

ANNUAL REPORT 2018-2019

CONTENT

1.	Message Director General, BSB	1
2.	BSB Governance Structure	3
3.	BSB Board Members.....	4
4.	What is ISO 9001 and how can it help your organization?	6
5.	Achievements for Fiscal year 2018-2019.....	9
6.	Public Awareness	12
7.	Regional and International Participation.....	17
8.	Study Reports.....	20
9.	Budget and Revenue.....	25

MESSAGE FROM THE DIRECTOR GENERAL

BSB would like dedicate this report to all the organizations and colleagues who have collaborated and supported us in pursuing the various initiatives to develop a national quality culture. This report also presents the achievements of BSB, initiatives undertaken, services provided and financial performance during the 2018-2019 financial year.

The report tells the story of the dedicated BSB colleagues meeting their annual performance targets as well as getting to know our stakeholders better, particularly their needs and priorities. It also presents how BSB works with its clients and maintains its ongoing relevance through its various services. The report highlights the support received from our international, regional and national quality infrastructure bodies, namely, the PTB Germany, Standard Australia, BIS India, ASTM USA, ISO-IEC etc. BSB would like to express its gratitude to our international and regional partners for their support.

The overall performance of BSB for the year was laudable despite a substantial reduction in the capital budget allocated for the first half of the financial year. The supporting figures in the subsequent sections of the report stand testimony to this humble statement.

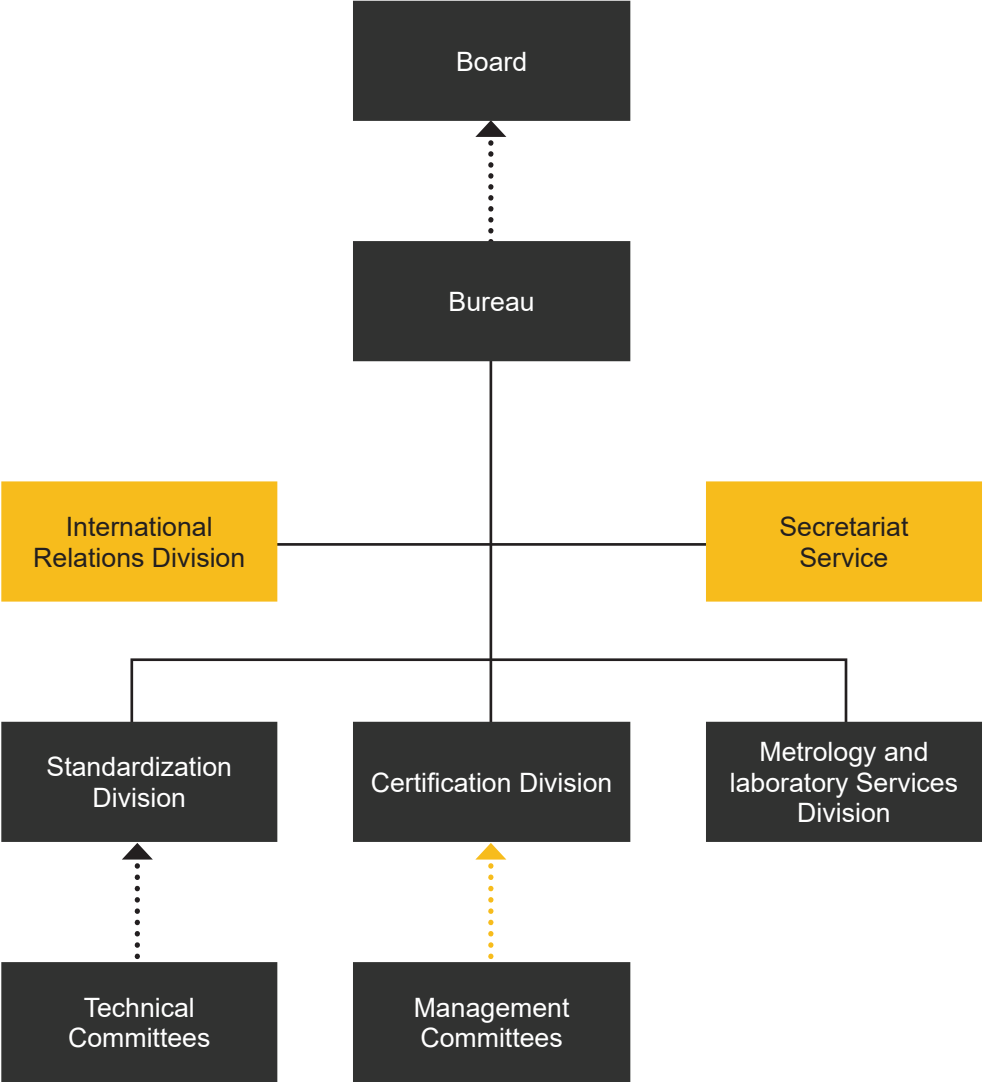
This year, BSB did substantial work in raising awareness on various aspects of quality infrastructure systems. Besides commemorating major international events such as the standards, metrology, and accreditation, BSB organized 5 major events to raise national awareness on the importance of developing a national quality culture. BSB would like to thank the Secretariats of the National Assembly and the National Council, the heads of ministries, regulatory bodies, and other organizations including the Chief Executive Officers of the Industries for supporting BSB in organizing the awareness programmes successfully.

The challenge to raise the national awareness on the need to develop a national quality culture is real. Likewise, agreeing on a common national quality framework to address this challenge is even more demanding. Is this because we are so used to seeing and understanding things through our respective individual/organizational sensory lenses? How can we see things beyond our sensory horizon and agree on a common path? There are no ready-made answers. However, many will agree that we can take the first step of developing our capacity to understand (1) ourselves, our roles and our capacity to contribute; (2) the need to shed our individual/organizations' interest in support of the larger national interest; (3) what other organizations are doing; (4) if our organizations are doing similar things, find ways of reorganizing our respective functions and optimize the scarce national resources; and (5) the need for a change in the existing laws and regulations if such changes contribute to the development of a national quality culture.

Working closely with our colleagues in the public and private organizations, we can reinforce our position as an enabler of the national quality culture. Our strengthened focus in this area would transform our commitment to the overall national socio-economic development.

We hope that this report will provide you some useful insight why BSB is very passionate about developing a national quality culture to support the GNH, symbolized by the Four Noble Friends (Thuenpa Puen Zhi) insignia. Thuenpa Puen Zhi insignia should provide us the inspiration and strength to build a strong BSB built on committed members collaborating with other organizations in pursuit of excellence. The performance of BSB in 2018-2019 is a testimony that together we can do it.

BSB GOVERNANCE STRUCTURE



▲ Reporting Role

▲ Advisory Role

■ Support Services

BSB BOARD MEMBERS



HE Lyonpo Loknath Sharma

His Excellency is the Minister for Ministry of Economic Affairs and serves as the Chairperson of the BSB Board since 31st October 2018.



Namgay Wangchuk

Director General of Bhutan Agriculture & Food Regulatory Authority, MoAF and serves as member to BSB Board since 16th May 2019.



Dorji Dhradhul

Director General of Tourism Council of Bhutan and serves as member to BSB Board since 16th May 2019.



Sonam Tenzin

Director, Office of Consumer Protection, MoEA and serves as member to the BSB Board since 16th May 2019.



Sonam Tenzin

Director, Department of Trade, MoEA and serves as member to the BSB Board since 16th May 2019.



Chhimmy Pem

Director, Department of Occupational Standards, MoLHR and serves as member to the BSB Board since 16th May 2019.



Karma Dupchuk

Director, Department of Engineering Services, MoWHS and serves as member to the BSB Board since 16th May 2019.



Rinchen Wangdi

Director, GNH Commission Secretariat and serves as member to the BSB Board since 16th May 2019.



Sangay Dorji

Secretary General, Bhutan Chambers of Commerce and Industry and serves as member to the BSB Board since 16th May 2019.



Sonam Phuntsho

Director General, Bhutan Standards Bureau and serves as Member Secretary to BSB Board since 1st August 2015.

WHAT IS ISO 9001 AND HOW CAN IT HELP YOUR ORGANIZATION?

The International Organization for Standardization (ISO) is an independent, nongovernmental organization that oversees the drafting of ISO 9001 and many other international standards. ISO defines ISO 9001 as “a standard that sets out the requirements for a quality management system. It helps businesses and organizations to be more efficient and improve customer satisfaction.” It lays down the requirements for a quality management system (QMS) and an organization that uses or implements the standard is able to demonstrate its ability to consistently provide products and services that meet customer and regulatory requirements.

Regardless of size, public or private, any organization can adopt ISO 9001 to improve their products or services. The standard helps to establish a framework for how an organization manages its key processes. ISO 9001 can be especially helpful to start off new businesses on the right footing by ensuring that processes meet recognized standards, clarifying business objectives and avoiding expensive mistakes. The same benefit applies to public organizations.

ISO 9001 certification helps the business grow, increase the number of clients, lead to a higher profile and increased business overseas due to its global recognition. ISO 9001 certified organizations can distinguish themselves from their competitors and many large businesses and public sector organizations require suppliers to be ISO 9001 certified.

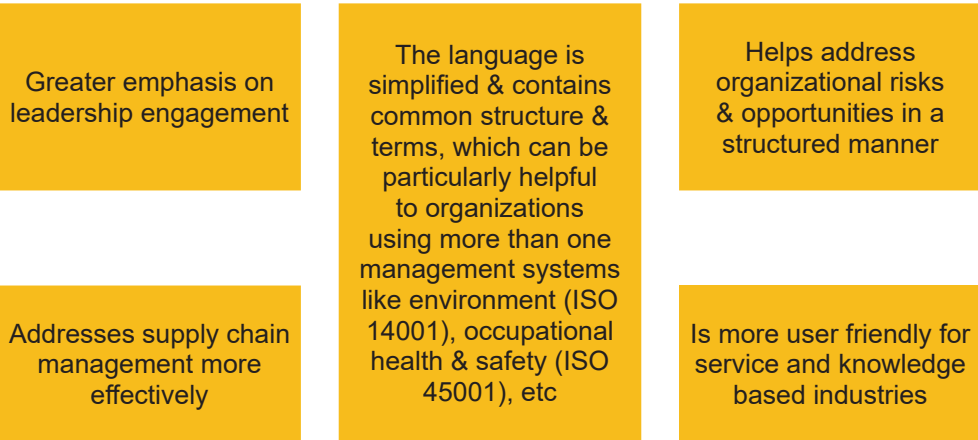
One important thing to note: ISO 9001 certification is not mandatory. However, organizations certified for ISO 9001 stand-out for quality as their products and services conform with the requirements of the standard and is also attested by a third party on the compliance to the standard.

BSB currently has the competence to carry out certification for ISO 9001:2015 in three scopes: Animal Feeds (IAF 03), Financial (IAF 32) and Public Administration (IAF 36) and has accreditation from the National Accreditation Board for Certification Bodies (NABCB), India. BSB intends to extend the scope of accreditation to cover relevant organizations and industries in the 12th FYP.

There are many more benefits of ISO 9001. Some of the more prominent benefits are:

- 01** Efficient management process
- 02** Greater consistency in the activities
- 03** Everyone has a set of responsibilities
- 04** Boosts the morale of staff and customers
- 05** Increases efficiency (time and resources)
- 06** Easier to identify deficiencies
- 07** Reduces your costs
- 08** Continuous assessment and improvement
- 09** Increases marketing opportunities
- 10** Improves quality and service
- 11** Ensures timely delivery
- 12** Improves customer satisfaction
- 13** Ensures fewer or no mistakes
- 14** Constantly improves products, processes and services
- 15** Market your business more effectively

ISO 9001:2015, which is the latest version of the standard, has additional benefits to the 2008 version including:



ACHIEVEMENT FOR FISCAL YEAR 2018-2019

1. Product and Management System Certification

The CD convened **7** Product Brand Approval Committee meetings (from 67th – 73rd) for both civil and electrical products. The committee approved **17 civil** and **19** electrical products, mostly manufactured in India.

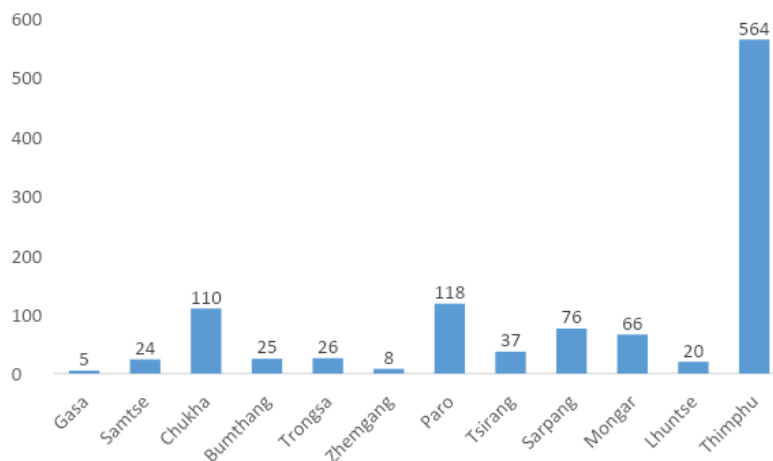
The accreditation of cement, TMT reinforcement bars and cationic bitumen emulsion was renewed for the next four years by National Accreditation Board for Certification Bodies (NABCB), India.

Initiated the certification of two local organizations for Quality Management System ISO 9001:2015.

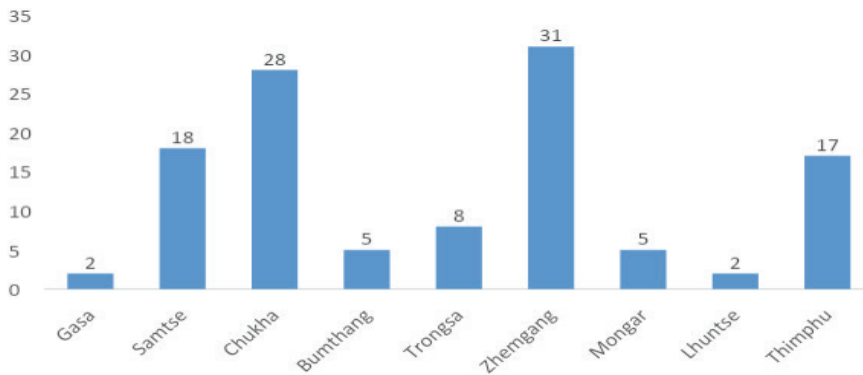
Carried out surveillance of certified products in the market in June 2019 covering both electrical as well as civil products.

Carried out a number of awareness programs with accredited local manufacturers and Members of Parliament.

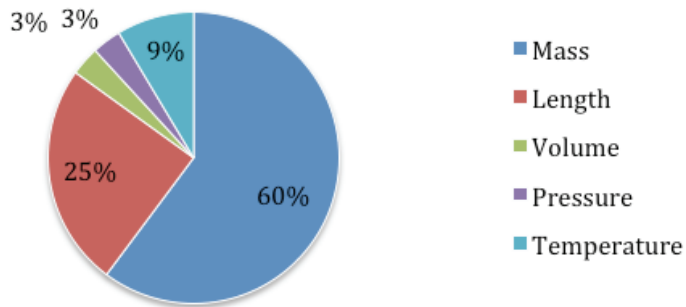
2. Product and Material Testing Services



Total Number of Weights and Measures verified in different Dzongkhags



Total Number of Fuel Dispensing Pumps Verified in different Dzongkhags



Total Numbers of Calibrations Carried out

3. Standards Developments

The total number of Bhutan Standards stands at 245 as of FY 18-19. National standards are formulated under the ten technical committees which are approved and endorsed by the BSB Board. The standards are formulated following the best practices of ISO and other international standards bodies. For a national standard to be formulated the technical inputs are provided by the experts from the industries, regulators, academia and the government provides the necessary logistical, secretarial and the fund support for standards formulation works.

Two National Standards i.e. BTS 139: 2019 SARS 0014: 2018 Food Hygiene-General Principles- Code of Practice and BTS 267: 2019 IS 308: 1988 (Reaffirmed 2016) were endorsed by 10th BSB Board Meeting.

18 National Standards are in working draft stage and 9 in committee draft stages.

4. ISO Twinning with Standards Australia

As part of the ISO New Rights program, BSB proposed for ISO twinning program under TC-04 Basics and Management Technical committee with Standards Australia on 4th March, 2019. The ISO twinning arrangement provides support for the national mirror committees to build their capacity on standards development and technical knowhow on matters related to international standardization processes. The ISO twinning program will run alongside the Indo-Pacific Digital Trade Standardization initiative.



Standards Australia and ISO Twinning meeting held at BSB conference hall, Thimphu.



Participant of the workshop with the chief Guest



PUBLIC AWARENESS

1. Workshop on Accreditation

The workshop on “**Concept of Accreditation in Bhutan**” was held on 27th March, 2019 at Hotel Namgay Heritage, Thimphu in collaboration with PTB - Germany and the National Accreditation Board for Certification Bodies, India to discuss and explore the possibility of establishing a National Accreditation Body to strengthen Bhutan’s national quality infrastructure.

The recommendations from this workshop were presented to “**High Level Dialogue on Accreditation**” which was held on 29th March 2019 at Le Meridien, Thimphu, for validation and future course of action. The meeting was Chaired by Minister, Ministry of Economic Affairs and attended by Executives and senior representatives of different agencies.



Participants from SAARC countries with BSB Board Chairperson

2. Second SAARC PTB Workshop on Best Practice in Metrology Law Development

Based on a Memorandum of Understanding signed between the SAARC Secretariat and PTB in 2003, the workshop was organized with core objective to reduce technical barriers to trade. The workshop was attended by organizations from each SAARC Member State that are in charge of metrology laws and regulations, i.e. Legal Metrology Authorities or National Metrology Institutes, representatives of the SAARC Secretariat, South Asian Regional Standards Organization (SARSO) and relevant stakeholders from Bhutan as observers.

3. High level awareness on National Quality Infrastructure (NQI) system

A high level awareness workshop on the importance of National Quality Infrastructure system was organized in collaboration with National Assembly and National Council secretariat for the members of Good Governance Committee of the National Council (NC) on 24th January, 2019 at the NC conference hall and for the National Assembly Members on 26th April 2019 at Le Meridien.



Members of Parliament attending High level sensitization on National Quality Infrastructure, Le Meridien, Thimphu.

4. National Focal Points workshop

To facilitate maximum participation of our key national stakeholders in the development of national standards, a one day national focal points workshop was conducted at FITI, Thimphu on 30th April, 2019. The focal points were presented with standardization processes, methodology and its use in regulations, rules and for other developmental uses.



Focal point workshop held at FITI, Thimphu.

5. Workshop on Implementation of Bhutan Standards Licensing Regulation

The awareness workshop on Implementation of Bhutan Standards Licensing Regulation 2015 and ISO 17065:2012 was organized at Phuntsholing with participants from accredited local manufacturers of cement, steel and bitumen emulsion.

The workshop discussed and resolved all matters pertaining to certification of products by the manufacturers as per Bhutan Standards Licensing Regulation 2015 and the guideline for using the BSB Product Certification Mark in the domestic and regional markets.

It was also resolved that the manufacturers would submit a proposal to the Royal Government to take up with relevant governments for the recognition of the BSB Certification Mark on products manufactured as per relevant national standards.



Participants of the workshop

REGIONAL AND INTERNATIONAL PARTICIPATION

1. ISO General Assembly

The 41st ISO General Assembly (GA) was held at International Conference Center Geneva (CICG), Switzerland from 24-28 September 2018. The GA focused on sharing knowledge and innovating new ideas on how International Standards can make the UN 2030 Agenda for Sustainable Development a reality for improving the quality of life of an ever-growing global population. The two-member delegation led by Director General attended the General Assembly.

On the sidelines of attending the DEVCO and GA sessions, BSB delegation had the opportunity to network with ISO Central Secretariat and other NSBs to further strengthen the existing cooperation and explore new areas of cooperation.

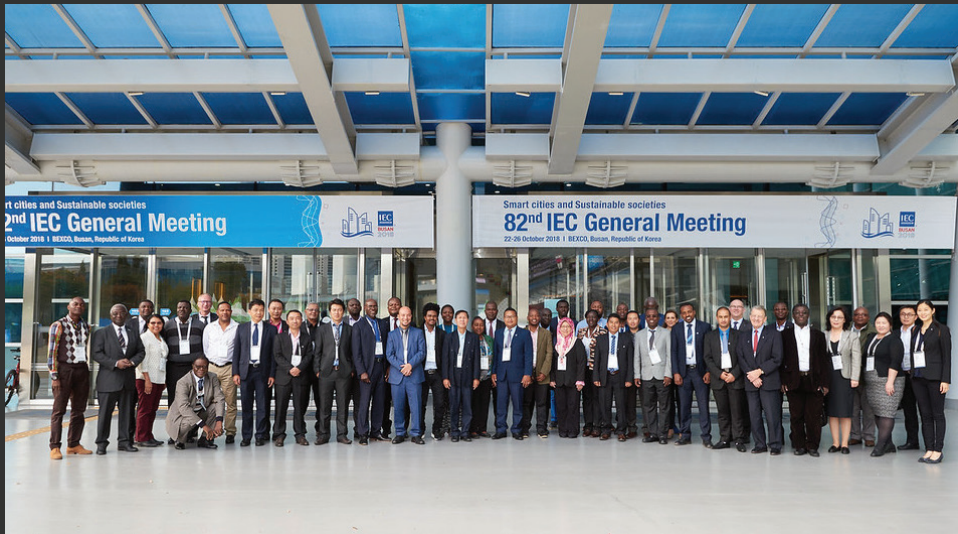
The informal networking and bilateral meetings with partner organizations was useful for BSB to:

- a) ensure the same level of grant of full ISO sponsorship for its capacity development;
- b) initiate the twinning programme and other support from Standards Australia;
- c) continued access to Indian Standards and trainings organized by the Bureau of Indian Standards; and
- d) collaborate with regional standards organizations to formulate a joint regional project.





Members of SARSO Governing Board with delegation from other standards Bodies



IEC General Meeting



Members of SAARC Expert Group on Accreditation (SEGA)

2. 7th Meeting of the Governing Board of SARSO

The Seventh Meeting of the Governing Board of South Asian Regional Standards Organization was held from 22 to 23 November 2018 in Kathmandu, Nepal hosted by Nepal Bureau of Standards and Metrology (NBSM), Nepal. As per the Agreement on the Establishment of SARSO, the Director General of the BSB attended the Meeting as a Member of the GB.

As per practice, the GB reviewed, revised and approved the workplan and budget of SARSO submitted by the SARSO Secretariat for the next calendar year to be considered by the SAARC Programming Committee.

3. IEC General Assembly, 2018

BSB being an affiliate member participates in the IEC GM in the affiliate forum and attends the various TC/SC/WG meetings of interest to our National Mirror Committee or TC-03 (Electrical and Electronics Engineering Technical Committee). The officials from DGPC and NHDC also participated in the IEC GM as part of the Bhutanese delegation. It was intended to bring our national stakeholders on the international platform to introduce best international standardization practices.

4. SEGA Meeting, Goa, India

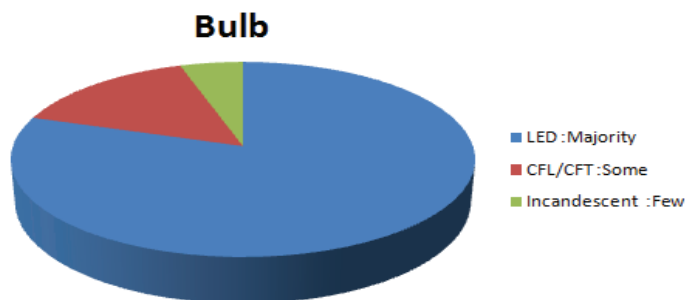
The Sixth Meeting of SAARC Expert Group on Accreditation (SEGA) was held from 04 - 05 December 2018 in Goa, India followed by Training on Cooperation of Accreditation Bodies and Regulatory Bodies in SAARC Countries - Harmonized Approach to Advising Regulators from 06-07 December 2018. The Meeting and the training were organized by National Accreditation Board for Certification Bodies (NABCB) with financial assistance from PTB Germany. The Director General of BSB attended the meeting. As per the recommendations of the Meeting, BSB organized two days workshop-cum training to its national regulators and other organizations to develop national awareness on the importance of accreditation to its national economy.

STUDY REPORTS

1. Electrical Systems in Dzongs

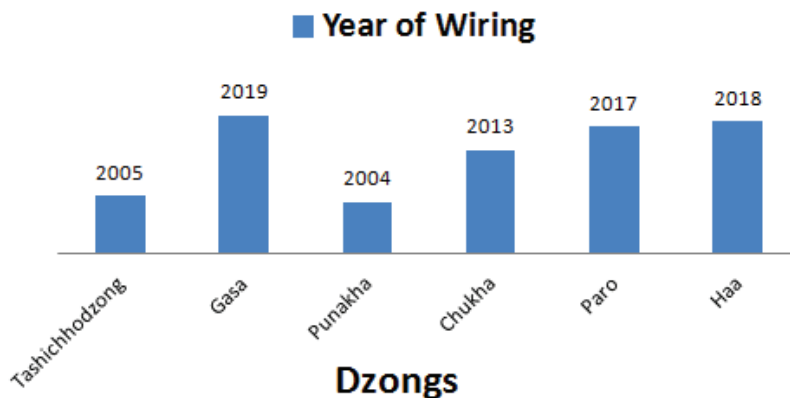
The Electrical Safety Laboratory of Bhutan Standards Bureau (BSB) carried out a survey on the electrical systems used in Dzongs to understand and establish electrical safety requirements to prevent electrical related hazards. The Electrical Safety Laboratory has the capacity to provide basic electrical safety tests such as Fire Resistant, Heat Resistant, Ball Pressure, Insulation Resistance and Earth Continuity Tests. This exercise was also intended to create awareness on the electrical product testing services of BSB. This exercise covered six Dzongs of Paro, Haa, Gasa, Chhukha, Punakha and Thimphu.

Majority of the bulbs used in Dzongs are LED bulbs followed by CFL/CFT. The usage of incandescent bulbs is on the decline as most Dzongs are switching to more energy efficient LED bulbs.



It was found that all the electrical products used in the Dzongs do not have in-house or third party test reports to show that products are safe and meets the required standards. Thus the team recommended them to test the products prior to use. The team informed them that BSB offers electrical testing services for fire and heat resistance as per IEC standards.

Chukha, Paro and Gasa Dzongs have done re-wiring while Haa Dzong wiring is new. The wiring of Punakha Dzong is fairly old but is in the process of de-signing and replacing with a new wiring system. In Tashichho Dzong the old panel is shortly going to be replaced by new Hensel panel while retaining the old wiring. The team recommended the replacement of the wiring system as well considering that the existing ones are fairly old.



The wiring used in Dzongs are casing capping, MS conduit and Concealed wiring. The type of wiring in Haa Dzong is concealed wiring as it is new. The concealed wiring offers good aesthetic appearance as compared to casing capping and MS conduit wiring. But from the maintenance point of view casing capping and MS Conduit wiring offers more advantages.

It was found that the inspection and maintenance of the electrical wiring and systems in Dzongs are done weekly, monthly and annually. The team recommended them to carry out inspection weekly to ensure safe operation. The team observed that no electrical measuring equipment were in place for measuring electrical parameters like current, voltage, resistance, etc...

It was also found that only earthing test is conducted before energizing the supply by BPC. The team recommended other tests such as Earth continuity test, Polarity test of switch and Insulation resistance test which are in line with Specification for Electrical Works-2017.

The team also conducted earthing test using digital clamp meter to ascertain the earthing resistance as per IEC/IEEE standards which should be less than 8 ohms. The team observed that some of the earthing plates were giving very high resistance readings at some earthing sites. After thorough checking it was found that the earthing plate is rusted and not properly buried. However, at some earthing sites the resistance was below 8 ohms. The team also observed failure of cable insulation at various sites due to improper procedure followed during laying of cables.



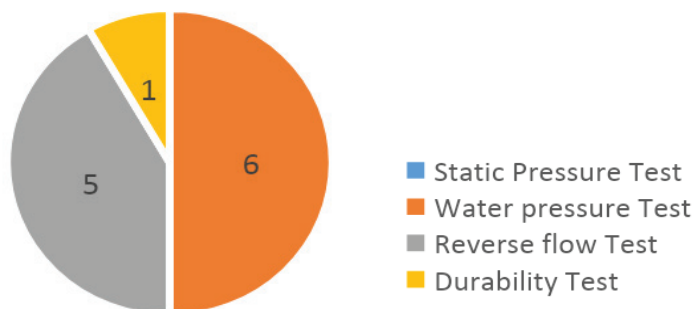
The following recommendations were provided to improve electrical safety in Dzongs:

- a) To procure basic electrical measuring equipment for measuring electrical parameters like current, voltage, resistance, etc.
- b) To conduct necessary tests before energizing the supply as per Specification for Electrical Works-2017.
- c) To conduct fire and heat resistance test as most of the electrical products used in Dzongs do not have in-house and third party test product.
- d) Use products certified by BSB only

2. Pattern approval and verification of water meters in Thromdes

Bhutan Standards Bureau (BSB) conducted survey on pattern approval & water meter systems installed under various Thromdes and Dzongkhags to explore the possibility of providing support by BSB in verification of water meters as per international recommendation OIML R 49 Series to ensure reliability and accuracy of water meters.

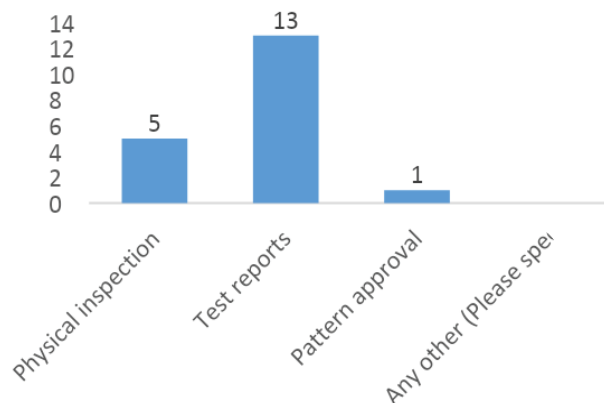
The data were collected from three Thromdes using mixed mode questionnaire and interviews. The pattern evaluation and pattern approval for meters were done based on the manufacturers test certificates. Most tests carried out by the Thromdes were water pressure test followed by reverse flow test and durability test as shown below:



Thimphu & Gelephu Thromdes have installed accuracy class II water meters for which the Maximum Permissible Error (MPE) is $\pm 5\%$ for the lower flow rate zone ($Q_1 \leq Q < Q_2$) regardless of the temperature range while Phuentsholing Thromde has installed Accuracy class I water meters for which the MPE $\pm 3\%$ for the lower flow rate zone ($Q_1 \leq Q < Q_2$) regardless of the temperature range.

It was found that most water meters used in Thromdes to be reliable irrespective of the brands and most complaints received were on whether the water meters give reading by passing air, block due to G.I Pipe rust and defects due to moist & fog.

In order to ensure quality and reliability of water meters, the Thromdes ensure that test reports are furnished and conduct physical inspections after installation to keep them running. However, they do not have a system to ensure the accuracy of these water meters.



Quality of water meters ensured by Thromdes

The water meters of different brands have been installed in various Thromdes. Most used brands are KENT, BAYLAN, ELSTER and ACCUFLOW. The Kent & Elster brands are old brands and mostly used in Thimphu and Phuntsholing. Gelephu Thromde as well as Thimphu have Baylan brand water meters made in Turkey. Phuentsholing Thromde has also used Accuflow water meters which is manufactured in India.

Gelephu Thromde is in the process of introducing SMART metering system by next year as a pilot project. The figure below is a Baylan brand water meter manufactured in Turkey.



Water meter used in Thromdes

Since there is no system to ensure accuracy of the water meters, the Thromdes recommended BSB to conduct periodic verification of water meters as per international standards and also carry out pattern evaluation & pattern approval of water meters.

BUDGET AND REVENUE

Revenue generated from Product Certification and Testing Services

Sl.no	Source	Amount (In Millions)
1	Product Certification	1.37
2	Testing Services	1.22
Total		2.59

Budget/Expenditure (In Millions)

