

Food safety, everyone's business



National Food Safety Index

2019-2020

Bhutan Agriculture and Food Regulatory Authority

Ministry of Agriculture and Forests

Thimphu, Bhutan

JULY, 2020

TABLE OF CONTENT

Serial No	Content	Page Number
1	Introduction	3
2	Food Inspection, Testing and Certification	4-5
3	National Food Safety Index	6
4	Methodology	7-8
5	Results	8-10
4	Conclusion	11

1. Introduction

Bhutan Agriculture and Food Regulatory Authority (BAFRA) is the competent authority for biosecurity management and food safety administration in the country to protect the farming system including the environment and to promote the quality and safety of food. BAFRA was officially established as the Quality Control and Regulatory Services (QCRS) in August 2000. Later in 2003, the organization was renamed as BAFRA with the additional mandate of food safety..

BAFRA currently functions under the Ministry of Agriculture and Forests and is headed by the Director General. It has two divisions -Plant and Animal Biosecurity Division (PABD) and Food Quality and Safety Division (FSQD). Apart from the head office located in Thimphu, BAFRA has field offices in 20 Dzongkhags, Dungkhags, major entry points, minor entry points and other branch offices including the National Food Testing Laboratory (NFTL) at Yusipang, Thimphu.

Food Quality and Safety Division (FQSD) is responsible for implementing the Food Act of Bhutan 2005 and its regulations to ensure safe and quality food in the country and the Biosafety Act of Bhutan 2015 to protect human, animal and environmental health from the unintended effects of GMOs.

The division ensures the safety and quality of food commodities through implementation of various food safety activities in an effort to facilitate safe food trade. All food businesses are registered with BAFRA for proper coordination of surveillance, monitoring and inspection. The inspections are planned by respective field offices based on risks, wherein the food establishments producing high risk products or have records of failure are inspected more frequently.

The specific food safety activities taken up by the division are as follows;

- Food Safety Licensing, Inspection & monitoring services of Food Business
- Establish and implement Food Import/Export Control System
- Awareness on Food Safety of Food Business Operators and consumers through education, training and sensitization programmes
- Formulation of Technical Regulations for Food
- Investigation and Management of food safety incidents, food-borne disease outbreaks
- Function as the National Focal Points for Codex Alimentarius Commission and the International Food Safety Authorities Network (INFOSAN) Regulatory research related to food safety and quality

2. Food Inspection, Testing and Certification

The Food Act of Bhutan 2005 is implemented to ensure safe and quality food in the country for building a healthy population in the country. The implementation of the Food Act is supported by its rules and regulations, various guidelines and standards. This section is also responsible for ensuring the manufacture of safe and quality food commodities through implementation of various food safety measures in an effort to facilitate safe food trade.

The food legislations require all food business to be licensed. For the purpose, the Food Business Licensing has been established based on GHP/GMP Criteria. So far, 18 food processing units have been licensed. The informal food businesses such as street vendors, temporary food sheds and home-based food manufacturers are registered with district BAFRA field offices for the purpose of monitoring and also training of food handlers. BAFRA is also involved in the events such as mass catering during Menlom Chenmo, visit of high level delegates &VVIPS, important National Events to ensure food safety through inspection and testing.

BAFRA also carry out inspection and testing of food categories based on the global and national food safety issues and then takes risk based regulatory measures. Example : temporary ban on some vegetables and seaweeds. The commodities are tested in the field offices using rapid test kits for screening and referred to accredited laboratories for confirmation for the test parameters which are not within NFTL's scope of testing. BAFRA also carry out targeted inspection and sampling to address the complaint received and as part of surveillance activities to maintain the process and product conformity.

Foodborne outbreaks are investigated as per the Food Safety Investigation Manual and in collaboration with the Royal Center for Disease Control (RCDC), Ministry of Health. The past few years have seen few sporadic food poisoning cases from the consumption of cakes prepared in some of the bakeries in the country. All the cases have been investigated and closed... Further, BAFRA implements food labelling requirements as mandated by Food Act of Bhutan and its regulations. It also handles matters related to Codex and INFOSAN. All codex and INFOSAN related activities are carried out to ensure that our standards/procedures/protocols are in line with available scientific information and as per the international food safety norms.

NFTL was established in the year 2005 to carry out mandatory analytical and diagnostic tests as per the requirements of the legal framework in the area of microbiology and chemical disciplines. Thereafter, tests related to biotechnology and genetically modified organisms (GMOs) were included keeping pace with the changing times.

NFTL functions under Food Quality and Safety Division to provide technical backstopping to BAFRA and facilitate trade by providing the testing services. NFTL is accredited for ISO/IEC 17025: Requirements for Testing and Calibration Laboratories since 2012 and it is reassessed regularly by the accreditation body to ensure the continued compliance to the requirements. As of date 32 chemical, 11 microbiological and 4 GMO test parameters are accredited by the National Accreditation Board for Testing and Calibration Laboratories (NABL), India. To minimize the dependence on the ex-country accredited laboratories for testing, it is important to continually increase the testing scope of NFTL and establish the state-of-art testing facilities and to subsequently increase the Scope of Accreditation. Thus, NFTL is striving for its development in terms of increasing its testing scope and laboratory facilities to meet the increasing demand of regulatory services as well as that of food business (food export & Import) in the country. .

BAFRA is mandated to promote goods and products related to food, agriculture and livestock, through inspection and certification for safety and quality. It functions as the inspection and certification body for food, agriculture/livestock products, for agricultural production systems such as Organic and Good Agricultural Practices (GAP). It also facilitates and promotes food trade through standardization and implementation of internationally recognized quality and safety management systems. To assist the food industries and commerce in Bhutan, BAFRA has launched Product Certification schemes which are implemented in conformity with ISO IEC 17065:2012 to provide third party mark of certification. The certification demonstrates that the food industries have implemented and are operating their processes, activities and operations in accordance with the certification marks. The accreditation of certification services provided by BAFRA (certification of food product, process service or food safety management system) as per international norms will broaden the market acceptability of Bhutanese products in the world. BAFRA is currently accredited for ISO/IEC 17065:2012 by National Accreditation Board for Certification Bodies (NABCB), India since 2018 for packaged drinking water, packaged natural mineral water and fruit juices. The Certification Section of BAFRA undergoes annual compliance audits conducted internally and by the accreditation body, enabling the food business operators to receive a credible food safety certificate for their operations, providing their consumers with enhanced confidence regarding food safety.

3. National Food Safety Index

Food safety is an area of high relevance to today's time when we are faced with increasing food safety threats leading to food poisoning/food borne diseases. An unprecedented number of disease outbreaks have occurred both within the country and internationally due to both microbial and chemical contaminants including known pathogens such as *E.coli*, *Listeria* and *Salmonella*, as well as new threats such as avian influenza and bovine spongiform encephalopathy (mad cow disease). Chemical threats continue to exist from the application of pesticides and other chemicals introduced or naturally present in the environment including polychlorinated biphenyls and heavy metals. The technology such as nanotechnology and biotechnologies introduce new and at times undiscovered risks to the food system. Other challenges include the emergence of new threats to food safety and consumer health due to changing lifestyle, food habits and continued evolution of Bhutan into a modern society.

Food safety requires a coordinated vision right from the government level to the farm production level ascertaining the commitment of all the multi-sectoral stakeholders in the food chain.

BAFRA has been implementing the Food Act of Bhutan 2005 and the Food Rules and Regulations of Bhutan 2017; however, due to the lack of an overall guiding policy, there is lack for coordinated approach and information network for food safety involving important stakeholders from farm to fork. The Coordination and implementation of food safety measures in Bhutan faces a number of challenges such as incomplete food legislations; absence of a national food control strategy; poorly defined and overlapping mandates among agencies involved; limited infrastructure, equipment, supplies, skilled personnel in inspection and testing areas; inadequate scientific and technical resources for food inspection and compliance; limited knowledge about, and ability to comply with food quality and safety assurance systems; weak capacity to participate fully in international bodies and agreements governing trade in food.

For the reasons aforementioned, the national food safety index is included as one of the KPIs under the result (outcome 1) for "Food and Nutrition Security Programme" in 12 Five Year Plan basically to address the issues aforementioned.

4. Methodology

The national food safety index is a broad indicator to determine the effectiveness of food safety measure in the country. National Food Safety Index for 2019-2020 is established based on materials and methodology designed for 12 FYP. The weightage assigned to the National Food Safety Index for fiscal year 2019-2020 is 33 (thirty-three) and the Excellent target is set at 90% as reflected in the Government Performance Management System (GPMS).

To achieve the target, seven success indicators were identified for measurement of efficacy of food quality and safety measures implemented by BAFRA. Each success indicators have a well-defined description and units for measurement with well-defined targets. The targets were computed as Excellent (100%), Very Good (90%), Fair (70%) and Poor (60%) and based on the contribution of the success indicator to the outcome; the weights were assigned for each success indicator. Following are the success indicators weight weigh and target for 2019-2020 agreed in the APA agreement.

Action	Weight (%)	Success Indicator	Unit	Weight (%)	Target	Achievement
National Food Safety Index	33	Domestic Food establishment licensed based on GHP/GMP Criteria	Number	4	10	10
		Foodborne diseases and safety incidences managed effectively	Percent	5	100	100
		The framework/modalities for Food Import Control Database System is in place.	Percent	5	100	100
		Quality assurance and certification for agricultural produces and inputs implemented	Number	5	4	4
		National Food Testing Laboratory fully equipped and functional	Number	6	4	4
		Accredit BAFRA's inspection services for ISO/IEC 17020:2012	Percent	4	70	70
		BhutanGAP certification system accredited as per ISO/IEC 17065	Percent	4	100	100

Success Indicators with targets

For the calculation of National Food Safety Index, following formula will be used:

$$\text{NFSI} = (\text{Sum total weight of SIs} / \text{Total weight of National Food Safety Index}) * 100$$

5. Results

For the financial year 2019-2020, following are the implementation status of seven success indicators included as SIs to establish the National Food Safety Index:

1. Domestic Food establishment licensed based on GHP/GMP Criteria

The Food Safety License based on BAFRA GHP/GMP Criteria was issued to 10 food establishments. The list can be accessed from <http://www.bafra.gov.bt/food-safety-licensing-of-food-business/>

2. Foodborne diseases and safety incidences managed effectively

The food poisoning outbreak occurred in Nanglam in 20 April 2020 due to consumption of cream cake and bun. The food borne illness was investigated and cause determined as Salmonellosis. The outbreak was effectively managed and closed.

3. The framework/modalities for Food Import Control Database System is in place

The framework/modalities for online food import control database system named as "Bhutan Biosecurity and Food Safety System" has been developed and forwarded to ICTD, MoAF for development of the online database system vide letter BAFRA/MoAF/5-47/1213 dated 28 April 2020

4. Quality assurance and certification for agricultural produces and inputs implemented

Due to COVID 19 pandemic, the target has been revised to 2 from 4. As of June 2020, two Bhutan-GAP certificates were issued based on Bhutan-GAP Standard (BTS30 : 2017) to Norbu kiwi and Horticulture Farm at Gangthramo village under Talo Gewog, Punakha and Mandarin farm at Gangzur Village under Tshendagang Gewog, Dagapela on 20th December 2019. The certificates were issued following the product certification system based on ISO 17065 which involved:

- Application registration and review
- Preliminary Visit
- Farm Audit
- Review for certification decision
- Certification Committee meeting
- Award of certificate

The list of certificates issued is accessible here <http://www.bafra.gov.bt/product-certification-services/>

5. *Accredit BAFRA's inspection services for ISO/IEC 17020:2012*

Due to COVID 19 pandemic, the target has been revised to 50% from 70%. As of June 2020, 60% has been achieved as detailed below: 1. Identify International Consultant to assist BAFRA with the accreditation, completed on 26 March 2020 2. Contract signing and award of consultancy to selected firm, completed on 20 April 2020 3. Document based self-assessment (Gap-analysis) of existing inspection system as per the ISO 17020 Standard requirements, completed on 3 May 2020 4. Field assessment of BAFRA's inspection services to assess adequacy as per ISO 17020, completed on 19 June 2020. 5. Develop inspection system elements and documentation as per ISO 17020, completed on 22 June 2020. 6. Prepare application along with key documents and information required as part of application, completed on 22 June 2020.

6. *National Food Testing Laboratory fully equipped and functional*

For the introduction of the new test parameters in the different sections of NFTL, the following are the major activities that were carried out:

- i. Identification of the new test parameters based on the need from the customer
- ii. Looking for the relevant Test Standard and made them available by purchasing from the relevant organizations
- iii. Developed SOPs to be used in the lab as per the requirement of ISO/IEC 17025: 2017
- iv. Prepared the list of the equipment/ media/reagents/ chemical/consumables for each test parameter
- v. Tendering and Contracts were awarded for the laboratory items identified above in 4) following the Procurement Procedures of RGOB.

All the above activities have been completed along with the introduction of new parameters in the area of Heavy Metal analysis like Zinc in Rice and Lead in Dry Fish products with the installation of the microwave digestion unit. However, due to COVID-19 situation, NFTL is yet to receive the laboratory items required for other new test parameters, for which we have proposed to rate the progress based on activities completed against each parameters as above.

7. *BhutanGAP certification system accredited as per ISO/IEC 17065*

Due to COVID 19 pandemic, The target has been revised to 70% from 100%. As of June 2020, 80% has been achieved as detailed below:

- i. Self assessment, completed on 10-14 June 2019

- ii. Prepared application along with key documents and information required as part of application, completed on 25-26 September 2019
- iii. Application submitted to NABCB on 3rd October 2019
- iv. Developed certification system elements, documentation and submitted to NABCB portal on November 15, 2019
- v. Completed Offsite/document review by NABCB (QM, Schemes, Procedures, forms and formats), completed on 12 February 2020
- vi. Implemented the developed certification system involving clients (2 farms) and auditors and using the developed procedures and formats, completed on 20 December 2019
- vii. Developed documentation for onsite office and witness assessment by NABCB, submitted on 23rd May 2020
- viii. Completed onsite office assessment by Assessors from NABCB on 28-29 May 2020
- ix. Witness assessment - pending (involves travel of Assessors from India)
- x. Closure of non conformities raised during the assessment: Pending due to COVID

Therefore, the national food safety index can be calculated as follow:

$$\begin{aligned}
 \text{NFSI} &= (\text{Sum total weight of SIs} / \text{total weight of SIs under National Food Safety Index KPI}) \\
 &\quad \times 100 \\
 &= (33/33) \times 100 \\
 &= 100\%
 \end{aligned}$$

Thus, the National Food Safety Index for 2019-2020 is 100%.

6. Conclusion

The national food safety index is a broad indicator to assess the progress and status of the national food safety measures taken by BAFRA as a competent food safety authority in the country.