



## **PERFORMANCE AGREEMENT**

**BETWEEN**

**Secretary and Director, Department of Engineering Services**

**(July 1, 2019 – June 30, 2020)**



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## **Preamble**

The Performance Agreement is entered into between the Secretary and Director, Department of Engineering Services

The objectives of this Performance Agreement are:

- a. To establish clarity and consensus about annual priorities for the consistent with the 12<sup>th</sup> Five Year Plan of the Ministry, and Government's other priorities;
- b. To provide an objective and fair basis for evaluating the overall performance of the Department of Engineering Services at the end of the financial year;

The Performance Agreement represents an important accountability mechanism for inculcating a performance-based culture at all levels of government.

**THEREFORE**, the parties hereto agree as follows:



## **Section 1: Vision, Mission and Objectives**

### **Vision**

A professional organization excelling in planning, designing and implementation of high quality, cost effective, safe and sustainable infrastructure through preservation & promotion of traditional Bhutanese architecture and innovative leadership.

### **Mission**

To be a professional and leading government technical agency for infrastructure planning, designing and construction technology.

### **Objectives**

1. Construction sector professionalized
2. Safe and sustainable human settlements enhanced
3. Intangible cultural heritage preserved and promoted
4. Drinking water supply improved
5. Disaster Resilience enhanced
6. Adoption of ICT for improved Service Delivery
7. Ease of Doing Business and Enabling environment for economic activities improved
8. Achieve Water Flagship
9. Jobs created
10. Ensure full utilization of budget.
11. Institutionalize and strengthen GPMS.

## Section 2: Objectives, Success Indicators & Target

Objective	Weight	Action	Success Indicator	Unit	Weight	Excellent [100%]	Very Good [90%]	Good [80%]	Fair [70%]	Poor [60%]
Construction sector professionalized	40	Institution and operationalization of Construction Manager Software.	Engineers trained on CMS and instituted in agencies.	Date	4	05/01/2020	05/15/2020	05/30/2020	06/15/2020	06/30/2020
		Bhutan Schedule of Rates (BSR) published and related services provided.	6 Nos. of items for which Labour and Material Coefficient (LMC) reviewed/updated.	Date	3	06/01/2020	06/07/2020	06/14/2020	06/21/2020	06/28/2020
			New items/products studied for insertion in Bhutan Schedule of Rates (BSR).	Date	2	05/31/2020	06/07/2020	06/14/2020	06/21/2020	06/30/2020
			Bhutan Schedule of Rates (BSR) Published.	Date	2.5	02/29/2020	03/31/2020	04/30/2020	05/31/2020	06/30/2020
		Building Energy Efficiency (EE) Guidelines.	Building Energy Efficiency (EE) Guidelines for Bhutan Green Building Guidelines (BGBG) developed.	Date	3	05/20/2020	01/06/2020	10/06/2020	06/20/2020	06/30/2020
		Technical support on urban infrastructure for ADB 2816 and BUDP-2/AF Provided.	Urban Roads and drainage in Thimphu Thromde monitored (ADB 2816).	Percent	1	>90	80-90	70-79	60-69	<60
			Data collected for completed works (ADB 2816) and Work completion report prepared, assessed and compiled for submission (BUDP-2/AF)	Date	3	11/30/2019	12/31/2019	01/31/2020	02/29/2020	03/31/2020



			Providing engineering services to local Government and other agencies for planning, designing and monitoring.	Engineering services provided for the design of infrastructure services.	Percent	3	100	90	80	70	<70
				Timely engineering services provided to local Government and other agencies for planning, designing and monitoring of flood and storm waterworks.	Percent	2	100	90	80	75	<75
				Professional services provided for water supply and sanitation works.	Percent	5.5	100	90	80	70	<70
			Provide engineering services for nationally important projects.	Engineering services provided for nationally important building works.	Percent	3	100	90	80	70	<70
			Capacity development of engineers, architects and technicians.	Training on Seismic resilient construction practices conducted.	Number	1.5	>90	75-90	60-74	45-59	<45
				In-house capacity of technical core group built on Seismic Risk Analysis.	Number	1	5	4	3	2	1
			Quality infrastructure designed and constructed.	Integrated checkpoint constructed at Rinchening.	Percent	3	100	90	80	70	<70
				Integrated checkpoint constructed at Bumpagang.	Percent	2.5	100	90	80	70	<70
			Construct (DBOT) waste water treatment plant at Babesa ADB.	Construction of Waste Water Treatment Plant (WWTP) at Babesa monitored.	Percent	2	100	90	80	70	<70
Safe and sustainable human		9									

settlements enhanced		Secondary Town urban development project ADB funded BHU-3674.	Secondary Town Urban Development Project activities facilitated and monitored.	Percent	4	100	90	80	70	<70
			Project Monitoring Supervision Consultant under STUDP - ADB 3674 supervised and managed.	Percent	2	100	90	80	70	<70
			Tariff regulation guidelines for water and sanitation services developed-hiring of Institutional Consultant for Water Tariff - ADB 3674.	Date	1	05/31/2020	06/07/2020	06/14/2020	06/21/2020	06/30/2020
Intangible cultural heritage preserved and promoted	3	Compliance monitoring of the buildings.	Compliance report produced for the construction of buildings approved by Department and Local governments.	Date	3	04/30/2020	05/15/2020	05/31/2020	06/15/2020	06/30/2020
Drinking water supply improved	3.5	Technical support on urban infrastructure for Gol PTA Provided.	Water supply scheme monitored.	Percent	2	100	90	80	70	<70
		Construct Water Supply System for S/Jongkhar Thromde ADB 2816.	Data collected and project completion report and other necessary reports compiled.	Percent	1.5	100	90	80	70	<70
Disaster Resilience enhanced	22.5	Critical development areas assessed and managed for flood hazards and risks.	Preparation of a flood management plan for one district completed. (Paro Dzongkhag)	Date	3	06/07/2020	06/14/2020	06/21/2020	06/28/2020	06/30/2020
			Flood Hazard Assessment for one critical Thromde/	Date	2.5	06/05/2020	06/15/2020	06/20/2020	06/25/2020	06/30/2020



Enabling environment for economic activities improved				approved.									
Achieve Water Flagship	12	Monitor and report flagship program.	12	Progress as per signed Water Flagship Performance Agreement	Percent	100	90	80	70	<70			
Jobs created	1	Create jobs in the construction sector.	1	Create jobs in the construction sector	Number	38	35	32	29	26			
Ensure full utilization of budget.	0.5	Ensure Annual Budget Utilization.	0.5	Annual budget utilized	Percent	>94	90-94	85-89	80-84	<70			
Institutionalize and strengthen GPMS.	1	Strengthen APA implementation.	1	Timely submission of APA implementation updates	Date	On the deadline communicated by PPD, MoWHS	-	-	-	After the deadline communicated by PPD, MoWHS			

### Section 3: Trend Values of Success Indicators

Objective	Action	Success Indicator	Unit	Actual Values [FY 2018-19]	Target Values [FY 2019-20]	Projected Values [FY 2020-21]	Projected Values [FY 2021-22]	Projected Values [FY 2022-23]
Achieve Water Flagship	Monitor and report flagship program.	Progress as per signed Water Flagship Performance Agreement	Percent	0	0	NA	NA	NA
Adoption of ICT for improved Service Delivery	Water and Sanitation Information System (WASIS) Enhanced	ToR for recruitment of consultant developed.	Date					
Construction sector professionalized	Technical support on urban infrastructure for ADB 2816 and BUDP-2/AF Provided.	Data collected for completed works (ADB 2816) and Work completion report prepared, assessed and compiled for submission (BUDP-2/AF)	Date					
		Urban Roads and drainage in Thimphu Thromde monitored (ADB 2816).	Percent	0	100			
	Bhutan Schedule of Rates (BSR) published and related services provided.	6 Nos. of items for which Labour and Material Coefficient (LMC) reviewed/updated.	Date					
		Bhutan Schedule of Rates (BSR) Published.	Date					
		New items/products studied for insertion in Bhutan Schedule of Rates (BSR).	Date					
	Building Energy Efficiency (EE) Guidelines.	Building Energy Efficiency (EE) Guidelines for Bhutan Green Building Guidelines (BGBG) developed.	Date	Ground Studies	Initiation of construction process	Implementation of plan	Implementation of plan	Implementation of plan
	Capacity development of engineers, architects and technicians.	In-house capacity of technical core group built on Seismic Risk Analysis.	Number					

		Training on Seismic resilient construction practices conducted.	Number	180	270	360	450
Institution and operationalization of Construction Manager Software.	Date	Engineers trained on CMS and instituted in agencies.					
Provide engineering services for nationally important projects.	Percent	Engineering services provided for nationally important building works.					
Providing engineering services to local Government and other agencies for planning, designing and monitoring.	Percent	Engineering services provided for the design of infrastructure services.	100	100	100	100	100
	Percent	Professional services provided for water supply and sanitation works.	100% yearly	100% yearly	100% yearly	100% yearly	100% yearly
	Percent	Timely engineering services provided to local Government and other agencies for planning, designing and monitoring of flood and storm waterworks.	>90 yearly	>90 yearly	>90 yearly	>90 yearly	>90 yearly
Quality infrastructure designed and constructed.	Percent	Integrated checkpoint constructed at Bumpagang.	0	100			
	Percent	Integrated checkpoint constructed at Rinchending.	0	75	100		
Disaster Resilience enhanced	Date	Flood Hazard Assessment for one critical Thromde/ district completed. (Samtse Dzongkhag)					
	Date	Flood Risk Assessment for one Critical Thromde/District completed. (Samtse Dzongkhag)					
	Date	Preparation of a flood management plan for one district completed. (Paro Dzongkhag)					

			Preparation of Detailed Project Report for Budhini Project Readiness completed.	Percent	0	>90	100		
			Sensitization of National Flood Database System for 3 Districts completed.	Date					
			Urban Storm Water management plan for Thimphu Thromde completed.	Percent	0	>80	100		
			Shake table test conducted.	Date					
			Two full scale stone masonry building samples constructed and pushover test carried out.	Date					
			Seismic vulnerability assessment carried out.	Date					
			Risk analysis carried out.	Date					
Drinking water supply improved			Water supply scheme monitored.	Percent	10	60	100		
			Data collected and project completion report and other necessary reports compiled.	Percent					
Ease of Doing Business and Enabling environment for economic activities improved			Building drawing and designs reviewed and approved.	Number					
Ensure full utilization of budget.			Annual budget utilized	Percent					
Institutionalize and strengthen GPMS.			Timely submission of APA implementation updates	Date					

Intangible cultural heritage preserved and promoted	Compliance monitoring of the buildings.	Compliance report produced for the construction of buildings approved by Department and Local governments.	Date						
Jobs created	Create jobs in the construction sector.	Create jobs in the construction sector	Number						
Safe and sustainable human settlements enhanced	Construct (DBOT) waste water treatment plant at Babesa ADB. Secondary Town urban development project ADB funded BHU-3674.	Construction of Waste Water Treatment Plant (WWTP) at Babesa monitored. Project Monitoring Supervision Consultant under STUDP - ADB 3674 supervised and managed. Secondary Town Urban Development Project activities facilitated and monitored. Tariff regulation guidelines for water and sanitation services developed-hiring of Institutional Consultant for Water Tariff - ADB 3674.	Percent	40	70	100			
			Percent	0	15	35	50	75	
			Percent	0	35	100			
			Date						



#### Section 4: Definition of Success Indicators

Success Indicator	Description	Data Collection Methodology	Data Collection Frequency	Data Source
6 Nos. of items for which Labour and Material Coefficient (LMC) reviewed/updated.	Following 6 items will be reviewed/updated: <ol style="list-style-type: none"> <li>1. Autoclave aerated Concrete (AAC Block)</li> <li>2. CGI Sheet</li> <li>3. Timber Truss</li> <li>4. Timber Flooring</li> <li>5. Marble Flooring</li> <li>6. Copper Wiring, Point system</li> </ol>	Time Motion study report	Annually	DES Admin Data
New items/products studied for insertion in Bhutan Schedule of Rates (BSR).	New item(s) studied for insertion in BSR. The market survey needs to be carried out and approval sought from the agency/industry to conduct a thorough study (example: Crib Wall, Glass Reinforced Concrete (GRC) Cornices, Ground & Electrode Enhancement (GEE) Slab Earthing etc.	Market Survey Report.	Annually	DES Admin Data
Bhutan Schedule of Rates (BSR) Published.	Publication of BSR documents, market survey, rate collection and analysis.	BSR Document	Annually	DES Admin Data
Building Energy Efficiency (EE) Guidelines for Bhutan Green Building Guidelines (BGBG) developed.	Building Energy Efficiency Guidelines developed incorporating details from Energy Baseline, Improved Door and Window Report and other sources.	Report/documents	Annually	DES Admin Data
Urban Roads and drainage in Thimphu Thromde monitored (ADB 2816).	Urban Roads and drainage in Thimphu Thromde include: <ol style="list-style-type: none"> <li>1. Widening of Road from YHS junction- Semtokha (Package 2).</li> <li>2. Road improvement works within Thimphu City.</li> </ol>	Report	Annually	DES Admin Data
Engineering services provided for the design of infrastructure services.	Provided design of street lights, footpath, parking lots, buildings, roads, etc.	Record of service provided.	Annually	DES Admin Data
Timely engineering services provided to local Government and other agencies for planning, designing and monitoring of flood and storm waterworks.	If 100% of professional services are provided for the technical backstopping requests received from the local Government and other agencies, then the achievement is 100%.	Record of service provided.	Annually	DES Admin Data

Professional services provided for water supply and sanitation works.	<p>The achievement for this SI is excellent if:</p> <p>3. WSD initiatives such as SoP for Landfill management (1), borewell training and commissioning (0.5), awareness programs on Disability Friendly Construction Guideline focusing on WASH-Water Sanitation and Hygiene (1), Guideline for inclusive public toilets (1) are completed.</p> <p>4. If 100% of the requested/initiated technical backstopping on water supply (1) and sanitation (1) services (design, drawing, estimate, specifications, monitoring, site assessment, project proposals and technical guidance) from the local government/other agencies/WSD are fulfilled.</p>	Record of service provided.	Annually	DES Admin Data
Engineering services provided for nationally important building works.	If all the requests from other agencies are fulfilled then the achievement is 100%.	Record of service provided	Annually	DES Admin Data
Training on Seismic resilient construction practices conducted.	Training of engineers, architects, technicians and village artisans conducted on seismic resilient construction practices.	Report	Annually	DES Admin Data
In-house capacity of technical core group built on Seismic Risk Analysis.	Number of technical core group members trained on seismic risk analysis.	Report	Annually	DES Admin Data
Engineers trained on CMS and instituted in agencies.	<p>Engineers trained on the use of Construction Manager Software in Headquarters and Local Governments who have not availed similar training by 1st May 2020, then is excellent and the weightage is 2.</p> <p>The division shall institutionalize the use of Construction Manager Software to phase out the Measurement Book (MB) in all Dzongkhags by 1st May 2020, then is excellent and the weightage is 2.</p> <p>Institution means getting consensus from relevant stakeholders and issuing executive circular from the Ministry to use the software.</p>	Report produced and the executive circular issued.	Annually	DES Admin Data
Integrated checkpoint constructed at Rinchening.	<p>Rinchening Checkpoint (Phase II):</p> <p>100% of the work includes Construction of Offices and Gates. This shall be a spillover activity.</p> <p>90% - Completion of Structure, Civil Works, Electrical and Finishing</p>	Report	Annually	DES Admin Data

Integrated checkpoint constructed at Bumpagang.	<p>80% - Structure completed 70% - Structural works initiated.</p> <p>Bumpagang Checkpoint (Phase II): The weightage is 1. 100% of the work includes Construction of residential quarters, water supply, compound lighting. This shall be a spillover activity.</p> <p>90% - Completion of Structure, Civil Works, Electrical and Finishing 80% - Structure completed 70% - Structural works initiated.</p> <p>Bumpagang Checkpoint (Phase III): The weightage is 1. 100% of the work includes Construction of Offices and Gates. This shall be a spillover activity.</p> <p>90% - Completion of Structure, Civil Works, Electrical and Finishing 80% - Structure completed 70% - Structural works initiated.</p>	Report	Annually	DES Admin Data
Data collected for completed works (ADB 2816) and Work completion report prepared, assessed and compiled for submission (BUDP-2/AF)	<ol style="list-style-type: none"> <li>1. ADB 2816: Collection of data for the preparation of project completion report (PCR) for bridge construction at Phuentsholing.</li> <li>2. BUDP-2/AF: Completion Report holistically prepared and submitted to the World Bank/RGoB for approval and record/reference.</li> </ol>	Report	Daily	DES Admin Data
Construction of Waste Water Treatment Plant (WWTP) at Babesa monitored.	Monitoring through meetings and progress report and submission. Thimphu Thromde is the Implementing Agency (IA) and DES is the Executing Agency (EA)	Monitoring report.	Annually	DES Admin Data
Secondary Town Urban Development Project activities facilitated and monitored.	Sarpang (Sechamthang LAP infrastructure and Sarpang Water supply), Trashigang (T/gang water supply and Rangjung water supply) and Samdrup Jongkhar Thromde (water supply and sewerage, Dewathang water supply) are the implementing agencies while Project Management Unit is WSD. The facilitation and monitoring aspects will include meetings, fund release, site visits, technical support and progress reporting.	Monitoring report and document	Annually	DES Admin Data

<p>Project Monitoring Supervision Consultant under STUDP - ADB 3674 supervised and managed.</p>	<p>PMSC will be monitored by PMU The monitoring aspect will include correspondence with ADB headquarters, meetings, payment, collection of progress report as per Terms of Reference.</p>	<p>Monitoring report and document.</p>	<p>Annually</p>	<p>DES Admin Data</p>
<p>Tariff regulation guidelines for water and sanitation services developed-hiring of Institutional Consultant for Water Tariff - ADB 3674.</p>	<p>If tariff regulation guidelines for water and sanitation services are developed by 31<sup>st</sup> May 2020, it is excellent.</p>	<p>Data collection, site visits, consultative meetings, workshops and report.</p>	<p>Annually</p>	<p>DES Admin Data</p>
<p>Building drawing and designs reviewed and approved.</p>	<p>TAT of 14 working days is accounted from the day the drawing is submitted for approval of Architectural, structural and electrical including the issuance of technical approval note sheet. However, if the drawings are sent for review the TAT shall be re-accounted. This SI is measured in percentage in which if all the drawings received are reviewed and approved within TAT of 14 days, then the achievement is 100 %.</p> <p>The main purpose of establishing the Engineering Council of Bhutan is to professionalize the engineering fraternity in the country through registration and certification. The council will have various committees which will be concerned with differing Engineering fraternity and Specializations. Once the Council becomes fully established, all the Engineers in the country will be registered and certified by the council after subjecting them to various competency checks. Since the competence of the Engineers would be assured by the council, the drawings and designs that are done by the certified Engineers need not go through the scrutiny process that takes up a lot of time. The establishment of the Council will also provide an opportunity for the registered Engineers to update their knowledge and skills through its Continuing Professional Development Programme. Furthermore, the Council will fix accountability to the Engineers for any drawings and designs that they do. This, in turn, will transform the way things are done so far.</p> <p>Currently, the Interim Engineering Council has been established with the DES, MoWHS with approval from the cabinet. While the Interim Engineering Council will work on</p>	<p>TAT Document</p>	<p>Annually</p>	<p>DES Admin Data</p>

<p>Compliance report produced for the construction of buildings approved by Department and Local governments.</p>	<p>drafting various Frameworks, Guidelines, etc., it would be very difficult to operationalize the actual functions of the Council, since there is no legal backing such as an act for the council. The Department is currently developing SoP for drawing approvals by the local governments and technical clearance by the department, which in-turn will contribute towards achieving the targets of “DTF with construction permit”.</p> <p>As of today, the Department receives drawings forwarded from the Dzongkhags requiring assistance for scrutiny. The Department then reviews the drawings within a turnaround time of 14 working days in an ideal situation. In the current practice, all the recording and dissemination of information within the department and to the clients is done manually which at times creates misunderstandings and lengthens the process. We are however towards the completion of the development of G2C service for building approval system which shall solve problems of the manual procedures. We have also included the Dzongkhags in the system thereby making the practice available at local government level to enhance and facilitate quicker, smoother and transparent service delivery. The system makes way for proper archiving of construction proposals and its types.</p> <p>It will not only make correspondences easier and quicker between the approving professionals and approving agencies but also between the approving agencies and the client. With this system in hand, the clients will be notified through SMS on their registered mobile numbers and will also be able to track the status of the application online with the help of application ID. We have had our final meetings with the consultants and we will be hopefully able to adopt the system from this financial year.</p>	<p>Site visits, data collection and reports</p>	<p>Annually</p>	<p>DES Admin Data</p>
<p>The local government from Gewog to Dzongkhag levels are entrusted to ensure that the buildings are designed in compliance with the standard code of practice, in line with the traditional architecture and that the proper approval procedure for constructions has been followed. However, inconsistencies have been noticed in the issuance of</p>				

	<p>approval in different Dzongkhags and Gewogs; also, variations from the approved technical drawings have been observed in the constructions. Such irregularity is identified as a serious issue which eventually harms the entire landscape be in terms of safety or aesthetics.</p> <p>Therefore, all constructions have to be strictly verified and scrutinized by the competent approving authority that can either be the Gewogs or Dzongkhags depending on their capacity.</p> <p>Dzongkhags can, however, refer to the Ministry of Works and Human Settlements for technical clearance in case of technical ambiguities or lack of technical capacity. The constructions then have to be regularly reviewed for compliance as per approved drawings so as to create a safe and comfortable habitation that blends with the Bhutanese landscape.</p> <p>As the Ministry is mandated to ensure that buildings are designed in compliance with standard code of practice for safe and comfortable habitation and conserving traditional Bhutanese architecture; the Department of Engineering Services of the Ministry shall from now on make additional necessary visits to Dzongkhags as and when required, along with the annually planned compliance checking, to review the on-going or already constructed structures, and to check that proper approval has been sought and that the constructions are built in compliance with the approved drawings.</p> <p>With this we look forward to building technical capacity, to exercise due diligence and pave way for safer structures with rich traditional architecture and landscape. The yearly compliance reports shall be submitted to Royal Audit Authority and in case of non-compliance, relevant officials and Dzongkhags shall be held accountable.</p>		
ToR for recruitment of consultant developed.	System Analysis of WASIS-bugs collection, consultative workshops with the users and relevant stakeholders and ToR for consultancy service developed by 31st May 2020.	Documents (ToR/reports)	DES Admin Data
Timely submission of APA implementation updates	This SI shall be evaluated based on the following parameters: 1. Timeline by which “monthly issue/no issue reported on PPD, MoWHS.	Report	DES Admin Data

	<p>2. Timeline by which “timeline SIs and other achieved SIs are verified and evidence submitted.”</p> <p>3. Timeline by which “MYR and year-end self-assessment report is submitted to PPD, MoWHS.”</p>			
Preparation of a flood management plan for one district completed. (Paro Dzongkhag)	If the Flood Management Plan is completed for one District latest by 7th June 2020, then the achievement is 100%. Paro is the target 1 Dzongkhag identified for the Flood Management plan this FY 2019-2020. This is because Hazard & Risk Assessment for the Paro Dzongkhag was carried out in the previous FY 2018-2019. And in continuation to it, Flood Management Plan needs to be carried out.	Flood Management Plan for Paro Dzongkhag	Annually	DES Admin Data
Flood Hazard Assessment for one critical Thromde/ district completed. (Samtse Dzongkhag)	if the Hazard Assessment for Samtse Dzongkhag is completed latest by 5th June 2020, then the achievement is 100%	Hazard Assessment for Samtse Dzongkhag	Annually	DES Admin Data
Flood Risk Assessment for one Critical Thromde/District completed. (Samtse Dzongkhag)	If the Risk Assessment for Samtse Dzongkhag is completed latest by 10th June 2020, then the achievement is 100%.	Risk Assessment for Samtse Dzongkhag	Annually	DES Admin Data
Sensitization of National Flood Database System for 3 Districts completed.	The Sensitization of National Flood Database System for the whole country will be covered by conducting it in four different Regions in 12th FYP. If the Sensitization training/workshop is completed for one region (Chukha, Dagana and Samtse) is conducted for FY 2019-2020 latest by 30th April 2020, then the achievement is 100%	Sensitization training/workshop conducted	Annually	DES Admin Data
Preparation of Detailed Project Report for Budhini Project Readiness completed.	If more than 90% of the Detailed Project Report for Budhini completed, then the achievement is 100%. 90% constitutes following sub-activities: <ol style="list-style-type: none"> <li>1. Data compilation and collection such as Cross-section survey, pebble count, hydro-met data, sediment data.</li> <li>2. Finalization of the Scope of Work and signing of the Pro-bono work contract.</li> <li>3. Desktop Analysis and investigations for the Geomorphic and Flood Hazard Assessment.</li> <li>4. Site surveys during peak monsoon for purpose of design.</li> </ol>	Detailed Project Report for Budhini and Dhamdum flood protection works	Annually	DES Admin Data

Urban Storm Water management plan for Thimphu Thromde completed.	<p>5. Analysis of results and design of flood protection works.</p> <p>6. Conduct stakeholder meeting for the finalization of the workshop.</p> <p>7. Finalization of the draft Detailed Project Report (DPR).</p>	Storm Water Management Plan for Thimphu Thromde	Annually	DES Admin Data
Seismic vulnerability assessment carried out.	<p>If more than 80% of the detailed Urban Storm Water management plan for Thimphu Thromde is completed, then the achievement is excellent.80% will be determined by achieving following activities:</p> <ol style="list-style-type: none"> <li>1. ToR Preparation</li> <li>2. Hiring of Experts</li> <li>3. Assist experts in data collection and assessment of stormwater drain</li> <li>4. Project management</li> <li>5. Assessment Report</li> <li>6. Draft Urban storm water management plan</li> </ol>	Seismic vulnerability assessment report	Annually	DES Admin Data
Risk analysis carried out.	Using the vulnerability assessment, risk assessment for 3 Dzongkhags (Paro, Punakha & Tashi Yangtse) to be carried out.	Report	Annually	
Two full scale stone masonry building samples constructed and pushover test carried out.	The Department will be constructing two full-sized stone masonry buildings (1. with RCC bands and vertical reinforcement 2. Without reinforcement) and subject to pushover test from which the structural behavior of the buildings will be studied and methods for improvement proposed in the later stages of the project.	Document/report	Annually	DES Admin Data
Shake table test conducted.	Shake table test conducted on two 1:6 scaled stone masonry building models with mud mortar: 1. (With retrofitting.) 2. (Without retrofitting).	Report	Annually	DES Admin Data
Progress as per signed Water Flagship Performance Agreement	This indicator measures the status of progress of 6 Success Indicators which are responsibility of WSD, DES as outlined in Water Flagship APA	Progress report	Annually	PIU(Thromdeys and Dzongkhags)



Water supply scheme monitored.	Construction of Water Supply Scheme at Kanglung and Nganglam is monitored.	Report	Annually	DES Admin Data
Data collected and project completion report and other necessary reports compiled.	Monitoring through meetings and progress report and submission. Collection of data for project completion report. Samdrup Jongkhar is the Implementing Agency (IA) and DES is the Executing Agency (EA)	Monitoring Report	Annually	DES Admin Data
Create jobs in the construction sector	No. of jobs to be created in the construction sector. However, the actual numbers will be determined after the consultation by the MoLHR with the Ministry as per the directive of the ERC meetings. DES will create 38 jobs.	Documents/reports	Annually	DES Admin Data

**Section 5: Requirements from other Departments & Secretariat Divisions**

Organisation Name	Relevant Success Indicator	Requirement from the Organisation	Justification for the Requirement	Requirement Detail	Impact (If Not Met)
DEPARTMENT OF ROADS	6 Nos. of items for which Labour and Material Coefficient (LMC) reviewed/updated.	Assistance in identification of new items for update in LMC	Assistance in identification of new items	Assistance in identification of new items for update in LMC	Delay in activity
All Dzongkhags	6 Nos. of items for which Labour and Material Coefficient (LMC) reviewed/updated.	Assistance in identification of new items for update in LMC	Assistance in identification of new items	Assistance in identification of new items for update in LMC	Delay in activity.
MINISTRY OF AGRICULTURE AND FORESTS	6 Nos. of items for which Labour and Material Coefficient (LMC) reviewed/updated.	Assistance in identification of new items for update in LMC.	Assistance in identification of new items related to agriculture and forestry.	Assistance in identification of new items for update in LMC.	Delay in activity.
MINISTRY OF EDUCATION	6 Nos. of items for which Labour and Material Coefficient (LMC) reviewed/updated.	Assistance in identification of new items for update in LMC	Assistance in identification of new items related to School planning	Assistance in identification of new items for update in LMC	Delay in activity.
MINISTRY OF HEALTH	6 Nos. of items for which Labour and Material Coefficient (LMC) reviewed/updated.	Assistance in identification of new items for update in LMC	Assistance in identification of new items related to Health	Assistance in identification of new items for update in LMC	Delay in activity.
MINISTRY OF HOME & CULTURAL AFFAIRS	6 Nos. of items for which Labour and Material Coefficient (LMC) reviewed/updated.	Assistance in identification of new items for update in LMC	Assistance in identification of new items related to culture	Assistance in identification of new items for update in LMC	Delay in activity.
DEPARTMENT OF ROADS	New items/products studied for insertion in Bhutan Schedule of Rates (BSR).	Assistance in identification of new items for insertion BSR	Assistance in identification of new items related to roads	Assistance in identification of new items for insertion BSR	Delay in activity.

All Dzongkhags	New items/products studied for insertion in Bhutan Schedule of Rates (BSR).	Assistance in identification of new items for insertion BSR	Dzongkhag Eng. Sector: Assistance in identification of new items	Assistance in identification of new items for insertion BSR	Delay in activity.
MINISTRY OF AGRICULTURE AND FORESTS	New items/products studied for insertion in Bhutan Schedule of Rates (BSR).	Assistance in identification of new items for insertion BSR	Assistance in identification of new items related to agriculture and forestry	Assistance in identification of new items for insertion BSR	Delay in activity.
MINISTRY OF EDUCATION	New items/products studied for insertion in Bhutan Schedule of Rates (BSR).	Assistance in identification of new items for insertion BSR	Assistance in identification of new items related to School planning	Assistance in identification of new items for insertion BSR	Delay in activity.
MINISTRY OF HEALTH	New items/products studied for insertion in Bhutan Schedule of Rates (BSR).	Assistance in identification of new items for insertion BSR	Assistance in identification of new items related to Health	Assistance in identification of new items for insertion BSR	Delay in activity.
MINISTRY OF HOME & CULTURAL AFFAIRS	New items/products studied for insertion in Bhutan Schedule of Rates (BSR).	Assistance in identification of new items for insertion BSR	Assistance in identification of new items related to culture	Assistance in identification of new items for insertion BSR	Delay in activity.
MINISTRY OF FINANCE	Bhutan Schedule of Rates (BSR) Published.	Timely release of funds.	Funding agency	Timely release of funds.	Delay in activity.
Thimphu Thromde	Building Energy Efficiency (EE) Guidelines for Bhutan Green Building Guidelines (BGBG) developed.	Timely approval for construction of Energy Efficiency Research Center	Drawing approval provided by Thromde or relevant authority	Timely approval required to initiate Energy Efficiency Research Center on time	EE Research Center construction cannot be initiated with due approval
THROMDEYS	6 Nos. of items for which Labour and Material Coefficient (LMC) reviewed/updated.	Assistance in identification of new items for update in LMC	Assistance in identification of new items	Assistance in identification of new items for update in LMC	Delay in activity.
THROMDEYS	New items/products studied for insertion in Bhutan Schedule of Rates (BSR).	Assistance in identification of new items for insertion BSR	Assistance in identification of new items	Assistance in identification of new items for insertion BSR	Delay in activity.

Thimphu Thromde	Urban Roads and drainage in Thimphu Thromde monitored (ADB 2816).	Implementation on ground - supervision of works, managing the site, verification of Bills and submission to MoWHS, progress reporting etc.	The PIU is the Implementing Agency (IA) and DES is the Executing Agency (EA)	Implementation on ground - supervision of works, managing the site, verification of Bills and submission to MoWHS, progress reporting etc.	Works may delay and can't fulfill the targets/requirements
NATIONAL ENVIRONMENT COMMISSION	Professional services provided for water supply and sanitation works.	Environmental clearances. Collaboration.	Environmental clearance is required for most of the activities.	Environmental clearances. Collaboration.	Delay the implementation of the project.
All Dzongkhags	Professional services provided for water supply and sanitation works.	Coordination and collaboration for implementation of the activities.	Most of the activities are implemented in the Dzongkhags/ Thromdes/ Gewogs.	Coordination and collaboration for implementation of the activities.	Activity will not be carried out as planned.
MINISTRY OF FINANCE	Professional services provided for water supply and sanitation works.	Timely release of Budget.	Budget is required for all the activities.	Timely release of Budget.	Will be difficult to implement the activities as mentioned in APA.
DZONGKHAG THIMPHU CONSOLIDATED	Engineers trained on CMS and instituted in agencies.	To implement the use of software in their projects and phase out Measurement Book (MB)	for the successful implementation of the software	To implement the use of software in their projects to see how effective the software is.	Construction Manager Software cannot be piloted in other Dzongkhags.
DZONGKHAG SAMTSE CONSOLIDATED	Engineers trained on CMS and instituted in agencies.	To implement the use of software in their projects and phase out Measurement Book (MB)	for the successful implementation of the software	To implement the use of software in their projects to see how effective the software is.	Construction Manager Software cannot be piloted in other Dzongkhags.
Thimphu Thromde	Construction of Waste Water Treatment Plant (WWTP) at Babesa monitored.	Implementation on ground - supervision of works, managing the site, verification of Bills and submission to MoWHS, progress reporting etc.	The PIU is the Implementing Agency (IA) and DES is the Executing Agency (EA)	Implementation on ground - supervision of works, managing the site, verification of Bills and submission to MoWHS, progress reporting etc.	Works may delay and can't fulfill the targets/requirements

GROSS NATIONAL HAPPINESS COMMISSION	Secondary Town Urban Development Project activities facilitated and monitored.	Timely facilitation for approval and release of loan/donor fund. Facilitate signing of MoU with the implementing partner.	For smooth implementation of the project.	Timely facilitation for approval and release of loan/donor fund. Facilitate signing of MoU with the implementing partner.	Timely facilitation for approval and release of loan/donor fund. Facilitate signing of MoU with the implementing partner.	Projects activities cannot be completed as scheduled.
GROSS NATIONAL HAPPINESS COMMISSION	Project Monitoring Supervision Consultant under STUDP - ADB 3674 supervised and managed.	Timely facilitation for approval and release of loan/donor fund. Facilitate signing of MoU with the implementing partner.	For smooth implementation of the project.	Timely facilitation for approval and release of loan/donor fund. Facilitate signing of MoU with the implementing partner.	Timely facilitation for approval and release of loan/donor fund. Facilitate signing of MoU with the implementing partner.	Projects activities cannot be completed as scheduled.
GROSS NATIONAL HAPPINESS COMMISSION	Tariff regulation guidelines for water and sanitation services developed-hiring of Institutional Consultant for Water Tariff - ADB 3674.	Timely facilitation for approval and release of loan/donor fund. Facilitate signing of MoU with the implementing partner.	For smooth implementation of the project.	Timely facilitation for approval and release of loan/donor fund. Facilitate signing of MoU with the implementing partner.	Timely facilitation for approval and release of loan/donor fund. Facilitate signing of MoU with the implementing partner.	Projects activities cannot be completed as scheduled.
All Dzongkhags	Compliance report produced for the construction of buildings approved by Department and Local governments.	Approved Building drawings, Architects & Building Inspector's site visit.	Approved building drawing by department to be compiled at site.	Approved drawings by the department.	1. Traditional architecture will be deviated. 2. Construction quality cannot be monitored.	Projects activities cannot be completed as scheduled.
DZONGKHAG CONSOLIDATED TRASHIGANG	Water supply scheme monitored.	Timely and regular Progress reports highlighting both physical and financial aspects & Issues requiring technical backstopping on designs and drawings from Dzongkhag. Technical review by WAPCOS as and when needed. Timely fund transfer /release from the GNHC.	To be able to assess the progress achieved in accordance with the target schedule and approved 'work plan'; be able to provide necessary assistance and undertake project monitoring through site visits, correspondences, meetings etc. ; and to be able to accord	Monthly progress reports covering both physical and financial aspects. Compliance reports on designs, drawings and technical specifications by the contractor. Details on issues that have hindered the implementation schedule. Technical issues that needs to be	Delay in the implementation schedule and consequently on the intended completion & commissioning of the scheme.	Projects activities cannot be completed as scheduled.

GROSS NATIONAL HAPPINESS COMMISSION	Water supply scheme monitored.	Timely and regular Progress reports highlighting both physical and financial aspects & Issues requiring technical backstopping on designs and drawings from Dzongkhag. Technical review by WAPCOS as and when needed. Timely fund transfer /release from the GNHC.	technical decisions accordingly. To be able to assess the progress achieved in accordance with the target schedule and approved 'work plan'; be able to provide necessary assistance and undertake project monitoring through site visits, correspondences, meetings etc ; and to be able to accord technical decisions accordingly.	decided by the PMU/DES Monthly progress reports covering both physical and financial aspects. Compliance reports on designs, drawings and technical specifications by the contractor. Details on issues that have hindered the implementation schedule. Technical issues that needs to be decided by the PMU/DES	Delay in the implementation consequently on the intended completion & commissioning of the scheme.
Samdrupjongkhar Thromde	Data collected and project completion report and other necessary reports compiled.	Implementation on ground - supervision of works, managing the site, verification of Bills and submission to MoWHS, progress reporting etc.	The PIU is the Implementing Agency (IA) and DES is the Executing Agency (EA)	Implementation on ground - supervision of works, managing the site, verification of Bills and submission to MoWHS, progress reporting etc.	Works may delay and can't fulfill the targets/requirements
NATIONAL CENTER FOR HYDROLOGY AND METEOROLOGY	Flood Hazard Assessment for one critical Thromde/ district completed. (Samtse Dzongkhag)	Hydrological and Meteorological Data	Needed for flood Modelling	Hydrological and Meteorological Data for modelling	Then we have to use global data
NATIONAL LAND COMMISSION	Flood Hazard Assessment for one critical Thromde/ district completed. (Samtse Dzongkhag)	Settlement and other relevant GIS Data	Needed for flood Modelling	Settlement and other relevant GIS Data for modelling	Delay the preparation of Flood Hazard and Risk Maps.
NATIONAL STATISTICS BUREAU	Flood Hazard Assessment for one critical Thromde/ district	Settlement Data	Needed for flood Modelling	Settlement Data for modelling	Delay the preparation of Flood Hazard and Risk Maps.

	completed. (Samtse Dzongkhag)	Timely approval and release of proposed budgets		Requirement of budget to implement projects	Budget for any project should be released by them on time.	Delay in the implementation of projects
All Dzongkhags	Flood Hazard Assessment for one critical Thromde/ district completed. (Samtse Dzongkhag)	Timely approval and release of proposed budgets		Requirement of budget to implement projects	Budget for any project should be released by them on time.	Delay in the implementation of projects
THROMDEYS	Flood Hazard Assessment for one critical Thromde/ district completed. (Samtse Dzongkhag)	Timely approval and release of proposed budgets		Requirement of budget to implement projects	Budget for any project should be released by them on time.	Delay in the implementation of projects
MINISTRY OF FINANCE	Flood Hazard Assessment for one critical Thromde/ district completed. (Samtse Dzongkhag)	Timely approval and release of proposed budgets		Requirement of budget to implement projects	Budget for any project should be released by them on time.	Delay in the implementation of projects
ANTI-CORRUPTION COMMISSION	Flood Hazard Assessment for one critical Thromde/ district completed. (Samtse Dzongkhag)	Corruption Risk Management tool and Integrity Diagnostics tools		Training on use of these tools	Staff should be trained on Corruption Risk Management tool and Integrity Diagnostics tools on time.	Risk of corruption will be higher.
NATIONAL LAND COMMISSION	Flood Risk Assessment for one Critical Thromde/District completed. (Samtse Dzongkhag)	Settlement and other relevant GIS Data		Needed for flood Modelling	Settlement and other relevant GIS Data for modelling	Delay the preparation of Flood Hazard and Risk Maps.
NATIONAL STATISTICS BUREAU	Flood Risk Assessment for one Critical Thromde/District completed. (Samtse Dzongkhag)	Settlement Data		Needed for flood Modelling	Settlement Data for modelling	Delay the preparation of Flood Hazard and Risk Maps.
All Dzongkhags	Flood Risk Assessment for one Critical Thromde/District completed. (Samtse Dzongkhag)	Timely approval and release of proposed budgets		Requirement of budget to implement projects	Budget for any project should be released by them on time.	Delay in the implementation of projects
THROMDEYS	Flood Risk Assessment for one Critical Thromde/District completed. (Samtse Dzongkhag)	Timely approval and release of proposed budgets		Requirement of budget to implement projects	Budget for any project should be released by them on time.	Delay in the implementation of projects

	Thromde/District completed. (Samtse Dzongkhag)	Timely approval and release of proposed budgets	Requirement of budget to implement projects	Budget for any project should be released by them on time.	Delay in the implementation of projects
MINISTRY OF FINANCE	Flood Risk Assessment for one Critical Thromde/District completed. (Samtse Dzongkhag)	Corruption Risk Management tool and Integrity Diagnostics tools	Training on use of these tools	Staff should be trained on Corruption Risk Management tool and Integrity Diagnostics tools on time.	Risk of corruption will be higher.
ANTI-CORRUPTION COMMISSION	Flood Risk Assessment for one Critical Thromde/District completed. (Samtse Dzongkhag)	Settlement Data	Needed for flood Modelling	Settlement Data for modelling	Delay the preparation of Flood Hazard and Risk Maps.
NATIONAL STATISTICS BUREAU	Sensitization of National Flood Database System for 3 Districts completed.	Timely approval and release of proposed budgets	Requirement of budget to implement projects	Budget for any project should be released by them on time.	Delay in the implementation of projects
All Dzongkhags	Sensitization of National Flood Database System for 3 Districts completed.	Timely approval and release of proposed budgets	Requirement of budget to implement projects	Budget for any project should be released by them on time.	Delay in the implementation of projects
THROMDEYS	Sensitization of National Flood Database System for 3 Districts completed.	Timely approval and release of proposed budgets	Requirement of budget to implement projects	Budget for any project should be released by them on time.	Delay in the implementation of projects
MINISTRY OF FINANCE	Sensitization of National Flood Database System for 3 Districts completed.	Timely approval and release of proposed budgets	Requirement of budget to implement projects	Budget for any project should be released by them on time.	Delay in the implementation of projects
ANTI-CORRUPTION COMMISSION	Sensitization of National Flood Database System for 3 Districts completed.	Corruption Risk Management tool and Integrity Diagnostics tools	Training on use of these tools	Staff should be trained on Corruption Risk Management tool and Integrity Diagnostics tools on time.	Risk of corruption will be higher.
NATIONAL CENTER FOR HYDROLOGY AND METEOROLOGY	Preparation of Detailed Project Report for Budhini Project Readiness completed.	Hydrological and Meteorological Data	Needed for flood Modelling	Hydrological and Meteorological Data for modelling	Then we have to use global data



NATIONAL LAND COMMISSION	Preparation of Detailed Project Report for Budhini Project Readiness completed.	Settlement and other relevant GIS Data	Needed for flood Modelling	Settlement and other relevant GIS Data for modelling	Delay the preparation of Flood Hazard and Risk Maps.
NATIONAL STATISTICS BUREAU	Preparation of Detailed Project Report for Budhini Project Readiness completed.	Settlement Data	Needed for flood Modelling	Settlement Data for modelling	Delay the preparation of Flood Hazard and Risk Maps.
All Dzongkhags	Preparation of Detailed Project Report for Budhini Project Readiness completed.	Timely approval and release of proposed budgets	Requirement of budget to implement projects	Budget for any project should be released by them on time.	Delay in the implementation of projects
THROMDEYS	Preparation of Detailed Project Report for Budhini Project Readiness completed.	Timely approval and release of proposed budgets	Requirement of budget to implement projects	Budget for any project should be released by them on time.	Delay in the implementation of projects
MINISTRY OF FINANCE	Preparation of Detailed Project Report for Budhini Project Readiness completed.	Timely approval and release of proposed budgets	Requirement of budget to implement projects	Budget for any project should be released by them on time.	Delay in the implementation of projects
ANTI-CORRUPTION COMMISSION	Preparation of Detailed Project Report for Budhini Project Readiness completed.	Corruption Risk Management tool and Integrity Diagnostics tools	Training on use of these tools	Staff should be trained on Corruption Risk Management tool and Integrity Diagnostics tools on time.	Risk of corruption will be higher.
NATIONAL CENTER FOR HYDROLOGY AND METEOROLOGY	Urban Storm Water management plan for Thimphu Thromde completed.	Hydrological and Meteorological Data	Needed for flood Modelling	Hydrological and Meteorological Data for modelling	Then we have to use global data
NATIONAL LAND COMMISSION	Urban Storm Water management plan for Thimphu Thromde completed.	Settlement and other relevant GIS Data	Needed for flood Modelling	Settlement and other relevant GIS Data for modelling	Delay the preparation of Flood Hazard and Risk Maps.
NATIONAL STATISTICS BUREAU	Urban Storm Water management plan for Thimphu Thromde completed.	Settlement Data	Needed for flood Modelling	Settlement Data for modelling	Delay the preparation of Flood Hazard and Risk Maps.

All Dzongkhags	Urban Storm Water management plan for Thimphu Thromde completed.	Timely approval and release of proposed budgets	Requirement of budget to implement projects	Budget for any project should be released by them on time.	Delay in the implementation of projects
THROMDEYS	Urban Storm Water management plan for Thimphu Thromde completed.	Timely approval and release of proposed budgets	Requirement of budget to implement projects	Budget for any project should be released by them on time.	Delay in the implementation of projects
MINISTRY OF FINANCE	Urban Storm Water management plan for Thimphu Thromde completed.	Timely approval and release of proposed budgets	Requirement of budget to implement projects	Budget for any project should be released by them on time.	Delay in the implementation of projects
ANTI-CORRUPTION COMMISSION	Urban Storm Water management plan for Thimphu Thromde completed.	Corruption Risk Management tool and Integrity Diagnostics tools	Training on use of these tools	Staff should be trained on Corruption Risk Management tool and Integrity Diagnostics tools on time.	Risk of corruption will be higher.
GROSS NATIONAL HAPPINESS COMMISSION	Seismic vulnerability assessment carried out.	Approval of FACE form and timely approval for incorporation of fund	The FACE form needs to be endorsed by GNHC before processing for the release of fund	Endorsement of FACE form Approval for incorporation of fund	The activities cannot be carried out without the release of fund Delay in all if no timely incorporation and release of fund
MINISTRY OF FINANCE	Seismic vulnerability assessment carried out.	Timely incorporation and release of fund	The fund needs to be incorporated by DPA before the Division can ask for release of fund	Timely incorporation of fund Timely release of fund	The activities cannot be carried out without the release of fund Delay in all if no timely incorporation and release of fund
MINISTRY OF ECONOMIC AFFAIRS	Seismic vulnerability assessment carried out.	Support/ assistance in providing necessary data/information related to seismicity/ seismic activities in Bhutan	The activity requires support from DGM to carry out the projection of seismic vulnerability of buildings in different	Data/information related to seismicity/ seismic activities in Bhutan (Seismic hazard map)	The division will not be able to come up with a realistic estimate of damages due to lack of information regarding

				regions to give a realistic estimate of damages Bhutan would sustain during an earthquake			seismic activity in a particular region
GROSS NATIONAL HAPPINESS COMMISSION	Risk analysis carried out.	Approval of FACE form and timely approval for incorporation of fund	The FACE form needs to be endorsed by GNHC before processing for the release of fund	The activity requires support from DGM to carry out the projection of seismic vulnerability of buildings in different regions to give a realistic estimate of damages Bhutan would sustain during an earthquake	Endorsement of FACE form Approval for incorporation of fund	The activities cannot be carried out without the release of fund Delay in all if no timely incorporation and release of fund	
MINISTRY OF FINANCE	Risk analysis carried out.	Timely incorporation and release of fund	The fund needs to be incorporated by DPA before the Division can ask for release of fund	The activity requires support from DGM to carry out the projection of seismic vulnerability of buildings in different regions to give a realistic estimate of damages Bhutan would sustain during an earthquake	Timely incorporation of fund Timely release of fund	The activities cannot be carried out without the release of fund Delay in all if no timely incorporation and release of fund	
MINISTRY OF ECONOMIC AFFAIRS	Risk analysis carried out.	Support/ assistance in providing necessary data/information related to seismicity/ seismic activities in Bhutan	The activity requires support from DGM to carry out the projection of seismic vulnerability of buildings in different regions to give a realistic estimate of damages Bhutan would sustain during an earthquake	Data/information related to seismicity/ seismic activities in Bhutan (Seismic hazard map)	The division will not be able to come up with a realistic estimate of damages due to lack of information regarding seismic activity in a particular region		
MINISTRY OF HOME & CULTURAL AFFAIRS	Two full scale stone masonry building samples constructed and pushover test carried out.	Implementing partners for SATREPS project (DoC)	Understanding the behavior of stone masonry structures under seismic excitation	Tendering & Award of work for construction of samples.	Delay in construction of samples leading to delay in testing		

MINISTRY OF HOME & CULTURAL AFFAIRS	Two full scale stone masonry building samples constructed and pushover test carried out.	Implementing partners for SATREPS project (DDM)	Understanding the behaviour of stone masonry structures under seismic excitation	Project Coordination	Delay in project
MINISTRY OF HOME & CULTURAL AFFAIRS	Shake table test conducted.	Implementing partners for SATREPS project (DDM)	Understanding the behaviour of stone masonry structures under seismic excitation	Tendering & Award of work for construction of samples.	Delay in construction of samples leading to delay in testing
NATIONAL ENVIRONMENT COMMISSION	Timely engineering services provided to local Government and other agencies for planning, designing and monitoring of flood and storm waterworks.	Environmental clearances	Environmental clearance is required for most of the activities	Clearance should be provided by NEC for construction of flood protection and storm water drains	Delay in the implementation of the project.
NATIONAL CENTER FOR HYDROLOGY AND METEOROLOGY	Timely engineering services provided to local Government and other agencies for planning, designing and monitoring of flood and storm waterworks.	Hydrological and Meteorological Data	Needed for flood Modelling	Hydrological and Meteorological Data for modelling	Then we have to use global data
NATIONAL LAND COMMISSION	Timely engineering services provided to local Government and other agencies for planning, designing and monitoring of flood and storm waterworks.	Settlement and other relevant GIS Data	Needed for flood Modelling	Settlement and other relevant GIS Data for modelling	Delay the preparation of Flood Hazard and Risk Maps.
NATIONAL STATISTICS BUREAU	Timely engineering services provided to local Government and other agencies for planning, designing and monitoring of flood and storm waterworks.	Settlement Data	Needed for flood Modelling	Settlement Data for modelling	Delay the preparation of Flood Hazard and Risk Maps.

All Dzongkhags	Timely engineering services provided to local Government and other agencies for planning, designing and monitoring of flood and storm waterworks.	Timely approval and release of proposed budgets	Requirement of budget to implement projects	Budget for any project should be released by them on time.	Delay in the implementation of projects
THROMDEYS	Timely engineering services provided to local Government and other agencies for planning, designing and monitoring of flood and storm waterworks.	Timely approval and release of proposed budgets	Requirement of budget to implement projects	Budget for any project should be released by them on time.	Delay in the implementation of projects
MINISTRY OF FINANCE	Timely engineering services provided to local Government and other agencies for planning, designing and monitoring of flood and storm waterworks.	Timely approval and release of proposed budgets	Requirement of budget to implement projects	Budget for any project should be released by them on time.	Delay in the implementation of projects
ANTI-CORRUPTION COMMISSION	Timely engineering services provided to local Government and other agencies for planning, designing and monitoring of flood and storm waterworks.	Corruption Risk Management tool and Integrity Diagnostics tools	Training on use of these tools	Staff should be trained on Corruption Risk Management tool and Integrity Diagnostics tools on time.	Risk of corruption will be higher.
MINISTRY OF FINANCE	Integrated checkpoint constructed at Rinchening.	Timely release of budget/fund.	This project is funded by RGoB and spillover project of the 11FYP.	Budget	Timely completion of project due to release of fund.
MINISTRY OF FINANCE	Integrated checkpoint constructed at Rinchening.	DLO: specific equipment office space requirement from security and functionality aspects.	Design of offices and gates to be as per their requirements.	Budget	Failure of system integration.
MINISTRY OF FINANCE	ToR for recruitment of consultant developed.	Timely release of Budget.	Budget is required for all the activities.	Timely release of Budget.	Will be difficult to implement the activities as mentioned in APA.

NATIONAL ENVIRONMENT COMMISSION	ToR for recruitment of consultant developed.	Environmental clearances. Collaboration.	Environmental clearance is required for most of the activities.	Environmental clearances. Collaboration.	Delay the implementation of the project.
All Dzongkhags	ToR for recruitment of consultant developed.	Coordination and collaboration for implementation of the activities.	Most of the activities are implemented in the Dzongkhags/ Thromdes/ Gewogs.	Coordination and collaboration for implementation of the activities.	Activity will not be carried out as planned.
GROSS NATIONAL HAPPINESS COMMISSION	Preparation of Detailed Project Report for Budhini Project Readiness completed.	Timely directives and coordination	Decisions are made based on their directives	Decisions and directives	Delay in implementation
MINISTRY OF FINANCE	Building Energy Efficiency (EE) Guidelines for Bhutan Green Building Guidelines (BGBG) developed.	Timely approval and release of proposed budgets	Requirement of budget to implement projects	Budget for any project should be released by them on time.	Delay in the implementation of projects
GROSS NATIONAL HAPPINESS COMMISSION	Building Energy Efficiency (EE) Guidelines for Bhutan Green Building Guidelines (BGBG) developed.	Timely approval of project and fund from GNHC and donor agency (ADA)	Project approval and fund release requirement for implementation of plan	Timely approval of project and fund from GNHC and donor agency (ADA)	Delay in implementation of the plan or cancellation if not approved
All Dzongkhags	Building Energy Efficiency (EE) Guidelines for Bhutan Green Building Guidelines (BGBG) developed.	Coordination and cooperation approval for implementation	Site/structure under dzongkhag jurisdiction	Coordination and cooperation approval for implementation	Delay in implementation
MINISTRY OF HEALTH	Progress as per signed Water Flagship Performance Agreement	Water quality testing	Feasibility studies (designs) for water supply	Site visits, sample collections, testing (physical, chemical and biological) and reporting	Delay in the implementation of the water flagship program
ROYAL CIVIL SERVICE COMMISSION	Progress as per signed Water Flagship Performance Agreement	Human resources	Lack of technical capacity and shortage of staff	Transfer of engineers from the MoH Strengthen capacity of implementing agencies and (central agencies and local governments)	Delay in the implementation of water flagship program

					Recruitment of water experts	
GROSS NATIONAL HAPPINESS COMMISSION	Progress as per signed Water Flagship Performance Agreement	Overall coordination with central agencies and local governments	Implementation coordination in terms of policy guidance, securing funds, etc.	Coordination meetings	Delay in the implementation of water flagship program	
NATIONAL ENVIRONMENT COMMISSION	Progress as per signed Water Flagship Performance Agreement	Coordination	Guidance and decisions	Timely release of funds and intimation of decisions	Delay in the implementation of water flagship program	
All Dzongkhags	Progress as per signed Water Flagship Performance Agreement	Implementation support and establishment of PIUs	Implement water flagship activities	Progress reports (physical and financial), budget utilization plans, and implementation as per PIM	Inability to implement water flagship program	
Gelephu Thromde	Progress as per signed Water Flagship Performance Agreement	Implementation support and establishment of PIUs	Implement water flagship activities	Progress reports (physical and financial), budget utilization plans, and implementation as per PIM	Inability to implement water flagship program	
Phuentsholing Thromde	Progress as per signed Water Flagship Performance Agreement	Implementation support and establishment of PIUs	Implement water flagship activities	Progress reports (physical and financial), budget utilization plans, and implementation as per PIM	Inability to implement water flagship program	
Samdrup Jongkhar Thromde	Progress as per signed Water Flagship Performance Agreement	Implementation support and establishment of PIUs	Implement water flagship activities	Progress reports (physical and financial), budget utilization plans, and implementation as per PIM	Inability to implement water flagship program	

Thimphu Thromde	Progress as per signed Water Flagship Performance Agreement	Implementation support and establishment of PIUs	Implement water flagship activities	Progress reports (physical and financial), budget utilization plans, and implementation as per PIM	Inability to implement water flagship program
THROMDEYS	Progress as per signed Water Flagship Performance Agreement	Implementation support and establishment of PIUs	Implement water flagship activities	Progress reports (physical and financial), budget utilization plans, and implementation as per PIM	Inability to implement water flagship program
Phuentsholing Thromde	Data collected for completed works (ADB 2816) and Work completion report prepared, assessed and compiled for submission (BUDP-2/AF)	Implementation on ground - supervision of works, managing the site, verification of Bills and submission to MoWHS, progress reporting etc.	The PIU is the Implementing Agency (IA) and DES is the Executing Agency (EA)	Implementation on ground - supervision of works, managing the site, verification of Bills and submission to MoWHS, progress reporting etc.	Works may delay and can't fulfill the targets/requirements
Samdrup Jongkhar Thromde	Data collected for completed works (ADB 2816) and Work completion report prepared, assessed and compiled for submission (BUDP-2/AF)	Implementation on ground - supervision of works, managing the site, verification of Bills and submission to MoWHS, progress reporting etc.	The PIU is the Implementing Agency (IA) and DES is the Executing Agency (EA)	Implementation on ground - supervision of works, managing the site, verification of Bills and submission to MoWHS, progress reporting etc.	Works may delay and can't fulfill the targets/requirements
All Dzongkhags	Engineers trained on CMS and instituted in agencies.	Nominations of Engineers	Training participants for the training	Nominations of Engineers from their respective dzongkhags/thromdes who have not availed the training previously	Training cannot be conducted
THROMDEYS	Engineers trained on CMS and instituted in agencies.	Nominations of Engineers	Training participants for the training	Nominations of Engineers from their respective	Training cannot be conducted



						dzongkhags/thromdes who have not availed the training previously	
MINISTRY OF FINANCE	Integrated checkpoint constructed at Bumpagang.	Timely release of budget/fund.	This project is funded by RGoB and spillover project of the 11FYP.	Budget	Budget	Timely completion of project due to release of fund	
MINISTRY OF FINANCE	Integrated checkpoint constructed at Bumpagang.	DLO: specific equipment office space requirement from security and functionality aspects.	Design of offices and gates to be as per their requirements.	Budget	Budget	Failure of system integration.	
NGANGLA	Water supply scheme monitored.	Timely and regular Progress reports highlighting both physical and financial aspects & Issues requiring technical backstopping on designs and drawings from Dungkhag. Technical review by WAPCOS as and when needed. Timely fund transfer /release from the GNHC.	To be able to assess the progress achieved in accordance with the target schedule and approved 'work plan'; be able to provide necessary assistance and undertake project monitoring through site visits, correspondences, meetings etc.; and to be able to accord technical decisions accordingly.	Monthly progress reports covering both physical and financial aspects. Compliance reports on designs, drawings and technical specifications by the contractor. Details on issues that have hindered the implementation schedule. Technical issues that needs to be decided by the PMU/DES	Monthly progress reports covering both physical and financial aspects. Compliance reports on designs, drawings and technical specifications by the contractor. Details on issues that have hindered the implementation schedule. Technical issues that needs to be decided by the PMU/DES	Delay in the implementation schedule and consequently on the intended completion & commissioning of the scheme.	
Phuentsholing Thromde	Data collected for completed works (ADB 2816) and Work completion report prepared, assessed and compiled for submission (BUDP-2/AF)	Implementation on ground - supervision of works, managing the site, Verification of Bills and submission to MoWHS, progress reporting etc.	The PIU is the Implementing Agency (IA) and DES is the Executing Agency (EA)	Implementation on ground - supervision of works, managing the site, Verification of Bills and submission to MoWHS, progress reporting etc.	Implementation on ground - supervision of works, managing the site, Verification of Bills and submission to MoWHS, progress reporting etc.	Works may delay and can't fulfill the targets/requirements	
Samdrup Jongkhar Thromde	Data collected for completed works (ADB 2816) and Work completion report	Implementation on ground - supervision of works, managing the site, Verification of Bills and	The PIU is the Implementing Agency (IA) and DES is the	Implementation on ground - supervision of works, managing the	Implementation on ground - supervision of works, managing the	Works may delay and can't fulfill the targets/requirements	

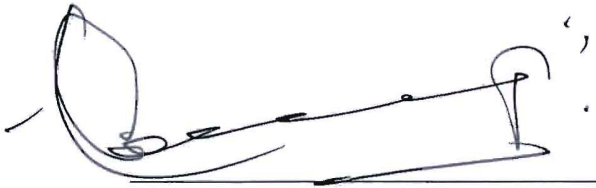
Thimphu Thromde	prepared, assessed and compiled for submission (BUDP-2/AF)	submission to MoWHS, progress reporting etc.	Executing Agency (EA)	site, Verification of Bills and submission to MoWHS, progress reporting etc.	
	Data collected for completed works (ADB 2816) and Work completion report prepared, assessed and compiled for submission (BUDP-2/AF)	Implementation on ground - supervision of works, managing the site, Verification of Bills and submission to MoWHS, progress reporting etc.	The PIU is the Implementing Agency (IA) and DES is the Executing Agency (EA)	Implementation on ground - supervision of works, managing the site, Verification of Bills and submission to MoWHS, progress reporting etc.	Works may delay and can't fulfill the targets/requirements

**Whereas,**

I, the Director, Department of Engineering Services, commit to the Secretary and the Minister, to deliver the results described in this Annual Performance Agreement.

I, the Secretary, commit to the Director, Department of Engineering Services to provide necessary support for the delivery of results described in this Annual Performance Agreement.

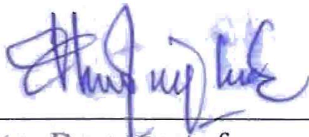
**SIGNED:**



Secretary, MoWHS

21/8/2019

Date: 21<sup>st</sup> August 2019



Director, Department of  
Engineering Services

Date: 21<sup>st</sup> August 2019