

Executive Summary

ベトナムは三つの栄養不良の問題 (Triple malnutrition)―栄養不足、過体重／肥満、微量栄養素の不足―を同時に抱えている。低体重や低身長率は農村地帯や山岳地帯で高く、過体重、肥満は都市部で急速に増加しており、微量栄養素の不足は全国に広がっている。栄養に関する悪い習慣、不適切な栄養摂取、塩分の多い食事の摂取、野菜、果物摂取不足、運動不足は病気、特に非感染性の病気のリスクを高めており、多様性の無い、貧しい食事は栄養不足を引き起こしている。たんぱく質摂取は一日当たりの推奨量(RDA)を上回っているが、野菜、果物の摂取は RDA に満たない。ベトナムは近年、(栄養に関する) 国家戦略を法制化し、栄養状態の測定と、今後の 10 年の栄養問題の解決にむけた国家計画を策定した。

ベトナムの法規制では食品の品質、安全性に関して会社は、会社の website、印刷物等に自主的に発表し、関係する書類を政府機関に提出することになっている。これらのすべての手順は法令番号 15/2018/ND-CP 2018 年 2 月 2 日に従う。製品の表示 (ラベル) の Health Claim に関する特別の規制は無い。Health Claim は申請する会社が提出する Health Claim に関する証拠データについて政府機関が承認することによって認められる。ベトナムでは食品表示における Health Claim についての消費者の認知、使用に関する研究や統計は無い。

NIN FOOD はいくつかの日本の機関と協働で研究、生産、流通しているいくつかの製品をもっている。NIN は自身で研究を実施したり、Health Claim の Evidence を提供するための研究と文献調査を組み合わせることができる。

NIN とカゴメの (将来の) 協働についての提案では、新しい健康食品について生産、流通をおこなうこと、特定の製品の有効性についての研究をおこなうこと、マスメディアや草の根レベルでの (消費者に対する) コミュニケーション／教育 プログラムの実施、病院での術後や癌の患者に対する特別の栄養食 (の開発) などが考えられる。

協働が発展したら (NIN と協働している私企業である) アグリビジネスの会社 (Nghe An Agrimex JSC) との協働―原料の野菜の供給や NIN の技術支援による製品の流通なども考えられる。同社のアスパラガス粉末の生産は、同社が野菜の生産だけでなく加工製品の開発もおこなうことができる例である。



**NUTRITIONAL SITUATION,
FOOD/HEALTH CLAIMS
DECLARATION PROCESS
AND FUTURE
COLLABORATIONS**

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Summary

Vietnam has facing triple malnutrition including undernourished malnutrition, overweight/obesity and micronutrient deficiency. While underweight and stunting rate is high in rural and mountainous area, the overweight/obesity rate is rapidly increase in urban area and micronutrient deficiency is prevalent through-out the country. The bad practice of nutrition and behaviors such as improper nutrition, eating salty foods, eating less vegetables and fruits, and lack of physical activity increase the risk of diseases, especially non-communicable diseases while the monotonous and poor diets cause undernourished malnutrition. Amount of protein intake is over RDA while amount of vegetables and fruits does not meet RDA. Vietnam has recently enacted the national strategies and developed national plan of actions for nutrition with measurements and solutions to solve with the nutrition problems in the new decade.

According to Vietnam's regulations, companies self-declare their food products quality and safety on their website/publications and send the related documents to authorities. All procedure follows the decree number 15/2018/NĐ-CP dated February 02, 2018. There is not specific regulation for health claims on the product labels. A health claim is approved if the specific evidences of health claims which are provided by the applying companies are approved by authorities. Vietnam has neither had a research nor statistics about consumer awareness and utilization of health claim on food label.

NIN FOOD has several products that have been researched, produced and distributed under collaboration with different Japanese organizations. The NIN can conduct research itself or combine research and literature reviews to provide evidences for health claims.

The suggestions for collaboration between NIN and Kagome include producing and distributing new healthy products, research on effectiveness of a specific product, communication/education programs on mass media and/or grass root level, special nourishing products for patients in hospital i.e. surgery, cancers. The collaboration can expand to a new agricultural company (Nghe An agrimex JSC) who can be raw fresh vegetable providers or a product distributor with nutrition technical support from NIN. The asparagus powder production is an example from Nghe An Agrimex for develop a new product except fresh vegetables.

- **Recognition of current situation of health and nutrition in Vietnam and future measures and solution**

1. Health issues that are particularly problematic

In last years, Vietnam has made many achievements in improving nutritional status. The rate of child malnutrition had decreased significantly, and people's dietary intakes are more secure in terms of quantity and quality. Vietnam has successfully achieved the Millennium Development goal of reducing the prevalence of weight-for-age malnutrition in children earlier than planned. However, Vietnam is still facing many nutritional problems mainly triple burden of malnutrition – undernourished nutrition, overweight/obesity and micronutrient deficiency. The rate of malnutrition and stunting is still high, accounting for 19.4% in 2020. The rate of overweight/obesity increase rapidly, especially in urban areas the prevalence of overweight and obesity in children from 5-19 years old is 26.8%. In nationwide, the prevalence of overweight/obesity in children from 5-19 years old increase from 8.5% in 2010 to 19.0% in 2020 (more than 2 times)

While the prevalence of underweight for age in children 5-19 years old reduce from 24,2% in 2010 to 12,2% in 2020 (equal to the reduction on 12% in 10 years) and the stunting also reduce from 23,4% in 2010 to 14.8% in 2020 (meaning reduction of 8.6% in 10 years), the prevalence of overweight and obesity increase from 8.5% in 2010 to 19.0% in 2020 (meaning increase of 10.5% in 10 years).

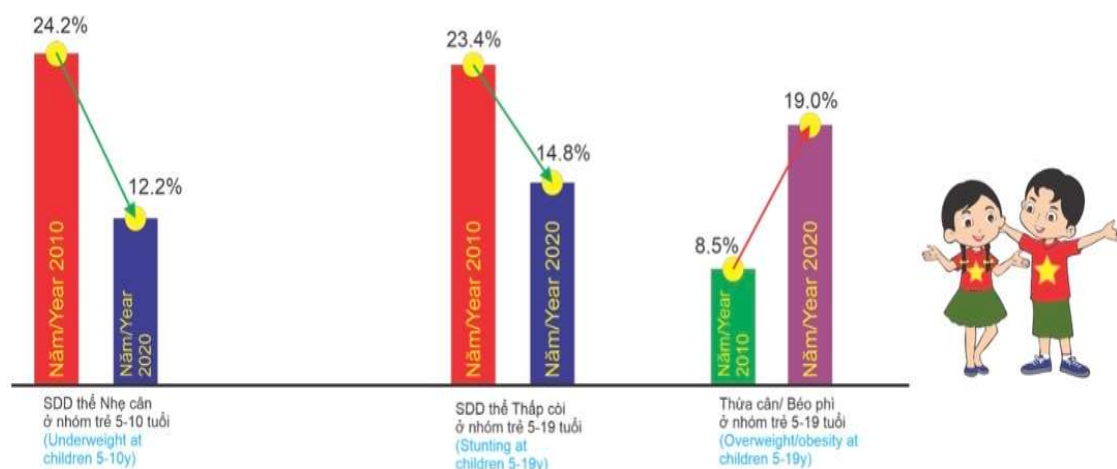


Figure 1: Nutritional status of children 5-19 years old in 2010-2020

In Vietnamese adults, the surveys showed that while prevalence of chronic energy malnutrition reduce 10% (from 18.2% in 2010 to 8.1% in 2020), the prevalence of overweight/obesity increase even more at 14.8% from 5.6% in 2010 to 20.4% in 2020.

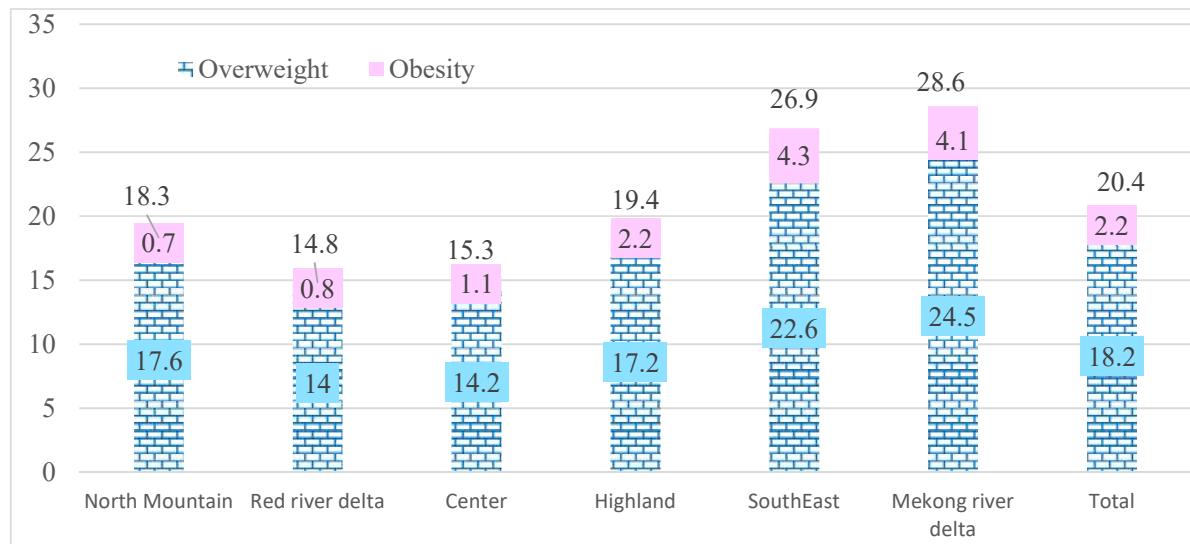


Figure 2. Prevalence of overweight and obesity in different ecological regions in adults 19-64 years old in 2020

Micronutrient deficiency especially iodine, vitamin A, iron and zinc deficiency is still public health problems.

The bad practice of nutrition and behaviors such as improper nutrition, eating salty foods, eating less vegetables and fruits, and lack of physical activity increase the risk of diseases, especially non-communicable diseases. The stature of the Vietnamese has been slow to improve and is lower than the average of many countries in the region. Nutrition for children, students, workers, patients and the elderly has not been paid enough attention. The results of the implementation of the National Strategy on Nutrition for the period 2011-2020 are still limited, focusing mainly on malnutrition prevention and control, many other important indicators have not been achieved.

Table 1. Salt consumption (g) (TANAKA method, GNS 2020)

	Mean (g)	SD	Low CI	High CI	NoCases	WCases
WRA	9.0	0.1	8.9	9.1	4561	6,572.38
Lactating mothers	9.6	0.1	9.3	9.8	738	1,037.02
Pregnant women	9.9	0.1	9.7	10.2	396	553.63
Men	9.6	0.1	9.4	9.9	920	1,324.23

Vietnamese tends to consume salty food. Salt average intake of Vietnamese people is 9.0-9.9g/capita/day which is 2 times more than WHO's recommended level (5g/capita/day). More than a half of adults eat less vegetables and fruits than WHO's recommended level. About 1/3 of population lack of physical activities. These lead to the increase of non-communicable chronic diseases.

Vietnam is still facing many difficulties and challenges in implementing interventions for NCDs prevention and controlling as below:

First: there is a lack of multi-sectoral coordination. Many policies are still lacking to promote people's physical activity, encourage healthy food consumption and limit unhealthy foods.

Second: awareness and practice of people about NCDs prevention and control are limited. Rate of people who have proper knowledge of self-monitoring for early diagnosis, care, and treatment adherence of NCDs is still low.

Third: The health system is not fully oriented towards the prevention of NCDs

Four: Financial resources are still very limited and unsustainable while NCDs account for over two-thirds of the total burden of diseases and death

Fifth: Lack of healthy food products, products for supporting treatment of NCDs in community and in health facilities are not paid attention by both patients and health workers/medical doctors

2. Nutrients that are especially recommended (feel a shortage)

Results of the surveys on micronutrient status of Vietnamese children and adults during the period 2010 – 2020 showed a remarkable trend in reduction of percentage of micronutrient deficiencies. This reduction positively affect to the reduction of stunting rate in Vietnam recently. Iron deficiency anemia, vitamin A, and zinc deficiencies are still significant public health problem in Vietnam. The prevalence anemia decreased above 1% per year in the period from 2010 to 2020. This results in the prevalence of anemia is at light level of public health significance in children and WRA, only is at mild level in pregnant women. Prevalence of iron deficiency (with cut-off point $<30\mu\text{g/L}$) is highest in children from 6-59 months and pregnant women, 52.3% and 50.3%, respectively. National prevalence of sub clinical vitamin A deficiency in children under 5 years old reduced to mild public health problem (9.5%). The prevalence of low vitamin A content in breast-milk also remarkable reduced only affecting 18.3% of lactating mothers. Meanwhile the prevalence of zinc deficiency highly concentrated in 63.5% of pregnant women, 58.0% children under 5 years old and 49.5% in reproductive age women. The trend of reduction of zinc deficiency in children under 5 years of age, reproductive age

women and pregnant women, possibly due to the economic development outcomes, effectiveness of zinc communication and zinc deficiency prevention programs with food fortification. The elimination of Iodine deficiency in 2005 has not been sustainable in Vietnam. The coverage of adequately iodized salt and median urinary iodine have been reduced compare to those in 2005. The results of 2020 survey continuously showed the differences of micronutrient deficiencies between ecological regions and areas of which rural and mountainous areas are the most affected with highest prevalence in all subjects.

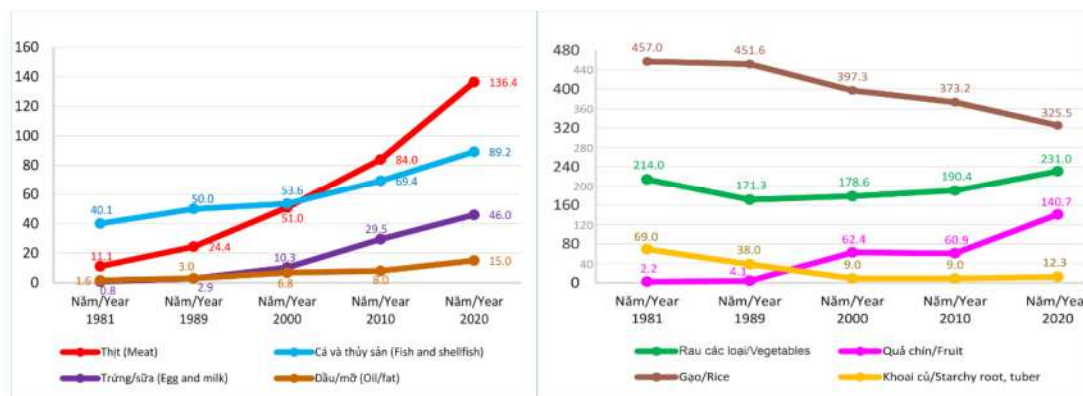
Nationally, the coverage of iodized salt that is eligible for prevention decreased from 92.3% in 2005 to 44.1% in 2012 and to 33.7% in 2020. The median urinary iodine levels in the subjects were all lower than the global standards. The median urinary iodine levels were 112.6 µg/L, 99.1µg/L, 83.4 µg, 88.1µg/L in children 5-9 years old, women 15-49 years, pregnant women and lactating mothers respectively which were much lower than the global standard of 150µg/L. This deficiency occurs in all ecological regions, even the central coastal region. That fact makes Vietnam one of the remaining 26 countries in the world classified as an iodine deficient country on the global iodine deficiency map of the Global Network for the prevention of iodine deficiency disorders.

Iodine deficiency is also manifested in the diet that does not provide enough iodine for the body's daily needs. In all target groups and ecological regions, diets lack at least 50% of the recommended amount of iodine. Nationwide, the average level of iodine in the diet of children aged 5-9 years old nationwide is only 57.7% RDA, that of women of childbearing age is only half or less of RDA, of pregnant women only meet 1/3 of RDA, of lactating mothers only reach 41.7% of RDA.

In addition, the dietary intake survey also showed a lack of many other micronutrients. Compare with the estimated average requirement (EAR), the consumption of vitamin D in the diet of Vietnamese adults in rural and urban areas can only meet 21 and 31%, respectively. Nationally, dietary folate consumption and calcium consumption are about 60% and 70% respectively. Consumption of vitamin C, vitamin A, iron and zinc by adults above the EAR but still does meet RDA.

Dietary iron consumption of women of childbearing age, of pregnant women and lactating mothers meet 56%, 66%, and 69% EAR respectively. The dietary zinc consumption of lactating mothers only meets 77% of EAR.

XU HƯỚNG TIÊU THỤ MỘT SỐ THỰC PHẨM CHÍNH (trung bình gam/người/ngày)
Trend of main food group consumption (gram/capita/day)



Nguồn: Tổng điều tra Dinh dưỡng (1981; 1989; 2000; 2010; 2020) - VIỆN DINH DƯỠNG

Source: General nutrition survey (1981; 1989; 2000; 2010; 2020) - NIN, Viet Nam

Một số kết quả chính Tổng điều tra Dinh dưỡng 2019 - 2020

Main findings of General nutrition survey 2019 - 2020

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3. Status of vegetable and fruit intake

The intake of vegetables and fruits has increased from 190.4g/capita/day of vegetables and 60.9g/capital/day of fruits in 2010 to 231.0 g/capital/day of vegetables and 140.7g/capital/day of fruits in 2020. However, this intake only achieves 66.4% and 74.4% of recommendation.

Table 2. Consumption of several food groups compared to recommended levels

Food groups	Average consumption	Recommended consumption	Resources
Fiber (g/day)	8,2	20	RDA for Vietnamese
Vegetables and fruits (unit/day)	4.4	6-7	Food Pyramid for adults (1 unit = 80g)
Meat/seafood/egg/beans (unit/day)	7	5-6	Food Pyramid for adults (1 unit provides 7g protein)
Fat/oil (unit/day)	3.1 (~15.5g)	5-6 (25-30g)	Food Pyramid for adults (1 unit provides 5g fat/oil)
Milk and dairy products	0.27	3-4	Food Pyramid for adults (1 unit

			provides 100mg calcium, equal to 100ml liquid milk, 1 jar of yogurt, or 1 piece of cheese)
Grains	15.4	12-15	Food Pyramid for adults (1 unit provides 7g protein)

4. Countermeasure and solutions for the above problems

For control of micronutrient deficiencies there are 4 main measures: 1) nutritional education; 2) iron and vitamin A supplementation; 3) consumption of food rich in micronutrients; 4) control of infectious and parasitic diseases and establish policies on prevention of micronutrient deficiencies. These above measures have been introduced at the start of the programme, activities have been well implemented and appeared to be more effective. There is mobilisation of the participation of multi-sectors, levels and budget to support the programme.

- Implementation of nutritional education activities on dietary diversification based on local food sources. Vietnam has micronutrient day on June 1 every year. The main activity is to provide vitamin A capsules for children from 6-36 months. Other activities include news, articles on lay newspapers and TV programs about food diversification. In communes, health workers organize training classes of supplementary feeding using local foods with dietary diversification for pregnant women and mothers with children under 2 years old.
- High dose vitamin A supplementation carried out twice a year for 6 to 36-month-old children (children less than 12 months old take 100.000 IU, children aged 12-36 months old take 200.000 IU). The 1st round named “National Micronutrient Day” has been maintained yearly on the 1st and 2nd of June (including the activities for control of vitamin A, iodine deficiencies, and anaemia). The 2nd mass vitamin A administration campaign is implemented in yearly December throughout the country. Postpartum mothers (take 200.000 IU within the first month after delivery). Severe malnourished children, children suffering from measles, diarrhoea, acute respiratory infection admitted to hospitals are also supplemented with vitamin A at

respective dose.

- Iron/folic acid supplementation was supported through social marketing.
- Fortification of food with micronutrients, fortification of edible oil, wheat flour, flavoring powders, fish sauce, soy sauce, infant formula, milk powder, biscuits, sugar, etc, with iron, vitamin A, iodine, zinc and other micronutrients. New micronutrient-rich foods should be produced.
- Integration of other preventive medicine programmes such as: Expanded Programme on Immunization (EPI), deworming, infant and young child feeding, breast feeding promotion, safe water and sanitation, hand washing,...
- During the period 2011 – 2021 the Government was able to provide enough vitamin A for implementing the programme. The annual vitamin A supplementation coverage was reported higher than 90% for children and 80% for postpartum mothers.
- Iron supplementation in pregnant women, lactating women and menstruating women had been recommended following WHO Guidelines. Since 2004, iron tablets provided by UNICEF for IDAC program has been stopped. However, iron supplementation for controlling iron deficiency anaemia receives more active respond from health workers and communities. Iron supplements with different kinds are available at the health facilities for selling and use as recommended.
- A pilot of a delivery model for home fortification of complementary foods with micronutrient powders distributed through the Health Centers has been implemented since 2013, initially started in 4 povice have shown that providing MNPs for sale combined with infant and young child feeding (IYCF) counseling at the health center, is a promising model to improve micronutrient inkade for children 6 and 60 months of age.
- Activities on communication, education, and training for health workers are reinforced and effective.
- Micronutrient supplementation for children and pregnant women should be paid more attention during nutrition emergency situation.
- There has been little of the supervision and regulation in distributing medicine for sick children in the hospitals.. In some communes, management and supervision

of distributing vitamin A for postpartum mothers and children at risk were also insufficient.

School milk program was implemented with micronutrient fortified milk in last 3 years. School lunch program is promoted in some provinces but heavily focus on providing nutritious menue, few information/activities of nutrition education in schools.

The National Strategies for Nutrition for the period 2021-2030 with vision to 2045, the National strategies for NCDs control for 2021-2030 were ratified. The decree of food labelling is recently enacted. The objectives of controlling overweight/obesity were set up. However, there is not program for improving for vegetables and fruits consumption nor reducing red meat consumption (brief related detail of programs in the National Nutrition Strategies 2021-2030 with vision to 2045 and National Plan of Action for Nutrition 2022-2025 in annex 1)

- Regarding the health claim certification system and products with health claims, we would like to know the current issues and future prospects regarding the following points;

1. Current certification scheme and efficiency of review process

The level of legislation documents for food safety in Vietnam:



Food safety control authorities in Vietnam

At national level: According to Food Safety Law, three ministries are responsible food safety control and management including Ministry of Health (MOH), Ministry of Industry and Trade (MOIT) and Ministry of Agriculture and Rural Development (MARD). The Vietnam Food Administration Department is focal point for responsibilities of MOH. The Domestic Markets Department is focal point for

responsibilities of MOIT. The Agro-Forestry-Fisheries Quality Management Department is focal point for responsibilities of MARD.

MOH is responsible for food safety management during production, preliminary processing, processing, preservation, transportation, export, import and trading of food additives, food processing aids, drinking water bottled, natural mineral water, functional foods and other foods according to the government's regulations.

MARD is responsible for food safety management for primary production of agriculture, forestry, fishery and salt; and food safety management throughout the process of production, collection, slaughter, preliminary processing, processing, preservation, transportation, export, import and trading in cereals, meat and other meat product, aquatic products, vegetables, tubers, fruits and vegetable products, tubers, eggs and egg products, raw milk, honey and honey products, food genetically modified products, salt and agricultural and food products according to the government's regulations.

MOIT is responsible for food safety management during production, processing, preservation, transportation, export, import and business for all kinds of wine, beer beverage, and processed milk.

At provincial level: There are three provincial departments that work under each ministry including Provincial Department of Food Safety, Provincial Department of Industry and Trade, Provincial Department of Agriculture and Rural Development.

The legal documents are applied for food safety and quality declaration including food safety law number 55/2010/QH12 dated June 17, 2010 and decree number 15/2018/NĐ-CP dated February 02, 2018. Depend on type of food, one company need to self-declare and send declaration documents to suitable departments.

The procedures for product declaration including food safety registration and health claims, the procedures for registration of product declaration with government food quality control authorities, food labelling, food advertisement regulation have to follow decree number 15/2018/NĐ-CP dated February 02, 2018 (contents of the decree that related to this report is in annex 2)

Detail policy analysis

There is not regulation for health claim on label of food products. Health claims are claims on the label of the health benefits of a food or good component/s in a food. Currently, the certification scheme for health claims is unclear and relies heavily on scientific documents provided by businesses. Some regulations have been issued for a long time and are out of date but there are no new regulations to replace them.

New health claims are prescribed for use in functional foods, including: supplemented food, dietary supplement and medical food. Other foods are not regulated to be considered for health claims on the label.

There is no list of specific health claims for each type of active ingredient, food or object. The health claims are proposed by the producers, but the health claim of an ingredient is only placed on the product label when there is scientific evidence to prove its health benefits or when the content of the above ingredients meets with the recommended level in the published academic documents (usually academic journal articles). There is only regulation of health claims for supplement foods, health protection foods and medical foods in which supplement components or food components for such health claim must reach >10% RNI. For health claims for food components that are not set RNI, the applied documents for health claims must include scientific documents to prove its health benefits (usually a scientific journal article). Regularly, a health claim is approved if there is 2 kinds of scientific journal article consisting of 1) an article published about certain amount (X gram) of ingredient/component which has health benefit 2) another scientific journal article stated that the food proposed to apply the health claim must contain at least 15% of certain amount (X gram) of the ingredient/component in the article 1.

The health claims on label and their register/announcements are quite complicated and tricky because their approvals are considered on case by case basis. The examples of health claims as below



Label of soybean oil with the health claim “rich omega 3, 6, 9 for a healthy heart” – oil is under management of MOIT (product of Wilmar group)

Front package health claim

Vietnam has not had a list of health claims which is approved following criteria as in other developed countries.



Front package health claim

[illegible]

Imported product with attached information in Vietnamese back label (attachment required)

Side label with nutrition fact



Front package health claim

There is not regulation of fiber amount in nutrition fact for any food products to be claim “source of fiber”. The situation is similar to other nutrients



Tea with health claim of “antioxidant TPP-C for youthful life every day” on front label and nutrition fact with tea polyphenol content in nutrition fact on back label – product is under management of provincial food administration department

Claim of supplementary food

The “lemon tea” has health claim on front label which is similar to dried taro but its declaration under management of provincial food administration department as it is declared supplementary food (it was added vitamin C and vitamin C content is in nutrition fact of the product). This product also carried another health claim of “Rich vitamin C helps to support healthy immunity system” on back label



Soybean oil with attached information sheet on bottle neck. This carry a lot of nutrition information. The VFA explains no regulation for that and perhaps the food inspection system will later have decision in quality control process i.e, fine (for now inspectors may not aware of this attachment)

2. Guaranteeing the quality of products on the market (Reliable scientific evidence, contained amount of active ingredient, safety)

Currently, only dietary supplements and medical foods are required to register the product declaration at the Vietnam Food Administration Department (Ministry of Health). Therefore, the health claims on the label must be reviewed and accepted if there is enough scientific evidence to prove it. There is no a clear regulation for allowing supplemented food or ordinary foods to use health claims on the labels.

There is annual plan for quality control process in which food products were inspected but this could not fully meet the management requirements due to the

large number of products. There is also annual quality monitoring plan in which dietary supplement products will be sampled for quality control testing. A fine will be issued if actual product quality is different from the registered declaration or if the health claims on the product were differently from the approved ones.

3. Consumer awareness and utilization

Vietnam has neither a research nor statistics about consumer awareness and utilization of health claim on food label yet. However, according to reports from press, many people especially in disadvantaged rural areas, are still deceived into buying dietary supplement products with health claims that do not match the approved declaration, exaggerated about product benefit such as joint treatment, diabetes treatment...

- **Regarding products with health claims developed by NIN (NIN Food)**

The Center for Scientific and Technological service in Nutrition and Food (NINFOOD) which belongs to NIN was founded in 2004 in response to the growing need for research on formulation and technology process for producing nutritious foods. Ninfood's main objectives are to improve the level of human health and nutrition status of Vietnamese people to prevent the malnutrition of children under five years old and pregnancy women through research and practical application in the field of Food Science, Food Technology and Nutrition Science.

Key activities are three folds:

- Research in the fields of Food Science, Food Technology and Nutrition Science for applications of nutritious products.
- Develop and produce functional foods and supplemented foods, particularly for children under five years old and pregnancy women. The NINFood did not have experience of develop functional foods with private sectors. In 2016-2018 NINFood received supports from a project of IRDC (International Research Development Center, France) to support the poor and mountainous area to produce local supplementary foods for children. One product of collaboration with small local enterprise is vegetable powder. The enterprise closed so the product also ended.
- Co-operate with Universities, Companies and Research Centers as well as expand the international cooperation with international agencies, Non-Governmental Organizations and other research institutions

- Past development cases and development history

NINFood has several products with health claims. These products were register of food safety, quality and health claims at the Vietnam Food Administration Department, Ministry of Health. Depend on the kind of product the process may take 6-18 months to develop a new product including time for test a new product formulation, and research to prove health benefits on Vietnamese people.



Old label with health claim before decree 15/2018



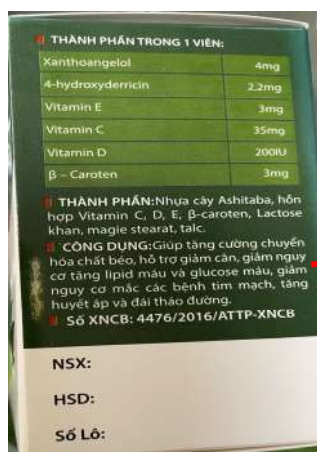
New label without health claim after decree 15/2018

Product is results of research collaboration between NIN and Japan

At first, this is herbal tea was registered and declared at VFA with several health claims including “controlling high blood glucose diabetes”, “lowering high blood lipid, anti-oxidant and anti-aging”, “preventing diabetes and diabetes complication”. This product and health claims was developed under research collaboration with Nihon Hoshi university, Japan in many years. The research results were provided to VFA for health claims approval under classification of the functional food. This was clinical trial conducted on Vietnamese people. The animal research can be accepted together with research on human. However, after decree 15/2018/NĐ-CP was ratified, the tea bag product does not have GMP certification and is under classification of normal foods. Therefore, label cannot contain the above health claim. Vietnamese love and trust quality of products from Japan so the label still keep the sentence “product is results of research collaboration between NIN and Japan”



The germinated rice is another product of the NINFood with health claim. The product is produced by technical transferring from Japan. The research results were provided to VFA for food safety, quality and health claims declaration



Uses: help enhance fat metabolism, support weight loss, reduce the risk of hyperlipidemia and blood glucose, reduce the risk of cardiovascular diseases, hypertension and diabetes

The product was developed from the research of products from Ashitabal chalcone and micronutrients to reduce visceral fat and prevent from some chronic non-communicable diseases. The raw material (ashitabal powder) was imported from Japan. The product was also in collaboration between NIN and Japan and it was registered at VFA under the classification of “food for health protection”. Therefore, the product can have its uses with health support and diseases prevention as mentioned above



The fresh porridge with different flavors is produced by the Saigon Food Co., Ltd and distributed at the NIN counselling service by the NINFood.



Bibomix is micronutrient powder for children from 6 to 60 months. The product was developed under collaborated project between NIN and the GAIN (Global Alliance for Improved Nutrition). Therefore, the product was implemented full steps of commercial introductions to consumers including 1) Develop formula for micronutrient powder by both scientists at Micronutrient Department of NIN (Dr. Van and Dr. Nga) and consultants of GAIN. These technical team collected all scientific evidences to prove effectiveness of micronutrients powder to prevent anemia and to support growth (guidelines of UNICEF, WHO, academic journal articles). 2) After formula is completed, the NIN Food contacted DSM company to provide premix of micronutrient powder. The premix then was imported from Singapore. DSM had its own importer and distributor who registered to work in Vietnam. 3) The NIN Food use premix to product Bibomix (micronutrient powder). 4) The Nielson company was hired to conduct qualitative research about food habits and interests of mothers with

children under 5 years old in Hanoi city. The study results were then used to develop label of Bibomix (color, messages) and communication messages and materials. 5) The NIN staff (Dr. Van and her team) together with consultants from GAIN selected scientific information for developing label and communication messages while the NIN Food produced Bibomix. 5) Bibomix food safety and quality test. 6) Fully developed Bibomix including box label, sachet label, product itself, certification of quality test together with other required documents (on website of VFA) were submitted to VFA for registering the product. All communication messages also submitted to VFA for approval. 7) Produced communication materials which carried approved messages. 8) Bibomix was launched through health care system including provincial preventive medicine center and Alive and Thrive counselling service. Communication material were also distributed together with the product for promote buying and using. A communication campaign with different methods and channels i.e. song, TV advertisement, radio advertisement... was launched. The project supported by the GAIN was closed at the end of 2018, but the Bibomix products are still producing and distributing.

When the decree number 15/2018/NĐ-CP was ratified, the NIN declare the standards, quality test, research results and other documents required by the decree of both old products and newly developed products on its website. At the same time all those documents are submitted to the VFA.

All above products are notable examples of the NINFood according to the delegate point of view. More information about the NINFood's products are on the website <http://ninfood.com.vn/> which provide information about products and also sell products online. The NINFood's documents of product declarations which is required under decree 15/2018/NĐ-CP are on the website <http://viendinhduong.vn/vi/cong-bo-cac-san-pham-thuc-pham/ninfood-cong-bo-cac-san--pham-thuc-pham.html>

- Consumer awareness and utilization of NIN Food product

There is not study on consumer awareness for NIN Food product. The NIN Food logo is not widely well known by consumers but the NIN name and logo are. The NIN Food products were mainly distributed through channel of health care system i.e provincial preventive medicine center, provincial center for disease control. The health care providers introduce NIN Food products to consumers through counselling service. The NIN Food products are sold at the Counselling Service provided by the National Institute of Nutrition. The NIN Food products such as micronutrient supplementation products and therapeutic foods are provided for

protein energy malnutrition program which is implemented by the National Institute of Nutrition. In the formula milk market the NIN name and logo was used to convince consumers buy a brand of formula milk over other brands without permission from the NIN.

Vietnamese consumers love and trust quality of food products from Japan. Therefore, almost products of NINFood were developed in research collaboration with Japan institutions or receive technical transfer from Japan organizations. The information of Japan collaboration or technical transferred was presented on product labels of NIN Food

- About future development of NIN Food (Possibility of utilization for solving nutritional problems, effects, materials, ingredients, etc. that are attracting attention)

The NINFood integrates and applies knowledge within the disciplines of nutrition, biochemistry, engineering and sensory evaluation, as well as clinical studies in cooperation with other partners. In particular, the main research interest of our center is to improve the health and prevent malnutrition inside social welfare system, especially for low-income, rural families and children.

The products of NIN Food are mainly provided for protein energy malnutrition control program such as bibomix (micronutrient powder for children from 6-60 months), hebi (therapeutic food), davin for mom (micronutrient supplementation for pregnant women), davin for teen (micronutrient supplementation for teenagers)

The NINFood plan to conduct research for development of food products for school lunch program which is recently attracted attention.

The demands of nutritional products for patients required special cares such as cancers, after surgeries, NCDs in hospitals are very large and is big opportunity for NINFood to develop new products.

- **Suggestions on the future collaboration between NIN and Kagome Co., Ltd.**

The NINFood can conduct research about health benefits of Kagome's products on Vietnamese community. This is similar to above mentioned products developed by NIN Food.

The NINFood can receive technical transfer from Kagome to self-produce foods and nutritional products

When Kagome plan to introduce their food products to Vietnam, the NIN can launch communication program. The NIN can support Kagome by providing nutrition experts

to appear on mass media. The NIN has grassroots level network so can implement training course for target audiences or education programs

The NIN and Kagome can collaborate to implement pilot nutritional program in schools and introduce Kagome's products to school lunch program.

- **Suggestions on the future collaboration between Nghe An Agriculture Material Joint Stoke company and Kagome Co., Ltd.**

In 2021 the National Institute of Nutrition signed a memorandum (annex 5, 6) to collaborate with Nghe An Agriculture Materials Joint Stoke Company (Nghe An company). Nghe An company is in Vinh city which is far from Hanoi to the south 350km (4 hours of driving). The main product that both are going to develop is asparagus powder. Recently, Nghe An company grows asparagus in the field of Ninh Thuan province where is far from Hanoi to the south 1350km (1.5 hours of flying). All foreign companies when export their products to Vietnam have its own distributors to register their products with Food Safety Authorities (one of the food managers that was mentioned in part of health claim and annex 2) and other commercial activities (selling, advertising...). The Nghe An company and Kagome company have quite similar activities. Therefore, the delegate suggests collaboration between 2 companies and with NIN as below:

1. The Nghe An company can be an importer to distribute food products from Kagome. This is not only import but also register and declare nutrition information of the imported food products. The Kagome vegetable products have special values which is declared on health claims so the NIN may collaborate in supporting nutrition education of the product together with Nghe An company as importer
2. Nghe An company is currently also produce fresh asparagus, kale and other nutritional rich vegetables. Therefore, Nghe An company can be fresh vegetable material provider for Kagome in Vietnam.
3. Nghe An company itself also initiated to produce asparagus powder. Nghe An company, therefore, is seeking for export their product to Japan together with support from Kagome.
4. Nghe An company can collaborate with Kagome to implement promotion activities for products that under collaboration agreement of both companies
5. In all cases of collaboration, the National Institute of Nutrition can join in consulting academic information, education for consumers and support for promotion of products
6. Survey and meeting to discuss collaboration between two companies are

necessary. The Nghe An company is looking forward to invite ILSI and Kagome to visit. The official invitation will be sent from general director of Nghe An company.



Proposed asparagus powder of Nghe An company

Annex 1: National Strategies for Nutrition for the period 2021-2030 (ratified) and National Plan of Action for Nutrition for the period 2021-2025 (in process of nutrition)

National Strategies for Nutrition (all objectives and communication strategies related to the report)

II. Objective

1. General objective: Implement reasonable nutrition to improve nutritional status suitable to each target group, locality, region, and ethnic group, contributing to reducing the burden of disease and improving stature, physical strength and intelligence of Vietnamese people.

2. Specific objectives and targets

a) Regarding the implementation of a diverse, reasonable and safe diet for all ages and subjects based on life cycle

- The percentage of children aged 6-23 months who have the right and sufficient diet will reach 65% by 2025 and 80% by 2030.

- The proportion of adults who consume enough fruits and vegetables daily will reach 55% by 2025 and 70% by 2030.

- The proportion of households with severe and moderate food insecurity will decrease to under 8% (in mountainous areas under 25%) by 2025 and under 5% (under 20% in mountainous areas) by 2030.

- The percentage of schools that organize school meals to with menus meeting demand according to the recommendations of the Ministry of Health on ensuring appropriate nutrition by age and food diversity reaches 60% in urban areas and 40% in rural areas by 2025 and reach 90% and 80% by 2030, respectively.

- The percentage of hospitals that organize medical examination, counseling and treatment with nutritional regimens suitable to the nutritional and pathological status of patients is 90% for central and provincial levels; 75% for the district level by 2025 and strive to reach 100% for the central and provincial levels; 80% for district level by 2030.

- Percentage of communes that have implemented nutritional counseling for pregnant mothers and mothers with children under 2 years old in the basic health service package for primary health care, prevention and health promotion due to

Health centers in communes, wards and towns will achieve 50% by 2025 and 75% by 2030.

b) Regarding improving the nutritional status of mothers, children and adolescents

- The rate of stunting among children under 5 years old will be reduced to under 17% (under 28% mountainous areas) by 2025 and under 15% (under 23% mountainous areas) by 2030.

- The rate of undernutrition and emaciation among children under 5 years old will be reduced to under 5% by 2025 and under 3% by 2030.

- By 2030, the average height of 18-year-old adolescents by gender will increase from 2-2.5cm for men and 1.5-2cm for women compared to 2020.

- The rate of children being breastfed immediately after birth will reach 75% by 2025 and 80% by 2030.

- The percentage of children under 6 months old who are exclusively breastfed will reach 50% by 2025 and 60% by 2030.

c) Regarding overweight and obesity control, prevention of chronic non-communicable diseases, related risk factors in children, adolescents and adults

- The rate of overweight and obesity is controlled: children under 5 years old are under 10% (in urban areas under 11% in urban areas and under 7% in rural areas); children 5-18 years old are under 19% (under 27% in urban areas and under 13% in rural areas); adults 19-64 years old at under 20% under 23% in urban areas and under 17% in rural areas) by 2025 and remain there until 2030.

- The average salt consumption of the population (15-49 years old) will decrease to under 8 grams/day by 2025 and under 7 grams/day by 2030.

d) Regarding the improvement of micronutrient deficiencies in children, adolescents and women of reproductive age

- The rate of anemia in pregnant women will decrease to under 23% (mountainous areas under 30%) by 2025 and under 22% (mountain areas to under 25%) by 2030.

- The rate of anemia among 10-14 year old female children in mountainous areas will decrease to under 10% by 2025 and under 9% by 2030.

- Pre-clinical vitamin A deficiency rate in children 6-59 months old will decrease to under 8% (mountainous areas to under 13%) by 2025 and under 7% (mountain areas to under 12%) by 2030.

- The rate of serum zinc deficiency in children 6-59 months old will decrease to

under 50% (mountainous areas under 60%) by 2025 and under 40% (mountainous areas under 50%) by 2030.

- The percentage of households using iodized salt meeting the standards for disease prevention or iodized seasoning daily will increase to over 80% by 2025 and over 90% by 2030.

e) Regarding enhancing nutritional resilience in all emergencies and increasing resources to implement the Strategy

- By 2025, 100% of provinces and cities at risk of being affected by climate change, natural disasters and epidemics will have a response plan, assessment, and implementation of specific nutritional interventions in emergency situation and will remain until 2030.

- By 2025, 100% of provinces and cities will have annual local budget allocation to ensure nutrition activities according to the approved plan and maintain until 2030.

3. Vision to 2045: All people achieve optimal nutritional status, control nutrition-related non-communicable diseases in order to contribute to improving health and quality of life.

Communication activities

3. Strengthening communication and nutrition education

a) Strengthen communication and advocacy to policy makers to incorporate nutrition content into strategies, programs, and implementation plans at all levels.

b) Organize and deploy communication activities with different types, methods and contents suitable for each region, and target group in order to improve understanding and practice of proper nutrition, especially prevention of undernutrition, stunting, micronutrient deficiencies, overweight and obesity control and nutrition-related chronic non-communicable diseases for all strata of the population.

c) Improve the effectiveness of communication, education and advice on life-cycle rational nutrition practices. Focus on education of soft skills, strengthening the cooperation between schools, families and society to form healthy lifestyles and habits regarding proper nutrition.

d) Increase the amount of communication and guidance on proper nutrition in mass media, especially the Vietnam Television Station, the Voice of Vietnam,

local radio and television stations, system of online radio channels, social networks, digital communication platforms.

Communication activities in the National Plan of Action for Nutrition 2021-2025 (on the approval process)

3. Promote effective communication and advocacy activities

3.1. Organizing Communication Campaigns

- Annually organize communication campaigns: Micronutrients Day (June 1-02), Nutrition and Development Week (October 16-23).

- Participating in relevant communication campaigns: NCBSM Week (August 1-7), health and disease prevention days (World Obesity Day 4/3, World Health Day 7/4), World Hypertension Day (May 17), World Diabetes Day (November 14...)

- Strengthen communication on mass media, organize press collaborator conferences, and communicate on social networks.

3.2. Implement behavioral change intervention research activities

- Community nutrition: Research on nutritional behavior of target groups, focusing on topics such as: Nurturing young children, Nutrition in school age, Nutrition for prevention of non-communicable diseases, Nutrition in emergency situations/epidemic prevention; from behavioral science studies, conduct barrier analyzes for nutrition practices, and analyze target populations to develop appropriate communication strategies.

- School nutrition: Research to investigate a number of factors related to food choice behavior of parents and school-age students; Survey and build a model of nutrition education at school age: education, communication, behavior change counseling for students and parents about nutritional needs, proper nutrition and increased physical activity; organize school meals. Behavioral change communication about fast food and sugary drinks consumption habits for school age students. Building a scoring model on the combination of family and school in helping children form healthy eating habits and reasonable physical activity for school-age students.

- Nutrition in the prevention of non-communicable diseases: Developing, testing and standardizing a survey toolkit to assess consumer knowledge-attitude-behavior (KAP) on food use; Using this Toolkit to conduct KAP surveys in a number of target groups about the use of foods containing sugar, salt (Sodium), transfat...; Barrier analysis investigation for healthy food consumption behavior. Consumer KAP research on nutritional information on food labels and packaging (consumers,

vendors).

- Clinical nutrition: Develop, test and standardize a survey toolkit to assess knowledge-attitude-behavior (KAP) of patients; Use this Toolkit to conduct KAP surveys in a number of target groups about the patient's food use (hypertension, diabetes, malnutrition, TC-BP). Research KAP of patients about nutritional information on food labels and packaging (patients, caregivers). Deploy a number of point models on behavior change communication in the community, in hospitals and on a number of target groups, in different regions, thereby proposing appropriate communication intervention strategies. Organize direct communication activities in communities, medical facilities, schools, agencies, nutrition and health service providers.

3.3. Building communication materials and supporting tools for nutrition counseling, education and communication on the basis of 4.0 technology

- Develop a set of standard messages on proper nutrition for different target groups.

- Develop communication materials and supporting software for the communication activities of nutrition in the community at different age groups (such as video tapes, nutrition counseling software...): An illustrated electronic album about healthy nutritional practices at home; Electronic album about Food and popular Vietnamese dishes.

- Develop a set of communication materials for nutrition education and food safety for school age children, parents and teachers.

- Develop and disseminate guidelines for people and specific subjects on proper nutrition, food safety and physical activity.

- Develop a set of detailed guidance documents on sensible nutrition advice for the period of 2030 and the Nutrition pyramid of all ages in the period of 2030.

- Develop documents and disseminate guidelines for people and other specific subjects on proper nutrition, food safety and physical activity.

- Develop a set of communication materials for target groups about the role of nutrition labels on prepackaged foods; How to read and understand nutrition labels.

Annex 2: Brief contents of the decree 15/2018/NĐ-CP (only parts related to contents of this report)

Article 1. This Decree details the implementation of a number of articles of the Law on Food Safety regarding:

1. Procedures for self-declaration of products.
2. Procedures for registration of product announcements.
6. Food labelling
7. Food advertising
11. Assign responsibility for state management of food safety

Article 3: In this Decree, the following terms are construed as follows:

1. Health supplements (Health Supplement, Dietary Supplement) are products used to supplement the daily diet in order to maintain, enhance and improve the functions of the human body, reduce the risk of disease. Health foods contain one or more substances or a mixture of the following substances:

- a) Vitamins, minerals, amino acids, fatty acids, enzymes, probiotics and other biologically active substances;
- b) Substances of natural origin, including animals, minerals and plants in the form of extracts, isolates, concentrates and transformations;
- c) Synthetic sources of the ingredients mentioned at points a and b above.

Health foods are presented in processed form such as capsules, complete tablets, tablets, granular preparations, powders, liquids and other dosage forms and are dosed (for use) into units. small dose.

2. Medical nutrition food, also known as nutritional food for special medical purposes (Food for Special Medical Purposes, Medical Food) is a type of food that can be eaten by mouth or by nebulizer. intended to modify the patient's diet and should only be used under the supervision of medical personnel.

3. Food for Special Dietary Uses (Food for Special Dietary Uses) for dieters, the elderly and other special subjects according to the regulations of the International Committee for Food Standards (CODEX) are those foods that are specially formulated or mixed to meet the specific dietary requirements of the user's body or medical condition and disorders. The composition of this food must be markedly different from the composition of ordinary foods of the same nature, if any.

4. Scientific evidence means scientific information and documents from scientific research works that are accepted by competent state management agencies in charge of scientific research or approved by domestic or foreign scientific journals. published by the country or documents on traditional medicine, medicinal plants

and herbs are published in scientific publications.

Chapter II PROCEDURES FOR SELF-DECLARE OF PRODUCTS

Article 4. Self-declaration of products

1. Food production and trading organizations and individuals shall self-declare pre-packaged processed foods, food additives, food processing aids, food containers, and materials. packaging materials in direct contact with food (hereinafter collectively referred to as products) except for products specified in Clause 2 of this Article and Article 6 of this Decree.

2. Products and raw materials for production or import that are only used for the production or processing of goods for export or for the internal production of organizations or individuals that are not consumed in the domestic market are exempt from implementation. product self-declaration procedure.

Article 5. Dossier and order of product announcement

1. A product self-declaration dossier includes:

a) A self-declaration of the product, made according to Form No. 01, Appendix I issued together with this Decree;

b) A certificate of results of food safety testing of products within 12 months from the date of application is issued by a designated testing laboratory or a laboratory accredited in accordance with ISO 17025 including safety criteria. safety standards promulgated by the Ministry of Health according to the principles of risk management in accordance with international regulations or safety criteria according to relevant regulations and standards announced by organizations and individuals in case there is no such information. regulations of the Ministry of Health (original or certified true copy).

2. Self-declaration of products is done in the following order:

a) Organizations and individuals self-declare their products on the mass media or their website or publicly post them at the head office of the organization or individual and submit 01 (one) copy via the Internet. post office or directly to a competent state management agency appointed by the People's Committee of the province or city under central authority (hereinafter collectively referred to as the People's Committee of the province);

b) Right after self-declaration of products, organizations and individuals are entitled to manufacture and trade products and take full responsibility for the safety of such products;

c) Competent state management agencies receive self-published copies of organizations and individuals to store dossiers and publish names of

organizations and individuals and names of self-published products on electronic information pages. death of the receiving agency.

3. Documents in the self-declaration dossier must be in Vietnamese; if there are documents in foreign languages, they must be translated into Vietnamese and notarized. The document must be valid at the time of self-disclosure.

4. In case a product has a change in product name, origin, or composition, the organization or individual must self-announce the product. In case of other changes, organizations and individuals shall notify in writing of the changed contents to competent state management agencies and may manufacture and trade products immediately after sending the notices.

Chapter III PROCEDURES FOR REGISTRATION OF PRODUCTS DECLARATION

Article 6. Registration of product declaration

Organizations and individuals that produce and trade in food must register the product declaration for the following products:

1. Food for health protection, food for medical nutrition, food for special diet.
2. Nutritional products for children up to 36 months old.

Article 7. Documents for registration of product declaration

1. An application for registration of the product declaration for imported products includes:

- a) The product announcement is specified in Form No. 02, Appendix I issued together with this Decree;
- b) Certificate of Free Sale or Certificate of Exportation or Health Certificate issued by a competent authority of the country of origin/export content to ensure safety for users or be freely sold in the market of the producing/exporting country (consular legalization);
- c) The certificate of results of food safety testing of the product within 12 months from the date of submission of the application is issued by a designated testing laboratory or a laboratory accredited in accordance with ISO 17025 including safety criteria. safety standards promulgated by the Ministry of Health according to the principles of risk management in accordance with international regulations or safety criteria according to relevant regulations and standards announced by organizations and individuals in case there is no such regulations of the Ministry of Health (original or certified true copy);
- d) Scientific evidence proving the utility of the product or of the ingredients creating the announced use (the original or a copy certified by the organization or

individual). When using scientific evidence on the use of a product's ingredient for the product's use, the daily dose of the product must be at least 15% greater than or equal to 15% of the use of that ingredient stated in the brochure. Whether;

d) Certificate of food safety eligibility, Good Manufacturing Practice (GMP) or equivalent certificate in case the imported product is a health food, applicable from January 1. 7 in 2019 (copy certified by the organization or individual).

Annex 3: Summary of the food fortification program in Vietnam

The food fortification research was implemented in Vietnam from 2000s with support from ILSI Japan. Fish sauce was the first food vehicle to be selected for fortifying with iron. Vietnam had 2 publications of research results including 1) Pham Van Thuy, Jacques Berger, Yukiko Nakanishi, Nguyen Cong Khan, Sean Lynch, Philip Dixon. The use of NaFeEDTA-fortified fish sauce is an effective tool for controlling iron deficiency in women of childbearing age in rural Vietnam. *Journal of Nutrition* 2005 Nov;135(11):2596-601; and 2) Pham Van Thuy, Jacques Berger, Lena Davidsson, Nguyen Cong Khan, Nguyen Thi Lam, James D Cook, Richard F Hurrell, Ha Huy Khoi. Regular consumption of NaFeEDTA-fortified fish sauce improves iron status and reduces the prevalence of anemia in anemic Vietnamese women. *The American Journal of Clinical Nutrition*, Volume 78, Issue 2, August 2003, Pages 284–290. After two successful research, Vietnam had national program to expand the project to national level from 2005-2009. Iron fortified fish sauce was produced in 16 companies and distributed through commercial channels and through women association network. The iron fortified fish sauce received technical support from the ILSI Japan, IRDC France and financial support from the GAIN. From 2009-2013, the project added more food vehicles including soya sauce, seasoning, and oil to be fortified with iron, zinc and vitamin A respectively. In this period the project received technical and financial support from the GAIN. In 2014, the project team in Vietnam lead by Dr. Tran Khanh Van who was coordinator of the project promoted to develop mandatory decree of fortification program in Vietnam. January 2016, Prime Minister ratified the mandatory decree of fortified foods in which iron and zinc was fortified in to wheat flour, iodine was fortified into salt and vitamin A was fortified in edible oil. The GAIN ended support for Vietnam since 2019 after the last project of “bibomix” – micronutrient powder”.

Annex 4: Introduction of NINFOOD (attached)

Annex 5: Introduction of Nghe An company (attached)

Annex 6: Brief content of memorandum between the National Institute of Nutrition and Nghe An company

Article 1: Objectives of the collaboration

Party A and party B cooperate to exploit the potentials and strengths of each party to conduct scientific research activities, transfer technology and apply research results in the field of nutrition and food into life.

Article 2: Collaboration mechanism:

- Bilateral cooperation, equality mutual benefit within the framework of functions and tasks of the two parties and current regulations of Vietnam's law.
- The two sides agree to build specific cooperation activities every year. The details, responsibilities, obligations and interests of the parties are clearly stated in the respective service provision contract

Article 3: Scope of collaboration

In the spirit of voluntariness for the common development of the two parties, we agree with the following scope of collaboration:

- Cooperation in research and exploitation of nutritional value, application of new technologies to protect, enhance and increase the nutritional value of Vietnamese agricultural products to develop food ingredients, nutritional products, functional foods to meet market demand.
- Consulting, building, and transferring scientific research results in the field of nutrition and food such as: formulas, technological processes for the production of food ingredients, nutritional products, fortification and supplementation processes supplementing with micronutrients... in order to improve nutritional status and health of Vietnam population.
- Food quality and safety testing service
- Cooperation in processing, production, distribution and consumption of agricultural products.
- Cooperating in the implementation of communication activities on knowledge and practice of appropriate nutrition and health
- Cooperation in training services, fostering professional knowledge in nutrition, food and food safety.