tanzania (n=18).

Nutrient content claims	Number of labels	Percentage of labels
Iron (see Figure 4-9, Image A and B)	9	50
Vitamin A	7	39
Vitamins and minerals (see Figure 4-9, Image A and C)	6	33
Vitamin C	6	33
Calcium (see Figure 4-9, Image A and B)	5	28
Salt/sodium (see Figure 4-9, image C)	5	28
Zinc	5	28
Protein (see Figure 4-9, Image A)	4	22
Probiotics	4	22
Vitamin D	4	22
Essential fatty acids (Omega 3/DHA)	3	17
Sugar (see Figure 4-9, image C)	3	17
Vitamins	3	17
B Vitamins	3	17
Energy	2	11
Carbohydrate (see Figure 4-9, Image A)	2	11
Vitamin B_1	2	11
Vitamin B_6	2	11
Folic Acid	2	11
Vitamin E	2	11
Minerals	2	11
Lactose	1	6

See Appendix H for a full breakdown of example text of all of the above categories of nutrient content claims from the product labels.

Figure 4-10 Examples of images displaying nutrient content claims found on the labels of commercially produced complementary foods in Tanzania.





A B C

One label displayed a nutrient comparative claim which stated '*…and unlike some family breakfast cereals, they contain no added sugar, salt, artificial flavorings or preservatives*.' No reduction of disease risk claims were found on the labels (Questions 16 and 18, Table 4-4).

Eighty-nine percent of the labels included a nutrient function/other function/implied health claim (Question 17, Table 4-4). Although some such claims may be considered appropriate, depending on their structure and wording, if they address nutrients of public health concern such as: "*Iron [product name] cereals are rich in iron which helps in the formation of red blood cells. Calcium is essential for the physical growth of your baby*." Others may be considered inappropriate. For example: "*Our wide range of delicious fruits and healthy grains are ideal for your 4-6 month old baby - smooth in texture, simply flavoured and with key nutrients."* See Table 4-17 for a full description of all categories of nutrient function/other function/implied health claims made on commercially produced complementary food labels in Tanzania.

Table 4-17 Nutrient function/other function/implied health claims made on commercially produced complementary food labels in Tanzania (n=23).

Claims	Number of labels	Percentage of labels
Nutrition/nutritious	13	57
Development	9	39
Complete/all-in-one	8	35
Growth	8	35
Easy-to-digest	6	26
Vitamin C function	6	26
Balanced	5	22
Benefit/beneficial	5	22
Health	5	22
Vitamins and minerals	5	22
Antioxidant function	4	17
Calcium function	4	17
Energy function	4	17
Iron function	4	17
Vitamin A function	4	17
Vitamin D function	4	17
Immunity	4	17
Muscle/tissue	4	17
Goodness/good	3	13
Name: Brand (Brand name is a nutrient function claim)	3	13
Protein function	3	13
Blood	2	9
Bones	2	9
B Vitamins function	2	9
Vitamin B_1 function	2	9
Zinc function	2	9
Strength	2	9
Teeth	2	9
Carbohydrates (including sugar) function	2	9
Vitamin E function	2	9
Other	2	9
Best for babies/best start/better for	1	4
Hand-eye coordination	1	4

See Appendix H for a full breakdown of example text of all of the above categories of nutrient function/other function/implied health claims from the product labels.

Some products used non-nutrition claims to highlight a benefit of the product. Non-nutrition claims were found on 81% (n=21) of labels, with allergen claims (76%), additive claims (43%) and vegetarian claims (33%) being the most prevalent non-nutrition claims made on labels. See Table 4-18 for a full description of the types of non-nutrition claims present on product labels. Product labels can provide a non-nutrition claim by using text (words) and/or images. See Figure 4-11 for an example of a non-nutrition claim that makes use of a symbol (i.e. an image) as well as a word to describe the claim.

Table 4-18 Non-nutrition claims made on commercially produced complementary food labels in Tanzania (n=21).

Claims	Number of labels	Percentage of labels
Allergens	16	76
Additives	9	43
Vegetarian	7	33
Certification: Religious (see Figure 4-10)	5	24
Texture	5	24
Natural	4	19
Pure	3	14
Certification: Safety/quality	2	10
Quality	2	10
Specially prepared	2	10
Secure	2	10
Tasty	2	10

The following non-nutrition claims featured only once on a label; 'best for babies', 'direct from the farm', 'fruit juice', 'GMO,' 'origin', 'protein sources', 'public health messages' and 'simply flavored'.

See Appendix H for a full breakdown of example text of all of the above categories of non-nutrition claims from the product labels.

Figure 4-11 Examples of a non-nutrition claim presented as a symbol

In Tanzania, there were some products that made use of an alternative method to imply claims, by making use of the Nutrition Information table to either highlight specific nutrients or draw attention to a function of a nutrient.

Figure 4-12 displays various ways in which the nutrition information of imported products was presented. Figure 4-12, image A illustrates an example that could be classified as a nutrient content and nutrient function claim or simply a novel way of highlighting nutrient content. In this nutrition information table, the micronutrient iron is highlighted making it a potential nutrient content claim and an additional text box is flagged, providing information on iron, although not directly stating its function, making it a potential nutrient function claim or being a novel way of presenting a nutrient content claim.

Figure 4-12, image B provides nutrients as a percentage of the 'Labeling Reference Value' which is described as '*the amount of vitamin or mineral needed per day to meet requirements of infants and young children*' but does not provide a reference for these values. It seems that these values are developed by the manufacturer. Figure 4-12, image C highlights certain nutrients in a different color, in order to draw attention to the content of those nutrients and Figure 4-12, image D groups macronutrients together and then micronutrients are listed under the heading 'vitamins and minerals'. This may be an illustration of a novel or evolving marketing technique that companies use to subtly infer nutrient function or nutrient content claims and it is necessary to determine if this appropriate or not.

Many of the locally produced commercially produced complementary foods did not provide nutrition information tables. Of those that did, often the information was minimal. Figure 4-13 displays various ways in which the nutrition information of locally produced products was presented. Figure 4-13, image A is confusing because it displays certain nutrients as absolute values and other as a percentage (although no indication is provided of what the percentage is of). Figure 4-13, image B provides an ingredients list in English and then a list of the percentage value of certain nutrients in Swahili. Figure 4-13, image C merely provides a list of ingredients, with no information values on any nutrients appearing anywhere on the label.

Figure 4-12 Examples of nutrition information tables on imported commercially produced complementary foods in Tanzania, some displaying nutrient content claims in a novel format.

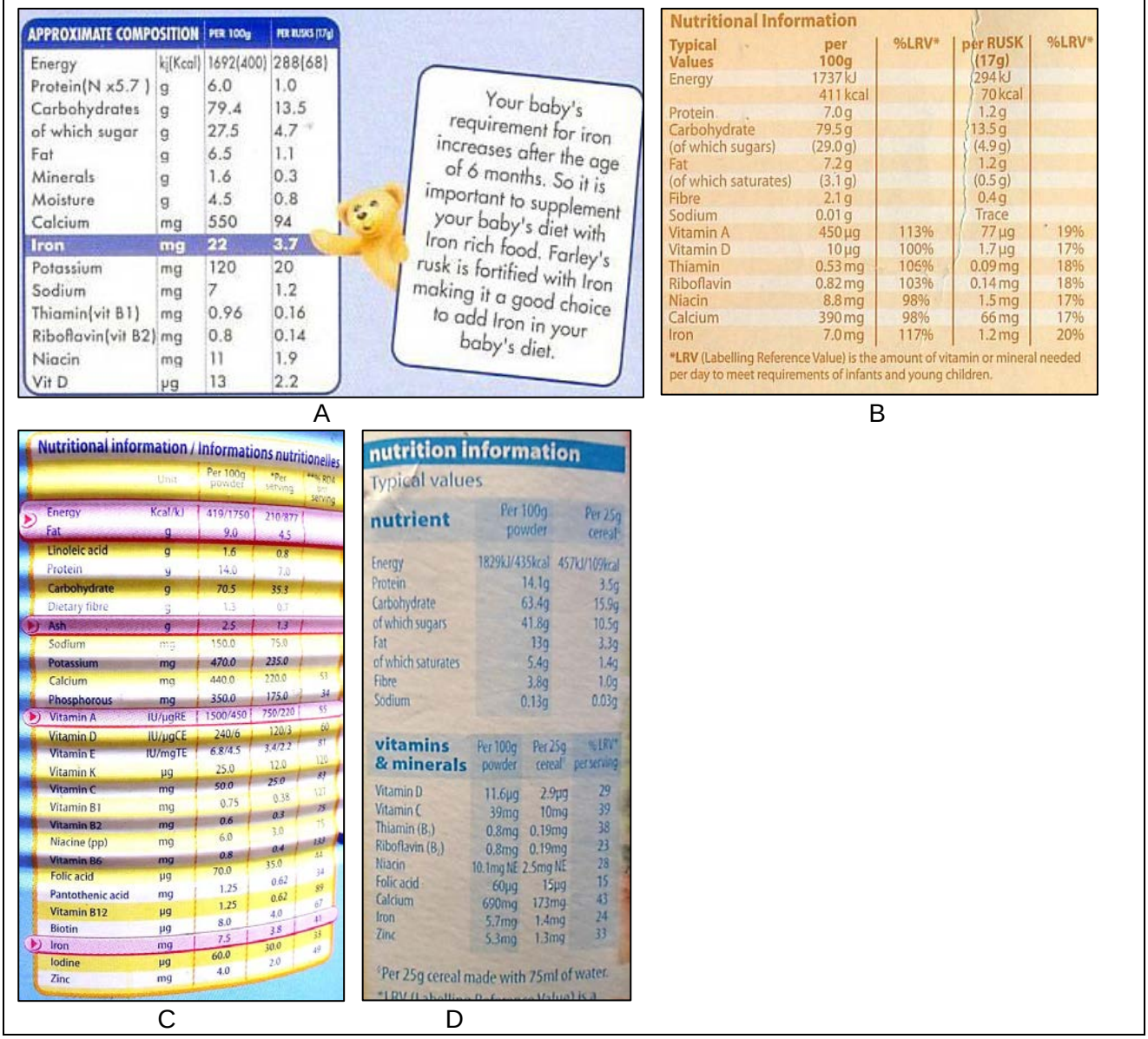


Figure 4-13 Examples of representations of nutrition information displayed on labels of locally produced commercially produced complementary foods in Tanzania

A B C

The inconsistent presentation of the nutritional information may be confusing to a mother and may make it difficult to compare nutritional value of products. This research shows that there is a need to provide specific guidance on the presentation of the nutrition information tables on product labels for commercially produced complementary foods.

4.3.6.2 STAG 5b: Information and instructions should be clear and correct and appropriate for the language and literacy of the target population.

The labeling study did not assess literacy, but the checklists were completed from a mother/caregivers perspective. For the one label that did not include all text in Swahili and/or English (as required in the Tanzanian regulations) only images on the label were assessed, as it was assumed that a Tanzanian mother/caregiver could not understand the text if it was not in English/Swahili. In addition, letter size was not assessed.

4.3.6.2.1 Language

Results from the checklist showed that 96% of the products in the sample (25 labels) contained all text on the label in Swahili and/or English (see Table 4-19 for further detail). This should be commended. One label (4%) contained most of the text in English/Swahili (Question 1, Table 4-4).

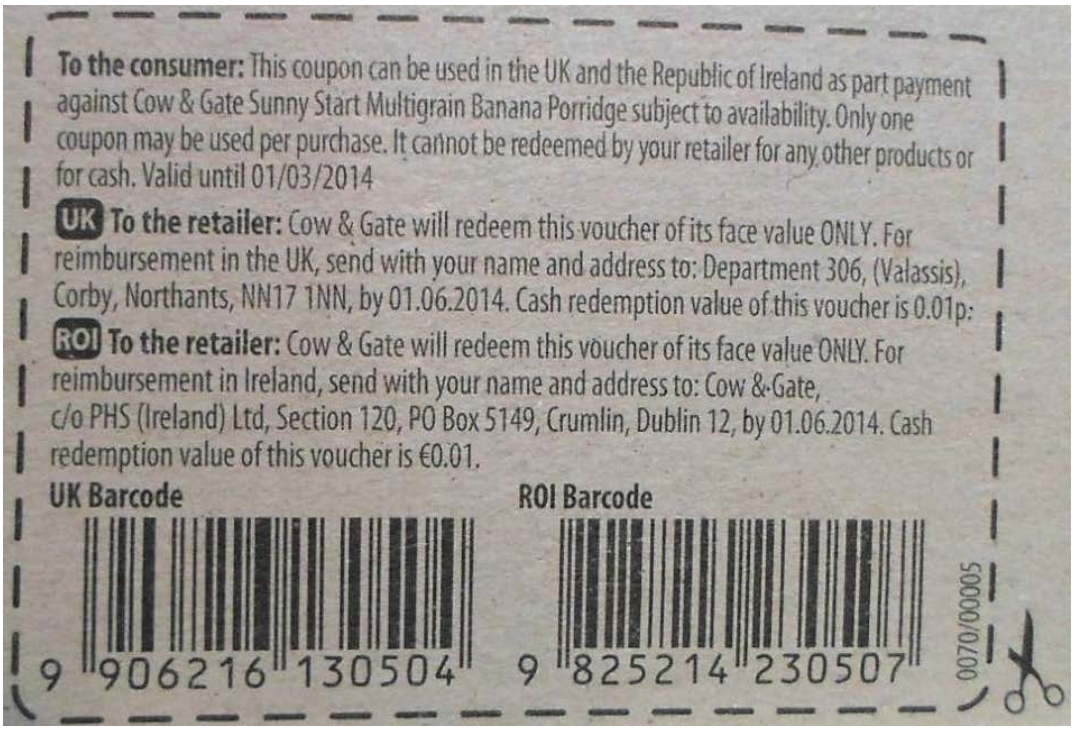
Table 4-19 Summary of the languages of the text provided on product labels of commercially produced complementary foods in Tanzania (n=26)

Label information provided in the following language(s)	ALL information provided in:		SOME information provided in:	
	Number of labels	Percentage of labels	Number of labels	Percentage of labels
English	24	92	2	8
Kiswahili	3	12	7	27
French	5	19	3	12
Other (non-official language)	2	8	2	8
Not applicable	-	-	15	58

4.3.6.2.2 Inserts

One of the labels in this sample contained an insert[1], which contained coupon validation information and therefore did not contain required label information that was no present on the label (Table 4-4, Question C2). See Figure 4-14 for an image of this insert.

Figure 4-14 Example of an insert from a commercially produced complementary food in Tanzania.



4.3.6.2.3 Preparation and use

The checklist shows that 81% of the labels provided 'instructions for safe **and** appropriate preparation and use' in Swahili and/or English (Question 6.4, Table 4-4). However, more detailed guidance is required on what constitutes 'appropriate instructions'.

Forty-six percent of products were instant and required the addition of water, 31% required cooking and the addition of water and 23% were ready-to-eat/drink (see Table 4-20).

Twenty-three labels (88%) provided instructions for preparation and use. The predominant messages were 'How to feed: Feed child' (present on 10% of labels), 'Consistency: Smooth/avoid lumps' (35%) and 'Quantity: Gradually increase' (35%). See Table 4-21 for a full breakdown of the categories of preparation and use instructions provided on product labels.

[1] For the purposes of this study, an "insert" is defined as printed information (excluding the product label) that is inserted into the product or affixed to it e.g. a package insert, fix-o-form, under-lid leaflet, information printed on the reverse side/backing of a "peel-away"/removable label or on the reverse side of the packaging etc. Further information can be found in Appendix F.

Table 4-20 Type of preparation recommended on commercially produced complementary food labels in Tanzania (n=26).

Categories of preparation type	Number of labels	Percentage of labels
Instant - add water	12	46
Cook - add water	8	31
Ready to eat/drink	6	23

Based on the current checklist design, product labels score a 'yes' if they have any (even if only one) of the above preparation and use instructions present on the label. However, there is no guidance on the appropriateness of the wording of the preparation and use instructions, or a recommendation on a minimum set of preparation and use instructions.

Table 4-21 Preparation and use instructions used on commercially produced complementary food labels in Tanzania (n=23).

Categories of preparation/use instructions	Number of labels	Percentage of labels
How to feed: Feed child	10	43
Consistency: Smooth/avoid lumps	8	35
Quantity: Gradually increase	8	35
Serving suggestion: other (e.g. add fruit or add to fruit; add yoghurt, add butter, etc.)	6	26
Add: Sugar/fruit juice/honey	5	22
Feeding table	4	17
Mixing: Milk or water	4	17
Add: Milk (optional/additional to water)	3	13
Prep: Microwave or bain-marie	3	13
Frequency: X no. of times per day	3	13
Consistency: Adjust as desired	2	9
How to feed: Self feed/finger foods	2	9
Type of milk: Baby's usual milk	2	9
Type of milk: Milk	2	9
Unless otherwise advised by a health professional	2	9
When: Between meals	1	4

4.3.6.2.4 Safety messages

Eleven percent of the labels did not include a preparation **and** use and safety message (Question 6.4, Table 4-4). Eighty-one percent of labels included a safety message. Table 4-22 provides the categorized safety messages which are a subset of the instructions for the preparation and use of the product.

Table 4-22 Safety messages used on commercially produced complementary food labels in Tanzania (n = 21).

Categories of safety messages	Number of labels	Percentage of labels
Use boiled/clean water	15	71
Use clean/wash surfaces/equipment/utensils	15	71
Use as advised by health professional	10	48
Wash hands	9	43
Allow to cool	8	38
Test temperature before feeding	6	29
Microwave with care	3	14
Supervision during feeding	3	14
Child sitting supported while eating	1	5

The manner in which safety messages are evaluated according to the checklist is similar to that for preparation and use instructions, whereby if a product includes a single safety message, it qualifies as having safety messages. However there is no guidance on the quality of the message(s) or a minimum set of standards that should be used.

The following example should be considered for appropriateness: '*Since babies' growth rates are different, consult your health professional for advice on when to introduce complementary foods'.* The indication to 'follow the advice of a health professional' is appropriate for the labels on breast-milk substitutes but appropriate messages and wording for safety messages on the labels of complementary foods needs to be considered and more specific advice would be valuable. Section 4.3.1.7.2 contains a more detailed discussion on this.

As with preparation and use instructions, some safety messages could be portrayed using images. Future research could test the understanding by mothers/caregivers in order to determine whether or not images can adequately describe certain safety messages.

4.3.6.2.5 Storage

Eighty-nine percent of the commercially produced complementary foods provided information on storage instructions (Question 6.7, Table 4-4). The types of instructions are shown in Table 4-23.

Table 4-23 Types of storage instructions provided on commercially produced complementary food labels in Tanzania (n=23).

Categories of storage instructions	Number of labels	Percentage of labels	Example text from labels
Storage after opening	14	61	*Close the tin tightly after each use and store it in a cool dry place.*
Length of storage after opening	12	52	*Use within 4 weeks of opening.* *Unheated food left over in the jar can be stored in the fridge for up to 48 hours (do not freeze).*
General storage	12	52	*Keep in a cool dry place.*
Storage conditions to avoid	12	52	*Storage advice: Please store this product in a cool, dry place (not in the fridge) and once opened use within 28 days.* *Caution: Keep this food away from extreme temperatures, sand and humidity*
General length of storage	1	4	*Use within 6 weeks.*

4.3.6.2.6 Warnings

The checklist data (Question 12, Table 4-4) showed that 54% of the labels provided one or more of the stipulated warnings (including a warning stating the health hazards/potential risks of inappropriate preparation, use and storage, or advising against certain preparation/use/storage practices). Table 4-24 examines all of the warnings in more detail, categorized into themes.

Table 4-24 Warnings used on commercially produced complementary food labels in Tanzania (n=18).

Categories of warnings	Number of labels	Percentage of labels
Warnings related to use/feeding		
Dental care	6	33
Not to be used as a milk substitute	5	28
Never force feed your baby	4	22
Not suitable for children under x months	2	11
Allergen warnings	1	6
Human food	1	6
Warnings related to storage		
Ensure jar and cap are undamaged	4	22
Warnings related to preparation		
Use of a wet spoon could result in powder clumping	10	56
Follow the preparation instructions exactly	4	22
Avoid overcooking	2	11
Do not add milk	1	6

4.3.6.3 STAG 5c: Promotion should not imply that products contain more of an ingredient than they in fact do.

An example of potentially misleading image is shown in Figure 4-15, image A. This product displays an image of whole bananas on front-of-pack label, which could imply to the mother that the product is equivalent to feeding her child the whole fruit. However, when the ingredients list is examined, the ingredient contained 'banana flakes', which does not give any indication of the actual content of banana in the product. In contrast, Figure 4-15, image B also contains an image of whole bananas on the front-of-pack label and then provides quantification in the ingredients list as to exactly how much banana is in the product. This could be an example of appropriate imagery in relation to the content of the ingredient in the product.

The categorization of imagery as misleading is not a labeling practice that was included in the checklist and could be considered to be added or included in guidance. See section 4.3.7.1.1 for a further description of the types of images commonly found on complementary food labels.

Figure 4-15 Comparison between a potentially misleading image and a potentially appropriate image on a commercially produced complementary food label in Tanzania.

Ingredients: Wheat flour (gluten), skim milk, sucrose, milk fat, banana flakes, corn oil, calcium carbonate, di-sodium phosphate, vitamins, sodium chloride, ferrous fumarate.

A

ingredients

Baby-grade Banana*, Demineralised Whey Powder[1], Milled Cereals* (Corn, Rice), Skimmed Milk Powder*[1], Vegetable Fat (Contains Emulsifier: Soya Lecithin), Calcium, Vitamins[†], Iron, Zinc.

Contains: [1]Milk, Soya

[†]vitamins

Vitamin C, Niacin, Vitamin E, Pantothenic Acid, Thiamin (B_1), Vitamin B_6, Vitamin A, Folic Acid, Biotin, Vitamin D_3.

*Prepared with 61g banana, 47g fortified milk and 26g cereal per 100g dry product.

B

4.3.7 Other/Gaps in STAG criteria

Based on the review and analysis of labels included in this study, several additional labeling components emerged that are recommended for inclusion in the discussion and guidance on the inappropriate promotion of commercially produced complementary food products.

4.3.7.1.1 Images

Certain images, apart from those already included in the criteria, used on the labels of commercially produced complementary foods could be considered to be inappropriate, whereas others may not. Especially in populations where illiteracy is high, consideration and guidance needs to be given regarding how images could be used to communicate certain messages. The images used on the labels of commercially produced complementary foods in Tanzania are listed in Table 4-25 and some examples of these images are provided in Figure 4-16.

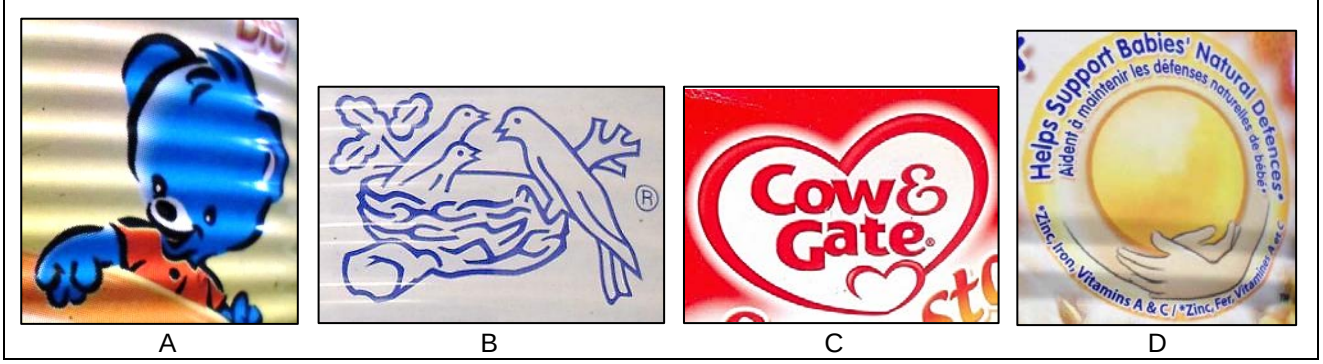
This research shows that images of ingredients or composition are the most commonly used and were found on 84% of the labels. Bowls (60%), ready-to-eat/prepared product images (60%), endorsement images (40%) and preparation/use illustrations (36%) were also commonly used on the product labels. It is noted that the Tanzanian regulations in fact prohibit the use of images other than for preparation and use instructions.

Table 4-25 Images used on the labels of commercially produced complementary foods in Tanzania (n=25).

Image	Number of labels	Percentage of labels
Ingredients/composition	21	84
Bowl	15	60
Ready-to-eat/prepared product	15	60
Endorsement images	10	40
Preparation/use illustrations	9	36
Brand mascots (see Figure 4-18, image A)	8	32
Animals: Mother and babies (see Figure 4-18, image B)	7	28
Design elements: Hearts/circles (see Figure 4-18, image C)	7	28
Design elements: Leave /trees/plants/flowers/landscapes/shells	7	28
Foods that are not ingredients	4	16
Mother's arms embracing (see figure 4-18, image D)	4	16
Animals/insects	3	12
Design elements: Stars/moon/sun/clouds/rainbow	3	12
Other products	3	12
Animals: Babies displaying stages of development	2	8
Other	2	8

Images of characters/stick figures, cup/glass, jug of milk and scientific images each only featured on one label.

Figure 4-16 Examples of images found on commercially produced complementary food labels in Tanzania.



A B C D

4.3.7.1.2 Endorsements

Manufacturers make use of endorsements or text conveying expertise in order to increase the appeal of a product. The use of endorsements or the manufacturer portraying themselves as experts in infant feeding may not be appropriate on commercially produced complementary foods and guidance on this practice is considered to be necessary.

Fifty percent (n=13) of commercially produced complementary food labels contained some form of endorsement (see Table 4-26 for further detail). See Figure 4-17 for some examples of endorsements portrayed by the use of images.

Table 4-26 Endorsements/text conveying expertise used on commercially produced complementary food labels in Tanzania (n=13).

Categories of endorsements/ text conveying expertise	Number of labels	Percentage of labels	Example from labels
Manufacturer	9	69	*There is 106% of Cow & Gate's recommended daily Omega 3 intake (8-12 months) per jar.* *Today [Manufacturer name] continues that pioneering heritage by developing scientifically advanced nutrition to address the needs of growing children all over the world.*
Longevity	4	31	*Quality and trust since 1896.* *Trusted for over 100 years.*
Manufacturer represented as expert	3	23	*Give your baby the pure start advantage, developed by [manufacturer's name] the nutrition experts which guarantees….*
Buy local / [country name]	2	15	*Tafopa Shibe [*Symbol/Trademark of an association of Tanzania women's entrepreneurs.] See Figure 4-19, image A.
Employee	2	15	*In 1867, Henri Nestle, a pharmacist, invented the first infant cereal to overcome the malnutrition problem at that time.* See Figure 4-19, image B.
Health practitioner / practice	2	15	*In 1867, Henri Nestle, a pharmacist, invented the first infant cereal to overcome the malnutrition problem at that time.*
Individual	2	15	*Mum's number 1 choice.* *Tried and tested by mum's for generations*

Figure 4-17 Example of images that potentially convey endorsement found on the labels of commercially produced complementary foods in Tanzania.

A B

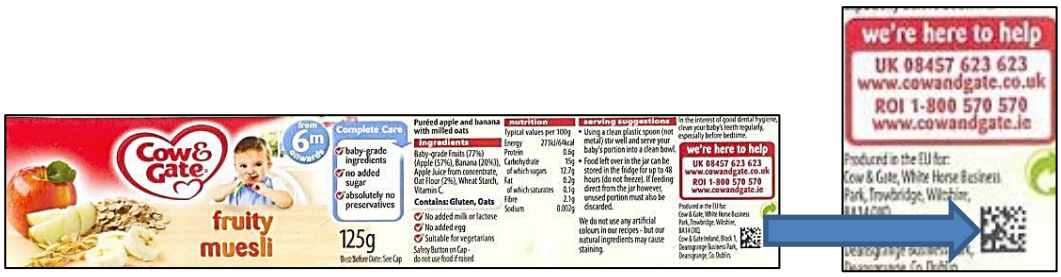
4.3.7.1.3 Invitation to interact

Currently there is no guidance available on what would be considered appropriate invitations to interact on commercially produced complementary foods that are not produced by manufacturers that also produce breast-milk substitutes.

With regards to an invitation for the purchaser to interact with the company, 83% of the products that were produced by companies that also manufactured breast-milk substitutes included what was considered to be an inappropriate invitation on the product label and is thus in violation of the *Code*. (See Table 4-4, Question 14.2)

The study results highlights that there are a number of issues regarding what types of invitations to interact with the manufacturer of commercially produced complementary foods are appropriate. For the purposes of this study, since limited guidance is available, assumptions had to be made regarding what invitations to interact by manufacturers that produced both breast-milk substitutes and commercially produced complementary foods were deemed appropriate. The provision of company contact details for the purposes of reporting product defects or quality issues were deemed as acceptable and these included customer care lines, email addresses and postal addresses. However, the provision of websites, quick response (QR) codes (see Figure 4-18) and other such invitations to interact with the manufacturer may not be considered to be appropriate, since they usually result in the consumer being exposed to additional and often promotional information. Further guidance on this is necessary. This could take you to a website or to a YouTube link that is either an advert or a video purporting to be educational but using branded products.

Figure 4-18 Example of a Quick Response (QR) code found on the label of a commercially produced complementary food in Tanzania.



An invitation to interact with the manufacturer by some means was stated on all the labels of commercially produced complementary foods. Fifty-eight percent of the labels offered interaction through their website or a postal address which was followed by 46% providing a customer care line. See Table 4-27 for the full list of invitation to interact categories.

Table 4-27 Type of invitation to interact with the manufacturer used on commercially produced complementary food labels in Tanzania (n=26).

Invitation to interact	Number of labels	Percentage of labels
Postal address	15	58
Website	15	58
Customer care line	12	46
Email address	11	42
Telephone number	9	35
Club	1	4
QR code	1	4

4.3.7.1.4 Slogans/tag lines

Slogans / tag lines were seen on 14 (54%) of the labels, examples of these are:

- *'Quality and trust since 1896'*
- *'Good Food, Good Life'*
- *'…because healthy babies are happy babies'*
- *'Buy pure. Be secure. Healthy baby is our priority.'*

Some of these slogans can also be categorized as other labeling practices (for example, '*Quality and trust since 1896'* is categorized as a non-nutrition claim and '*Healthy baby is our priority'* is categorized as a nutrient function/other function/implied health claim. It should be considered whether or not it is appropriate to use slogans such as these.

4.3.7.1.5 Toys/competitions/rewards

Two labels (8%) offered rewards which included:

- A coupon for 50p off the next purchase [for use in UK/Republic of Ireland]
- *'Join our [Product name] baby club today - as a member you can look forward too - mail packs with free samples, money off vouchers and feeding guides.'*

4.4 Summary of labeling practices observed in the ARCH Project labeling study where guidance is required as to whether they are appropriate or not, that are not clearly covered by the WHO STAG criteria:

- The provision of infant and young child feeding messages.
- The use of the nutrition information table to highlight nutrient content claims.
- The use of images showing the provision of a manufacturer-endorsed nutrition plan that also cross promoted other products in the manufacturer's portfolio.
- The use of nutrition claims (STAG 5a only refers to health claims).
- Specific guidance on the minimum requirements and quality of preparation and use instructions, storage instructions and warnings.
- The use of images.
- The use of endorsements.
- The types of invitations to interact with the manufacturer.
- The provision of other public health messages.
- The use of competitions/toys/rewards.

5 RESULTS AND DISCUSSION OF COMMERCIALLY PRODUCED FOODS FOR GENERAL CONSUMPTION COMMONLY FED TO CHILDREN UNDER THE AGE OF TWO YEARS

5.1 Description of commercially produced foods for general consumption commonly fed to children under the age of two years products

The characteristics of the 17 commercially produced foods for general consumption commonly fed to children under the age of two years included in the study are shown in Table 5-1.

Eighty-eight percent of the products in the sample were shelf stable and 12% were fresh. Eight sub-categories of food products were included in the sample: biscuits/cookies (6%), cakes/sponge cake (6%), candy/sweets/chocolate (12%), chips/crisps (18%), yogurt (12%), soft drinks (12%), other sweetened beverages (12%) and other snacks (country-specific products such as soy flour porridge, milk powder and cream cheese) (24%).

Seventy-six percent of the products were locally produced, in Tanzania, 24% were imported, coming from Columbia (6%), Egypt (6%), South Africa (6%) and Turkey (6%) (see Table 5-2). The products were manufactured by 17 different companies (see Figure 5-1**)** and represented 16 different brands (see Figure 5-2). Due to the sampling methods employed in this study, it is recognized that the sample is not representative of the entire category of commercially produced foods for general consumption commonly fed to children under the age of two years in Tanzania but is an indication of some of the brands and manufacturers in this product category

Table 5-1 Characteristics of the commercially produced foods for general consumption commonly fed to children under the age of two years included in the study in Tanzania (n=17).

Product characteristics	Number of products	Percentage of products (%)
Product origin:		
Locally manufactured products	13	76
Imported products	4	24
Product category:		
Biscuits/cookies	1	6
Cakes/sponge cake	1	6
Candy/sweets/chocolate	2	12
Chips/crisps	3	18
Yogurt	2	12
Soft drinks	2	12
Other sweetened beverages	2	12
Other snacks (country specific products such as soy flour porridge, milk powder, cream cheese)	4	24
Storage:		
Shelf stable	15	88
Fresh	2	12

Table 5-2 Country of origin of the commercially produced foods for general consumption commonly fed to children under the age of two years included in the study in Tanzania (n = 17).

Country of origin	Number of products	Percentage of products (%)
Tanzania	13	76
Columbia	1	6
Egypt	1	6
South Africa	1	6
Turkey	1	6

Figure 5-1 Manufacturers represented in the commercially produced foods for general consumption commonly fed to children under the age of two years included in the study in Tanzania (n=17).

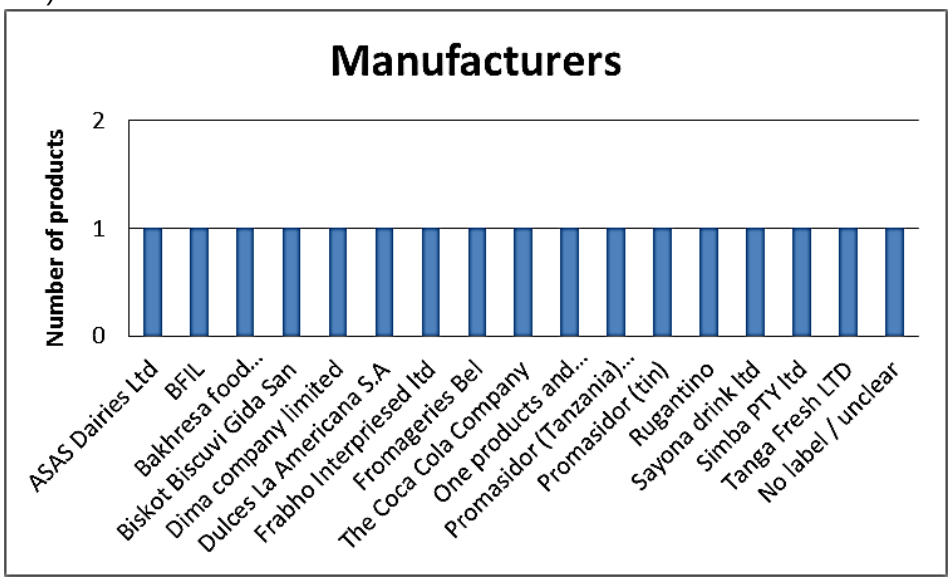


Figure 5-2 Brands represented as commercially produced foods for general consumption commonly fed to children under the age of two years included in the study in Tanzania (n=16).

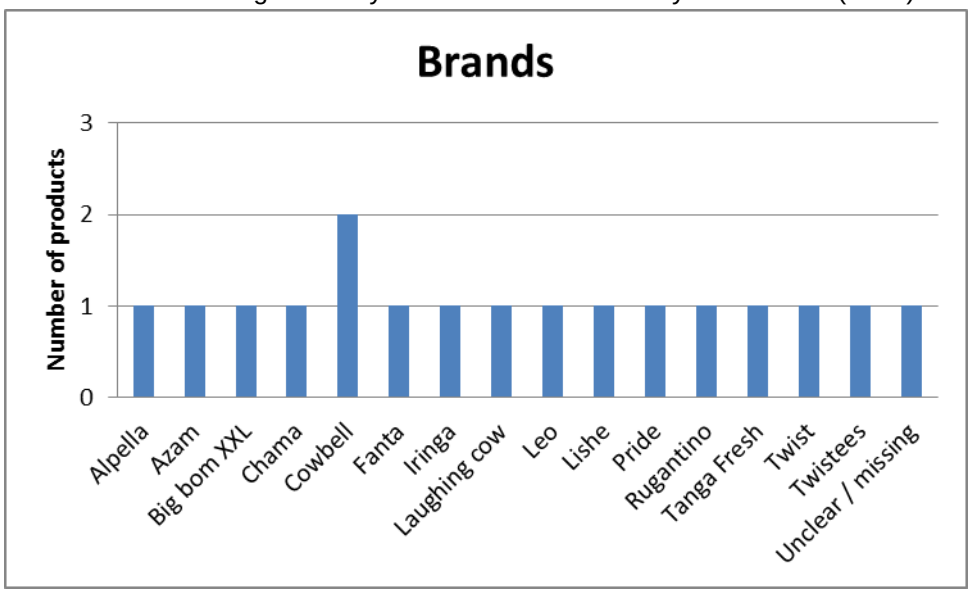


Table 5-3 provides information on the cost of the products per 100g and per serving size. The product serving sizes were calculated based on the amount/volume which should provide approximately 100kcal or half the daily energy requirement from complementary food of the breastfed child 6 – 8 months.

Table 5-3 Costs of commercially produced foods for general consumption commonly fed to children under the age of two years included in the study in Tanzania per unit (g) and mean cost per serving by product category (n=17) and presented in two currencies [Tanzanian Shilling (TZS) and United States Dollar (USD)].

Product category	Mean cost per 100g (Lowest cost – Highest cost)	Mean cost/serving (Lowest cost - Highest cost)[a]
Biscuits/cookies		
All products (n=1)		
TZS	500.00	87.50
USD	0.31	0.05
Imported products (n=0)		
Locally manufactured products (n=1)		
TZS	500.00	87.50
USD	0.31	0.05
Candy/sweets/chocolate		
All products (n=1)		
TZS	2187.50	509.69
USD	1.36	0.32
Imported products (n=1)		
TZS	2187.50	509.69
USD	1.36	0.32
Locally manufactured products (n=0)		
Chips/crisps		
All products (n=3)		
TZS	1888.89 (1500.00 – 2500.00)	357.00 (283.50 – 482.50)
USD	1.17 (0.93 – 1.55)	0.22 (0.18 – 0.29)
Imported products (n=1)		
TZS	2500.00	482.50
USD	1.55	0.29
Locally manufactured products (n=2)		
TZS	1583.33 (1500.00 – 1666.67)	299.25 (283.50 – 315.00)
USD	0.98 (0.93 – 1.03)	0.19 (0.17 – 0.35)
Yogurt		
All products (n=2)		
TZS	396.67 (260.00 – 533.33)	420.47 (275.60 – 565.33)
USD	0.25 (0.16 – 0.33)	0.26 (0.17 – 0.35)
Imported products (n=0)		
Locally manufactured products (n=2)		
TZS	396.67 (260.00 – 533.33)	420.47 (275.60 – 565.33)
USD	0.25 (0.16 – 0.33)	0.26 (0.17 – 0.35)
Soft drinks		
All products (n=2)		
TZS	122.86 (85.71 – 160.00)	219.42 (153.09 – 285.76)
USD	0.07 (0.05 – 0.10)	0.14 (0.09 – 0.17)
Imported products (n=0)		
Locally manufactured products (n=2)		
TZS	122.86 (85.71 – 160.00)	219.42 (153.09 – 285.76)
USD	0.07 (0.05 – 0.10)	0.14 (0.09 – 0.17)
Other sweetened beverages		
All products (n=2)		
TZS	133.33 (66.67 – 200.00)	145.33 (72.67 – 218.00)
USD	0.08 (0.04 – 0.12)	0.09 (0.05 – 0.14)
Imported products (n=0)		
Locally manufactured products (n=3)		
TZS	133.33 (66.67 – 200.00)	145.33 (72.67 – 218.00)

Product category	Mean cost per 100g (Lowest cost – Highest cost)	Mean cost/serving (Lowest cost - Highest cost)[a]
USD	0.08 (0.04 – 0.12)	0.09 (0.05 – 0.14)
Other country-specific snacks (such as soy flour porridge, powdered milk and cream cheese)		
All products (n=3)		
TZS	1726.67 (480.00 – 2500.00)	390.22 (108.48 – 565.00)
USD	1.07 (0.29 – 1.55)	0.24 (0.10 – 0.35)
Imported products (n=1)		
TZS	2500.00	565.00
USD	1.55	0.35
Locally manufactured products (n=2)		
TZS	1340.00 (480.00 – 2200.00)	302.84 (108.48 – 497.20)
USD	0.83 (0.29 – 1.36)	0.19 (0.07 – 031)

[a]A serving size was calculated to provide 100 kcal which is approximately half the daily energy requirement from complementary food of the breastfed child 6-8 months of age.

A cost comparison was undertaken to assess price differences per 100kcal portion between the commercially produced complementary foods and commercially produced foods for general consumption commonly fed to children under the age of two years. Table 5-4 shows that, of the available data, locally manufactured products tended to be cheaper than imported products. Furthermore, imported commercially produced foods for general consumption commonly fed to children under the age of two years were on average cheaper than commercially produced complementary foods however this was not the case for locally produced products whereby cereals/porridges were cheaper than both categories of products in the commercially produced foods for general consumption commonly fed to children under the age of two years. Of significance is that imported commercially produced foods for general consumption commonly fed to children under the age of two years were up to 9 times cheaper than commercially produced complementary foods. This may be a factor for a mother/caregiver when deciding on which food to purchase for their infant or young child.

In a study that assessed the cost of the cheapest adequate diet[2] which consists of locally produced foods to provide minimum requirements of energy, fat, protein and several micronutrients, it was estimated that in Tanzania, to obtain this theoretical nutritious diet, TZS 873.00/day for a family is required (Chaste, *et al*., 2007). When one considers the average daily cost of the foods cited in Table 5-4, the cereals account for 10% and 128% of the daily budget, for local and imported products respectively. Commercially produced foods for general consumption commonly fed to children under the age of two years (excluding beverages) would account for 58% of the estimated budget if using imported products and 34% if using locally produced products. However it must be noted that the study used as a reference was published in 2006, and thus the cost of the cheapest adequate diet is likely to be higher today. Nevertheless, this highlights the need to assess the nutritional quality of the products available for feeding of infants and young children, especially if they consume a relatively high proportion of a family's food budget.

[2] A nutritious diet is calculated to provide the cost (based on local current market prices) of a theoretical nutritious diet for a 'reference family' consisting of one child aged 12-23 months, one child aged 3-4 years, one child aged 7-8 years, a man aged 30-59 years, weighing 50 kg and vigorously active and a woman aged 30-59 years, breastfeeding, weighing 45 kg and vigorously active.

Table 5-4 Cost comparison between commercially produced complementary foods and commercially produced foods for general consumption commonly fed to children under the age of two years (excluding beverages) and beverages in Tanzania.

Product origin	Currency	Commercially produced complementary foods			Commercially produced foods for general consumption commonly fed to children <2 years of age	
		Cereals/ porridges	Homogenized /pureed food	Snacks/ finger food	Combined foods (excluding beverages)	Beverages
Locally produced	**TZS**	88.45 (71.39 – 124.52)	-	-	304.65 (87.50 – 565.33)	182.37 (72.67 – 285.76)
	USD	0.05 (0.04 – 0.07)	-	-	0.18 (0.05 – 0.35)	0.11 (0.04 – 0.18)
Imported products	**TZS**	1120.74 (510.97 – 3905.40)	5788.92 (3533.78 - 9808.64)	1430.68 (1196.34 – 1665.03)	515.73 (472.50 – 565.00)	-
	USD	0.69 (0.31 – 2.41)	3.57 (2.18 – 6.05)	0.88 (0.73 – 1.02)	0.32 (0.29 – 0.35)	-

5.2 Summary of answers to commercially produced foods for general consumption commonly fed to children under the age of two years checklist questions and data generated from labels database

The results of the labeling practices checklist together with data generated by the labels database, which documents current commercially produced foods for general consumption commonly fed to children under-two years labeling practices in Tanzania, are presented in Table 5-5.

The primary aim of the creation of a checklist for commercially produced foods for general consumption commonly fed to children under the age of two years was to objectively identify products which claimed to be suitable for children under the age of two years. This is illustrated by the inclusion of the following questions: C1-C24; C26 and C31.

Table 5-5 Tanzania checklist results: Commercially produced foods for general consumption commonly fed to children under the age of two years labeling practices (n=17).

Checklist of labeling practices		Potential answers	Number of labels	Percentage of labels
C1.	Age/age range for use that is >/=24 months	Yes	0	
		No	17	100
C2.	Does the product label include phrases such as “from the start”; “for the whole family” or “first stage”?	Yes	1	6
		No	16	94
C3.	Does the product label contain any words or a product description that indicate that it is suitable for a child?	Yes	2	12
		No	15	88
C4.	Does the product label show an image of babies or children? (that appear to be under the age of 2 years)	Yes	0	
		No	17	100
C5.	Does the product label recommend feeding the product from a feeding bottle?	Yes	0	
		No	17	100
C6.	Does the product label show an image of a feeding bottle?	Yes	0	
		No	17	100
C7.	Does the product label show an image of a real person, such as a celebrity or sport’s star, that has appeal to children?	Yes	0	
		No	17	100
C8.	Does the product label show an image of a cartoon character or fictional movie character that has appeal to children?	Yes	0	
		No	17	100
C9.	Does the product label show an image of a brand mascot that has specific appeal to children?	Yes	1	6
		No	16	94

C10.	Does the product label contain any representation of fantasy or adventure themes that has appeal to children?	Yes	2	12
		No	15	88
C11.	Does the product label contain information about or an image of a free gift, toy or collectible item with appeal to children?	Yes	1	6
		No	16	94
C12.	Does the product label show an image of a toy?	Yes	0	
		No	17	100
C13.	Are any colors, shapes or designs used on the product label that has particular appeal to children?	Yes	9	53
		No	8	47
C14.	Does the product label contain or refer to a competition, voucher or game with appeal to children?	Yes	0	
		No	17	100
C15.	Does the product label contain a joke, rhyme or short story with appeal to children?	Yes	0	
		No	17	100
C16.	Does the product packaging have a particular shape, or does the product label show that the food contained has a particular shape, that has appeal to children?	Yes	3	18
		No	14	82
C17.	Does the product have a physical appearance, texture or any other novelty (not identified from any other questions) that would have specific appeal to children?	Yes	0	
		No	17	100
C18.	Does the product label indicate a flavor that would specifically appeal to children?	Yes	1	6
		No	16	94
C19.	Are there any emotive claims (e.g. implying “fun”) or statements on the product label that are directed towards children or their caregivers?	Yes	2	12
		No	15	88
C20.	Does the product label indicate that the product is portioned in, for example, “mini” or “bite size” portions?	Yes	0	
		No	17	100
C21.	Does the product label indicate that the product can be adapted to be suitable for a child?	Yes	0	
		No	17	100
C22.	Does any information on the product label imply that a balanced and varied diet cannot provide adequate nutrients to growing children?	Yes	0	
		No	17	100
C23.	Does the product label include warnings that are specifically intended for children?	Yes	2	12
		No	15	88
C24.	Is the product labeled in a way that also promotes the company's breast-milk substitutes or complementary foods by using similar (a) Color schemes or designs, (b) Names, (c) Slogans, mascots, logos or other symbols, as used for breast-milk substitutes/complementary food brands?	Yes	0	
		No	0	
		NA	17	100
C25.	Does the product label include a portion / serving size?	Yes	4	24
		No	13	76
C26.	Does the product label provide nutrition information as a percentage RDA/NRV/GDA for children younger than 2 years of age?	Yes	0	
		No	17	100
C27.	Does the product label make any nutrient content claims?	Yes	9	53
		No	8	47
C28.	Does the product label make any nutrient comparative claims?	Yes	0	
		No	17	100
C29.	Does the product label make any nutrient function/other function claims?	Yes	8	47
		No	9	53
C30.	Does the product label make any reduction of disease risk claims?	Yes	0	
		No	17	100
C31.	Does the product label make any other claims (excluding nutrition/health claims) that imply suitability for a child?	Yes	13	76
		No	4	24
C32.	Is the product label written in the appropriate language(s) of the country in which the product is sold?	Yes	16	94
		No	1	6
C33.1	Ingredients list?	Yes	15	88
		No	2	12
C33.2	The nutrition composition/analysis of the product?	Yes	7	41
		No	10	59
C33.3	Batch number?	Yes	10	59

		No	7	41
C33.4	Best before date?	Yes	13	76
		No	4	24
C34.	Is there an invitation on the label to make contact (direct or indirect) with the company's marketing personnel?	Yes	5	29
		No	12	71

5.3 Labeling practices of commercially produced foods for general consumption commonly fed to children under the age of two years

As the inappropriate promotion of foods fed to infant and young children is under the spotlight in WHA resolution 65.6, in order to ensure optimal infant and young child feeding, it was considered important for this study to also consider the category of commercially produced foods for general consumption commonly fed to children under the age of two years. For optimal feeding, it is important to ensure that restrictions on the promotion of appropriately formulated commercially produced complementary foods, such as those developed according to the Codex Alimentarius 'Guidelines on Formulated Complementary Foods for Older Infants and Young Children', do not result in mothers/caregivers selecting commercially produced foods for general consumption commonly fed to children under the age of two years of a poor nutritional quality, since there are fewer guidelines governing their promotion that may lead to the belief that such products are suitable for and perhaps even beneficial (if they make nutrition and health claims) to infants and young children. Furthermore, consideration also needs to be given to the possibility that restrictions on promotion of appropriately formulated commercially produced complementary foods, may result in manufacturers removing the age recommendation for their products to as not to fall into the 'infant' (person under the age of 12 months) and more specifically 'young child' (person under 24 months of age) category and therefore being able to promote their products.

The STAG Technical Paper on 'Definition of inappropriate promotion of foods for infants and young children' states that 'there is recognition that some processed foods and drinks that are promoted for the general population may be consumed by infants and young children. These products were not included in the context of foods intended for infants and young children' (WHO, 2013a). Thus this report did not assess the labeling practices of commercially produced foods for general consumption commonly fed to children under the age of two years according to the WHO STAG criteria for the inappropriate promotion of foods for infants and young children.

As discussed in the methods section of this report, since there is no formal guidance for the marketing of this group of products, the structure of the commercially produced foods for general consumption commonly fed to children under the age of two years labeling practices checklist (see Appendix E) was based on the commercially produced complementary foods checklist and adapted to include the principles of international guidance available on the marketing of foods and beverages to children (WHO, 2004; CI, 2008; WHO, 2010; IASO, 2012). In so doing, the aim was to determine whether there was anything on the product label that could possibly encourage a mother/caregiver to feed the product to an infant or child younger than two years of age, even though there was no such explicit recommendation on the product.

This report describes labeling practices on the strategically selected commercially produced foods for general consumption commonly fed to children under the age of two years that could potentially indicate to a mother/caregiver that the product was suitable for a child under-2 years of age. The checklists were, as far as was possible, completed from a mother/caregivers perspective.

5.3.1 Languages

It is generally accepted by authoritative bodies such as Codex Alimentarius that the information and instructions on product labels should be clear and correct, and in the appropriate language of the country (Codex, 1985). Ninety-four percent (n=16) of the labels contained all text in English and/or Swahili, in compliance with national regulations (Question 32, Table 5-5). English was the predominant language that appeared on labels of the selected commercially produced foods for general consumption commonly fed to children under the age of two years in Tanzania (see Table 5-6). Only some information was provided in the local language, Kiswahili, which was also only found on four (25%) of the labels.

Table 5-6 Languages in which label information was provided on selected commercially produced foods for general consumption commonly fed to children under the age of two years in Tanzania (n=16).

Label information provided in the following language(s)	ALL information provided in:		SOME information provided in:	
	Number of labels	Percentage of labels	Number of labels	Percentage of labels
English	16	100	-	-
Kiswahili	-	-	4	25
French	1	6	-	-
Other / non-official language	2	13	1	6

5.3.2 Mandatory and other label information

It is a globally accepted best practice for all food labels to provide certain information including an ingredients list and traceability (Codex 1985). This study found that 88% of the labels provided an ingredients list provided in English or Kiswahili, 59% included a batch number and 76% included a best before date. Nutrition composition/analysis was found on 41% of the products. One (6%) product was purchased after its best before date. Four of the products' expiry dates were unclear or missing and therefore it could not be determined if they were bought past the expiry date (Questions C33.1 – C33.4 respectively, Table 5-5 and Table 5-7).

Table 5-7 Selected label information included on the labels of commercially produced complementary food labels in Tanzania (n=17).

Mandatory and other label information	Number of labels	Percentage of labels
Best before date	13	76
Ingredients list	15	88
Nutrition composition information	7	41
Batch number	10	59
Purchased after best before date[a]	1	6

[a]Four products could not be determined if it had expired as the expiry date was missing.

It is interesting to note that one product, commonly known as a 'queen cake' in Tanzania, had no label information but was simply a clear plastic packet containing the product (see Figure 5-3).

Figure 5-3 The packaging of a commercially produced food for general consumption commonly fed to children under the age of two years in Tanzania.

5.3.3 Age related recommendations, feeding instructions and phrases

Two (12%) of the product labels gave a more defined age range or recommendation which stated that the product was '*not suitable for infants'*. General wording that indicated that the product was suitable for a child was found on two (12%) of the labels (Question C3, Table 5-5). These product labels stated 'Hey Moms!' and '*this is best for children'*.

One product label included a phrase for use that could imply suitability for children less than six months of age (Question C2, Table 5-5) by using the words '*your family'* on the product label.

5.3.4 Preparation and use instructions

When a product contained preparation/use information/instructions, 12% stated that they were 'instant-add water' and 6% stated that the user should 'add milk'.

Of the six labels (35%) which provided preparation and use instructions, four (67%) of the instructions were categorized as 'Serving suggestions: other' and two (33%) provided 'Preparation: Shake before use' instructions (see Table 5-8). Examples of products that had 'Serving suggestions: other' are '*Uses: Add [product name] to your tea or coffee or just enjoy it as a snack'* and *'Soy mix flour is also delicious as a healthy ingredient in many other dishes'*.

Table 5-8 Preparation and use instructions used on commercially produced complementary foods for general consumption commonly fed to children under the age of two years in Tanzania (n=6).

Preparation/use instructions	Number of labels	Percentage of labels
Serving suggestions: Other	4	67
Preparation: Shake before use	2	33
Add: Sugar/fruit juice/honey	1	17
Mixing: Milk but no water	1	17

5.3.5 Storage instructions

Eleven (65%) of the labels contained storage instructions. All (100%) of these 11 labels contained general storage instructions (such as '*Keep well covered in a clean cool and dry place'*) and four

(36%) of the labels provided storage conditions to avoid (for example, '*Keep away from direct sunlight*').

5.3.6 Warnings, safety messages and inserts

Three (18%) product labels displayed warnings; two of these were age related warnings which stated '*Not suitable for infants'* and one label had an 'other' warning which stated; '*do not freeze'*.

Safety messages were only found on one label which came from the category: *'*use boiled/clean water' and 'use boiled/pasteurised milk'.

No inserts were found in any selected commercially produced foods for general consumption commonly fed to children under the age of two years.

5.3.7 Nutrient composition

Nutrient composition data from the labels of commercially produced foods for general consumption commonly fed to children under the age of two years are presented in Table 5-9. Product labels have been grouped according to the various product categories. The 100g nutrient content information found on the label was then calculated as a 100kcal serving. The last column of the table presents the calculated percentage of DRI/RNI or WHO recommendations in each 100kcal serving. Further details on how the DRI/RNI per 100kcal portion was calculated can be found in Appendix G.

Seven of the labels on the foods for general consumption commonly fed to children under the age of two years in Tanzania provided nutritional composition, the product categories include; chips (n=1), yogurt (n=1), soft drinks (n=1) and other snacks (n=4). As there is a wide range of categories each with a small sample size, all statements and conclusions made would not be fully representative of foods for general consumption commonly fed to children under the age of two years in Tanzania.

However, the general trend, with the exception of the yoghurt, based on the information provided, the products contained adequate to low amounts of protein and high in fat with correspondingly low levels of micronutrients. It is difficult to comment on sugar since only two categories gave values for this. However this is indicative of what is generally considered to be the case for 'energy dense snack' products. Thus these products may not be suitable for infants and young children, who although they may have high energy and macronutrient requirements, also have high micronutrient requirements and nutrient quality is also critical.

The assessment of the actual nutrient composition (in comparison to the nutrient composition declared on the label) and associated quality of the products were not included in the scope of this research.

Table 5-9 Nutrient composition of commercially produced foods for general consumption commonly fed to children under the age of two years in Tanzania (n=7).

Nutrient	100 g Mean (minimum – maximum)	100 kcal Mean (minimum – maximum)	% DRI / RNI per 100 kCal[a]		
			6 – 8 months	9 – 11 months	12 – 23 months
Chips/crisps (n=1)					
Energy (kJ)	2333 (2333 - 2333)	441 (441 - 441)	-		
Energy (kcal)	558 (558 - 558)	105 (105 - 105)	53	35	19
Protein (g)	6.2 (6.2 - 6.2)	1.2 (1.2 - 1.2)	13	14	14
Carbohydrates (g)	52 (52 - 52)	9.8 (9.8 - 9.8)	43 - 54	29 - 38	16 - 20
Sugar[b] (g)	1.2 (1.2 - 1.2)	0.23 (0.23 - 0.23)	5		
Dietary fibre (g)	1.2 (1.2 - 1.2)	0.23 (0.23 - 0.23)	-		
Total fat (g)	36.3 (36.3 - 36.3)	6.9 (6.9 - 6.9)	58 - 69	38 - 46	20 - 25
SFA (g)	10.8 (10.8 - 10.8)	2.0 (2.0 - 2.0)	-		
MUFA (g)	13.8 (13.8 - 13.8)	2.6 (2.6 - 2.6)	-		
PUFA (g)	11.5 (11.5 - 11.5)	2.2 (2.2 - 2.2)	73	44	24
Trans FA (g)	0.2 (0.2 - 0.2)	0.04 (0.04 - 0.04)	-		
LA (g)	-	-	-		
ALA (g)	-	-	-		
Vitamin A (µg RE)	-	-	-		
Vitamin A (IU)	-	-	-		
Sodium (mg)	1212 (1212 - 1212)	229.1 (229.1 - 229.1)	65		
Calcium (mg)	-	-	-		
Iron (mg)	-	-	-		
Zinc (mg)	-	-	-		
Yogurt (n=1)					
Energy (kJ)	593 (593 - 593)	628 (628 - 628)	-		
Energy (kcal)	142 (142 - 142)	150 (150 - 150)	75	50	27
Protein (g)	3.2 (3.2 – 3.2)	5.1 (5.1 - 5.1)	57	61	58
Carbohydrates (g)	25.8 (25.8 - 25.8)	27.3 (27.3 - 27.3)	119-152	80-105	44-57
Sugar[b] (g)	-	-	-		
Dietary fibre (g)	-	-	-		
Total fat (g)	2.3 (2.3 - 2.3)	2.4 (2.4 - 2.4)	20-24	13-16	7-9
SFA (g)	-	-	-		
MUFA (g)	-	-	-		
PUFA (g)	-	-	-		
Trans FA (g)	-	-	-		
LA (g)	-	-	-		
ALA (g)	-	-	-		
Vitamin A (µg RE)	-	-	-		
Vitamin A (IU)	-	-	-		
Sodium (mg)	-	-	-		
Calcium (mg)	157.5 (157.5 - 157.5)	167.0 (167.0 - 167.0)	42	42	33
Iron (mg)	-	-	-		
Zinc (mg)	-	-	-		
Soft drinks (n=1)					
Energy (kJ)	230 (230 - 230)	411 (411 - 411)	-		
Energy (kcal)	54 (54 - 54)	96 (96 - 96)	48	32	17
Protein (g)	-	-	-		
Carbohydrates (g)	14.0 (14.0 - 14.0)	25.0 (25.0 - 25.0)	109-139	74-96	40-52
Sugar[b] (g)	-	-	-		
Dietary fibre (g)	-	-	-		
Total fat (g)	-	-	-		
SFA (g)	-	-	-		
MUFA (g)	-	-	-		
PUFA (g)	-	-	-		
Trans FA (g)	-	-	-		
LA (g)	-	-	-		
ALA (g)	-	-	-		
Vitamin A (µg RE)	-	-	-		
Vitamin A (IU)	-	-	-		
Sodium (mg)	2.8 (2.8 - 2.8)	5.0 (5.0 - 5.0)	1		
Calcium (mg)	-	-	-		
Iron (mg)	-	-	-		
Zinc (mg)	-	-	-		

Nutrient	100 g Mean (minimum – maximum)	100 kcal Mean (minimum – maximum)	% DRI / RNI per 100 kCal[a]		
			6 – 8 months	9 – 11 months	12 – 23 months
Other snacks (country-specific products such as soy flour porridge, powdered milk and cream cheese) (n=4)					
Energy (kJ) (n=4)	1719 (1130-2107)	389 (255-476)	-		
Energy (kcal) (n=4)	412 (273-504)	93 (62-114)	47	31	17
Protein (g) (n=4	11.4 (2.0 - 20.0)	2.6 (0.5 - 4.5)	29	30	30
Carbohydrates (g) (n=2)	13.3 (6.5 - 20.1)	3.0 (1.5 - 4.5)	13 - 16	9 - 12	5 - 6
Sugar[b] (g) (n=2)	2.0 (2.0 - 2.0)	0.45 (0.45 - 0.45)	-		
Dietary fibre (g)			-		
Total fat (g) (n=4)	23.1 (23.1 - 23.1)	5.2 (0.5 - 8.4)	43 - 52	29 - 35	15 - 19
SFA (g)			-		
MUFA (g)			-		
PUFA (g)			-		
Trans FA (g)			-		
LA (g)			-		
ALA (g)			-		
Vitamin A (µg RE)					
Vitamin A (IU) (n=2)	2500 (2500-2500)	565 (565 - 565)	-		
Sodium (mg)					
Calcium (mg) (n=3)	700 (600 - 750)	158.2 (135.6 - 169.5)	40	40	32
Iron (mg)			-		
Zinc (mg) (n=2)	2.3 (2.3 - 2.3)	0.52 (0.52 - 0.52)	13	13	11

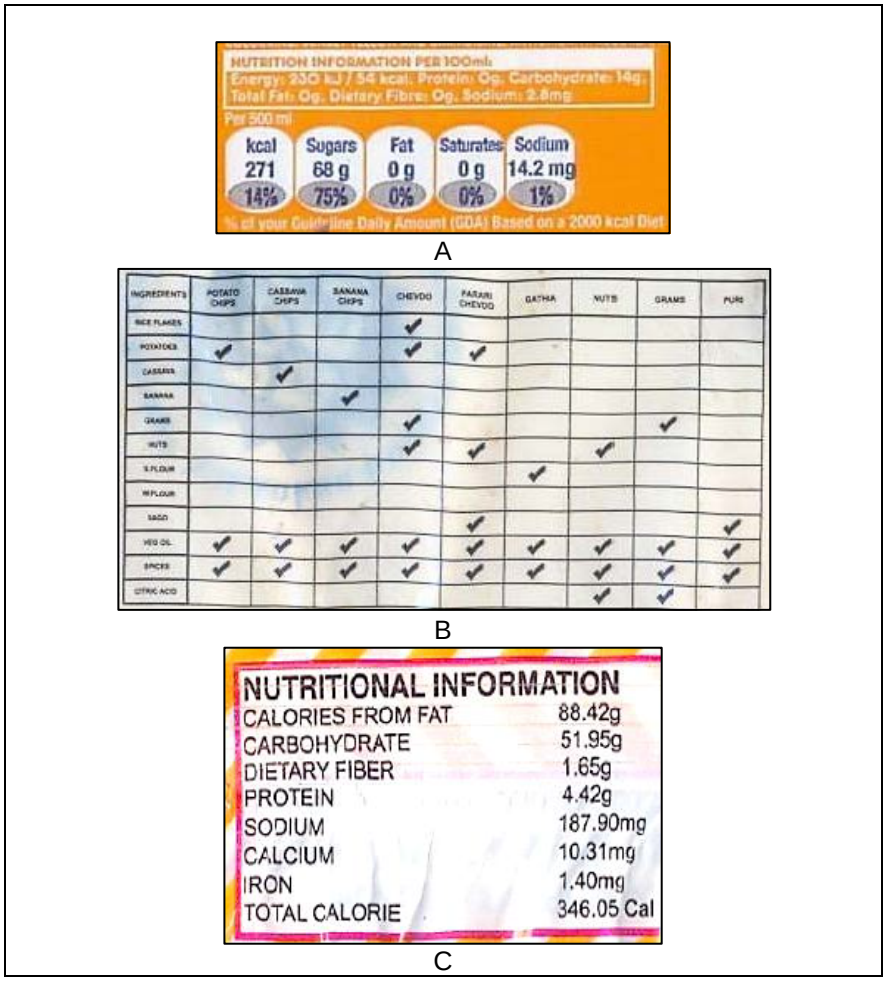
[a]See Appendix G for recommendations and calculations,

[b]Sugar values were captured from any mention of sugar in the nutritional information on the label and not specifically added sugar. Currently there are no guidelines for recommendation on the proportion of sugar from total energy for those aged <24 months however since sugar is under scrutiny, we used a recommended cut-off for those >24 months: Total sugars should not exceed 5.0 gr / 100 gr of solid food or 2.5 gr / 100 ml of beverage, (PAHO 2011), see appendix G for further details.

Nutrition information was presented in various manners on the labels of commercially produced foods for general consumption commonly fed to children under the age of two years found in Tanzania. Figure 5-4, image A displays the presentation of macronutrients and sodium, according to the Guideline Daily Amount (GDA) format. Figure 5-4, image B displays the manufacturer's range of products and their respective ingredients. Figure 5-4, image C is confusing, since it states 'Calories from fat' as 88.42g and it is unclear what this means.

Therefore this inconsistency in the presentation of nutrition information would make it difficult for a mother/caregiver to compare products within this category, as well as to compare these products to commercially produced complementary foods.

Figure 5-4 Images of nutrition information representation on labels of commercially produced foods for general consumption commonly fed to children under the age of two years found in Tanzania.



5.3.8 Portion size and daily ration

Twenty five percent (n=4) of the commercially produced foods for general consumption commonly fed to children under the age of two years found in Tanzania provided a portion/serving size (see Question C25, Table 5-5).

5.3.9 Consistency

None of the commercially produced foods for general consumption commonly fed to children under the age of two years contained an image of a feeding bottle nor did any of the product labels recommend feeding the product from a feeding bottle.

5.3.10 Cross promotion

None of the commercially produced food for general consumption commonly fed to children under the age of two years products in Tanzania were produced by manufacturers that also produce breast-milk substitutes.

5.3.11 Branded ingredients

Two (12%) of the commercially produced food for general consumption commonly fed to children under the age of two years products in Tanzania contained branded ingredients. Both labels contained the ingredient '*VitaRich*' defined on the label as '*a fortified blend of vitamins A, C, D, E and K'* (see Figure 5-6, image C in section 5.3.14.1 on nutrition and health claims).

5.3.12 Endorsements

Endorsements were seen on 4 (24%) of the labels of the selected commercially produced foods for general consumption commonly fed to children under the age of two years. Longevity-related endorsements were found on three of the labels while two of them had endorsements made by the manufacturer. Examples of longevity claims include '*Established since 1989'* and *'90 years of experience'*.

5.3.13 Invitation to interact

Table 5-10 displays the categories of all invitations to interact that were found on the labels of the foods for general consumption commonly fed to children under the age of two years in Tanzania. A postal address was the most commonly used invitation to interact followed by email and then a telephone number, found on 87%, 60% and 47% of the labels respectively.

It is appropriate for product labels to contain the provision of company contact details for the purpose of reporting product defects or quality issues and this would include invitations. The checklist (Table 5-5, Question C34) shows that of the 15 product labels that contained any invitation to interact, a total of 5 product labels contained an invitation to make direct or indirect contact with the company's marketing personnel. These 5 labels contained invitation types such as websites that invite consumers to make contact that is above and beyond the purpose of reporting product defects or quality issues. It needs to be determined whether or not this is appropriate for this group of products. There is currently no guidance on what would be considered appropriate in terms of manufacturers inviting consumers to interact with them.

Table 5-10 Types of invitation to interact with the manufacturer used on selected commercially produced foods for general consumption commonly fed to children under the age of two years in Tanzania (n=15).

Invitation to interact	Number of labels	Percentage of labels
Postal address	13	87
Email address	9	60
Telephone	7	47
Website	5	33
Customer care line	2	13
Fax	2	13

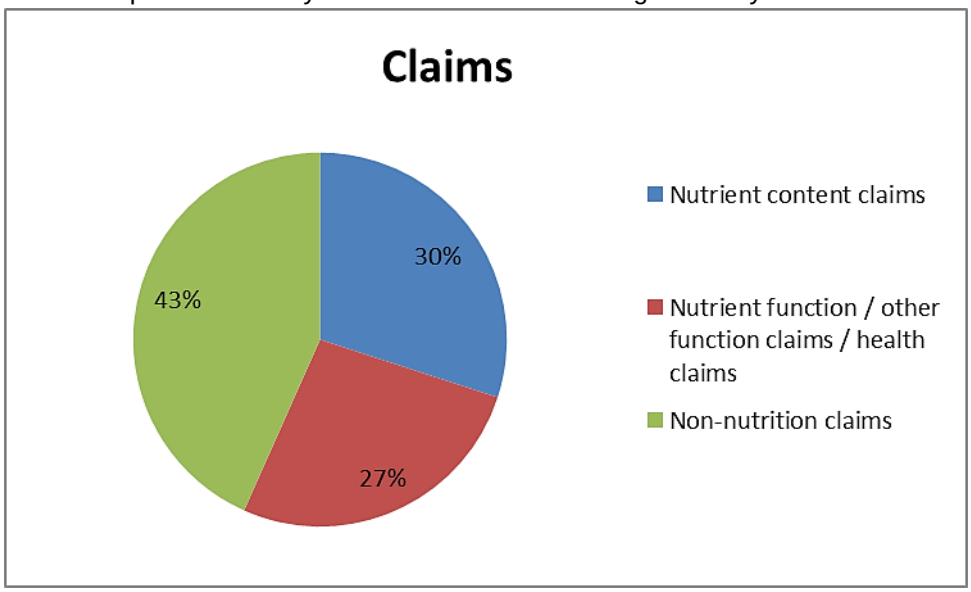
5.3.14 Claims

Codex Alimentarius has clear definitions for the various categories of nutrition and health claims commonly used/permitted on foods (see Table 4-16). Claims are commonly made on the labels of the selected commercially produced foods for general consumption commonly fed to children under the age of two years.

Figure 5-5 shows that of the claims made, the majority (43%) related to non-nutrition claims, followed by nutrient content (30%) and nutrient function/other function/implied health claims (27%). Nutrient comparative and reduction of disease claims did not feature in this sample of labels.

See sections below 5.3.14.1 and 5.3.14.2 and appendices H and I for a complete description of the prevalence of, and examples of the various categories of claims. None of the labels stated that it was required for a balanced diet.

Figure 5-5 Summary of the various claims present on selected labels of commercially produced foods for general consumption commonly fed to children under the age of two years in Tanzania.



5.3.14.1 Nutrition and Health Claims

Fifty-three percent of the commercially produced foods for general consumption commonly fed to children under the age of two years made nutrient content claims (Table 5-5, Question C27 and Table 5-11). See Figure 5-6 for examples of images displaying nutrient content claims. No labels made use of nutrient comparative claims (Table 5-5, Question C28).

Forty-seven percent of product labels (8 labels) made a nutrient function/other function/implied health claim (Table 5-5, Question C29 and Table 5-12). No labels made reduction of disease risk claims (Table 5-5, Question C30).

Table 5-11 Nutrient content claims made on the labels of selected commercially produced foods for general consumption commonly fed to children under the age of two years in Tanzania (n = 9).

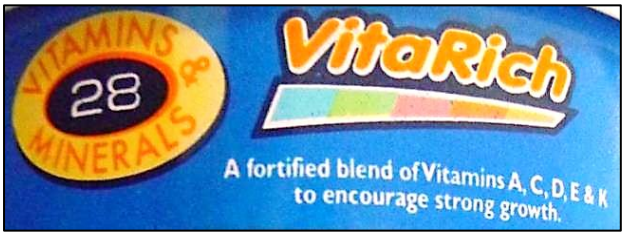
Claim	Number of labels	Percentage of labels
Fat (see Figure 5-6, image A)	4	44
Protein	3	33
Vitamin C	3	33
Vitamin D	3	33
Calcium	3	33
Vitamins and minerals (see Figure 5-6, image B)	2	22
Vitamin A (see Figure 5-6, image C)	2	22
Vitamin E	2	22
Vitamin K	2	22
Energy	1	11
Trans fat	1	11
Carbohydrate (including glucose)	1	11

See Appendix I for a full breakdown of example text of all of the above categories of nutrient content claims from the product labels.

Figure 5-6 Examples of images of nutrient content claims

A

B



C

Table 5-12 Nutrient function/other function/implied health claims used on commercially produced foods for general consumption commonly fed to children under the age of two years in Tanzania (n = 8).

Claims	Number of labels	Percentage of labels
Calcium function	3	24
Vitamin D function	3	24
Growth	3	24
Health	3	24
Bones	2	16
Energy function	2	16
Vitamin A function	2	16
Vitamin C function	2	16
Immunity	2	16
Muscle/tissue	2	16
Vitamins and mineral added function	2	16
Vitamin K function	2	16
Protein function	2	16
Vitamin E function	2	16

Claims regarding: best for babies/best start/better for, blood, goodness/good, iron absorption, teeth and vision feature once on the labels.

See Appendix I for a full breakdown of example text of all of the above categories of nutrient function/other function/implied health claims from the product labels.

5.3.14.2 Non-nutrition claims

Seventy-seven percent of the product labels (n=13) contained non-nutrition claims (see Table 5-13). Five of the non-nutrition claims were related to quality, four made claims about taste and 3 labels contained additive and allergen claims (see Figure 5-7 for images of these claims).

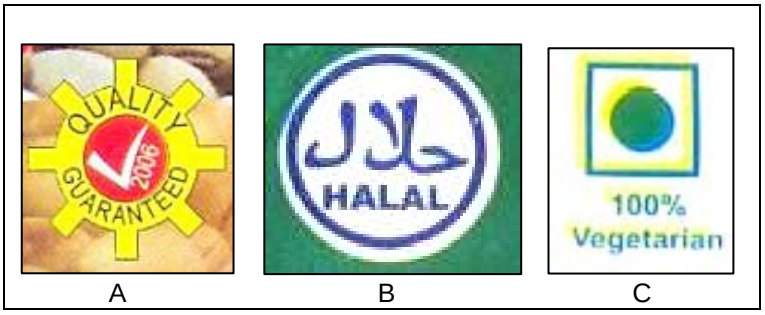
Table 5-13 Non-nutrition claims contained on the labels of selected commercially produced foods for general consumption commonly fed to children under the age of two years in Tanzania (n=13).

Claims	Number of labels	Percentage of labels
Quality (see Figure 5-8, image A)	5	38
Taste	4	31
Additives	3	23
Allergens	3	23
Certification: Religious (see Figure 5-8, image B)	2	15
Specially prepared	2	15
Pasteurized and homogenized	2	15

Additional non-nutrition claims which featured once included: fresh, GMO, natural, origin, packaging, vegetarian (see Figure 5-7, image C) and flavor.

See Appendix I for a full breakdown of example text of all of the above categories of non-nutrition claims from the product labels.

Figure 5-7 Examples of images portraying non-nutrition claims on product labels in Tanzania



A B C

It is clear that claims are not uncommon on the labels of commercially produced foods for general consumption commonly fed to children under the age of two years. Provided the claim meets the requirements in national legislation, they would be permitted and may result in the product being attractive to a mother/caregiver. Research is needed to determine the influence claims have on mothers/caregivers when selecting foods to feed their infant/young child and if they would choose a commercially produced food for general consumption that makes a claim in preference to an appropriately formulated commercially produced complementary food that is not permitted to make any claims.

5.3.15 Images

Sixteen (94%) of the labels of the selected commercially produced foods for general consumption commonly fed to children under the age of two years contained images. The most commonly used images were of the ready-to-eat/prepared product which was found on 10 (63%) products, followed by the use of images of ingredients/composition found on 9 (56%) of the labels. Table 5-14 provides a breakdown of all of the image categories seen on the labels.

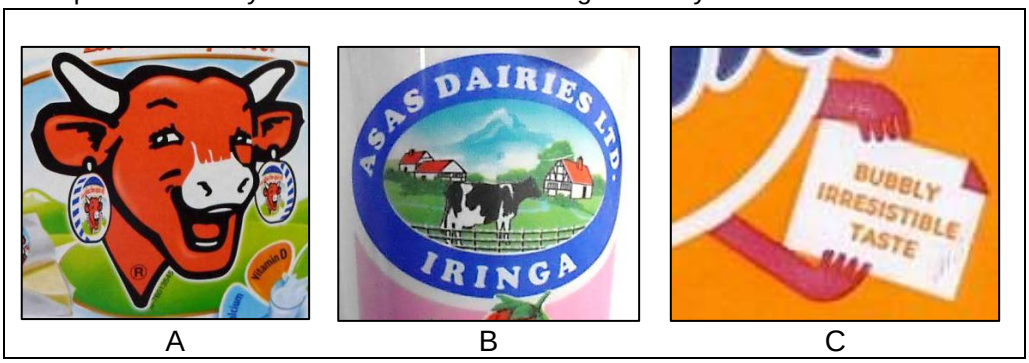
Table 5-14 Images used on the labels of commercially produced foods for general consumption commonly fed to children under the age of two years in Tanzania (n= 16).

Images	Number of labels	Percentage of labels
Ready-to-eat/prepared product	10	63
Ingredients/composition	9	56
Animals/insects (see Figure 5-8, Image A and B)	6	38
Design elements: Leaves/trees/plants/flowers/landscapes/shells	6	38
Cup/glass	5	31
Design elements: Stars/moon/sun/clouds/rainbow	3	19
Foods that are not ingredients	3	19
Telephone/computer mouse /email envelope	2	13
Endorsement images	2	13

Other less common images found on the labels (featuring once only) included: bowl; brand mascot; characters/ stick figures (see Figure 5-8, Image C); design elements: hearts/circles; preparation/use illustrations; arm holding out a sign; sail boat; soccer ball & head phones formed out of milk; storage images and a young girl/women.

Certain images can have particular appeal to children. See Figure 5-8 and Image A displays an image of an animal (in this case, a cow) that could have appeal to children, whereas Image B displays a cow that would not have specific appeal to children. Therefore the determination of images that have appeal to children is subjective. This is discussed further in the following section 5.3.16 Labeling practices that could imply suitability for children.

Figure 5-8 Examples of images used on the labels of selected commercially produced foods for general consumption commonly fed to children under the age of two years in Tanzania.



A B C

5.3.16 Labeling practices that could imply suitability to children

A number of practices were observed on the labels of the selected commercially produced foods for general consumption commonly fed to children under the age of two years and research would be needed to determine whether these would make it appear to a mother/caregiver that the product is suitable for a child under the age of two years and so result in:

- Her purchasing such products to feed on a regular basis;
- These foods displacing the traditional diet;
- These foods being purchased in preference to an appropriately formulated commercially produced complementary food.

5.3.16.1 *Images that could indicate suitability for children*

No images of infants or young children that appeared to be under 2 years old or images of children over 2 years of age were observed on the labels of the selected commercially produced foods for general consumption commonly fed to children under the age of two years.

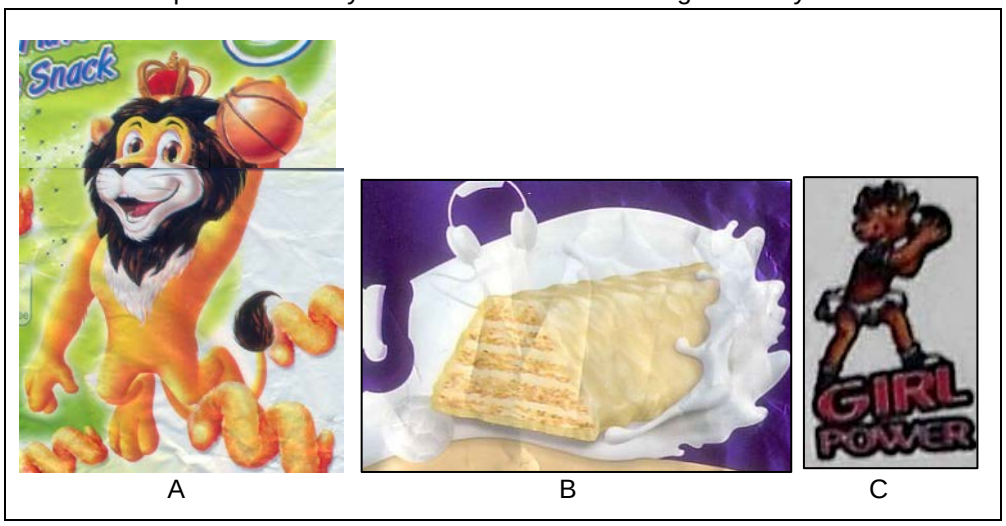
Some images that could potentially be considered as making it appear suitable for a child and possibly even suitable for a child under the age of two years are illustrated in Figure 5-9 and include:

- A brand mascot image with specific appeal to children. Such an image appeared on one product label (see Question C9, Table 5-5; Figure 5-9, Image A).
- Two product labels contained a representation of a fantasy/adventure theme that could have specific appeal to children (Question C10, Table 5-5). An example of one image displays images of headphones and a soccer ball forming out of milk (Figure 5-9, Image B).
- One product label contained information or an image of a free gift, toy or collectible item with appeal to children (see Question C11, Table 5-5). This example is displayed in Figure 5-9, Image C as a sticker on the top of the product.

None of the product labels contained the following images:

- A real person such as a celebrity/sports star with appeal to children (Question C7, Table 5-5).
- A cartoon character/fictional movie character with specific appeal to children (Question C8, Table 5-5).
- An image of a toy (Question C12, Table 5-5).

Figure 5-9 Images with specific appeal to children used on the packaging of commercially produced foods for general consumption commonly fed to children under the age of two years in Tanzania.



A B C

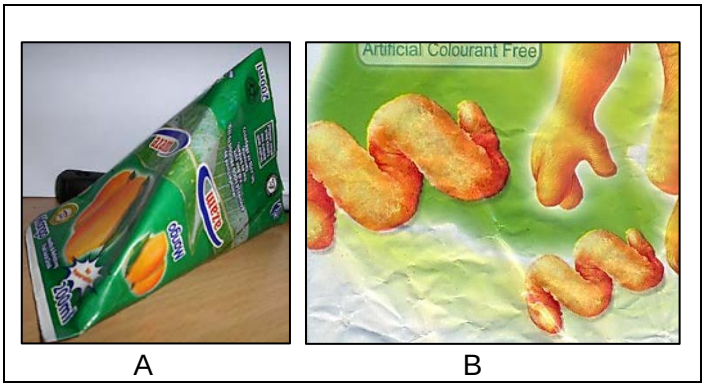
It is uncertain whether these images could indicate suitability for infants/young children to mother/caregivers and research into perceptions and practices would be valuable.

5.3.16.2 *Shape(s) that appeal to children (either label or packaging itself)*

Fifty nine percent (n=10) of product labels included shapes on the label and / or a unique shape of the packaging and / or a unique shape of the product itself (see Question C13 and C16), that could be considered to have appeal to children. Examples include:

- Juice packaged in a tetra pack that is in the shape of a triangle/prism (see Figure 5-10, Image A).
- Chips/crisps in a spiral shape (see Figure 5-10, Image B)

Figure 5-10 Shapes that may be considered to appeal to children that were part of foods for general consumption commonly fed to children under the age of two years in Tanzania.



A B

It is uncertain whether these product attributes could indicate suitability for infants/young children to mother/caregivers and research into perceptions and practices would be valuable.

5.3.16.3 Slogans/tag-line

Slogans/tag lines were seen on five (29%) of the labels, examples of these include:

- *The delicious energy food*
- *New product for health conscious people*
- *Our milk*
- *Protection and growth*

Some of these slogan's/tag-lines (such as '*protection and growth'*) could imply suitability for infants and young children, whereas others seem generic and could refer to adults of children (e.g. '*the delicious energy food'*). It is uncertain whether or not these product attributes could indicate to mothers/caregivers that these products are suitable for infants/young children. Further research into perceptions and practices would be valuable.

5.3.16.4 *Emotive claims*

Two (12%) product labels used emotive claims. One of the examples stated '*Bubbly irresistible taste*' and this could or could not be targeted at children. A second example stated '*Hey Moms! [Manufacturer's name] the Lion is proud to bring you [manufacturer & product's name] which will take your family snacking moments to a new level of fun and flavour. You will love [Product name] because they come with the [manufacturer's name] promise of impeccable quality*.' The second example is clearly targeted to children, but it is unclear which age group of children this targets. It is uncertain whether emotive claims could indicate suitability for infants/young children to mother/caregivers and research into perceptions and practices would be valuable.

5.3.16.5 Toys/Competitions/Rewards

No toys, competitions or rewards were offered or advertised on the labels of products selected for this category in Tanzania. It is assumed that toys/competitions/rewards would make these products appealing to mothers/caregivers of infants/young children and research into perceptions and practices would be valuable.

5.3.16.6 Joke/Rhyme/Story

No jokes/rhymes/stories were seen on any of the foods for general consumption commonly fed to children under the age of two years selected in Tanzania. It is uncertain whether such jokes/rhymes/stories would make these products appealing to mother/caregivers for purchasing for their infants/young children and research into perceptions and practices would be valuable.

5.3.16.7 Flavors/appearance/texture/other appeal to children

Only one product contained a flavor that could appeal specifically to children. This was the strawberry double bubble gum flavored sweet (see Question C18, Table 5-5). No products contained a particular texture that could appeal to children. It is uncertain whether a product attribute such as the flavor used/texture of the prepared product could indicate suitability for infants/young children to mother/caregivers and research into perceptions and practices would be valuable.

5.3.16.8 Other novelties that could have specific appeal to children

None of the foods for general consumption commonly fed to children under the age of two years products contained any indication that the product could be adapted to be suitable for a child (Question C21, Table 5-5), information that implies that a balance and varied diet cannot provide adequate nutrients to growing children (Question C22, Table 5-5), or

nutrition information as a percentage RDA/NRV/GDA for children younger than two years of age (Question C26, Table 5-5).

It is uncertain whether these product attributes could indicate suitability for infant/young children to mother/caregivers and research into perceptions and practices would be valuable.

5.4 Considerations pertaining to the labeling practices of commercially produced foods for general consumption commonly fed to children under the age of two years

The inclusion of commercially produced foods for general consumption commonly fed to children under the age of two years in this study was to determine whether there was anything on the product label of this category of foods that could possibly encourage a mother/caregiver to feed the product to an infant or child younger than two years of age, even though there was no such explicit recommendation on the product. It was hypothesized that these labels may contain elements / display practices that could appear to make the product suitable for children and this could therefore potentially encourage mothers/caregivers to choose these possibly energy dense products over more appropriately formulated commercially produced complementary foods.

The nutrient profile and certain label elements/practices of the commercially produced foods for general consumption commonly fed to children under the age of two years in this study indicated that there is reason for concern. Some of the elements/practices to be considered include:

- Nutrition claims;
- Endorsements;
- Images that could indicate suitability for children;
- Shapes of either the label or the packaging that may appeal to children;
- Use of certain slogans / tag-lines / rhymes or stories;
- Emotive claims;
- Toys / competitions / rewards;
- Representation of fantasy or adventure themes appealing to children;
- Flavors / appearance / textures that appeal to children.

As this study did not include research into the perceptions and practices of mothers/caregivers regarding product labels, it is uncertain whether the product attributes included in this report either indicate suitability for infants/young children or would result in these products being chosen over other more appropriate foods. Consumer research regarding mothers/caregivers perceptions and practices is required. This research however highlights that it is critical to ensure that there are no unintended negative consequences of any recommendations made regarding the inappropriate promotion of appropriately formulated commercially produced complementary foods.

6 CONCLUSIONS

It has been recognized by many eminent organizations that commercially produced complementary foods have a role to play in optimal infant and young child feeding. Based on the findings of this study in Tanzania, five key themes are considered important in striving to ensure optimal infant and young child feeding:

1. Consistent information supports informed choices
   Providing consumers with important and valuable information on products is critical as it is this information that mothers/caregivers are likely to use to make their product choices when selecting from available commercially produced complementary foods.

2. A global market requires global guidance.
   There are a number of commercially produced complementary foods available in Tanzania, with imported products (predominantly from the UK, Spain and Kenya) making up 69%. In order to ensure optimal infant and young child feeding practices in a global village, consistency of labeling practices becomes important and global guidance is therefore critical.

3. Detailed and specific guidance is required.
   There are a number of elements on product labels that are important and in some cases may be open to interpretation. Detailed guidance is therefore required on all label elements to ensure that commercially produced complementary foods provide factual information, promote optimal infant and young child feeding and never undermine breast-feeding while still allowing the right to freedom of choice.

4. Guidance should not result in unintended consequences.
   Consideration needs to be given not only to the promotion of commercially produced complementary foods, but also foods not specifically marketed for but commonly fed to children under-2 years of age. It is important to ensure that restrictions on the promotion of the former do not result in mothers/caregivers selecting the latter, which often have a poor nutrient profile, due to the fact that they are less restricted. As such, foods not specifically marketed for but commonly fed to children under-2 years, can imply to mothers/caregivers that they are suitable for infants and young children as they are able to make nutrition and health claims and are less regulated in terms of images and other marketing techniques used on labels. Furthermore, consideration also needs to be given to the possibility that restrictions on the promotion of appropriately formulated commercially produced complementary foods, may result in manufacturers removing the age recommendation for their products so as not to fall into the ‘infant’ (person under the age of 12 months) and more specifically ‘young child’ (person under 24 months of age) category and therefore being able to promote potentially unsuitable products.

5. Monitoring and enforcement of existing policies can be strengthened.
   Tanzania adopted many provisions of the *International Code of Marketing of Breast-Milk Substitutes* as national legislation, by enacting the *National regulations for marketing of breast-milk substitutes and designated products (Tanzania)* in 1994 which was updated during 2013, to become the *Tanzania Food, Drugs and Cosmetics (Marketing of foods and designated products for infants and young children) Regulations, 2013*. The Tanzanian law is fairly comprehensive and in some cases goes beyond the provisions of the Code, yet even though it has recently been updated, it still does not cover all labeling provisions of the Code. The WHO recommends that countries should periodically review their regulations in line with the Code and its subsequent WHA resolutions and that monitoring and enforcement requires continued strengthening. In line with this, the Tanzanian legislation requires review and its monitoring and enforcement requires strengthening.

The ARCH findings in Tanzania illustrate the need and the opportunity to give more clarity and detailed and practical global guidance on the appropriate promotion of foods for infants and young children. The WHO Position Paper on 'Inappropriate promotion of foods for infant and young children' (Annex 2 of document EB134/5) is a positive step, but more specific guidance is needed within each of the 5 criteria categories. In addition there are some practices that are not included in the 5 criteria that need to be considered and be more clearly defined. This detailed guidance is necessary in order to help countries develop clear and specific regulations for the appropriate marketing of complementary foods.

Specific WHO guidelines on the promotion of commercially produced complementary foods should address multiple aspects of promotion, including but not limited to:

- Appropriate nutrition claims;
- Suggested wording for a statement supporting breastfeeding and the role of local foods;
- Cross promotion of breast-milk substitutes and complementary foods;
- Appropriate imagery and invitations to interact with consumers;
- Appropriate endorsements; and
- Guidance around product composition, consistency and appropriate daily rations.

There is also an opportunity to address the issue of promotion of foods not marketed directly for, but commonly fed to infants and young children, by strengthening the support of the WHO *Recommendations on the marketing of foods and non-alcoholic beverages to children* as a foundation. For example this study found that commercially produced foods not marketed to but commonly fed to children under two years contained a number of claims including nutrient content claims and nutrient function/other function/implied health claims. If such claims are prohibited on appropriately formulated commercially produced complementary foods it may lead to the scenario where a mother/caregiver evaluates the commercially produced foods for general consumption commonly fed to children under the age of two years as being more suitable to feed to her child. Furthermore compared to commercially produced complementary foods, foods not marketed to but commonly fed to children under two years, cost up to 9 times less per portion, depending on whether a locally produced or imported product. This could be a critical factor which may influence the purchase of such products.

Providing consumers with important and valuable information on products is critical, as it is this information that mothers/caregivers are likely to use to make their product choices when selecting

from available foods. However any information provided must be factual, promote optimal infant and young child feeding, and never undermine breastfeeding.

Consideration therefore needs to be given to both the promotion of commercially produced complementary foods and foods not marketed for but commonly fed to children under-two years of age. These two categories must not be viewed in isolation. For optimal infant and young child feeding it is important to ensure that restrictions on the promotion of the former do not result in mothers/caregivers selecting the latter, due to the fact that they are less restricted and as such can imply to mothers that they are suitable for infants and young children. This could potentially be significant in populations with a lower literacy/education level.

Consideration also needs to be given to the possibility that if there are total restrictions on all promotion of appropriately formulated commercially produced complementary foods, manufacturers may decide to remove the age recommendation for their products. More research is needed to explore these.

The findings of the ARCH Project in Tanzania indicate that more guidance is needed on a number of label elements as discussed in this report, in order to both strengthen the *International Code of Marketing of Breast-Milk Substitutes*, the *Tanzania Food, Drugs and Cosmetics (Marketing of foods and designated products for infants and young children) Regulations, 2013* and to enable effective monitoring and enforcement of labeling practices. This is crucial in further advancing Tanzania's efforts to promote optimal feeding practices for infants and young children and scale up nutrition, while also allowing caregivers the right to freedom of choice.

7 REFERENCES

Aguayo, V.M., Ross, J.S., Kanon, S. & Ouedraogo, A.N. 2003. Monitoring compliance with the International Code of Marketing of Breast-milk Substitutes in West Africa: multisite cross sectional survey in Togo and Burkina Faso. *British Medical Journal*, 326(7381):127-132.

Anderson, V.P., Cornwall, J., Susan Jack, S. & Gibson, R.S. 2008. Intakes from non-breast milk foods for stunted toddlers living in poor urban villages of Phnom Penh, Cambodia, are inadequate. *Maternal and Child Nutrition,* 4:146–159.

Barennes, H., Andriatahina, T., Latthaphasavang, V., Anderson, M. & Srour, L.M. 2008. Misperceptions and misuse of Bear Brand coffee creamer as infant food: national cross sectional survey of consumers and paediatricians in Laos. *British Medical Journal*, 337:a1379.

Brady, J.P. 2012. Marketing breast-milk substitutes: problems and perils throughout the world. *Archives of Disease in Childhood,* 97(6):529-532.

Campos, S., Doxey, J. & Hammond, D. 2011. Nutrition labels on pre-packaged foods: a systematic review. *Public Health Nutrition*, 14(8):1496–1506.

CFIA (Canadian Food Inspection Agency). 2011. Guide to food labeling and advertising. http://www.inspection.gc.ca/food/labelling/guide-to-food-labelling-and-advertising/eng/1300118951990/1300118996556. [Date of access: 19 Oct 2012].

Chaste, C., Duffield, A., Kindness, H., Le Jeune, S., & Taylor, A. 2007. The Minimum Cost of a Healthy Diet: Findings from piloting a new methodology in four study locations. Save the Children. http://www.savethechildren.org.uk/sites/default/files/docs/The_Minimum_Cost_of_a_Healthy_Diet_corrected09_1.pdf [Date of access: 3 Jul 2014]

CI (Consumers International). 2008. Recommendations for an International Code on Marketing of Foods and Beverages to Children. London: Consumer International, International Obesity Task Force and International Association for the Study of Obesity.
http://www.iaso.org/site_media/uploads/ConsumersInternationalMarketingCode.pdf
[Date of access: 11 Feb. 2013].

Clark, D. & Shrimpton, R. 2000. Complementary feeding, the Code, and the Codex. *Food and Nutrition Bulletin*, 21(1):25-29.

Codex 1985. Codex Alimenatrius, Guidelines on Nutrition Labelling CAC/GL 2-1985.

COSTECH. (Taznania Commission for Science and Technology). COSTECH website. http://www.costech.or.tz/ [Date of access: 23 April 2013].

Ergin, A., Hatipoğlu, C., Bozkurt, A.İ., Erdoğan, A., Güler, S., İnce, G., Kavurgacı, N., Öz, A. & Yeniay, M.K. 2013. Compliance status of product labels to the International Code on Marketing of Breast-milk Substitutes. *Maternal and Child Health Journal,* 17:62–67.

Euromonitor International. 2011. Country report: baby food in South Africa, Nov 2011. http://www.euromonitor.com/baby-food-in-south-africa/report. [Date of access: 19 Sep 2012].

Faber, M. 2005. Complementary foods consumed by 6 – 12-month-old rural infants in South Africa are inadequate in micronutrients. *Public Health Nutrition,* 8(4):373-381.

Faber, M., Kvalsvig, J.D., Lombard, C.J. & Benade, A. 2005. Effect of a fortified maize-meal porridge on anemia, micronutrient status, and motor development of infants. *American Journal of Clinical Nutrition*, 82(5):1032-1039.

FAO (Food and Agriculture Organization of the United Nations). 2011. Matters of interest arising from the FAO and WHO. (CX/NFSDU 11/33/3, Agenda item 2b). ftp://ftp.fao.org/codex/Meetings/CCNFSDU/ccnfsdu33/nf33_03e.pdf.
[Date of access: 10 May 2012.]

Fischer, P.M., Schwartz, M.P., Richards, J.W., Goldstein, A.O., & Rojas, T.H. 1991. Brand logo recognition by children aged 3 to 6 years: Mickey Mouse and Old Joe the Camel. *Journal of the American Medical Association,* 266(22):3145-3148.

Huffman, S.L., Piwoz, E., Vosti, S.A., Dewey, K.G., Babies, soft drinks and snacks: A recipe for malnutrition in the low- and middle-income countries? *(in press 2014).*

IASO (International Association for the Study of Obesity). 2012. A junk-free childhood 2012: the 2012 Report of the Stanmark project of standards for marketing food and beverages to children in Europe. A briefing paper from the IASO. Prepared by Persson, M., Soroko, R., Musicus, A. & T. Lobstein.

IBFAN (International Baby Food Action Network). 2007. Code monitoring kit. Penang: IBFAN Sdn Bhd.

IBFAN (International Baby Food Action Network). 2010. Breaking The Rules, Stretching The Rules 2010. Penang: IBFAN Sdn Bhd. Executive Summary: http://www.ibfan.org/art/BTR_2010-ExecSummary%28final%29.pdf. [Date of access: 15 Feb 2013].

Lutter, C.K. 2003. Macro-level approaches to improve the availability of complementary foods. *Food and Nutrition Bulletin*, 24(1):83-103.

McAllister, A.R. & Cornwell, T.B. 2010. Children's brand symbolism understanding: links to theory of mind and executive functioning. *Psychology & Marketing*, 27(3): 203-228.

MOH (Ministry of Health). 1994. The Food (Control of Quality) (Marketing of Breast-milk Substitutes and Designate Products) Regulations. Government Notice 256 of 1994. Government Printer; Dar es Salaam.

MOHP (Ministry of Health and Population) [Nepal], New ERA, and Macro International Inc. 2007. Nepal Demographic and Health Survey 2006. Kathmandu, Nepal: Ministry of Health and Population, New ERA, and Macro International Inc.

Ministry of Health and Social Welfare. 2006. Tanzania Food, Drugs and Cosmetics (Food Labelling) Regulations. 27 July 2006. Government Printer; Dar es Salaam.

Ministry of Health and Social Welfare. 2013. Tanzania Food, Drugs and Cosmetics (Marketing of foods and designated products for infants and young children) Regulations, 2013. Government Notice No. 60 of 2013.

NBS (National Bureau of Statistics) [Tanzania] and ICF Macro. 2011. Tanzania Demographic and Health Survey 2010. Dar es Salaam, Tanzania: NBS and ICF Macro. http://dhsprogram.com/pubs/pdf/FR243/FR243[24June2011].pdf (Date of access: 26 Mar. 2013).

Page R., Montgomery K., Ponder A. & Richard A. 2008. Targeting children in the cereal aisle: promotional techniques and content features on ready-to-eat cereal product packaging. *American Journal of Health Education*, 39(5):272-282.

PAHO (Pan American Health Organisation). 2003. Guiding principles for complementary feeding of the breastfed child. Washington, D.C.: PAHO.

Piwoz, E.G., Huffman, S.L. & Quinn, V.J. 2003. Promotion and advocacy for improved complementary feeding: can we apply the lessons learned from breastfeeding? *Food and Nutrition Bulletin*, 24(1):29-44.

PPU (Population Planning Unit) [Tanzania]. 2013. Tanzania population projections (1989 – 2025). http://www.tanzania.go.tz/populationf.html (Date of access: 8 May 2013).

Quinn, V., Zehner, E., Schofield, D., Guyon, A. & Huffman, S. 2010. Using the Code of Marketing of Breast-milk Substitutes to guide the marketing of complementary foods to protect optimal infant feeding practices. Geneva: GAIN (Global Alliance for Improved Nutrition). http://www.gainhealth.org/sites/www.gainhealth.org/files/working%20paper%203LR_with_insert.pdf. [Date of access: 7 Sep. 2012].

Salasibew, M., Kiani, A., Faragher, B. & Garner, P. 2008. Awareness and reported violations of the WHO International Code and Pakistan's national breastfeeding legislation; a descriptive cross-sectional survey. *International Breastfeeding Journal*, 3:24-30.

Sweet, L., Jerling, J. & Van Graan, A. 2012a. Field-testing of guidance on the appropriate labeling of processed complementary foods for infants and young children in South Africa. *Maternal and Child Nutrition*, 9(Suppl. 1):12-34.

Sweet, L., Jerling, J.C. & Van Graan, A. 2012b. A critical analysis of the labels of processed complementary foods for infants and young children in South Africa against international marketing guidelines. Masters mini-dissertation. North-West University, Potchefstroom.

Tanzania National Bureau of Statistics and ICF International. 2012. 2010 Tanzania Atlas of Maternal Health, Child Health, and Nutrition. Calverton, Maryland, USA: NBS and ICF International.

Taylor, A. 1998. Violations of the International Code of Marketing of Breast-milk Substitutes: prevalence in four countries. *British Medical Journal,* 316(7138):1117-1122.

UNICEF (United National Children's Fund). 2011. National implementation of the International Code of Marketing of Breast-milk Substitutes. New York: UNICEF.

UNICEF (United Nations Children's Fund). 2013. The State of the World's Children. New York. http://www.unicef.org/mena/MENA_SOWC_Report_2013_ENG(1).pdf.
[Date of access: 13 Nov 2013].

Van Der Merwe, J., Kluyts, M., Bowley, N. & Marais, D. 2007. Optimizing the introduction of complementary foods in the infant's diet: a unique challenge in developing countries. *Maternal & Child Nutrition*, 3(4):259-270.

WHA (World Health Assembly). 2010. Infant and young child nutrition. (WHA 63.23). http://apps.who.int/gb/ebwha/pdf_files/WHA63/A63_R23-en.pdf. [Date of access: 5 May 2011].

WHA (World Health Assembly). 2012. Maternal, infant and young child nutrition. (WHA 65.6). http://apps.who.int/gb/ebwha/pdf_files/WHA65/A65_R6-en.pdf. [Date of access: 26 Jun 2012].

WHA (World Health Assembly). 2014. Executive Board 134th session. Provisional agenda item 7.2. EB134/15. Maternal, infant and young child nutrition: Report by the Secretariat. http://apps.who.int/gb/ebwha/pdf_files/EB134/B134_15-en.pdf. [Date of access: 3 Feb. 2014].

WHO (World Health Organisation). 1981. International Code of Marketing of Breast-milk Substitutes. Geneva: WHO.

WHO (World Health Organisation). 2003. Global strategy for infant and young child feeding. Geneva: WHO. http://whqlibdoc.who.int/publications/2003/9241562218.pdf.
[Date of access: 12 Feb 2013].

WHO (World Health Organisation). 2004. Global Strategy on Diet, Physical Activity and Health. Geneva: WHO. http://www.who.int/dietphysicalactivity/strategy/eb11344/strategy_english_web.pdf. [Date of access: 13 Feb 2013].

WHO (World Health Organisation). 2006. Marketing of food & non-alcoholic beverages to children: report of a WHO forum and technical meeting (Oslo, Norway; 2-5 May 2006). http://www.who.int/dietphysicalactivity/publications/Oslo%20meeting%20layout%2027%20NOVEMBER.pdf. [Date of access: 13 Feb 2013].

WHO (World Health Organisation). 2008. The International Code of Marketing of Breast-milk Substitutes: frequently asked questions; updated version 2008. Geneva: WHO.

WHO (World Health Organisation). 2010. Recommendations on Marketing of Foods and non-alcoholic Beverages to Children. Geneva: WHO.
http://whqlibdoc.who.int/publications/2010/9789241500210_eng.pdf.
[Date of access: 11 Feb 2013].

WHO (World Health Organisation). 2013a. First meeting of the WHO scientific and technical advisory group on inappropriate promotion of foods for infants and young children: Meeting report. 24–25 June 2013. WHO headquarters, Geneva, Switzerland.
http://www.who.int/nutrition/publications/2013_STAG_meeting_24to25Jun_report.pdf?ua=1.
[Date of access: 3 Feb 2014].

WHO (World Health Organisation). 2013b. Scientific and Technical Advisory Group (STAG) on Inappropriate Promotion of Foods for Infants and Young Children. Technical Paper on Definition of Inappropriate Promotion of foods for infants and young children. August 2013. http://www.who.int/nutrition/events/2013_STAG_meeting_24to25June_recommendations.pdf?ua=1. [Date of access: 3 Feb 2014].

8 APPENDICES

8.1 APPENDIX A: INFORMAL STORE SAMPLING METHODS FOR TANZANIA

TANZANIA: INSTRUCTIONS FOR INFORMAL STORE VISITS

WARD SAMPLING:

- **10 Formal Stores** (TS01-TS10) have been selected and visited for the Tanzania Labeling and POS Promotion Study
- **20 Informal Stores** (TS11-TS30) must now be located and visited from a random sample of 10 urban wards:
    - 10 urban wards have been randomly sampled from a total of 37 urban wards found in the Ilala, Kinondoni and Temeke Municipal Councils, making up the Dar es Salaam Region, and are provided in Table 1 as 'Urban Wards Randomly Sampled'
    - 2 informal stores must be visited for each 'Urban Ward Randomly Sampled'
    - In Kinondoni, 2 *Independent Pharmacies* must be included (see Table 1); in Ilala and Temeke, 1 *Independent Pharmacy* must be included for each Municipal Council (see Table 1). In total, *4* ***Independent Pharmacies*** must be included.
    - The remaining stores visited, of which there are 16, must be ***Convenience Stores***
    - If the 20 Informal Stores (4 *Independent Pharmacies* and 16 *Convenience Stores*) cannot be located in the 'Wards Randomly Sampled', missing stores must be located in neighboring urban wards (see Table 2 for a complete list of urban wards) as described further on in this document
- A total of 30 stores will be included in Tanzania's Labeling and POS Promotions Study (10 Formal Stores and 20 Informal Stores)
- Additional detail regarding the 'Urban Wards Randomly Sampled' (Table 1) is provided in Table 2.

Table 1: Random Sampling of Urban Wards in the Dar es Salaam Region for Informal Store Visits

DAR ES SALAAM REGION URBAN WARDS			**NO. OF URBAN WARDS INCLUDED IN RANDOM SAMPLE**	**URBAN WARDS RANDOMLY SAMPLED**	**NO. OF INFORMAL STORES VISITED** (*Independent Pharmacies; Convenience Stores*)
REGION	**MUNICIPAL COUNCIL**	**NO. OF URBAN WARDS**			
Dar es Salaam	1. Ilala	7	2	2, 7	4 (1; 3)
	2. Kinondoni	19	5	3, 5, 11, 14, 16	10 (2; 8)
	3. Temeke	11	3	1, 5, 7	6 (1; 5)
Total:	**3**	**37**	**10**		20 (4; 16)
Informal stores (*Independent Pharmacies; Convenience Stores*)					**20** (4; 16)
				Formal stores	**10**
				Total stores	**30**

Table 2: Detailed Information on Urban Wards Randomly Sampled (highlighted in yellow) in Dar es Salaam Region

REGION	MUNICIPAL COUNCIL	URBAN WARDS	Convenience Store	Independent Pharmacy *(example)**
Dar es Salaam	Kinondoni	1. Hananasif		
		2. Kawe		
		3. Kigogo	1	1
		4. Kijitonyama		
		5. Kinondoni	1	1
		6. Mabibo		
		7. Magomeni		
		8. Makuburi		
		9. Makurumla		
		10. Manzese		
		11. Mburahati	2	0
		12. Mikocheni		
		13. Msasani		
		14. Mwananyamala	2	0
		15. Mzimuni		
		16. Ndugumbi	2	0
		17. Sinza		
		18. Tandale		
		19. Ubungo		
	Ilala	1. Gerezani		
		2. Jangwani	1	1
		3. Kariakoo		
		4. Kisutu		
		5. Kivukoni		
		6. Mchafukoge		
		7. Mchikichini	2	0
	Temeke	1. Keko	1	1
		2. Kibada		
		3. Kigamboni		
		4. Kijichi		
		5. Kurasini	2	0
		6. Mbagala kuu		
		7. Miburani	2	0
		8. Mtoni		
		9. Sandali		
		10. Temeke		
		11. Yombo Vituka		
			16	**4**
			20	

STORE VISITS:

- Follow the instructions provided in 'Activity Plan POS Promotion and Phase 2B'
- The remaining instructions provided in this document are additional to those provided in 'Activity Plan POS Promotion and Phase 2B' so please also read the Activity Plan again and ensure you are familiar with its contents

PREPARING FOR STORE VISITS:

- The *Informal Stores Sampled List* has been prepared for you (the point of departure and store codes have been added). Please check that it is correct. The 'Store Type', 'Store Name', 'Store Address' and 'GPS coordinates' can only be completed from the *Store Characteristics Form* once the store has been located and not before store visits
- Plan the route and store visits per day:
    - Print out ward maps for all the 'Urban Wards Randomly Sampled' (Table 1)
    - Determine how many and which wards can be visited in a day and plan a route that makes sense to you. It is important to visit all the wards in one municipal council before moving on to the next. However the order of wards visited in each municipal council is not important
    - Make sure that you have enough time at the end of the day (or before going out to stores at the beginning of the next day) to upload the updated *Data Collection Form*, and to scan and upload the *POS Promotion Forms*, *Store Characteristics Forms* and *POS Promotion Photographs* to Dropbox, before going to the next set of stores. Saving to Dropbox needs to be done on a daily basis and not only after all of the Informal Store have visits taken place

DEPARTURE POINT (from which field workers can travel to find the informal stores):

- The Ward Office (1 per ward) should be used as the point of departure in each randomly sampled ward
- Locating Ward Offices:
    - These are indicated on your ward maps as well as on the Google Maps mobile telephone application, which has GPS that will guide you to the Ward Office. If you cannot locate the Ward Office, please call them on the Ward Office telephone number obtained previously to ask for directions

LOCATING INFORMAL STORES:

- From the departure point, informal stores must be located by:
    - Asking an adult female passer-by where the nearest informal store is (providing an example of the store you are looking for e.g. nearest convenience store that sells breast-milk substitutes and/or commercially produced complementary foods). If no females are present, ask a male. You will need to think of terminology to clearly describe breast-milk substitutes / commercially produced complementary foods to the passer-by (e.g. 'infant formula e.g. Nan' and 'baby cereal or other baby foods e.g. Cerelac') as relevant in Tanzania
    - If there is no one available to ask, throw a pen/pencil in the air and when it lands, start walking in the direction that the tip of the pen/pencil points to. If the pen/pencil points to an impossible route, try again until it points to a possible route. Walk until encountering a passer-by to ask for directions, or until encountering the relevant informal store
    - After visiting the first store, ask a passer-by or the store manager for directions to the next nearest informal store (or continue on the randomly selected route) until you have located 2 informal stores for that ward
    - Monitor your movements against the ward maps/Google Maps to ensure that if you cross over into the next ward, you record the correct ward number against the name of the store in the 'Informal Stores Sampled List'. NB: do not include stores in wards outside of the relevant municipality

INFORMAL STORES TO BE VISITED PER WARD:

- In total, you will need to locate:
    - 4x *Independent pharmacies*
    - 16x *Convenience Stores*

- **Locating *Independent Pharmacies*:**
    - Attempt to locate the allocated quota of *Independent Pharmacies* (2 in Kinondoni, and 1 each in Ilala and Temeke Municipal Councils) in the first wards visited in each Municipal Council
    - If successful, this implies that in the first wards visited, you will select 1 *Independent Pharmacy* and 1 *Convenience Store*. In subsequent wards in that Municipal Council, you will then select 2 *Convenience Stores* per ward. Do not visit more than one pharmacy per ward
    - If unsuccessful, you will select 2 *Convenience Stores* in the first wards and look for 1 *Independent Pharmacy* in subsequent wards
- **Insufficient *Informal Stores* per ward**:
    - If any of the 'Wards Randomly Sampled' do not contain sufficient *Informal Stores*, visit a neighboring urban ward (see Table 2 for the list of urban wards) in the same municipal council in order to locate sufficient *Informal Stores*, bearing in mind that no more than 2 informal stores can be visited per ward (i.e. 1 *Informal Pharmacy* and 1 *Convenience Store*, OR 2 *Convenience Stores*). Locate the relevant store/s by asking a passer-by or the manager of the previous store visited to direct you to the closest store that sells breast-milk substitutes and/or commercially produced complementary foods. This will take you out of the randomly sampled ward and into a neighboring ward. Record the correct ward number against the name of the store in the 'Informal Stores Sampled List'.
- **Store doesn't sell breast-milk substitutes/commercially produced complementary foods:**
    - If a *Convenience Store*/*Independent Pharmacy* is located but DOES NOT sell breast-milk substitutes/commercially produced complementary foods, after checking the store thoroughly, leave the store and locate the next closest *Convenience Store/Independent pharmacy* that does sell breast-milk substitutes/commercially produced complementary foods
    - Locate the next closest relevant store/s by asking a passer-by or the manager of the previous store visited to direct you to the closest store that sells breast-milk substitutes and/or commercially produced complementary foods. This may take you out of the randomly sampled ward, in which case record the correct ward number against the name of the store.
    - Record this information in the '*Informal Stores Sampled'* form (last column) in order to keep track of how many stores needed to be 'replaced'
    - When adding a replacement store to the 'Informal Stores Sampled' list (i.e. if you run out of store codes for the Ward you are in) using the empty rows on page 3, allocate a new store number starting at TS31
    - The next store should be located by asking a passer-by/store manager (as described previously), and if none are available make use of the pen/pencil to determine your route (as described previously)
- **Store owner asks field workers to leave the store before they have completed Labeling Study and/or POS Promotion activities**:
    - Leave the store and replace it with the next closest *Convenience Store/ Independent pharmacy* that sells breast-milk substitutes/commercially produced complementary foods
    - Record this information in the 'Informal Stores Sampled' form (last column) in order to keep track of how many stores needed to be 'replaced'
    - When adding a replacement store to the 'Informal Stores Sampled' list (i.e. if you run out of store codes for the Ward you are in) using the empty rows on page 3, allocate a new store number starting at TS31
- **Stores to exclude:**
    - Store types visited as part of the formal store visits
    - Non-store based retailors (e.g. traditional markets, informal vendors and street hawkers)
    - Any informal store types not included on the Informal Distribution Channels sheet in your '*List of Stores Scoped*'
    - Any informal store that does not sell breast-milk substitutes/commercially produced complementary foods

/ENDS

8.2 APPENDIX B:

TANZANIA DATA COLLECTION FORM

ARCH LABELING STUDY: DATA COLLECTION FORM (25 June 2013)

The following is a sample 'Data Collection Form 'for use during 'PHASE 2B: Products purchased by HKI country Staff'

Note:
- The 'Data Collection Form' for your country will be created by adapting your final 'Master List'.
- Examples have been provided in italics and should be deleted before using the form.
- You may need to add more rows for new products/increase row heights before you print this document for store visits.
- Product numbers and store numbers must be unique.
- Use a new 'Data Collection Form' for each day of purchasing products that has been updated to reflect the previous day's data collection/purchases.

Product Code	**Manufacturer / Distributor**	**Brand Name**	**Sub-Brand Name**	**Descriptive Name (*as provided on label*)**	**Flavour Variant *(pick the most common or first variant)***	**Age of introduction *(in mo/yrs - as provided on label)***	**Age category** *(Stages or age descriptor e.g. baby/ toddler)*	**Single/ double serving? (***Answer: Yes; No; Not Provided)*	**Packaging**	**Price** (as purchased)Tsh	**Bought at (***store code)*	**New** (N) **/ Bought in Phase 3** (P3)	**Formula for Special Medical purposes**	because promotion targeted
1. BREASTMILK SUBSTITUTES (BMS)														
A. STARTER / INFANT FORMULA														
T101	Nestle France	Lactogen	NA	Starter infant formula	NA	Suitable from birth	1	No	Tin	18,000	TS04	NA	No	
T102	Aspen Nutritionals, a Division of Pharmacare Ltd	Infacare	NA	Infant starter formula	NA	From 0-6 months; from birth to 6 months	1	No	Tin	13,500	TS04	NA	No	
T103	Wyeth Nutritionals Ireland	S-26	Gold	Infant formula	NA	From 0-6 months	Stage 1	No	Tin	20,000	TS05	NA	No	
T104	Nestle Nederland B.V.	NAN	NA	Starter infant formula	NA	Suitable from birth	1	No	Tin	18,000	TS04	NA	No	

T105	Milupa Ireland	Aptamil	First milk	Breast milk substitute; First milk if combination feeding or if baby is not being breastfed.	NA	From birth	1	No	Box	100, 000	TS04	NA	No	
T106	Milupa Ireland	Aptamil	Hungry milk	For hungrier babies; For bottle-fed babies, to help delay the early onset of weaning.	NA	From birth	2	No	Box	50,000	TSC02	P3	No	
T107	SMA Nutrition (Ireland)	SMA	Advanced gold system	First infant milk and breast milk substitute. When baby is not breastfed or to combination feed with breast milk	NA	From birth	1	No	Tin	29 500	TS02	NA	No	
T109	Cow and gate Ireland	Cow & gate	NA	First infant milk for new born	NA	From birth	Stage 1	No					No	
T110	Cow and gate Ireland	Cow & gate	NA	Infant milk for hungrier babies	NA	From newborn	2	No	Box	36 000	TS02	NA	No	
T111	Milupa	Cow and gate	NA	Infant formula	NA	0-6months	Stage 1	No					No	
T119	Wyeth Nutritionals Ireland	Nursoy	Gold	Soy protein infant formula Iron-fortified powder For infants who are intolerant of lactose, recovering from diarrhoea or allergic to cow's milk protein	NA	From birth onward	NA	No	Tin	20,000	TS05	NA	Yes	
T120	Cow and gate Ireland	Cow & Gate	Comfort	For dietary management of colic and constipation; Foods for special medical purposes	NA	From birth to 1year	NA	No	Box	50,000	TSC03	P3	Yes	
T121	Abbott laboratories	Isomil	NA	Soy Infant Formula	NA	For infants 0 to 6	1	No	Tin	35,000	TSC01	P3	Yes	

	B.V. (The Netherlands)					months								
T131	SMA Nutrition (Ireland)	SMA	Advanced gold system	Extra hungry infant milk for hungrier babies When baby is not breastfed or to combination feed with breast milk	NA	From birth	NA	No	Tin	35 500	TS02	NA	No	
B. FOLLOW UP FORMULA														
T112	Aspen Nutritionals, a Division of Pharmacare Ltd	Infacare	NA	Follow-on formula	NA	Suitable from 6 to 12 months; From 6 -12 months	2	No	Tin	13,500	TS04	NA	No	
T113	Nestle France	Lactogen	NA	Follow-up formula	NA	From 6 months	2	No	Tin	18,000	TS04	NA	No	
T115	Wyeth Nutritionals Ireland	Promil	Gold	Follow-on formula Powder	NA	From 6-12 months	Stage 2	No	Tin	20,000	TS05	NA	No	
T116	Milupa	Aptamil	NA	Follow-on milk	NA	From 6 months	Stage 1	No					No	
T117	SMA Nutrition (Ireland)	SMA	Advanced gold system	Follow-on milk To complement the weaning diet When baby has moved on to eating solid foods	NA	6+ months	2	No	Tin	72,600	TS09	NA	No	
T118	Nestle France	NAN	NA	Follow-up formula	NA	From 6 months	2	No	Tin	18,000	TS04	NA	No	
T122	Abbott laboraratories	Isomil	NA	Lactose free	NA	6months-12months	Stage 2	No					Yes	
C. INFANT OR FOLLOW UP FORMULA FOR SPECIAL DIETARY OR MEDICAL PURPOSES														
	None													
D. OTHER MILK OR MILK-LIKE PRODUCTS in liquid/powdered form, marketed or otherwise represented as suitable for feeding children <2yrs (e.g. growing-up milks, toddler milks, first milks)														
T123	Abbott laboraratories B.V., The Netherlands	Isomil	Advance Plus	Soy Formula	NA	for 1-3 years	3	No	Tin	35,000	TSC01	P3	Yes	
T124	Aspen Nutritionals, a Division of	Infacare	NA	Growing-up milk follow-on formula for young	NA	From 1- 3 years	3	No	Tin	13,500	TS04	NA	No	

	Pharmacare Ltd			children from 1 -3 years										
T125	Milupa	Aptamil	NA	Growing-up milk	NA	1-2 years	Toddler	No					No	
T126	SMA Nutrition (UK)	SMA	Advanced gold system	Toddler milk	NA	1-3 years	3	No	Tin	35,500	TS04	NA	No	
T127	Wyeth Nutritionals Ireland	Progress	Gold	Growing-up milk; Iron-fortified powder	Vanilla flavour	From 1-3 years	Stage 3	No	Tin	20,000	TS04	NA	No	
T128	Milupa	Aptamil	NA	Growing up milk	NA	From 1 year	NA	No					No	
T129	Produced by: Nutricia Cujik B.V. for DBN A & O. A Company of the Danone Group	Milupa C&G	Junior	Growing-up milk for toddlers	NA	1year+; 1-3 years	NA	No	Tin	25,000	TSC03	P3	No	
2. COMMERCIALLY PRODUCED COMPLEMENTARY FOODS (CPCF)														
A. FOOD														
A1. SHELF STABLE FOOD														
A1.1 CEREAL/PORRIDGE														
T201	Bokomo Foods	Pronutro	Toddlers	Instant cereal - just add milk	Pear & Yoghurt	From 12 months	Toddlers	No						
T202	Nestle Foods Kenya Ltd	Cerelac	NA	Instant cereal with milk	Wheat	From 6 months	Stage 1, learner eater	No	Tin	9,900	TS02	NA		
T204	Nestle Foods Kenya Ltd	Cerelac	NA	Infant cereal with milk	Banana	From 7 months	Stage 2: Explorer Eater	No	Tin	8,500	TS04	NA		
T205	Cow & Gate	Cow & Gate	Breakfast	Porridge	Vanilla	4-6months	NA	No						
T206	Cow & Gate	Cow & Gate	Breakfast	Porridge	Vanilla	From 7 months	NA	No						
T207	Nestle Kenya	Cerelac	NA	Infant Cereal	Tasty Wheat	From 6 months	NA	No	Tin	10,000	TS04	NA		
T208	Nestle (Spain)	Cerelac	NA	Infant Cereal	Wheat with Milk	From 6 months	My 1st Cereal	No	Tin	11,000	TS04	NA		
T209	Nestle (Spain)	Cerelac	NA	Infant Cereal	Banana with wheat and milk	From 7 months	NA	No	Tin	11,000	TS04	NA		
T211	Nestle (Spain)	Cerelac	NA	Infant Cereal	3 cereal with milk	From 8 months	NA	No	Tin	11,000	TS04	NA		

T212	Nestle (Spain)	Cerelac	NA	Infant cereals	Honey and Wheat with milk	From 12 months and from 1 year	NA	No	Tin	12,000	TS07	NA		
T213	Heinz	Breakfast	NA	Creamy oat porridge	NA	From 4 months	NA	No						
T214	Heinz	Breakfast	NA	Oat and banana cereal	Banana	From 7 months	NA	No						
T215	Cow & gate Ireland	Cow & Gate	Sunny Start	Porridge	Banana	From 4-6 months onwards	NA	No	Box	15,700	TS09	NA		
T216	Power Flour ltd	Baby porridge flour	NA	High protein Porridge	NA	From 6 months	Baby	No	Box	2,500	TS02	NA		
T217	Roselyn Natural foods	Uji Lulu	NA	Extra nutrient	NA	NA	Baby	No	plastic wrap	5,000	TS05	NA		
T218	Roselyn Natural foods	Uji Lulu	NA	Energy food and multivitamin	NA	NA	Baby	No	plastic wrap	3,500	TS05	NA		
T219	Marine food supply	Unga wa lishe	NA	porridge flour	NA	From 6 months	NA	No						
T220	Extra power foods products	Lishe uji	NA	Nutritious flour	NA	NA (Image of a baby <6 months)	Children	No	Rectangle paper wrap	3,000	TSC06	P3		
T221	CRM Investment LTD	Felix lishe	NA	Nutritious flour	NA	NA	Children	No	Rectangle paper wrap	3,000	TS02	NA		
T222	Joshua products	Porridge flour	NA	Porridge flour	NA	From 6 months	NA	No						
T223	Heinz Africa and middle east	Heinz	Farley's	Premium Wheat cereal	Fruits & milk	From 6 months	Stage 1	No	Tin	12,000	TS07	NA		
T224	Heinz	Heinz	Farley's	Wheat cereal	fruit and milk	From 6 months	Stage 2	No						
T225	Heinz	Heinz	Farley's	Wheat cereal	fruit and milk	From 6 months	Stage 3	No						
T234	H.J. Heinz Co. Ltd (England)	Farley's	Dinners	NA	Golden vegetables & chicken	7+ months	NA	No	Box	15,700	TS09	N		
T235	NA	Nguvu (Power)	NA	Lishe bora (nutrition)	NA	From 6 months	NA	No	Plastic bag	3,500	TS02	N		
T236	Heinz Africa and middle east	Heinz	Farley's	Premium rice cereal	Rice and milk	From 6 months	Stage 1	No	Tin	12,000	TS07	NA		

T237	Afri-Youth Development Services	Afri Youth Pride	NA	porridge flour	NA	From 6months	From six months to old age	Not provided	Tetra paper brick	3,000	TS28	N		
T238	Friesland Foods	Belle Hollandaise (Dutch Lady)		Céréales à base de lait (Cereal with milk	5 Fruits	From 6 months	NA	No	Tin	9,000	TS26	N		
T239	Matabe Group Ltd	Bota		Nutritious flour			Children of all ages	No	plastic wrap	3,500	TS26	N		
A1.2 HOMOGENISED/PUREED FOOD														
T226	Cow & gate Ireland	Cow & gate	NA	NA	Creamy parsnip and potato	From 4-6 months onwards	NA	Not provided	Glass jar	3,600	TS04	NA		
T227	Cow & gate Ireland	Cow & gate	NA	NA	Fruit muesli	from 6 months on wards	NA	Not provided	Glass jar	8,000	TS04	NA		
T228	Cow & gate Ireland	Cow & gate	NA	NA	Tuna pasta in a creamy tomato sauce	from 7 months onwards	NA	Not provided	Glass jar	5,000	TS02	NA		
T229	Cow & gate Ireland	Cow & gate	NA	NA	Chicken Sunday Lunch	From 10 months on wards	NA	Not provided	Glass jar	8,200	TS03	NA		
T230	Tiger Consumer Brands Limited	Purity	NA	Apple baby food	Apple flavor	From 7 months	NA	YES						
A1.3 SNACKS / FINGER FOODS														
T231	H.J. Heinz Co. Ltd. (England)	Heinz	Farley's	Rusks	Original	4-6 months onward	All ages	No	Box	14,900	TS04	NA		
T232	H.J. Heinz Co. Ltd.	Heinz	Farley's	Rusks	NA	From 7 months	All ages	No	Box					
T233	Heinz Africa & Middle East	Heinz	Farley's	Rusks for Infants and Children	Banana	From 6 months	Stage 1	No	Box	10,100	TS04	NA		
3. COMMERCIALLY PRODUCED FOODS (CPF) for general family consumption that are commonly fed to children under the age of 2 years														
1. BISCUITS/COOKIES (sweet or savoury)														
T301	BFL	Leo	Glucose	Biscuits	NA	NA	NA	NA	Foil flow wrap	300.00	TS21	NA		No
T302	National bIscuits ind-	Nabil	NA	Biscuits	Chocolate									

	Oman													
2. CAKE/SPONGE CAKE														
T303	Bakhresa	NA	NA	Cakes	NA									
T321	NO LABEL	NA	NA	Queen Cakes	NA				Plastic packet	3,000	TSC04	P3		No
3. CANDY/SWEETS/CHOCOLATES														
T304	Biskot Biscuvi Gida San	Alpella	3gem	Milk cream filler enrobed in white chocolate. beyaz çikolatalı gofret (white chocolate wafers)	Chocolate	NA	NA	NA	Foil flow wrap	700	TS06	NA		No
T305	Dulces La Americana S.A	Big bom XXL	NA	Double Bubble Gum	Strawberry	NA	NA	NA	Plastic wrapper	800	TS04	NA		No
4. CHIPS/CRISPS														
T306	Dima company limited	Chama	NA	Snacks	Cheese	NA	NA	NA	Foil flow wrap	300.00	TS36	NA		No
T307	Rugantino	Rugantino	NA	Potato chips	NA	NA	NA	NA	Plastic bag	2 500	TS01	NA		No
T320	Simba PTY ltd	Twistees	NA	Maize snack	Fruit chutney	NA	NA	NA	Foil bag	3 000	TS07	N		Yes
5. YOGHURT														
T308	Azam	NA	NA	Low fat yoghurt	Vanilla									
T309	ASAS Dairies Ltd	Iringa	NA	Low fat yoghurt	Strawberry	NA	NA	NA	Plastic tub	800	TS04	NA		No
T319	Tanga Fresh LTD	Tanga Fresh	NA	yoghurt	NA	NA	NA	NA	Plastic bag	650	TS07	NA		No
6. SODA/CARBONATED COOL DRINKS														
T310	The Coca Cola Company	Fanta	NA	Flavoured drink	Orange	NA	NA	NA	Plastic bottle	800	TS04	NA		No
T311	Sayona drink ltd	Sayona twist	NA	Soda	Orange	NA	NA	NA	Plastic bottle	300	TS01	NA		No
7. SWEETENED DRINKS (non-carbonated, In liquid or powder form e.g. fruit drinks, fruit juice)														
T312	One product and bottlers, Ltd	Pride	NA	Drink	Orange	NA	NA	NA	Plastic jar	200	TS41	NA		No

T313	Bakhresa foods products ltd	Azam	NA	Fruit Juice drink	Mango	NA	NA	NA	Triangular pack	400	TS02	NA		No
8. OTHER - Country Specific CPF														
8.1 Flour porridges														
T314	Happy food Tabata company	Unga mzuri wa lishe	NA	NA	NA	NA	NA	NA						
T315	Frabho Interpriesed ltd	Frabho	Lishe	Lishe soy mix flour	NA	NA	NA	NA	Box	2 400	TS01	NA		No
8.2 Powdered Milk														
T316	Promasidor Tanzania Ltd (small sachet)	Cowbell	NA	Our milk. Blend of skimmed milk and vegetable fat in powdered form	NA	Not suitable for infants	NA	NA	Foil flow wrap	100	TS15	NA		No
T317	Promasidor Tanzania Ltd (tin)	Cowbell	NA	Blend of skimmed milk and vegetable fat in powdered form	NA	Not suitable for infants	NA	NA	Tin	5,500	TS04	NA		No
8.3Powdered Milk														
T318	Fromageries Bel	Laughing cow	NA	NA	NA	NA	NA	NA	Round card board	3 000	TS02	N		Yes

ENDS/

8.3 APPENDIX C:

LETTER OF REQUEST TO STORE MANAGER

TO WHOM IT MAY CONCERN

Re: REQUEST for permission to conduct observations for a study on foods for infants and young children

Helen Keller International (HKI) is conducting a research project that is gathering information on the promotion of foods consumed by infants and young children in four countries, including *[Insert name of country].* The data gathered will be provided to relevant stakeholders to guide the development of evidence based policies and programs and so contribute towards improved global child health.

The study will involve the following:

- One variant of each of the following categories of products, available in *[insert relevant city/metropolis name],* will be purchased from leading retailers/wholesalers, including your store:
  - Breast-milk substitutes e.g. Infant formulas, follow-up formulas, and toddler milks.
  - Complementary foods e.g. baby cereals/porridges, pureed food, snacks, teas and juices.
  - Snack foods.
- The information contained on the label will be captured and be compared to national and international best practice labeling guidance.
- Any point-of-sale promotions (such as product launches, special displays, sales, shelf tags, issuing of pamphlets etc.) for any of these products will be noted.

Permission required

The research aims to purchase as many foods for infants and young children as possible in [*Insert name of city/metropolis*].

In order to do this, the research team would like to purchase some of these products from your store. In addition, we would like to request permission to take photographs of any relevant point-of-sale promotions of the above-mentioned products taking place in your store.

The information gathered will not be reported by store, and will not be used to assess your store in any way – it will only gather the information on the labels of the food products purchased and point-of-sale promotions of these foods.

If you have any questions please feel free to call:
[*Insert relevant names and phone numbers of HKI country staff*]

Thank you in advance for your assistance.

Yours Sincerely,
[*Insert relevant name of HKI country coordinator*]
/ENDS

8.4 APPENDIX D:

LABELING PRACTICES CHECKLIST FOR COMMERCIALLY PRODUCED COMPLEMENTARY FOODS

No.	Labeling practice questions:	Answers:	Criteria for choosing answers:
1	Is the product label written in the appropriate language(s) of the country in which the product is sold?	Yes	All label information is written in Khmer.
		Partial	Some (not all) label information is written in Khmer.
		No	No label information is written in Khmer.
2	Does the insert contain any **required label information** that is NOT present on the label?	Yes	The insert includes required label information that is NOT provided on the label.
		No	Information provided in the insert is: (a) Required label information that is also provided on the product label; and/or (b) Non-required label information.
		NA	No insert
3	Does the product label specify a recommended age of introduction that is less than 6 months of age?	Yes	Recommended age of introduction is less than 6 months of age (180 days / the 7th month of life).
		No	Recommended age of introduction is 6 months of age (180 days / the 7th month of life) or later.
		NA	The label does not specify an appropriate / recommended age of introduction.
4	Does the product label give instructions indicating how to feed the product to infants younger than six months?	Yes	
		No	
5	Does the product label include phrases such as 'from the start'; 'for the whole family' or 'first stage'?	Yes	The product label uses words or phrases that may, directly or indirectly, indicate that the product is suitable for use from birth; for infants younger than 6 months; for all infants; for the whole family including infants younger than 6 months; + No 'age of intro' / An 'Age of intro' < 6 months
		Partial	The product label uses words or phrases that may, directly or indirectly, indicate that the product is suitable for use from birth; for infants younger than 6 months; for all infants; for the whole family including infants younger than 6 months; + An 'Age of intro' that is equal to or > 6 months
		No	The product label doesn't include any such words/phrases.
6	Does the product label include the following messages		
6.1	An appropriate/recommended age for use of the product that is six months (180 days) or more.	Yes	Recommended age of introduction is from 6 months of age (180 days / the 7th month of life) or later.
		No	(1) Recommended age of introduction is before 6 months of age (180 days / the 7th month of life); **OR** (2) No age of introduction is specified.
6.2.1	The importance of exclusive breastfeeding for the first six months of life;	Yes	A message including all three of the following concepts: (a) exclusive; (b) breastfeeding; (c) first 6 months.
		No	No message
		Partial	A message including one or two of the three concepts: (a) exclusive; (b) breastfeeding; (c) first 6 months.
6.2.2	Is a recommendation regarding exclusive breastfeeding for the first six months of life weakened by a message regarding feeding practices for infants and young children?	Yes	A message is provided regarding feeding practices for infants and young children that contradicts, undermines, or offers an alternative to or implies an exception to the recommendation to exclusively breastfeed for the first six months of life.
		No	The recommendation to exclusively breastfeed for the first six months of life is not weakened by messages provided regarding feeding practices for infants and young children.
		NA	The answer to Question 6.2.2 is "No".

No.	Labeling practice questions:	Answers:	Criteria for choosing answers:
6.3.1	The importance of the addition of complementary foods from six months of age with continued breastfeeding up to two years or beyond;	Yes	A message including all three of the following concepts: (a) the addition of complementary foods from six months; (b) continued breastfeeding (after six months); (c) up to two years or beyond.
		Partial	A message including one or two of the three concepts.
		No	No message
6.3.2	Is a recommendation regarding complementary feeding weakened by a message regarding feeding practices for infants and young children?	Yes	A message is provided regarding feeding practices for infants and young children that contradicts, undermines, or offers an alternative to or implies an exception to the complementary feeding recommendation.
		No[a]	The complementary feeding recommendation is not weakened by a message regarding feeding practices for infants and young children.
		NA	The answer to Question 6.3.1 is "No".
6.4	Instructions for safe and appropriate preparation and use.	Yes	Label provides both of the following: (a) preparation and usage instructions; (b) at least one safety message (preparation or use).
		Partial	Label provides a) without b): (a) preparation and usage instructions; (b) at least one safety message (preparation or use)
		No	No instructions.
6.5	A recommendation to feed the product with a spoon. ***NOTE: Select 'Not applicable' for Tea / Juice / Water / Milkshake powder AND Snacks / Finger Foods (excluding rusks that are used to make porridges)***	Yes	Recommendation to feed the product with a spoon.
		Partial	A **picture of a spoon** is used on the label.
		No	No recommendation (pictorial or text).
		NA	
6.6	A proposed daily ration/serving. (Or recommended number of servings per day and serving)?	Yes	Label provides both of the following: (a) a proposed daily ration (even if calculated) / recommended number of servings per day; AND (b) serving size.
		Partial	Label provides one of the following: (a) a proposed daily ration/recommended number of servings per day; OR (b) serving size.
		No	No proposed daily ration/recommended number of servings per day nor serving size
6.7	Instructions for safe and appropriate storage?	Yes	Label provides instructions for storage.
		No	No storage instructions
6.8	Ingredients list?	Yes	
		No	
6.9	The nutrition composition/ analysis of the product?	Yes	
		No	
6.10	Batch number?	Yes	
		No	
6.11	Best before date?	Yes	
		No	
7	Does the product label recommend feeding the product in a bottle?	Yes	The product label recommends/gives instructions for how to feed the product in a bottle.
		No	The product label makes no mention of bottle feeding.
8	Does the product label show an image of a feeding bottle?	Yes	
		No	
9	Does the product label recommend feeding the product in a soft or semi-soft form? ***Select 'Not Applicable' for all categories of products except Cereal/Porridge. Applies to rusks that are used to make porridges.***	Yes	Recommendation to feed the product in a soft or semi-soft or semi-solid or thick form (using these words).
		Partial	(1) No recommendation but uses **an image of the product heaped on a spoon.** (2) No recommendation but uses the words soft or semi-soft or semi-solid or thick to describe the product.
		No	(1) No recommendation nor images as described above. (2) Recommendations to feed the product in a liquid form.
		NA	For the following category of products: Gravy / Soup Mix; Tea / Juice / Water / Milkshake powder; Homogenised / Pureed food; Frozen / Fresh food; Snacks / Finger foods. Applies to rusks that are used to make porridges.

No.	Labeling practice questions:	Answers:	Criteria for choosing answers:
10	Does the product label recommend feeding the product in a liquid form? ***Select 'Not Applicable' for Gravy / Soup Mix; Tea / Juice / Water / Milkshake Powder.***	Yes	Recommendation to feed the product in a liquid form.
		Partial	No recommendation but uses **an image of the product pouring off the spoon**.
		No	No recommendation or image
		NA	For the following category of products: Gravy / Soup Mix; Tea / Juice / Water / Milkshake powder
11	Does the daily ration (or a recommended serving size combined with a recommended frequency of feeds per day) included on the product label exceed the recommended energy intake from complementary foods for a breastfed child provided below? **For products where an age of introduction is not provided, answer the question for all age categories.**		
11.1	6 - 8.9 months : 837 kJ/day (200 Kcal/day)	Yes	Greater than
		No	Less than
		Insufficient Information	No daily ration (nor a recommended serving size nor Energy content) provided.
		NA	Product not recommended for this age group (age of introduction from 9 months or older).
11.2	9 - 11.9 months : 1,255 kJ/day (300 Kcal/day)	Yes	Greater than
		No	Less than
		Insufficient Information	No daily ration (nor a recommended serving size nor Energy content) provided
		NA	Product not recommended for this age group (age of introduction from 12 months or older).
11.3	12 - 23.9 months : 2301 kJ/day (550 Kcal)	Yes	Greater than or equal to
		No	Less than
		Insufficient Information	No daily ration (nor a recommended serving size nor Energy content) provided
		NA	Product not recommended for this age group (age of introduction from 2 years or older).
12	Does the product label include a stipulated warning?	Yes	Warnings stating the health hazards/potential risks of inappropriate preparation, use and storage or advising against certain practices (preparation, use or storage).
		No	None
13	Does the product label include images of babies appearing to be older than six months of age?	Yes	Pictures of babies showing achievement of physical or developmental milestones clearly reached after six months of age: (a) Standing with assistance; (b) Hands-and-knees crawling; (c) Walking with assistance; (d) Standing alone; (e) Walking alone; (f) 2 teeth; (g) More than 2 teeth. (h) Peddling a tricycle (i) Running (j) Holding objects such as a spoon/cup and self-feeding (k) Kicking a ball (l) Standing on tip toes ***NB: If the label carries multiple images of children, ALL of the images have to qualify for one of the milestones (a) to (l) above before the answer 'YES' can be selected.***
		Unclear	Pictures of babies showing 'Milestones: Other / Unclear'. ***NB: If the label carries multiple images of children, select unclear if none of the images qualify for a 'No' answer, and at least one qualifies for an 'unclear' answer.***

No.	Labeling practice questions:	Answers:	Criteria for choosing answers:
		No	(1) Pictures of infants/young children showing physical or developmental milestones commonly associated with infants 0 to 6 months of age such as: (a) 1 tooth; (b) Holding a toy and shaking it; (c) Lying down; (d) Lying on stomach and pushing up to elbows; (e) No teeth; (f) Reclining; (g) Sitting with support; (h) Sitting without support; (2) Head shot of infant (including baby in mothers arms) with no physical or developmental milestones reached after 6 months displayed. (3) Heavily stylized image of a baby with no physical or developmental milestones reached after 6 months displayed. ***NB: If the label carries multiple images of babies, even if only one of the images displays an infant that fulfils points (1), (2) or (3) above, select NO.***
		NA	No images of infants/young children on the label
13.1	Does the product label include an image/ images of baby animals displaying physical or developmental milestones commonly associated with infants younger than six months of age?	Yes	Picture of a baby animal (e.g. a bear) displaying physical or developmental milestones commonly associated with infants younger than six months of age: Lying down; Lying on stomach and pushing up to elbows; Reclining; Sitting with support; Sitting without support.
		No	Any other image of a baby animal.
		NA	No image of a baby animal on the label.
14	In the case of manufacturers that produce both breast-milk substitutes and complementary foods, is the product labeled in a way that also promotes the company's infant or follow up formula by using similar: ❶ Color schemes or designs ❷ Names ❸ Slogans, mascots or other symbols as used for their infant formula or follow up formula brands?	Yes	Similarities in one or more of the listed elements.
		No	None of the listed similarities
		NA	Company doesn't sell infant formula/follow-up formula/breast-milk substitutes in the country.
14.1	In the case of manufacturers that produce both breast-milk substitutes and complementary foods, is the product labeled in a way that also promotes the company's breast-milk substitutes (e.g. infant or follow-up formula) by including pack-shots of such products on the label and/or directly referring to the company's IF/FUF/GUM? (e.g. to prepare the cereal with the manufacturers FUF)	Yes	Product contains front-of-pack shots of the manufacturers breast-milk substitute. Product contains preparation instructions / infant feeding messages / claims that refer to the manufacturers breast-milk substitute (infant formula/follow up formula/growing up milk)
		No	
		NA	Company doesn't sell breast-milk substitutes (e.g. infant formula or /follow-up formula) in the country.
14.2	In the case of manufacturers that produce both breast-milk substitutes and complementary foods, is there an invitation on the label to make contact (direct or indirect) with the company's marketing personnel?	Yes	E.g. "Contact our nutrition experts" or a web link to a company sponsored baby club or IYCF information/ education service. Does not include the provision of company contact details for the purpose of reporting product defects or quality issues. Quick response (QR) code & website are always considered an invitation to contact; needs to be checked with other label content.
		No	A customer care line, email address and postal address (without any other wording such as 'contact out nutrition experts') is considered to be company contact details for the purpose of reporting product defects or quality issues.
		NA	Company doesn't sell infant formula/follow-up formula/breast-milk substitutes in the country.

No.	**Labeling practice questions:**	**Answers:**	**Criteria for choosing answers:**
15	Does the product label make any nutrient content claims?	Yes	
		No	
16	Does the product label make any nutrient comparative claims?	Yes	
		No	
17	Does the product label make any nutrient function/other function claims?	Yes	
		No	
18	Does the product label make any reduction of disease risk claims?	Yes	
		No	

/ENDS

8.5 APPENDIX E:

LABELING PRACTICES CHECKLIST FOR COMMERCIALLY PRODUCED FOODS FOR GENERAL CONSUMPTION COMMONLY FED TO CHILDREN UNDER THE AGE OF TWO YEARS

No.	Labeling practice questions:	Answers:	Criteria for choosing answers:
1	Does the product label specify a recommended age/age range for use that is 24 months or older?	Yes	The label specifies a recommended age/age range for use that is 24 months or older; OR the label specifies that the product is not suitable for children under 24 months of age.
		No*	
2	Does the product label include phrases such as "from the start"; "for the whole family" or "first stage"?	Yes*	The product label uses phrases that may indicate that the product is suitable: for use from birth; for infants or children younger than 24 months; for the whole family (including infants and young children).
		No	
3	Does the product label contain any words or a product description that indicate that it is suitable for a child?	Yes*	The label contains (a) words used to describe a child (e.g. baby; toddler; child; children; kid; kidz etc.); (b) words indicating that the product is intended for a child or a child's party/religious festival (e.g. school; lunchbox; "Hey Moms!"; "Barbie's pinktastic play time cupcake mix"; chocolate eggs for "Easter Egg hunts" etc.); AND/OR phrases pertaining to developmental stages of children (e.g. "finger food"; "for teethers" etc.).
		No	
4	Does the product label show an image of babies or children? (that appear to be under 2 years old)	Yes*	There is a photograph, drawing or any other graphic representation of a baby or a child.
		No	
5	Does the product label recommend feeding the product from a feeding bottle?	Yes*	The product label recommends/gives instructions for how to feed the product in a bottle.
		No	The product label makes no mention of bottle feeding.
6	Does the product label show an image of a feeding bottle?	Yes*	The product label contains an image (photograph/drawing/graphic representation) of a baby feeding bottle.
		No	
7	Does the product label show an image of a real person, such as a celebrity or sport's star, that has appeal to children?	Yes*	E.g. Hannah Montana, famous soccer player, wrestler, etc.
		No	The product label does not contain an image of a real person known to have appeal to children OR the product label does contain a photo of a real person, but it is not someone with known appeal to children (e.g. a politician, health professional or a chef endorsing a product).
8	Does the product label show an image of a cartoon character or fictional movie character that has appeal to children?	Yes*	The product label shows an image of a cartoon character (e.g. Mickey Mouse, Disney characters, Dora the Explorer, Scooby-Doo, etc.) AND/OR a fictional movie character (e.g. Shrek, Spiderman) that has known appeal to children.
		No	
9	Does the product label show an image of a brand mascot that has specific appeal to children?	Yes*	E.g. Kellogg's Frosties' Tony the Tiger, Simba the lion, Nik Nak man, Oros man, Nesquik bunny.
		No	
10	Does the product label contain any representation of fantasy or adventure themes that has appeal to children?	Yes*	E.g. "Unreal world" on Manhattan Gums; "Exotic fruit" flavored ice on Paddle Pop label; "Let the Hunt Begin" on packaging of an Easter Egg; "Rock your world with a starburst of extra delicious, cheesy, moon, star and planet chips" on the Cosmix sweet milk cheese flavor packet.
		No	
11	Does the product label contain information about or an image of a free gift, toy or collectible item with appeal to children?	Yes*	E.g. free stickers, figurines, trading cards – that may or may not be in a set or part of a greater collection; Kinder joy chocolate egg with toy inside.
		Partial	
		No	
12	Does the product label show an image of a toy?	Yes	E.g. a plane, car, teddy bear, balloons, space ship, dinosaurs, bright balls toy animals on the Zoo biscuits packaging, soccer ball on Frostie's box.
		No*	

No.	Labeling practice questions:	Answers:	Criteria for choosing answers:
13	Are any colors, shapes or designs used on the **product label** that has particular appeal to children?	Yes*	There are bright colors or shapes (such as circles, triangles, etc.) on the product label that would have particular appeal to children (e.g. the blue, red and yellow circles on Flings packaging).
		No	
14	Does the product label contain or refer to a competition, voucher or game with appeal to children?	Yes*	E.g. puzzles, crosswords, join the dots, SMS or go to a website to enter a competition, voucher for a toy store etc. (including tokens, discounts, promotions)
		No	
15	Does the product label contain a joke, rhyme or short story with appeal to children?	Yes*	E.g. Manhattan's (sweet packet) gum baby sweets with a story about Kylie the Kangaroo on the back panel; Anything implying humor.
		No	
16	Does the **product packaging** have a particular shape, or does the product label show that the **food** contained has a particular shape, that has appeal to children?	Yes*	E.g. a cool drink/sweetened beverage that is packaged in a prism-shaped tetrapak (such as Jabba sippy orange drink) or Mickey Mouse head shaped packaging, chips that are dinosaur-shaped, mickey-mouse shaped biscuits / cakes, biscuits with animals on them or animal shaped biscuits.
		No	
17	Does the product have a physical appearance, texture or any other novelty (not identified from any other questions) that would have specific appeal to children?	Yes*	E.g. Flings on the back label states that "Flings are so amazingly light and melty."
		No	
18	Does the product label indicate a flavor that would specifically appeal to children?	Yes*	E.g. marshmallow, bubblegum, cream soda, chocolate potion, strawberry whizz etc.
		No	The product label does not indicate a flavor OR it indicates a flavor (chocolate, vanilla, strawberry) that could appeal to adults and children.
19	Are there any emotive claims (e.g. implying "fun") or statements on the product label that are directed towards children or their caregivers?	Yes*	The product label contains a claim regarding "fun" (e.g. "Bursting with Fun") AND/OR there is information on the product label that implies that a parent who purchases the product is a better, more intelligent, more caring or more generous than a parent who does not (e.g. "we understand that you only want the best for your children…"). E.g: Special, exciting, surprise, your favorite.
		No	
20	Does the product label indicate that the product is portioned in, for example, "mini" or "bite size" portions?	Yes*	E.g. "mini" cheddars/oreos, "bite size" chocolates, "snack bites", "baby" etc.
		No	
21	Does the product label indicate that the product can be adapted to be suitable for a child?	Yes*	E.g. rusks: "mash with milk for young children".
		No	
22	Does any information on the product label imply that a balanced and varied diet cannot provide adequate nutrients to growing children?	Yes*	E.g. "Because parents lead such busy lifestyles, it is difficult to ensure that your child's diet contains all the nutrients they need to grow. Give your child x product daily to ensure that their nutrient needs are met."
		No	
23	Does the product label include warnings that are specifically intended for children?	Yes*	Warnings stating the health hazards/potential risks of inappropriate preparation, use or storage, or advising against certain practices (preparation, use or storage) specifically if used for a young child (e.g. choking hazard, "Mom, don't allow your children to roast marshmallows unsupervised" on the marshmallows label, don't allow consumption unsupervised, etc.).
		Partial	
		No	None of the listed similarities appear on the packaging.
		NA	
24	Is the product labeled in a way that also promotes the company's breast-milk substitutes or complementary foods by using similar (a) Color schemes/ designs, (b) Names, (c) Slogans, mascots, logos or other symbols, as used for breast-milk substitutes	Yes	There are similarities in one or more of the listed elements.
		NA	The company doesn't sell breast-milk substitutes or complementary foods in this country.
		No	

No.	Labeling practice questions:	Answers:	Criteria for choosing answers:
	/complementary food brands?		
25	Does the product label include a portion / serving size?	Yes	
		No	
26	Does the product label provide nutrition information as a percentage RDA/NRV/GDA for children younger than 2 years of age?	Yes	
		No	The product label provides nutrition information with a % RDA for children >4yrs (e.g. Fanta Pineapple)
27	Does the product label make any nutrient content claims?	Yes*	E.g. “free from trans fats”; “a source of B vitamins & iron”.
		No	
28	Does the product label make any nutrient comparative claims?	Yes*	
		No	
29	Does the product label make any nutrient function/other function claims?	Yes*	E.g. “Amazing B vitamins thiamine, riboflavin and niacin help release the energy in foods”.
		No	
30	Does the product label make any reduction of disease risk claims?	Yes*	
		No	
31	Does the product label make any other claims (excluding nutrition/health claims) that imply suitability for a child?	Yes*	E.g. “easy to digest for small tummies”.
		No	
32	Is the product label written in the appropriate language(s) of the country in which the product is sold?	Yes	
		No	
33	Does the product label include the following:		
33.1	Ingredients list?	Yes	
		No	
33.2	The nutrition composition/analysis of the product?	Yes	
		No	
33.3	Batch number?	Yes	
		No	
33.4	Best before date?	Yes	
		No	
35	Is there an invitation on the label to make contact (direct or indirect) with the company’s marketing personnel?	Yes	
		No	
36	**Country specific - Cambodia** For sweetened condensed milk/skimmed milk/other similar products: Does the product label contain a clear, conspicuous warning that the product should not be used to feed IYC?	Yes	
		No	
37	**Country specific - Nepal** For sweetened condensed milk: Does the product label contain a clear and legible caution that it should not be used for infant feeding?	Yes	
		No	

8.6 APPENDIX F:

INSERTS DEFINITION

The Code (WHO 1981) states that “Inserts giving additional information about the product and its proper use, subject to the above conditions, may be included in the package or retail unit.” The conditions referred to are regarding information that must be provided on the product label. In the spirit of the Code, the Draft Guide recommendations (Table 1) were interpreted to mean that an insert containing additional information may be included in the package or retail unit on condition that the information required to be on the product label is not found only in the insert. The Draft Guide recommendations are not interpreted as checking that the required label information is present on the label (dealt with by Questions 4, 7, 12 and 13). As such, the wording of the question was adjusted from the original text to more clearly deal with the issue of prime interest, being whether the insert contains any required label information that is not present on the label.

For the purposes of this report, “required label information” was defined as including:

1. Age of introduction;
2. Message regarding the importance of exclusive breastfeeding for the first six months followed by the addition of complementary foods with continued breastfeeding for two years and beyond; preparation/use instructions;
3. Storage instructions;
4. Daily ration (or serving size and frequency of feeds);
5. Warnings;
6. Ingredients list;
7. Nutrition information;
8. Batch number; and
9. Best before date.

Although not stipulated as required label information by the Draft Guide, the last four items listed are required for breast-milk substitutes by the Code (WHO 1981). Thus it is felt that, should this information be provided for a complementary food product, it too should be found on the label and not only in the insert.

8.7 APPENDIX G:

MACRO-AND MICRONUTRIENT RECOMMENDATIONS

Macro-and micronutrient recommendations			
Age group	6-8 months	9 – 11 months	12 – 23 months
Energy (kcal)[a]	200	300	550
CHO (g)[b]	18 – 23	26 - 34	48 - 62
Fat (g)[c]	10 - 12	15 - 18	28 – 34
PUFA (g)[c]	<3	<5	<9
LA (g)[c]	0.7 – 1.0	1.0 – 1.5	1.8 – 2.8
ALA (g)[c]	0.08 – 0.13	0.13 – 0.20	0.24 – 0.37
Protein 2 (g)[d]	8.9	8.4	8.8
Weight (kg)[e]	7.9	8.8	10.3
Sodium (mg)[f]	350		
Sugar (g)[g]	<5		
Vitamin A (µg)[h]	400		
Calcium (mg)[h]	400	400	500
Iron (mg)[h]	9	9	6
Zinc (mg)[h]	4.1	4.1	4.8

[a]Pan American Health Organisations (PAHO), World health organization (WHO). Guiding principles for complementary feeding the breastfed child.
http://www.who.int/nutrition/publications/guiding_principles_compfeeding_breastfed.pdf

[b]Recommendation of 35-45% of energy http://www.fao.org/docrep/w8079E/w8079e00.htm

[c]Recommendation for total fat: 45 – 55% of energy ; PUFA; 6-24 months: <15% of total E; LA 6; – 24 months: 3.0 – 4.5% of total E; ALA; 6 – 24 months: 0.4 – 0.6% of total E
FAO/WHO. 2010. Fats and fatty acids in human nutrition: Report of an expert consultation. http://www.fao.org/docrep/013/i1953e/i1953e00.pdf

[d]WHO/FAO/UNU. 2007. Protein and amino acid requirements in human nutrition. Report of joint WHO/FAO/UNU Expert consultation. http://whqlibdoc.who.int/trs/WHO_TRS_935_eng.pdf

[e]The weight for age according to the WHO growth standards was used, an average between the weight of boy and girls was used.
http://www.who.int/childgrowth/standards/cht_wfa_boys_p_0_2.pdf
http://www.who.int/childgrowth/standards/chts_wfa_girls_p/en/index.html

[f]WHO Guideline Sodium Intake for Adults and Children:

- Children 2 to 5 years the maximum level of 2 g/d should be adjusted downward adjusted on energy requirements of children relative to adults. Specifically states that this guideline does not cover children birth to 24 months
- The 1998 WHO report on Complementary Feeding of Young Children in Developing Countries: a Review of the Current Scientific Evidence recommends .35 g for infants < 24 months of age.

[g]PAHO in a technical document Recommendations from a Pan American Health Organization Expert Consultation on the Marketing of Food and Non-Alcoholic Beverages to Children in the Americas recommends that foods with total sugars: ≤ 5.0 gr / 100 gr of solid food or ≤ 2.5 gr / 100 ml of beverage should not be marketed to children. These guidelines are not specific to young children < 24 months of age.
http://www.paho.org/saludyescuelas/index.php?option=com_k2&view=item&id=225:recommendations-on-the-marketing-of-food-and-non-alcoholic-beverages-to-children&Itemid=337&lang=en .

[h]FAO (Food and Agriculture Organization of the United Nations)/WHO (World Health Assembly). 2001. Human Vitamin and mineral requirements. Report of a joint FAO/WHO expert consultation Bangkok, Thailand. ftp://ftp.fao.org/docrep/fao/004/y2809e/y2809e00.pdf

8.8 APPENDIX H:

CLAIMS PROVIDED ON LABELS OF COMMERCIALLY PRODUCED COMPLEMENTARY FOOD PRODUCTS IN TANZANIA

Table 8-1 Nutrient content claims used on commercially produced complementary food labels (n=18).

Claims	Number of labels	Percentage of labels	Example text
Iron	9	50	*Iron fortified. [Product name] rusk is fortified with iron making it a good choice to add iron in your baby's diet. (See Figure ** Image B)*
Vitamin A	7	39	*With immunonutrients (Iron, Zinc, Vitamins A & C) & Bifidus BL Culture.*
Vitamins and minerals	6	33	*6 key vitamins and minerals. (See Figure ** Image C)* *1/3 of baby's key vitamins & minerals.*
Vitamin C	6	33	*[Product name] provides your baby with 12 vitamins A, D, E, C, B1, B2, B6, B12, B3 (PP), Pantothenic acid, Folic acid and Biotin.*
Calcium	5	28	*Source of iron and calcium.*
Salt/sodium	5	28	*No added salt.*
Zinc	5	28	*With immunonutrients (Iron, Zinc, Vitamins A & C) & Bifidus BL Culture.*
Protein	4	22	*High Protein Porridge* *It is enriched with proteins, vitamins and minerals and can be easily digested by your baby.*
Probiotics	4	22	*With immunonutrients (Iron, Zinc, Vitamins A & C) & Bifidus BL Culture.*
Vitamin D	4	22	*Contains calcium & vitamin D to help build strong bones & teeth.*
Essential fatty acids (Omega 3/DHA)	3	17	*Natural source of Omega-3. There is 43% of [Product name's] recommended daily Omega-3 intake (4-6 months) per jar.*
Sugar	3	17	*No added sugar. Contains naturally occurring sugars.*
Vitamins	3	17	*Energy Food and Multivitamin.*
B Vitamins	3	17	*[Product name] provides your baby with 12 vitamins A, D, E, C, B1, B2, B6, B12, B3 (PP), Pantothenic acid, Folic acid and Biotin.*
Energy	2	11	*During the critical period of rapid growth and development [manufacturer's name] plays an important role in providing enough energy, protein, vitamins and minerals required at the different stages of growth.*
Carbohydrate	2	11	*17 Vitamins & Minerals. Protein. Carbohydrates. Iron & Calcium. (See Figure ** Image A)*
Vitamin B_1	2	11	*[Product name] provides your baby with 12 vitamins A, D, E, C, B1, B2, B6, B12, B3 (PP), Pantothenic acid, Folic acid and Biotin.*
Vitamin B_6	2	11	
Folic Acid	2	11	
Vitamin E	2	11	
Minerals	2	11	*Iron fortified. Calcium. Vitamins. Minerals.*
Lactose	1	6	*No added milk or lactose.*

Table 8-2 Nutrient function/other function/implied health claim on the labels of commercially produced complementary foods (n=23).

Claims	Number of labels	Percentage of labels	Example text
Nutrition/nutritious	13	57	*[Product name] baby porridge the high quality porridge and nutritious prepared from high quality ingredients its well balanced and easily digested cereal for babies and young.*
Development	9	39	*During the critical period of rapid growth and development, [Manufacturer's name] plays an important role in providing enough energy, protein, vitamins and minerals required at the different stages of growth.*
Complete/all-in-one	8	35	*Nutritionally Complete; Complete Care; This is a complete food and can be cooked as a porridge.*
Growth	8	35	*[Manufacturer's name] Developmental Nutrition Plan helps your baby grow through each unique stage, so that he/she always gets the right amount of nutrition at the right moment of growth. Supports optimal growth.*
Easy-to-digest	6	26	*[Product name] infant cereal with milk is highly nutritious and easily digested.*
Vitamin C function	6	26	*Vitamin C. An antioxidant that helps protects body cells and tissues.*
Balanced	5	22	*Infant cereal is the ideal foundation to a healthy and balanced diet.*
Benefit/beneficial (including essential, important)	5	22	*Each serving of [manufacturer's name] infant cereal provides essential nutrients baby needs to support his healthy growth and development, concentrated in a serving size ideal for his stomach.*
Health	5	22	*Our wide range of delicious fruits and healthy grains are ideal for your 4-6 month old baby - smooth in texture, simply flavoured and with key nutrients. Because healthy babies are happy babies.*
Vitamins and minerals	5	22	*We prepare them with the finest baby grade ingredients and enrich them with a 1/3 of the essential vitamins and minerals that you baby needs to grow and develop.*
Antioxidant function	4	17	*Vitamin C, an aniti-oxidant that helps protect body cells and tissues.*
Calcium function	4	17	*Calcium is essential for the physical growth of your baby.*
Energy function	4	17	*During the critical period of rapid growth and development [manufacturer's name] plays an important role in providing enough energy, protein, vitamins and minerals required at the different stages of growth.*
Iron function	4	17	*Iron [product name] cereals are rich in iron which helps in the formation of red blood cells.*
Vitamin A function	4	17	*Zinc, Iron, Vitamins A & C: Key minerals and vitamins that participate in the good functioning of your baby's immune system.*
Vitamin D function	4	17	*Contains calcium & vitamin D to help build strong bones & teeth.*
Immunity	4	17	*Helps support babies' natural defences.*
Muscle/tissue	4	17	*Vitamin C, an aniti-oxidant that helps protect body cells and tissues.*
Goodness/good	3	13	*Good food, good life. Goodness of cereals.*
Name: Brand (Brand name is a nutrient function claim)	3	13	*Nguvu (Power)*
Protein function	3	13	*[Product name] cereals are rich in proteins necessary for the development of your baby. They also contain 'essential amino acid' indispensable for your baby.*
Blood	2	9	*Iron [product name] cereals are rich in iron which helps in the formation of red blood cells.*
Bones	2	9	*Tried and tested by mum's for generations our unique recipe contains 7 vitamins and minerals like vitamin D and calcium which*
Teeth	2	9	

Claims	Number of labels	Percentage of labels	Example text
			work together to help build strong bones and teeth.
B Vitamins function	2	9	*[Product name] provides your baby with 12 vitamins A, D, E, C, B1, B2, B6, B12, B3 (PP), Pantothenic acid, Folic acid and Biotin which are fundamental to your baby's growth.*
Vitamin B1 function	2	9	
Vitamin E function	2	9	
Zinc function	2	9	*Zinc, Iron, Vitamins A & C: Key minerals and vitamins that participate in the good functioning of your baby's immune system.*
Strength	2	9	*Extra power food product.*
Carbohydrates (including sugar) function	2	9	*Carbohydrates are a primary source of energy for your baby's growth.*
Other	2	9	*…concentrated in a serving size ideal for his stomach.* *excellent first solid food for your baby*
Best for babies/best start/better for	1	4	*Give your baby the Pure Start Advantage, developed by [manufacturer's name] the nutrition experts which guarantees…*
Hand-eye coordination	1	4	*They can also encourage hand to eye coordination, biting and chewing as your baby develops.*

Table 8-3 Non-nutrition claims on labels of commercially produced complementary foods (n=21).

Claims	Number of labels	Percentage of labels	Example text
Allergens	16	76	*Contains gluten, wheat, milk.* *May contain traces of soya and wheat.* *No added egg. Gluten free.*
Additives	9	43	*No preservatives. No artificial flavours. No colours.*
Vegetarian	7	33	*Suitable for vegetarians.*
Certification: Religious	5	24	*Halal. (See Figure ** image A.)*
Texture	5	24	*Easy to dissolve in the mouth.* *Its texture and taste is good for baby.*
Natural	4	19	*We do not use any artificial colours in our recipes - but our natural ingredients may cause staining.*
Pure	3	14	*The pure start. Give your baby the Pure Start Advantage, developed by [manufacturer's name] the nutrition experts.*
Certification: Safety/quality	2	10	*Give your baby the Pure Start Advantage, developed by [Manufacturer's name] the nutrition experts which guarantees: Purity, Safety, No preservatives, No colours, No artificial flavours.*
Quality	2	10	*Quality Guaranteed. [Product name] baby porridge the high quality porridge and nutritious prepared from high quality ingredients its well balanced and easily digested cereal for babies and young.*
Specially prepared	2	10	*Our 7 + month dinners are made especially for babies who are beginning to explore more adventurous tastes and textures. We prepare them with the finest baby grade ingredients and enrich them with a 1/3 of the essential vitamins and minerals that you baby needs to grow and develop.*
Secure	2	10	*Buy pure Be secure*
Taste	2	10	*Tastes great with yoghurt.Tasty.*
Best for babies	1	5	*Its texture and taste is good for baby.*
Direct from the farm	1	5	*Did you know…? We can trace every one of this porridge's 7 grains back to the expert farmer who grew it and the field from which it came.*
Origin	1	5	
Fruit juice	1	5	*Our wide range of delicious fruits and healthy grains are ideal for your 4-6 month old baby - smooth in texture, simply flavoured and with key nutrients.*
GMO	1	5	*No GM ingredients.*
Protein sources	1	5	*Protein Sources: wheat flour and skimmed milk.*
Public health messages	1	5	*Your baby's requirement for iron increases after the age of 6 months. So it is important to supplement your baby's diet with iron rich food.*
Simply flavored	1	5	*Simply flavoured; a happy breakfast.*

8.9 APPENDIX I:

CLAIMS PROVIDED ON LABELS OF COMMERCIALLY PRODUCED FOOD PRODUCTS IN TANZANIA

Table 8-4 Nutrient content claims on the labels of commercially produced foods for general consumption commonly fed to children under the age of two years.

Claim	Number of labels	Percentage of labels	Example text
Fat	4	44	*And it is low in fat* *Minimum fat 3.25%, [product name] average fat content is 3.6%.*
Protein	3	33	*Calcium, Vitamin D, Proteins*
Vitamin C	3	33	*Rich in vitamin C*
Vitamin D	3	33	*VitaRich- A fortified blend of vitamins A, C, D, E & K to encourage strong and healthy growth.*
Calcium	3	33	*Calcium, Vitamin D, Proteins*
Vitamins and minerals	2	22	*Cowbell contains the proteins, calcium, vitamins & minerals essential for growth as well as strengthening our immune system.*
Vitamin A	2	22	*VitaRich- A fortified blend of vitamins A, C, D, E & K to encourage strong and healthy growth.*
Vitamin E	2	22	
Vitamin K	2	22	
Energy	1	11	*Per 500ml- 271 kcal - 14% of GDA - Guideline daily amount*
Trans fat	1	11	*Trans-Fat Free*
Carbohydrate (including glucose)	1	11	*Glucose biscuit*

Table 8-5 Nutrient function/other function/implied health claims on the labels of commercially produced foods for general consumption commonly fed to children under the age of two years.

Claims	Number of labels	Percentage of labels	Example text
Calcium function	3	24	*Calcium and Vitamin D are essential nutrients for building strong bones and teeth.*
Vitamin D function	3	24	
Growth	3	24	*Protection and Growth.*
Health	3	24	*New product for health conscious people; Healthy and refreshing fruit juice drink; [Product name] flour is also delicious as a healthy ingredient in many other dishes.*
Bones	2	16	*The [Product name], a delicious cheese with all the goodness of milk: Calcium & Vitamin D, for stronger bones and teeth.*
Energy function	2	16	*The delicious energy food*
Vitamin A function	2	16	*Vitamin A is essential for good eyesight development.*
Vitamin C function	2	16	*Vitamin C fights infections and is essential for iron absorption.*
Immunity	2	16	*VitaRich- A fortified blend of vitamins A, C, D, E & K to encourage strong and healthy growth. [product name] contains the proteins, calcium, vitamins & minerals essential for growth as well as strengthening our immune system*
Muscle/tissue	2	16	*Proteins, for a good development of muscle.*
Protein function	2	16	
Vitamins and mineral function	2	16	*[Product name] contains the proteins, calcium, vitamins and minerals essential for growth as well as strengthening our immune system*
Vitamin K function	2	16	*Vitamin K plays an important role in normal blood clotting and blood formation.*
Vitamin E function	2	16	*Vitamin E is an antioxidant and protects red blood cells.*
Best for babies/best start/better for	1	6	*Health benefits: This flour is best for children and elders, expectant and lactating mothers.*
Blood	1	6	*Vitamin K plays an important role in normal blood clotting and blood formation.*
Goodness/good	1	6	*The [product name], a delicious cheese with all the goodness of milk: Calcium & Vitamin D, for stronger bones and teeth.*
Iron absorption	1	6	*Vitamin C fights infections and is essential for iron absorption.*
Teeth	1	6	*Calcium & Vitamin D, for stronger bones and teeth.*
Vision	1	6	*Vitamin A is essential for good eyesight development.*

Table 8-6 Non-nutrition claims on the labels of commercially produced foods for general consumption commonly fed to children under the age of two years.

Claims	Number of labels	Percentage of labels	Example text
Quality	5	38	*You will love [Manufacturer's name] Baked Twistees because they come with the [Manufacturer's name] promise of impeccable quality. High quality.*
Taste	4	31	*More cream for a better taste.*
Additives	3	23	*Contains added flavors.* *No added MSG. Tartrazine free. Artificial Colorant free.* *Hey Moms! [Manufacturer's name] the Lion is proud to bring you [manufacturer's name] Baked Twistees which will take your family snacking moments to a new level of fun and flavor.*
Allergens	3	23	*Contains wheat, gluten & soya.* *Contains traces of soya.*
Certification: Religious	2	15	*Halal*
Specially prepared	2	15	*[Product name] is specially made with fresh skimmed cow's milk and vegetable fat.*
Pasteurized and homogenized	2	15	*Pasteurized & Homogenized*
Fresh	1	6	*People say if quality taste and freshness "you are number one" but we say "we are the only one".*
GMO	1	6	*May contain genetically modified ingredients.*
Natural	1	6	*It is 100% natural (translated).*
Origin	1	6	*Grown in Natural soil in Tanzania East Africa.*
Packaging	1	6	*Crisps in a new package.*
Vegetarian	1	6	*100% vegetarian.*
Flavor	1	6	*Your kids will love them because [manufacturer's name], the king of Snacks, is very choosy, and he guarantees that every pack will Roarr with flavor.*

/ENDS