



Ministry of Works and Human Settlement



**Resolutions and Recommendations of the 10th
Engineers, Architects and Planners' Conference
held in Panbang, Zhemgang
29th to 31st December 2019**

“The future is neither unseen nor unknown. It is what we make of it. What work we do with our two hands today will shape the future of our nation. Our children’s tomorrow has to be created by us today.”

*- His Majesty the King Jigme Khesar Namgyel Wangchuck
(His Majesty’s Coronation Address on November 7, 2008)*

**Resolutions and Recommendations of
the 10th Engineers, Architects and Planners’ Conference
held in Panbang, Zhemgang from
29th to 31st December 2019**

The 10th Engineers, Architects and Planners’ Conference with the theme “**professional accountability for quality infrastructure**” was held from 29th to 31st December 2019 in Panbang, Zhemgang. The Conference was attended by engineers, architects, and urban planners from the Ministry of Works and Human Settlement (MoWHS), the Dzongkhags, Thromdes, relevant government and corporate agencies and the private sector.

The deliberations of the Conference have been segregated into two categories as resolutions and recommendations.

The resolutions are the prioritized commitments from the Conference to be addressed by the MoWHS and the recommendations are those actions which are to be pursued by both the MoWHS and the relevant agencies outside the MoWHS. Recommendations may also be actions for which the MoWHS may need the support of other agencies for successful implementation.

The 10th Engineers, Architects and Planners’ Conference proposed 11 resolutions and 18 recommendations:

A. Resolutions

1. The main provisions to ensure quality in any construction project are the Quality Assurance (QA) Plan and the

Quality Control (QC) mechanisms instituted to fix the accountability on the right person in a project management.

To reinforce the existing provisions of the technical specifications of a contract agreement, the Conference resolved to make the implementation of QA and QC mandatory for all government construction projects executed by Departments, Thromdes and Dzongkhags.

The Chief Engineers of Departments, Thromdes and Dzongkhags shall ensure the implementation of QA and QC and accordingly fix the accountability on the right person.

***Action:** All Departments, Thromdes and Dzongkhags, while the MoWHS will issue a notification to other government ministries and agencies encouraging them to implement the same.*

2. The preparation of a Detailed Project Report (DPR) is essential for proper management of a construction project, which is crucial for the success of the overall project. The Conference therefore resolved that:
 - i. All procuring agencies under the Ministry will mandatorily carry out DPRs for all approved projects with estimated costs above Nu. 50 million. However, DPRs may also be prepared for complex projects costing less than Nu. 50 million.

- ii. Taking cognizance of the lack of expertise to carry out DPRs by most procuring agencies, it was resolved that consultants may be recruited to carry out the DPRs.

Action: *All Departments under the MoWHS, Thromdes and Dzongkhags. The MoWHS will issue a notification to the effect.*

3. Due to lack of clarity in the provisions of the standard documents for recruitment of Consultants and the inability of procuring agencies to review and monitor the quality of their work, there have been many instances where Consultants have not been held accountable for producing substandard outputs.

The Conference consequently resolved that all agencies within the Ministry shall adequately incorporate liability and penalty clauses during the preparation of Consultancy documents with the objective to make Consultants accountable and deliver quality outputs. In addition to improve the process, it was decided to recommend to the Government Procurement and Property Management Division of the MoF to insert such provisions when they update the standard documents for recruitment of Consultants.

Action: *All Departments, Thromdes and Dzongkhags. The MoWHS will issue a notification to the effect and a letter will be sent to the GPPMD.*

4. Currently, the Occupational Health and Safety (OHS) is barely implemented in the construction projects. One of the reasons for poor implementation of OHS is that the cost for such provision has not been adequately covered in the built-up rates of items. More importantly, under the current system of bidding, the specific OHS activities are not clearly specified making it difficult for the Clients to enforce it on the Contractors.

Considering that OHS has become a serious concern to the society, the Conference resolved that the cost required to cover safety measures need to be separately estimated and reflected as a separate lump sum item in the BOQ of bidding documents. The procuring agencies need to prepare safety plans and checklists of safety activities that Contractors shall have to comply. The penalty clauses for non-compliance to such provisions need to be clearly specified in the tender documents.

***Action:** All Departments under the MoWHS, Thromdes and Dzongkhags. The DES will take the lead to formulate the framework for OHS.*

5. Towards professionalizing the administration and management of construction activities, the Conference resolved that the Ministry shall immediately roll-out the implementation of the Construction Manager Software (CMS) for all construction projects under the Ministry (Departments, Thromdes and Dzongkhags). With the adoption of the CMS, the use of the conventional Measurement Book (MB) shall be phased out to make the construction activities more efficient and professional.

Other ministries and agencies may also use the CMS in their projects.

Action: A press event will be held to formally launch the CMS. The DES will take the lead.

6. To ensure quality infrastructure, the Conference felt the need to adopt national standards and technical regulations for important and essential infrastructure works, processes and services (e.g. National Highways, Bhutan Building Regulations, etc.). The Conference therefore resolved that the Ministry in collaboration with the Construction Development Board (CDB) and the Bhutan Standard Bureau (BSB) shall develop and adopt a few national standards for critical infrastructure planning and development.

Action: The 3 Departments under the MoWHS will work to propose a few national standards.

7. In view of the increased scale of infrastructure development and its poor delivery at the Local Government level, the Ministry shall undertake the review of the re-organized Dzongkhag Engineering Sector. This is also one of the recommendations of the OD exercise carried out in the past and the review shall be carried out in consideration of the ongoing OD exercise.

Action: The DES will take the lead to review and reorganize the Dzongkhag Engineering Sector.

8. The procuring agencies in the country use the Bhutan Schedule of Rates as the guiding document for determining costs of infrastructure projects. In doing so, the Cost Index and Rate Analysis have not been applied consistently. Hence, the conference resolved that:
 - i. The new guidelines for determining Cost Index and Rate Analysis shall be adopted uniformly by all agencies within the Ministry (Departments, Thromdes and Dzongkhags).

***Action:** The DES will take the lead to ensure the adoption of the new guidelines.*

- ii. Rate Analysis can also be adopted for project estimation instead of using the BSR built-up rates subject to their convenience. However, the procuring agencies within the Ministry shall be adopting only one of the above and not mixed mode estimations unless the item is missing from the BSR.

***Action:** The MoWHS will issue a notification to this effect.*

9. Laboratory facilities and services are essential to implement QA and QC. Currently, one of the biggest constraints is the non-existence of such facilities at field level where it is required on a day to day basis. The Conference decided to establish three Regional Laboratories at Lobeysa, Sarpang and Lingmethang, equipped with the standard laboratory equipment and staffed with qualified and competent technicians to provide testing services.

Action: The DoR will work to establish the laboratories.

10. Towards professionalizing the engineering sector through institution of proper certification and accreditation systems, the Ministry shall establish and fully operationalize the Engineering Council.

Action: The DES will work to support the operationalization of the Engineering Council.

11. Towards generating employment in the construction sector, the Conference resolved to adopt the following:

- i. Project Design for Tenders

The procuring agencies within the Ministry to design the resource requirements of both personnel and machinery matching the nature of the project. This would create employment for relevant engineering graduates by setting appropriate qualifying criteria compared to the unrealistic projections made in the past.

Action: All the procuring agencies under the MoWHS. A notification to be issued by the MoWHS.

- ii. Registration and Certification of Engineers

Towards resolving the issue of “ghost engineers” the registration of engineers shall be initiated by the CDB from June 2020. In addition, the establishment of the Engineering Council shall strengthen the

registration carried out by the CDB. Such measures shall curb out the illegal use of such certificates and create jobs for the engineers in the market.

Action: The CDB will be responsible to address the issue.

iii. Formation and Enforcement of Sub-Specialized Trades/Firms

Trades such as plumbing, carpentry, masonry, electrification, etc. can form skilled groups to be registered as specialized firms with the CDB. These firms shall be allowed to participate in the bidding process to quote their own price in agreement with the principal bidder.

Action: The CDB will be responsible for formation and enforcement of sub-specialized trades/firms.

B. Recommendations

1. Currently, there is no regulatory body to independently monitor and enforce standards and quality management in the construction industry. The Conference recommended to mandate the regulatory function to the CDB.

Action: The recommendation will be included in the National Construction Industry Policy.

2. Determining realistic contract duration is one of the biggest challenges faced by all procuring agencies. The Conference decided to use LMC for major items of works

and other scientific means for setting contract duration and also to work out time extension to be provided to the Contractors for additional works awarded to them. For those items which are not included in the BSR, the pro rata basis will be used. Such provisions will have to be clearly indicated in the Standard Bidding Documents.

***Action:** All procuring agencies under the MoWHS to implement on a trial basis.*

3. For its various benefits in ensuring Quality Infrastructure, including physical infrastructure, the Conference recommended adoption of draft National Quality Policy.

***Action:** The MoWHS will write to the Bhutan Standards Bureau that the draft National Quality Policy has been recommended to be adopted.*

4. From many years of experience of implementation of Community Contract Protocol, the field engineers expressed need to review the protocol. The Conference decided to recommend to MoHCA to review and update the protocol.

***Action:** The MoWHS will write to the MoHCA requesting the review of the protocol.*

5. Procurement and contract management are vast and complicated subjects, which need to be reviewed and updated periodically to ensure their relevance to the changing dynamics of the construction industry. The Conference decided to submit the recommendations of the

deliberations on contract management to the National PRR Review Team of the Ministry of Finance for their consideration.

In addition to contract management recommendations, the Conference recommended the need for the enactment of a Procurement Act.

***Action:** The DoS will compile the list of recommendations of the Conference to be submitted to the GPPMD and to write to the MoF on the need for a Procurement Act.*

6. The Conference recommended that the procuring agencies will have to establish Review Committee for Design and Supervision Consultancy works.

***Action:** All procuring agencies to implement.*

7. To encourage employment of national workforce in construction projects, the Conference recommended that the procuring agencies will pilot some contract packages with mandatory requirement of 100% national workforce in project implementation.

***Action:** All procuring agencies to implement.*

8. The MoWHS has started implementing the Exclusion Clause of the SBD for those contractors who have failed to fulfil their contractual obligations (with the Client). Since those contract works which are above the threshold of a LG Level Tender Committee are referred to the MoWHS, there was a discussion on whether the

Dzongkhags and Thromdes as clients should also make use of the same exclusion clause and the same list of excluded contractors maintained by the MoWHS to exclude them from award of works within the threshold of LG Level Tender Committee.

The Conference recommended that all procuring agencies may adopt the Exclusion Clause implemented by MoWHS in their respective organizations using the same list of excluded contractors.

Action: All procuring agencies to implement.

9. The Conference recommended the Dzongkhag Engineering Sector to be staffed with procurement personnel solely dedicated to undertake public procurement of works for the local governments. This shall be reviewed while working on the re-organization of the Dzongkhag Engineering Sector.

Action: The DES to consider and take up the discussion during Organizational Development Exercise.

10. The “... Construction Private Limited” currently in use does not serve the desired purpose of promoting professionalism in the construction sector. Hence, the Conference recommended that this be required to be reviewed by the CDB, and the Department of Trade and the Registrar of Companies under the Ministry of Economic Affairs.

Action: The MoWHS will write to the CDB to take up the issue with the MoEA.

11. The Conference recommended the construction industry to promote the mechanization at worksites and manufacturing industries by introducing automation and other tools that are handy and easier to use, which will attract the skilled youth to take up the available jobs in the construction industry.

Action: The MoWHS will write to the CDB.

12. The Conference recommended the promotion of prefabricated components of buildings to be manufactured at the industrial units to enhance quality and also create jobs for the skilled workers.

Action: The MoWHS will write to the Association of Bhutanese Industries.

13. The Conference recommended that the provisions of the bid documents shall be strictly enforced on-the-ground by the procuring agencies as per the design projections so as to create jobs in reality.

Action: All procuring agencies to enforce.

14. The Conference recommended the inclusion of overhead costs in the BSR to be reviewed in collaboration with relevant agencies.

Action: The DES to review the inclusion in the BSR.

15. The Conference recommended the procuring agencies and the contractors to be diligent while using e-Tool and CiNET by providing correct information of projects including work status, correct project amount and dates and Average Performance Score (APS) which are updated on time.

While evaluating using e-Tool, separate tender packages within the same agency must be sequenced and not evaluated simultaneously as evaluation results will alter once one tender package is awarded. Also, evaluation results should not be reset once the tender is awarded. This is also specified in the e-Zotin Terms and Conditions. All procuring agencies and contractors to abide by the e-Zotin Terms and Conditions.

***Action:** All procuring agencies under the MoWHS to implement.*

16. Other recommendations specific to e-Tool and CiNET are as follows:
 - i. The procuring agency and the e-Tool focal person(s) to be accountable for misinformation—that the discrepancies observed during Desktop Monitoring by CDB to be implicated; and
 - ii. APS form to be countersigned by the Head of Tender Award Committee for more weightage and coordinated information within an agency.

***Action:** The DoS to include 16 (ii) as one of the recommendations to be submitted to the GPPMD.*

17. The Conference recommended to propose that the CDB Project Site Monitoring Checklist to be standardized and implemented for all government projects.

Action: All procuring agencies to implement.

18. The Conference recommended that as required by the Guidelines for Fixing Accountability of the Royal Audit Authority, the procuring agencies to inform contractors of any audit observations for resolution before or during the Exit Meeting.

Action: All procuring agencies to implement.
