

# Japanese Recipe to Build Functional Food Policy and Industry: a Noted to Indonesia



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**Abstract:** *Japan's success in developing the functional food industry has been supported by policy. This paper outlines the development of the functional food industry and policy in Japan by revealing a description of the functional food market, policy and development of the functional food industry in Japan. The study was conducted using secondary sources. This study reveals that the successful development of the functional food industry in Japan is strongly influenced by three factors. First, commitment and support from the government. Second, the use of online media by registering through a website is a solution to cut time, distance, and also places so as to provide comfort for developers of functional food / industrial products. Third, each registered product can be accessed by the public through a website so that the public / consumer knows information about existing functional food claims. Japan's success can be an example for Indonesia in developing functional food policies and industries.*

**Keywords:** *Functional Food; Food Industries; Regulation; Japan; Indonesia.*

## I. INTRODUCTION

The development of the functional food industry cannot be released from Japan [1]. In Japan, the functional food industry began to develop well since the early 1980s. This is partly due to Japanese consumers who are beginning to realize the close relationship between food and health, and have a high level of trust in the importance of maintaining health by consuming certain foods that have health functions [2]. More Shimizu explains that currently food for certain health or later known as FoSHU in Japan, is an official functional food that is approved by the Japanese Consumer Affairs Agency [3]. A study conducted [4] in Japan between 1984 and 1995 about the physiological effects of food carried out in Japan. The results obtained are that based on scientific data collected, Japan established a unique regulatory system

for functional food in 1991. In this system, functional food with sufficient evidence to support health claims can be approved by the government as "FoSHU", which can then be commercialized with claims certain health. Although the regulatory system for functional food is not the same internationally, the FoSHU system is recognized as the first to review and approve label statements regarding the effects of food on the human body.

Ohashi and Ushida [5] mention at least FoSHU products can be classified into eight categories based on specific health claims, namely (1) food for intestinal health, (2) food to improve dental and gum health, (3) food to facilitate mineral absorption, (4) food to increase bone strength, (5) food for those who care about hypertension, (6) food for those who are worried about blood sugar levels, (7) food for those who are worried about blood cholesterol levels, and (8) food for those who are concerned about body fat buildup.

As it developed, in April 2015, the Japan's Consumer Affairs Agency (CAA), a government organization, introduced the third category of labels for health claims. The new category is called Food with Functional Claims (FFC), and allows companies to voluntarily display specific health benefits on their products and related areas of the human body on retail food packaging. Previous introduction, there were two categories of health claims in Japan: Foods for Special Health Use (FoSHU) and Food with Functional Claims on Nutrition (FNFC).

The FNFC system was introduced in 2001, and registration is not required to participate. Products containing vitamins and minerals that meet the standards specified by the CAA qualify to be labeled without an application.

Japan's success in developing a functional food industry and supported by government-favored regulations is interesting for this article. Therefore, this paper outlines the industrial development and functional food policy in Japan by revealing a description of the functional food market, policies, and development of the functional food industry in Japan. So that it can be used as reference material and learning examples for Indonesia.

## II. LITERATURE REVIEW

Functional food can be interpreted as a food and/or beverage product that is able to control the health of the body, which is beneficial for maintaining a balance of nutritional needs, preventing disease and also improving health [6]. The term functional food was first introduced in Japan in the mid-1980s and refers to processed foods that contain ingredients that help certain body functions besides nutritious [7].

Revised Manuscript Received on October 30, 2019.

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Meanwhile, classifies 7 definitions of functional food, health claims, generic health claims, product-specific claims, enhanced function claims, structure/function claims, and dietary supplement [8].

In addition there are also definitions of functional food, such as: "Foods or food components that may have better health reduce specific availability or other health problems" [9]. "Any food or food ingredient that may provide a health benefit beyond the traditional nutrients it contains." [10]. Based on a review of Doyon and Labrecque on 26 definitions of functional food from a number of literature, it was concluded that to clarify and distinguish functional food, there are four keys to the concept of functional food: health benefits, the nature of the food, level of function, and consumption pattern [11]. Referring to the existing concepts and definitions, functional food can follow the definition presented by Doyon and Labrecque [11], "a functional food is, or appears similar to, a conventional food".

### III. METHODOLOGY

The study was conducted using secondary sources. Information from the more recently published sources was used over older sources. Indeed Official regulations as well as the Japanese MHLW (Ministry of Health, Labour and Welfare) websites, Japan's Consumer Affairs Agency websites.

### IV. RESULT AND DISCUSSION

#### A. Development of Functional Food: Japanese Perspective

The development of functional food in Japan cannot be separated from food regulation. Hamano noted the regular framework on food labeling and nutrition / health claims in Japan [12], starting from the Food Sanitation Act (FSA) in 1947 (Act No. 233 of December 24, 1947), the purpose of this regulation, contained in "Article 1. The health and safety measures of the public health, health and safety." Then the Nutrition Improvement Act (1952) was published, which contained Foods for Special Dietary Uses (FOSDU). In 1991, Foods for Specified Health Uses (FoSHU) was present, studies had been conducted for a long time (1984-1986), namely studies on Functional Foods in Japan - State of Art (Systematic Reviews).

Functional Food in Japan enters a new era, with the establishment of the Consumer Affairs Agency (CAA) in 2009, the agency aims to protect consumers and increase the benefits of products in Japan and side with consumers. The existence of the CAA is increasingly strategic, when the Food Labeling Act 2013 and the Food Labeling Standards 2015 were newly introduced by integrating / unifying the labeling provisions from the Food Sanitation Act (managed by MHLW), Japan Agricultural Standard Act (MAFF) and Health Promotion Act (MHLW). In cooperation with the local Governments, the CAA is responsible for all food labeling issues, specifically on Nutrient Function Claims (FNFC), Foods for Specified Health Uses (FoSHU), Foods with Function Claims (FFC) and Foods for Special Dietary Uses (FSDU) as well as general food nutrition labeling and claims.

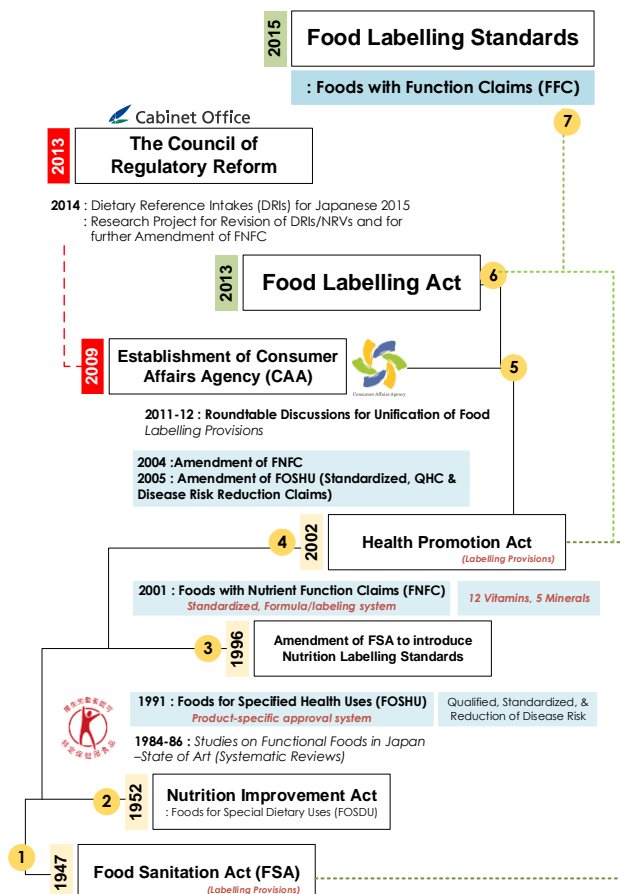


Fig. 1. Regulatory framework on food labeling and nutrition / health claims in Japan

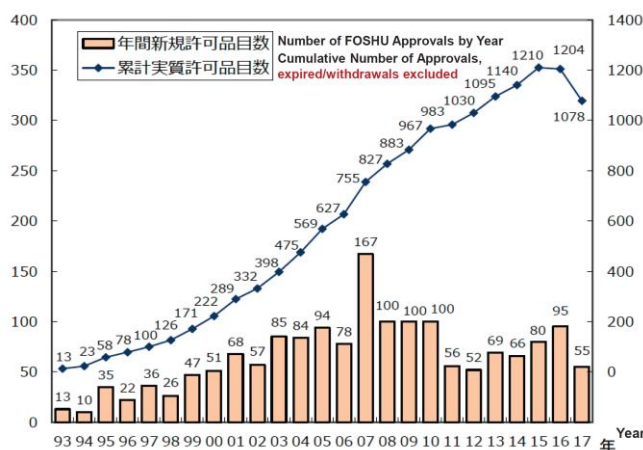


Fig. 2. History of FoSHU Approvals (1993-2017) [14].

The policy change was made by Prime Minister Abe in 2015 by bringing up Foods with Function Claims (FFC), giving an increase in the growth of functional food production in Japan (Table 1). During 2015-2018 there were 1,412 types of FFC products in the market. This amount is far different from FoSHU products which have been operating since 1993, which is 1,078 FoSHU products until the end of 2017 (Fig. 2) [14].

**Tabel 1. Summary of FFC Notified by Food Category (Notification numbers issued, 2015/04/01–2018/06/08) [14]**

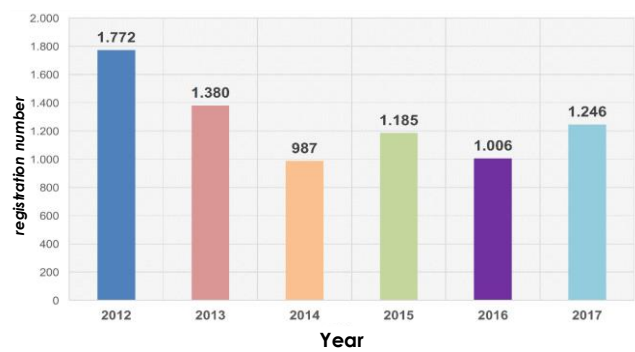
Food Category	2015 (A)	2016 (B)	2017 (C)	2018 (D)	Total (%)	(A)	(B)
Ordinary					699		
Prepackaged Foods	136	332	215	16	(52)	17	682 (98)
Dietary Supplements	130	249	228	16	623 (47)	59	584 (91)
Fresh Produce	3	5	6	1	15 (1)	0	15 (100)
SUBTOTAL	269	586	449	33	1,337 (100)	76	1,261 (94)
Withdrawn	38	34	3	0	75 (5)	0	75 (100)
TOTAL	307	620	452	33	1,412 (100)	76	1,336 (95)

Note: A: Clinical Trials on Finished Products, B: Literature Reviews on Finished Products or Functional Substances therein (%)

**B. Conditions for Functional Food in Indonesia and Learning from Japan**

Functional Food Arrangement in Indonesia has been regulated in the Head of the Indonesian National Agency of Drug and Food Control Regulation 00.05.52.0685 concerning the Principal Provisions for Functional Food Monitoring, then revoked replaced by the Indonesian Agency for Drug and Food Control Head Regulation Number HK.03.1.23.11.11.09909 of 2011 concerning Supervision of Claims in Labels and Processed Food Ads. The existence of this latest regulation does not specifically explain Functional Food, but it contains more macro arrangements in processed food. The results of the identification of 8 regulations relating to food in general, the main object relating in detail and that is still valid with functional food is the Regulation of the Head of the Indonesian National Agency of Drug and Food Control Number 13 of 2016. Regulations on Functional Food have been regulated in the Regulation The Head of the Indonesian National Agency of Drug and Food Control Number HK 00.05.52.0685 of 2005 concerning Provisions on the Principles of Functional Food Supervision, was subsequently revoked replaced by the Regulation of the Head of the Indonesian Food and Drug Supervisory Agency Number HK.03.1.23.11.11.09909 of 2011 concerning Monitoring of Claims In Food Labels and Ads. This regulation has also been revoked and replaced by the Indonesian National Agency of Drug and Food Control Regulation Number 13 of 2016 concerning Supervision of Claims on Labels and Processed Food Ads. Then Indonesia National Agency of Drug and Food Control also issued regulation Number 1 of 2018 concerning Supervision of Processed Food for Special Nutrition Needs. Indonesia and the ASEAN region have important positions for the development of functional food products in the future. This can be marked by the holding of successful exhibitions in several places in Indonesia and other ASEAN regions [13]. Apparently, the survey results obtained from the exhibition showed that there were still many consumers in Indonesia and other ASEAN regions who did not yet know and enjoy functional food products. Of course this situation can provide potential opportunities for the food industry in the country. Especially for Indonesia, fortified food products get the most popular sales from other products. Consumers in Indonesia prefer products that

benefit health and value rather than products that are cheap, but less useful. This shows that the functional food market in Indonesia has developed and provides opportunities for producers, both locally and internationally. In addition, halal functional food products also have an important role to play in the success of the Indonesian market, because they have better growth opportunities than non-halal products. However, if viewed from the trend of registration of claimed food products, it fluctuates every year, so there is no positive or negative trend. The registration trend of claimed food products can be seen in Fig 4.



**Fig.3. Claimed Food Registration Trend [15].**

The development of the functional food industry in Japan can be an example for Indonesia. FoSHU as the first generation of functional types of food in Japan was introduced in 1991, the number of FoSHU items reached almost 970 in October 2011, and this number increased in 2016 [16], which is 1,250 FoSHU products registered on April 28, 2016. Size FOSHU's current market is around 600 billion yen (5.85 billion US dollars). More than 70% of FoSHU products currently function for the health of the digestive tract, which increases intestinal microflora or regulates nutrient absorption, thereby reducing the risk of metabolic syndrome. However, according to Yamamoto [16] FoSHU utilization remains limited due to strict requirements for registration. Clinical testing of a product is required to qualify for FoSHU, which has proven to be a burden that is too large, especially for small or medium-sized companies, given the cost and time required. In some cases, the company paid more than 100 million yen and waited around three years for approval. Learning that can be taken from Japan is how the Japanese government through Prime Minister Abe carried out regulatory reforms, so that the third type of claimed food was born in Japan known as Foods with Function Claims (FFC). The FFC registration process is more affordable and faster than the registration process for the FoSHU [16]. This shift has been triggered by a rapidly aging population in Japan; around 25% of the population is 65 or older, making Japan one of the oldest countries on Earth. In the midst of such demographic changes, the government is aware that it cannot deal with increasingly medical problems in the elderly and is therefore better than ever to improve improved nutrition to prevent disease. This big step in the claimed food policy provides space for the food industry sector in Japan while adhering to existing standards.

On the other hand, the process of registering functional/claimed food is faster: 1) Food Business Operators (FBOs) must then submit the information required to the Consumer Affairs Agency (CAA) 60 days of marketing their products, 2) Submitted documents are disclosed on the CAA website. (<https://www.fld.caa.go.jp/caaks/cssc01/>), 3) Consumers can check product information on how safety and effectiveness products are ensured before the products on the market. (CAA website above), 4) Applicable Food Forms: Ordinary Prepackaged Foods, Tablets / Capsule Forms and Fresh Produce.

In addition, the pattern of evaluation of the FFC product candidate is carried out by one of the following methods, 1) A history of safe consumption / use of functional substances by humans, 2) or Research of existing information / studies on safety of a product or a functional substance, 3) or, Safety testing / evaluation on a product or a functional substance using animal tests and / or human studies. The process for Submission and Marketing of FFC can be seen in Fig 4.

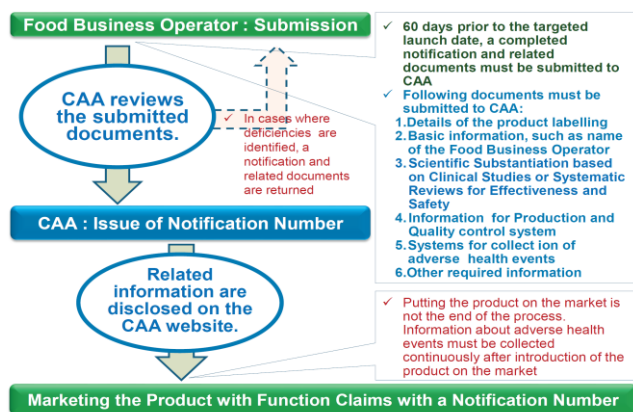


Fig. 4. Process for Submission and Marketing of FFC [14]

The steps and efforts to renew the activities carried out by the Abe Government in 2015 can be an example for the Indonesian government at this time, so that the growth of the functional feed industry in Indonesia can grow, while paying attention to standards and food safety for consumers.

## V. CONCLUSION

The successful development of the functional food industry in Japan is strongly influenced by three factors. First, commitment and support from the government, especially from the highest leadership, namely Prime Minister Abe through regulatory reform so that the functional food registration process is affordable and faster than before. Second, the use of online media by registering through a website is a solution to cut time, distance, and also places so as to provide comfort for developers of industrial / functional food products. Third, each product listed can be accessed by the public through a website so that the public / consumer knows information about existing functional food claims.

Indonesia can learn from Japan's success in developing functional food policies and industries, such as innovations in functional food policies that can stimulate industries to actively develop and produce functional food products, provide policies and guidelines for small and medium businesses in developing functional food products, by collaborating together with research and development units.

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## ACKNOWLEDGMENT

Thanks to the Directorate of Industrial Technology Development, the Directorate General of Research and Development Strengthening, Ministry of Research, Technology, and Higher Education who has funded this research through the National Innovation System Research Program (INSINAS) Program in 2018. Priority Field Based on LPNK RISTEKDIKTI Flagship, with reference to the theme: Theme 1 Development of Local Resource-Based Functional Food WBS 6 Social, Economic, Policy, and Management, including identification of potential food-based local food, Education / Awareness, Behavior and Parenting, Economic, Social and Cultural Impacts, and Regulations, Policy and Management.

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