
NATIONAL CONSTRUCTION INDUSTRY POLICY

Revised FIRST DRAFT



MINISTRY OF WORKS AND HUMAN SETTLEMENT

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ABBREVIATIONS

ACC	Anti-Corruption Commission
BSB	Bhutan Standards Bureau
CAB	Contractors Association of Bhutan
CDB	Construction Development Board
CDCL	Construction Development Corporation Limited
DoFPS	Department of Forest and Park Services
GDP	Gross Domestic Product
GNH	Gross National Happiness
GNHC	Gross National Happiness Commission
MoAF	Ministry of Agriculture and Forests
MoEA	Ministry of Economic Affairs
MoF	Ministry of Finance
MoHCA	Ministry of Home and Cultural Affairs
MoLHR	Ministry of Labour and Human Resources
MoWHS	Ministry of Works and Human Settlement
NRDCL	Natural Resource Development Corporation Limited
NSB	National Statistical Bureau
Nu	Ngultrum
PPP	Public Private Partnership
PRR	Procurement Rules and Regulations
QAP	Quality Assurance Plan
RAA	Royal Audit Authority
RGOB	Royal Government of Bhutan
SOP	Standard Operating Procedure
SQCA	Standard and Quality Control Authority
TVET	Technical and Vocational Training Institute

DEFINITIONS

Annual Allowable Cut is the maximum quantity of logs allowed for felling in a year.

Construction Industry: An economic sector which handles manufacturing, trading and services related to building, maintaining, and repairing structures.

Construction Cost Index is a measure of changes in the average retail prices of a market basket of goods and services purchased by construction industry.

Industrialized Building System is a technique of construction whereby components are manufactured or prefabricated in a controlled environment, either at site or off site, placed and assembled into construction works.

Operational Framework for Subcontracting is a framework for registration, regulation and promotion of subcontractors.

Public Private Partnership: means a commercial transaction that is of benefit to the Government in terms of its plans and policies, between an Institution and a private partner in terms of which the private partner:

1. performs an Institutional Function on behalf of an Institution by designing, constructing, financing, operating and/ or maintaining Infrastructure Facilities; and/or
2. assumes the use of Public Property for its own commercial purposes; and
3. assumes optimal financial, technical, operational and/or environmental risks in connection with the performance of the Institutional Function and/or use of the Public Property, in terms of the PPP Agreement; and
4. receives compensation for performing the Institutional Function or from utilizing the Public Property provided it meets the prescribed quality and quantity standards in terms of the PPP Agreement, either by way of:
 - a) consideration to be paid by an Institution from its budget or revenue; or
 - b) charges, fees or tariffs to be collected by the private partner from end-users/buyers; or
 - c) a combination of such consideration and such charges, fees or tariffs.

Quality Assurance Plan is a document, prepared by project teams, to ensure the final products are of the utmost quality. QAP entails all the details of materials and process to achieve the specified quality.

The Authority: Construction Development Board (CDB) shall be herein after referred as the Authority.

1 INTRODUCTION

Construction industry is responsible for the design, planning, and assembling of infrastructure. The industry covers all types of buildings, such as residential, institutional, commercial, recreational etc. as well as the construction of roads, bridges and other infrastructure. Maintenance of buildings and infrastructure is also the responsibility of the construction industry. The industry requires a diverse workforce including surveyors, architects, engineers, builders, masons, plumbers, and electrician many more.

Construction Industry is much diversified. It involves stakeholders like property builders, property developers, manufacturers, material suppliers, consultants and contractors. The Construction Industry brings cost-effective and quality construction solutions where in all these stakeholders play an active role to make the contract a success.

As evident from the historical monuments, traditional construction practices have been observed for many centuries. The exquisiteness of our Dzongs flaunts the beauty of our traditional architecture and their sheer size demonstrates the complexity of our traditional construction technology. Prior to invasion from modern construction, Bhutan had been building traditional Dzongs, Lhakhang, rammed earth houses, stone masonry structures in mud mortars.

In 1961, modern construction industry first began to set roots in the country with establishment of government engineering body in the form of Bhutan Engineering Services. Another milestone in the Bhutanese construction industry was set in 1969, when the first Bhutanese construction firm took the challenge to construct 14-kilometer Lobeysa – Punakha Highway. Construction Development Board (CDB), formerly known as Contractor’s Selection Board, was instituted in 1987 and was entrusted with the responsibility to regulate and promote contractors and also oversee the proper execution of developmental projects by the contractors.

For a country like Bhutan, the contribution of construction sector to the economy is huge. Starting from construction of small infrastructure to large hydropower projects, the Royal Government of Bhutan and state owned enterprises have been investing very heavily in the process of infrastructure development. Moreover, there are large number of private developers involved in construction of privately owned buildings.

Given the highest potential to generate wealth, employment and sustainable growth within the framework of GNH, it has been identified as one of the priority sector in the revised Economic Development Policy. Over the years Government has made number of interventions geared towards fostering and improving the construction sector. Despite such interventions, the growth of the sector is meagre with substantial room for improvement. The sector is confronted with lot of challenges, which impede its growth and prevents from harnessing full potentials and benefits.

These have necessitated a clear policy to address the issues and guide development of the construction industry. The proposal to develop an inclusive and sustainable Construction Policy is an initiative of the Ministry of Works & Human Settlement (MoWHS). It emerged from the necessity to have an overarching policy to guide the sector.

2 OVERVIEW OF BHUTANESE CONSTRUCTION INDUSTRY

The construction industry plays an important role in the national economy. In 2016, the contribution from construction sector to the Gross Domestic Product (GDP) was 16.28%¹, which translates to Ngultrum 24,204 million. Furthermore, the total capital expenditure outlay for the Royal Government of Bhutan (RGOB) for the Financial Year 2017-2018 was Nu. 29.346 billion and the construction sector had a huge share of 63 %, which translates to about Nu. 18.462 billion².

The government, with the objective of developing private sector, has been outsourcing majority of the construction works. With this, the number of local construction firm has been growing constantly. As of 8th May 2018, the number of registered contractor stood at 4,023 of which 219 are Large, 398 are Medium and 3386 are Small contractors³

There is no doubt that the Ministry of Works and Human Settlement had initiated several reforms to streamline several policies, rules and regulations, and procedures to enhance and promote quality construction in the country⁴.

¹ National Statistical Bureau, Statistical Year Book 2017

² National Budget Financial Year 2017-2018 Report, MoF

³ CDB

⁴ Towards Enhanced Efficiency, Accountability and Transparency in Public Road Construction, ACC, 2017

Despite the growth of investment in construction of infrastructure and concerted effort from the government, the progress of construction industry in terms of professionalism is very limited. For this, both the procuring agencies and the service providers have to bear the accountability equally. The procuring agencies' modus operandi for design, planning, procurement and implementation has not been standardized. Different agencies adopt their own procedure for designing and planning of infrastructures. Although, the procurement rules and regulations are standardized by the Ministry of Finance, the procuring agencies interpret them differently.

The number of contractors have grown over the years, however, most of their performances are well below international benchmark. Beginning from the price formulation practice to project implementation methodology, local contractors have shown weaknesses. This is attributed to inadequate expertise in project planning and management in private sector.

Public works do not have a good reputation of building quality infrastructure. This is compounded by time overrun and cost overruns. There are many factors directly leading to failure of projects. The construction firms fail to provide adequate expertise to oversee proper execution and supervision of the construction works, and the procuring agencies fail to in their monitoring and evaluation of the works. Moreover, the construction industry does not have proper construction standard and code of practices.

Corruption in the industry is becoming a major concern. Between 2006 and 2016, ACC has registered more than 500 complaints regarding construction. There is high prevalence of corruption in the form of favouritism and abuse of functions although existence of bribery, abuse of privileged information, bid rigging etc. were also confirmed.⁵

Corresponding to the contribution of construction industry to the national economy, equal number of jobs have been created. However, on the contrary, these jobs have been taken up by foreign workers. In 2015, the industry recruited about 44,535 foreign workers while only 6,241 Bhutanese workers were employed by the industry⁶. Although, MoLHR through its TVET programs are trying to introduce professionally trained construction workforce since year 2003, the four TVET institutes, that imparts trainings related to construction industry, are producing

⁵ Towards Enhanced Efficiency, Accountability and Transparency in Public Road Construction, ACC, 2017
⁶ MOLHR Annual Report 2014-2015

about 690 graduates annually, on an average. There is a huge deficit in supply of skilled national work force.

According to records with Department of Revenue and Customs, Bhutan has been importing large quantity of construction materials from India every year. There is huge outflow of money through various payments like labour salary, procurement of materials etc. Annually, the RMA remits Ngultrum 7 billion in Indian Currency as payments for the foreign workers and Ngultrum 5.76 billion for the construction materials.

In the present set-up, the construction industry is without an overarching guiding or regulatory agency. The industry has been moving forward without a proper vision and a goal. The industry has been only catering the immediate needs and demands of the national development, without the prospect of professionalization and construction productivity.

3 VISION

A dynamic, competitive and sustainable construction industry.

Or

A sustainable and efficient construction industry to cater to national developmental goals.

Or

An efficient and sustainable construction industry, serving the national development needs through regulation, standardization and innovation.

4 MISSION

To create an enabling environment for development of eco-efficient and vibrant construction industry that is able to undertake construction of any magnitude and participate effectively in regional and global market.

5 GUIDING PRINCIPLES

This policy is founded on the fundamentals of the Constitution of Kingdom of Bhutan and shall strive to promote those conditions that will enable the pursuit of Gross National Happiness. This policy shall contribute to achieving economic self-reliance and promote open and

progressive economy, encouraging and fostering private sector development through fair market competition and prevent commercial monopolies.

6 RELEVANT POLICIES AND LEGAL INSTRUMENTS

In preparation of this policy, the following Acts, Policies and Rules and Regulations have been referred and adhered to.

Forest and Nature Conservation Act of Bhutan, 1995 provides for the protection and sustainable use of forests, wildlife and related natural resources of Bhutan for the benefit of present and future generations. Through this act and its associated rules and regulations, supply of basic construction materials such as timber, sand and boulders are assured. Moreover, this legislation ensures the harvesting of timber and non-wood forest products are sustainable.

Labour and Employment Act of Bhutan 2007 applies to matters relating to labour and employment in the country. This legislation protects the interest of employees in the private sector. With all the provision enshrined, this act can be very instrumental in providing gainful employment to Bhutanese in our construction industry.

Public Finance Act, 2007 regulates the financial management of the Royal Government of Bhutan in order to promote the effective and efficient use of public resources, strengthen accountability and provide statutory authority and control for sound and sustainable fiscal policy.

The Road Act of Bhutan, 2013 sets the standards for road construction, and establish clear delineation of roles and responsibilities of governmental bodies at various levels and road users to manage. Department of Roads is conferred all the authority necessary to enable them to perform their functions in relation to construction, maintenance, safety and management of roads. Moreover, through this act, the private sector participation in development and management of road infrastructure is promoted and regulated

Procurement Rules and Regulations 2009 is implemented by Government Agencies while procuring goods, services or works. This instrument is intended to ensure the transparency of Government procurement through the application of standard procurement procedures which are uniformly applied throughout all government agencies. It also ensures fair and equal access

to the suppliers, consultants and contractors for award of contracts for supply of goods, services or works.

The Debarment Rules 2013 ensures effective and efficient administration of and maintain the integrity of the public procurement activities and non-procurement transactions. It is the policy of the Government to conduct business legally and only with responsible persons. Under the provision of this rules, procuring agencies may exercise to debar non-performing and corrupted companies or individuals.

Economic Development Policy 2016 has recognized construction sector as the major economic activity with more than 15 percent contribution to the GDP. In order to develop the construction industry, the policy provides some strategic direction for development of construction industry.

7 PURPOSE AND APPLICATION

The purpose of the Construction Industry Policy will be to provide highest level of strategic directions to guide the development of the construction industry.

This policy will help create an enabling environment to alleviate the constraints affecting the growth of construction sector.

8 POLICY OBJECTIVES

The National Construction Industry Policy is developed through consultations with different stakeholders and analysis of various sectorial reports and data. The objectives of this policy are:

- 8.1 To professionalize the construction industry
- 8.2 To improve the quality of construction
- 8.3 To enhance construction productivity
- 8.4 To develop construction industry as key employment generating sector
- 8.5 To enhance the contribution of the industry toward national economy
- 8.6 To promote sustainable construction and financing
- 8.7 To strengthen institutional mechanism

9 POLICY STATEMENT

Status of Professionalism

In most of the cases of public works, inadequacy of planning, feasibility studies and survey is leading to design errors. Without the Standard Operation Procedure, planners, designers and quantity estimators are performing their task based on their individual knowledge or hands on trainings received from their seniors and supervisors. In addition, BSR reflects only suggestive averages and not accurate current market rates, so the procuring agencies' cost estimates are often not accurate. Project duration estimation is a specialist subject and at the moment the derivation of construction project duration for public works is arbitrary. In addition, the procuring agencies, without officially published Construction Cost Index, have resorted to non-uniform methods for calculation of Cost Index.

Contractor's bidding practices and price formulation methods are inappropriate. Some of the lower category contractors request non-technical people for price formulation and bid preparation. Generally, contractor's bids are abnormally low as the present procurement system usually leads to awarding the work to the lowest bid. In addition, the present bidding and evaluation system bears the risks of collusion and malpractice.

Project Management skill in construction industry is relatively low owing to the fact that there are limited personnel trained in this field. Most of the construction projects fail due to improper supervision and monitoring. There are many instances where the engineers of procuring agencies are fully involved in construction projects and are shouldering the responsibilities of contractor's engineers. The roles and responsibilities of contractor's Project Engineer and Clients Engineer, needs to be underlined explicitly. The government has promoted Joint-Venture Projects with foreign partners for some complex projects. Due to poor contract management and inadequate monitoring, the International JV partners do not physically implement the projects.

Poor performances of the contractors are leading to Termination of Contracts. While termination of contracts delays the completion of project, complacency leads to further delays. The Debarment Rules is not yet implemented and terminated contractors are allowed to bid for subsequent project on equal footing, often winning the project.

Although technical consulting firms were established as early as 1990s, the level of professionalism has not progressed. Since the opportunities in consulting services are limited, most of the firms do not have full time experts, and they are usually dependent on individual consultants.

Policy Objective 8.1 To Professionalize Construction Industry

Policy Statements

- 9.1.1 MoWHS in collaboration with Line Ministries and Ministry of Finance shall develop Standard Operating Procedure for Construction Project Design to be adopted for all public works.
- 9.1.2 The Government shall encourage and promote outsourcing of all design and supervision of works.
- 9.1.3 All procuring agencies shall enforce traditional architectural regulations and standards for all design and construction.
- 9.1.4 The Authority in collaboration with MoWHS shall update the BSR annually. In addition, the Procuring Agencies may analyse item rates to arrive at a realistic project cost estimates.
- 9.1.5 The government shall adopt Industrialized Building Systems and encourage manufacturers of prefabricated and standardized components.
- 9.1.6 The Authority shall conduct regular courses to develop and enhance Project Management and other relevant skills in both public and private agencies.
- 9.1.7 The government shall institute Council of Engineers and Architect hereafter referred as “the Council”.
- 9.1.8 For major public works, Prime Contractor shall lawfully subcontract specialized works/trades such as plumbing, electrification, etc. to and their agreement shall form part of bidding documents.
- 9.1.9 MoWHS shall develop Standard Operating Procedure for engineers of procuring agency and engineers of contractor.
- 9.1.10 In case of Joint Venture Projects, the Procuring Agencies shall enforce the conditions set in the contract and the Authority shall monitor compliance.
- 9.1.11 Debarment Committee Secretariat shall initiate debarment proceedings and enforce strict compliance.

9.1.12 The Government shall provide incentives to construction and consulting firms who invest in human resource development and completion of work before time.

Status of Quality in Construction

The industry does not have a fully codified construction standards and code of practice. The existing Specification of Road and Building Works, is not being referred diligently. Since the dissolution of Standard and Quality Control Authority, some valuable documents such as Standards for Doors and Windows, Plumbing Code, Testing of Building Materials and Field Investigations, Manual on Storage and Stacking and others have lost its essence. Additionally, without a third party monitoring of construction of quality, most of the public works are of poor quality.

Material testing laboratories and facilities are not available in most part of the country. It is very inconvenient for the developers and builders to conduct tests on materials. In addition, the basic practice of in-situ material management and testing is not adopted in most construction projects. There are many basic tests such as slump test, decantation test for sand which helps in quality control.

The importance of Quality Assurance and Environment Management Plan has been undermined. While it is the responsibility of the contractors to develop QAP and EMP for the project they are undertaking, the plan is neither being implemented by the contractors nor enforced effectively by the procuring agencies.

“Engineers Code of Conduct and Ethics” which was published in April 2006, is a fine document which clearly spells out the responsibility and obligation towards engineering profession, public, employers and clients. Without any legal arrangements, this important document has not been able to achieve its intended objectives. Similarly, the industry is without a Code of Conduct for Contractors and Consultant. These codes with proper legal arrangement shall help improve the quality of works delivered by the contractors and consultants

Contractors are deliberately diverting from specification and use substandard materials to reduce the cost of construction. In addition, acceptance of sub-standard material and works by the procuring agencies’ engineers is gravely affecting the ultimate quality of work

Policy Objective 8.2 To Improve Quality of Construction

Policy Statements

- 9.2.1 The Authority shall institute a quality monitoring mechanism to promote quality in construction industry.
- 9.2.2 The Authority shall develop “Code of Conduct” for Contractors and Consultant
- 9.2.3 BSB shall formulate construction standards and code of practice applicable to Construction Industry.
- 9.2.4 BSB shall identify existing agencies or institutes to start material testing laboratories at regional level. Further, the Government shall provide financial and other incentives to private entrepreneur proposing to establish Material Testing Laboratory.
- 9.2.5 BSB shall enhance Product Conformity through continuous registration and deregistration of construction products. This shall be supplemented with information and awareness to public. Infiltration of sub-standard products shall be monitored and controlled at point of entry by relevant agencies.
- 9.2.6 All procuring agencies shall enforce Quality Assurance Plan and Environment Management Plan for execution of all public works. The Authority shall monitor compliance to the QAP and EMP and other national construction standards.
- 9.2.7 The Authority and Ministry of Finance shall review the bid evaluation criteria from time to time as deemed appropriate.
- 9.2.8 The government shall promote FDI in construction projects to foster knowledge transfer on construction technology.
- 9.2.9 The real estate builders shall be certified by the Authority.
- 9.2.10 The government shall encourage private building constructions by certified engineers or certified/licensed builders. Works shall be carried out by certified professionals for better quality, accountability and job creations. Building works executed without deployment of certified professionals shall not be issued occupancy certificates.

Status of Construction Productivity

Construction practice in Bhutan is very labour intensive. Mechanization in construction industry can be promoted right from the initial stage of design, planning and bid document preparation. However, this is not actively pursued as there is huge information gap. Both

procuring agencies and contracting firms have very little knowledge and exposure on wide choice and availability of tools and plants available to mechanize construction.

Mobilization Advances are not sensibly utilized for mobilization and start-up of construction projects. Such insensible utilization of fund results in non-availability of material and equipment at site. Further, poor safety and housekeeping at construction often leads to lost time due to incidents and accidents where people being injured and unable to complete work. Poor safety condition arises when the contractor or developer are not willing to invest in safety gears. The other reason is, even with provision of safety gear, the worker refuse to use the gear as they do not feel uncomfortable with the gear.

Especially during the monsoon, adverse weather condition leads to stoppage of work and in some places it continues for few days. Such conditions are negatively affecting construction productivity.

Another major impedance in construction arise when the clients and their representative change the designs leading to reworking. There are instances of changes in design being made during the actual construction based on the instructions of some of the senior Government officers visiting the construction sites.

Policy Objective 8.3 To Enhance Construction Productivity

Policy Statements

- 9.3.1 The Authority and CAB shall promote mechanization in the industry. All procuring agencies shall promote use of labour saving devices and equipment.
- 9.3.2 The procuring agency shall ensure effective utilization of Mobilization Advance for the intended purpose.
- 9.3.3 The procuring agency shall provide a separate item head for provision of safety gear and other amenities in the BOQ so that the contractor can charge the cost to the project.
- 9.3.4 The Authority and CAB shall sensitize the contractors on sequencing of construction activities and project risk management.
- 9.3.5 The procuring agencies shall restrict the changes in designs during the implementation stage to minimal.

- 9.3.6 All procuring agencies shall adhere to the specified turn-around time for payment to contractor and avoid delay in payment.

Status of Employment in Construction Industry

There is an extreme shortage of skilled workers in construction industry, so the industry is heavily dependent on imported workforce. The limited number of TVET graduate do not find employment in private sector as their skills are not trusted by the employers. On the other hand, TVET graduates prefer jobs in public agencies because of job security and other associated benefits. Furthermore, while being employed in private sector, TVET graduates prefer to seek employment opportunity as work supervisors rather than skilled workers.

At present, most of the building constructions are outsourcing labour component in building construction as labour contract to foreign worker. Local skilled workers, however, have not been able to form an association to take up such works.

Policy Objective 8.4 To develop construction industry as key employment generating sector

Policy Statements

- 9.4.1 MoWHS shall place employment generation at the core of infrastructure development planning and programs to address the employment needs of the country's citizens particularly, the youth.
- 9.4.2 MoWHS and MoLHR, shall spearhead need-based assessment for human resource development in construction industry and formulate Five-year Human Resource Master Plan for construction industry. They shall also review the curriculum of technical and vocational education centres to address the mismatch of skills.
- 9.4.3 The Government shall allow award of small constructions up to Nu. 1.5 million to construction firms that employ only Bhutanese workers without having to engage in bidding as per normal procurement system. For Larger works, The Government shall direct all procuring agencies to award works to any contractor employing 100% Bhutanese workforce, on preferential basis.

- 9.4.4 MoLHR in collaboration with relevant agencies shall enhance the employability of national workforce, by conducting skills development training and certification at regional levels.
- 9.4.5 Small Class Contractors shall also be mandated to employ TVET graduates.
- 9.4.6 The Government shall balance local and foreign employment. Foreign workers should be complementary to Bhutanese workforce and recruitment of foreign workers shall be allowed only in those occupations where Bhutanese with appropriate skills are not available.
- 9.4.7 The Government shall, in the long run, gear towards granting work permit to foreigners who possess National Level Skills Certificate issued by the Royal Government of Bhutan or a competent authority of their country. The procuring agencies shall be responsible to ensure only certified foreign workers are engaged.
- 9.4.8 MoLHR shall create a platform to bring together the industry and academia to address skill mismatch.
- 9.4.9 MoLHR shall ensure Occupation Health and Safety Standards and Provident Fund schemes in Construction Industry.
- 9.4.10 The Authority and MoLHR shall ensure that the contractors and builders institute work-safety insurance for all employees to ensure that compensation for workers is safeguarded.
- 9.4.11 The government shall carry out periodic revision of minimum wage for TVET graduates and National Workforce.
- 9.4.12 MoLHR shall promote entrepreneurship among skilled worker in construction industry through their appropriate programmes.
- 9.4.13 MoLHR and CAB shall promote Labour Exchange Facility. Any contractor or builder having requirement of construction workers will be provided with workers through the facility. The labour exchange facility shall pay monthly allowance to the workers during their unemployment period.

Status of Contribution of the Industry towards National Economy

In design and construction of specialized and mega projects, foreign firms are deployed by the project authorities. However, in such cases, the foreign firm do not engage local contractor and consulting firms, hence the important aspect of skill and technology transfer does not transpire.

There is no commitment from the government to prioritize and finance research and development in construction industry, unlike other sectors like agriculture and education. Furthermore, new technologies have been imported and found successful by some of the procuring agencies, the knowledge and information sharing has not been far-reaching.

MOEA has conducted a study for “Detailed Feasibility Report on Construction Materials” in 2009. Although recommendations have been made on various products, these products are still not being produced. So, at present there are only limited numbers of local industries manufacturing construction materials and the most common material produced is concrete blocks.

The opportunities to attract FDI in physical construction is limited due to the size of construction projects. Some of the donor funded projects which calls for International Competitive Bidding do not require the international firms to register as business entity in Bhutan. Furthermore, manufacturing of construction materials although with very good scope, has not been able to attract as many investors. At present, there are very few manufacturing industries with FDI participation.

Policy Objective 8.5 To enhance the contribution of the industry toward national economy

Policy Statements

- 9.5.1 It shall be mandatory for foreign firms wishing to participate in design and construction of specialized and mega projects to engage local contractors/firm for skill and technology transfer.
- 9.5.2 The Government shall institute and invest in research and development facility for continuous development and evolution of construction materials and construction technology. The Government shall also promote, facilitate and incentivize establishment of research and development centres by technical education institutes and private research facilities.
- 9.5.3 The Government shall promote construction material manufacturing industry and provide incentives to the local manufacturers.
- 9.5.4 All procuring agencies are directed to use certified locally manufactured materials and certified local materials shall be listed in the BSR and technical specifications.

- 9.5.5 The Royal Government shall promote FDI in construction material manufacturing industries and shall set broad minimum standards and procedures that all FDI should meet in terms of employment generation, technology transfer, environment norms, etc.
- 9.5.6 MoEA shall explore the opportunity of developing minerals into construction products and prioritize supply of these minerals to local industry for developing into finished construction products, over export as raw products.
- 9.5.7 The Government shall explore the possibility of manufacturing of Construction Materials by local manufacturers and shall prioritize import substitution.
- 9.5.8 CAB shall explore mechanism for showcasing construction technology and materials.
- 9.5.9 The Government shall explore the possibility of export of construction material and services.

Status of Sustainable Construction and Financing

The government has adopted various strategies for sustainable construction such as Green Building Concept, Energy Efficient technologies, Differently Abled Friendly Construction, Disaster and Climate Resilient. However, these concepts have not been actively implemented.

Construction Industry, while being very important for economic development, has had adverse impact on the environment. This impact on environment is the greatest in construction of road.

For most, construction industry has been viewed as male oriented domain. There is a lack of enabling environment for women to actively participate in construction industry.

The construction industry does not have sustainable financing mechanism for growth of the industry. Most to the construction firms are heavily dependent on various advances available from the client agencies. This is solely due to high interest rates on bank loans.

The construction contracting has been a profitable business model, however, despite the success, there is lack of commitment for Corporate Social Responsibility in construction industry.

Public infrastructure development in the country has been entirely dependent on national budget only. There is very limited infrastructure developed through public private partnership.

Policy Objective 8.6 To promote sustainable construction and financing

Policy Statements

- 9.6.1 The Government shall promote sustainable construction strategies and shall incentivize on adopting standards of disaster resilient, safety, energy efficiency, environment friendly, and differently abled friendly infrastructure.
- 9.6.2 All procuring agencies shall ensure environmentally friendly construction techniques.
- 9.6.3 Contractors are encouraged to be registered with CAB to participate for public works.
- 9.6.4 The Government shall direct relevant agencies to create an enabling environment for women and youth to participate in construction industry.
- 9.6.5 The Authority shall establish and manage equitable and sustainable financing for construction industry.
- 9.6.6 The Government shall promote private sector participation in financing of construction and maintenance of infrastructure projects through arrangements of PPP.
- 9.6.7 The government shall direct the Line Agencies to encourage FDI opportunities in their respective infrastructure development projects.
- 9.6.8 A Foreign contractor or consultant who wishes to enter the local market for a short period may set up a liaison office, branch office, or a project office. For long-term presence, the Foreign firm shall establish a wholly-owned subsidiary company in Bhutan or incorporate a joint-venture company (JV) with a local partner.
- 9.6.9 Quality Management System Certification and Corporate Social Responsibility shall be promoted in the construction industry.

Challenges in Intuitional Arrangements

The construction industry is without an overarching guiding or regulatory agency. The industry has been moving forward without a proper vision and a goal. The industry has been only catering the immediate needs and demands of the growing industry, without the prospect of professionalization and construction productivity. The Public Finance Act through PRR has empowered CDB to register and classify contractors, however there is no clear policy directives and legal framework to govern the regulatory functions.

The construction contractors do not have permanent workforce as there is easy and abundant supply of need-based skilled workforce from across the border. Hence, contractors do not find

the requirement of specialized work contractor. In addition to that, the regulatory agency does not have Operational Framework for specialized trade contractors, thus specialized trade works has not commenced.

There are many concerned agencies contributing or overseeing some or the other aspects of construction industry, but are working in compartments and in their comfort zone. The goal of developing construction industry is not collective.

The present Procurement Rules and Regulation and the standard bidding documents have been soundly drafted but different procuring agencies interpret them differently and without uniformity across different procuring agencies. Under the Present PRR, bid submission system for procurement of works and goods is usually single envelope system with both Technical and Financial bids submitted in a single envelope. This procedure provides opportunity for malpractice. The procedure for revision of procurement rules and regulation and standard bidding documents is not well defined. The review team members are nominated on need basis and the duration for each review is not standard.

There are many international agencies working toward development of construction industry, however without an apex construction agency, collaboration with international agencies is not pursued.

Although NRDCL is the sole supplier of natural resources, they are not able to meet the timber demand from construction industry as they are incapacitated by the Annual Allowable Cut set by DoFPS. While NRDCL has been trying to continuously meet the demand for sand and boulders required by the construction industry throughout the country, the quality of sand supplied are not always in conformity to the requirement of the industry.

Implementation flaws of Community Contracting has deterred the achievement of the objectives of the system. In addition, preferential award of works to some agencies at government's estimated cost or more, is depriving other construction firms of opportunity. The work should be awarded to those contractors with 100% Bhutanese workers.

ICT Application has potential to revolutionize construction industry however ICT applications available are not actively pursued in the industry.

Policy Objective 8.7 To strengthen institutional mechanism

Policy Statements

- 9.7.1 The Government shall mandate CDB as regulatory agency, herein after referred to as “The Authority”. The government shall provide the Authority will all legal arrangements required to fulfil its duties to register, regulate and ensure certification of all stakeholders’ party to the construction industry.
- 9.7.2 Ministry of Agriculture and Forests shall compile the annual timber requirements in construction industry for supply of timber by NRDCL, in keeping with the Article 5.3 of the Constitution.
- 9.7.3 The Government shall direct NRDCL to establish multiple depot to supply fine and coarse aggregates throughout the country at reasonable cost.
- 9.7.4 The Government shall direct all supplier of fine and coarse aggregates to establish basic material testing facility at the source, to ensure the quality of material supplied. All raw material suppliers shall be certified by BSB.
- 9.7.5 The concerned ministries and the Authority shall review the community contracting system for systemic changes.
- 9.7.6 The Government shall promote the use of ICT Application in construction industry through ease of access to application, by way of procurement or development of necessary applications, capacity development to improve proficiency with the applications.
- 9.7.7 To achieve the objectives of the policy, the roles and responsibilities of key agencies shall be as follows:

9.7.6.1. Ministry of Works and Human Settlement

- 1 MoWHS in collaboration with the Authority shall be responsible for promotion and development of construction sector,
- 2 MoWHS shall provide necessary direction, coordination, advice and support to the public and private sector on all construction related matters,
- 3 MoWHS shall be responsible for formulation of policies and plans related to the construction sector,
- 4 MoWHS shall formulate legislation for implementation of this policy,
- 5 MoWHS shall prescribes appropriate standards in consultation with relevant agencies,

- 6 MoWHS shall be the parent ministry for engineers, architect and planners,
- 7 MoWHS in collaboration with Ministry of Finance and other Line Ministries, shall develop Standard Operation Procedure for Construction Project Design for all public works,
- 8 MoWHS and CDB shall collaborate to update and publish the BSR annually,
- 9 MoWHS shall take the lead to adopt Industrialized Building System,
- 10 MoWHS and MoLHR shall spearhead need-assessment or human resource development in construction industry and accordingly formulate HRD Masterplan for construction industry, and
- 11 MoWHS shall develop Standard Operation Procedure for engineers of procuring agencies and engineers for contractors

9.7.6.2. The Authority

- 1 The Authority as the regulatory agency, shall register, regulate and ensure certification of all stakeholders of construction industry.
- 2 The Authority shall develop the Operational Framework for specialised trade contractor and consultant, and thereafter register, regulate and promote specialised works. CDB in collaboration with Ministry of Works and Human Settlement shall regularly organize and provide forum for exchange of views and presentation of research achievements.
- 3 The Authority shall institute a quality monitoring mechanism within the agency to promote quality of work in construction industry.
- 4 The Authority shall establish and manage equitable and sustainable financing for construction industry.
- 5 The Authority shall conduct regular courses to enhance Project Management and other relevant skills for in both public and private agencies.
- 6 The Authority in association with CAB shall conduct studies on the opportunity of mechanization in the industry.
- 7 The Authority shall develop “Code of Conduct” for contractors and consultants.
- 8 The Authority and MoF shall review the evaluation criteria for public works as deemed necessary.
- 9 The Authority shall register real estate builders.

9.7.6.3. Ministry of Finance

The following are the responsibilities:

- 1 Ministry of Finance and The Authority, shall review the Procurement System from time to time, through establishment of Multi-Sectorial Task Force. The High Level Committee approving the changes in procurement system shall have representation from relevant stakeholders. The Ministry shall uniformly provide relevant notification, if any.
- 2 Ministry of Finance through the sector ministry shall appropriate adequate fund for stakeholders to gain membership access to internationally renowned organizations directly related to construction industry.
- 3 Ministry of Finance and The Authority shall review and enforce the contractor's performance management system for screening of poorly or non-performing contractors and consultants.

9.7.6.4. Bhutan Standards Bureau

- 1 BSB shall formulate construction standards and code of practice applicable to construction industry.
- 2 BSB in collaboration with the relevant agencies, shall formulate standards that maybe made mandatory Bhutan standards.
- 3 BSB shall enhance Product Conformity through continuous registration and deregistration of construction products. This shall be supplemented with information and awareness to public.
- 4 BSB shall establish testing laboratories for quality testing of construction materials and to check their conformance to Bhutan standards or any other standards. BSB shall identify existing agencies and institutes to start material testing laboratories at regional level.
- 5 BSB shall promote certification in areas of quality management systems, OHSAs and environmental management system.
- 6 BSB in collaboration with CAB shall promote standards in corporate social responsibility in construction industry.
- 7 BSB shall disseminate information and create awareness on standards, metrology, testing and quality through education programs and training courses.

9.7.6.5. Ministry of Labour and Human Resources

- 1 MoWHS and MoLHR shall spearhead need-assessment or human resource development in construction industry and accordingly formulate HRD Masterplan for construction industry
- 2 MoLHR in collaboration with relevant agencies, shall enhance the employability of national workforce, by conducting skills development training and certification at regional levels
- 3 MoLHR shall, in the long run, gear towards granting work permit to foreigners who possess National Level Skills Certificate issued by the Royal Government of Bhutan
- 4 MoLHR shall create a platform to bring together the industry and academia to address skill mismatch
- 5 MoLHR shall ensure Occupation Health and Safety Standards and Provident Fund schemes in Construction Industry
- 6 MoLHR and CAB shall promote Labour Exchange Facility to promote ease of employment for both employers and employee

9.7.6.6. Ministry of Economic Affairs

- 1 MoEA shall explore the opportunity of developing minerals into construction products and prioritize supply of these minerals to local industries
- 2 MoEA shall explore the possibility of manufacturing construction materials by local manufacturers or their foreign partners, and shall prioritize import substitution

9.7.6.7. Ministry of Agriculture and Forests

- 1 Ministry of Agriculture and Forests shall compile the annual timber requirements in construction industry for supply of timber by NRDC, in keeping with the Article 5.3 of the Constitution.

9.7.6.8. National Statistical Bureau

- 1 National Statistical Bureau shall compile monthly Construction Cost Index

9.7.6.9. Construction Association of Bhutan

- 1 CAB shall encourage contractors to register with them.
- 2 CAB shall explore mechanism for showcasing construction technology and materials.
- 3 The Authority together with CAB shall conduct studies on the opportunity of mechanization in the industry. Following the study, the government shall create a forum or organize expo to showcase the opportunity which can be adopted in the industry.
- 4 CAB in collaboration with BSB, shall promote corporate social responsibility in construction industry.

10 MONITORING AND EVALUATION

MoWHS shall take the overall responsibility to coordinate, monitor, evaluate and review the implementation of this policy. A monitoring and evaluation system will be developed by MoWHS to support the effective implementation of National Construction Industry Policy's goals and objectives. The following process is recommended for monitoring the implementation of this Policy:

- 10.1. All agencies shall design strategies with milestones to ensure effective implementation of the policies relevant to their sectors
- 10.2. The policies shall guide the relevant agencies in designing their Annual Plan and Five Year Plan
- 10.3. All relevant agencies shall secure necessary funds and resources to support the various strategies identified
- 10.4. GNHC and concerned ministries may consider evaluating the achievements of construction industry as part of its evaluation programme.

11 POLICY REVIEW AND AMENDMENTS

This policy shall be reviewed and revised as and when deemed necessary by the RGOB. The policy will come into force with effect from _____ [enter day/month/year]. In the event of conflict of interpretation of any part of this policy, the Ministry of Works and Human Settlement (MoWHS) shall, on behalf of the RGOB, be the final and binding authority.