



**PERFORMANCE AGREEMENT**

**BETWEEN**

**CHAIRMAN, GOVERNING BOARD AND DIRECTOR,  
NATIONAL CENTER FOR HDYROLOGY AND  
METEOROLOGY (NCHM)**

**(July 1, 2021 – June 30, 2022)**

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**Preamble**

The Performance Agreement is entered into between the Prime Minister and , .

The objectives of this Performance Agreement are:

- a) To establish clarity and consensus about annual priorities for the consistent with the 12th Five Year Plan , and Government's other priorities;
- b) To make the fully responsible for driving implementation and delivering the results against the annual priorities;
- c) To provide an objective and fair basis for evaluating the #Error overall performance at the end of the 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

Center of excellence in Hydrology, Meteorology and Cryosphere Science and Services.

### Mission

Monitoring and understanding of hydrology, weather, climate and cryosphere, for timely provision of information and services to protect lives and property and support national needs for ecologically balanced sustainable development. Core Values Commitment and loyalty in delivery of products and services Integrity; Professionalism in support of science, research, objectivity, impartiality, and excellence; Mutual respect, cultural sensitivity and non-discrimination.

### Objectives

- 1) Hydro-meteorological and cryosphere disasters assessed & reduced
- 2) End-to-end operational National Framework for Climate Services (NFCS)
- 3) Access to hydro logical information and understanding of national water availability improved
- 4) Water quality improved
- 5) To provide effective and efficient admin,HR, ICT, direction and related common support services
- 6) Transparent, accountable & integrity consciousness and culture strengthened
- 7) To ensure full utilization of Budget
- 8) To institutionalize and strengthen Government Performance Management System
- 9) གཞུང་གི་ལས་ཁུངས་ལྷན་པོ་ཚོར་ཁོད་ལཱ་ལག་ལེན་རྒྱ་ཐུང་གཏང་ནི།

Section 2: Objectives, Success Indicators & Target

Objective	Weight	Action	Success Indicator	Unit	Weight	Excellent [100%]	Very Good [90%]	Good [80%]	Fair [70%]	Poor [60%]
Hydro-meteorological and cryosphere disasters assessed & reduced	38	Conduct assessment of hydrological hazard	Assessment of hydrological hazard conducted.	Number	9	3	NA	NA	NA	1
		Conduct assessment and monitoring of cryosphere and associated hazards	Assessment and monitoring of cryosphere and associated hazards conducted	Number	14	5 (39)	4	3	2	1 (34)
		Enhancing Hydro met and Flood/GLOF warning network	The critical hydro-met/GLOF infrastructures & network enhanced & maintained	Number	10	7(240)	5(238)	4(236)	2(234)	1(223)
		Issue Flood forecast, GLOF/Flood warning/advisories	Flood forecast, GLOF/Flood warning/advisories issued.	Number	5	2	NA	NA	NA	1
End-to-end operational National Framework for Climate Services (NFCS)	30	Issue Weather forecast and advisories on extreme weather events	Weather forecast and advisories on extreme weather events issued	Number	10	7	6	5	4	3
		Provide Aviation met services	Aviation met services provided	Number	10	5	4	3	2	1
		Provide Climate services	Climate services provided	Number	10	10	9	8	7	6
Access to hydro logical information and understanding of national water availability improved	20	Generate Mean Annual Flow of River Basins	Mean annual flow of main river basins generated	Number	10	3	NA	2	NA	1
		Monitoring and Transmission of hydromet data	Monitoring and Transmission of hydro-met data to HQ	Days	10	Within 25 days	Within 35 day	Within 40 days	Within 45 days	Within 50 days

Water quality improved	5	Measurement of suspended sediment loads in major rivers	Measurement of suspended sediment loads in major rivers	Date	5	1 (18)	NA	NA	NA	0 (16)
To provide effective and efficient admin,HR, ICT, direction and related common support services	5	Provide effective and efficient directorate & services	Provided effective and efficient directorate & common services	Days	5	3 working days	5 working days	7 working days	10 working days	12 working days
Transparent, accountable & integrity consciousness and culture strengthened	2	Enhance integrity system by implementing OIP	Integrity score improved	Percent	2	50% of OIP Implemented	40% of OIP Implemented	30% of OIP Implemented	20% of OIP Implemented	<20% of OIP Implemented
To ensure full utilization of Budget	0	Ensure Annual Budget Utilization	Percentage of annual budget utilization	Percent	5	>94%	90-94	85-89	80-84	<70
To institutionalize and strengthen Government Performance Management System	0	Strengthen APA Implementation	Timely submission of APA implementation updates	Date	2	On the deadline communicated by GPMD	-	-	-	After the deadline communicated by GPMD
ಗೃಹ-ಶಿಕ್ಷಣ-ವಿಜ್ಞಾನ-ಪ್ರಾಜೆಕ್ಟ್-ನಡವಳಿಯನ್ನು ಪ್ರೋತ್ಸಾಹಿಸಿ	0	ಇತ್ತೀಚಿನ ಶಿಕ್ಷಣ-ಪ್ರಾಜೆಕ್ಟ್-ನಡವಳಿಯನ್ನು	ಇತ್ತೀಚಿನ ಶಿಕ್ಷಣ-ಪ್ರಾಜೆಕ್ಟ್-ನಡವಳಿಯನ್ನು ಪ್ರೋತ್ಸಾಹಿಸಿ	Percent	1	100	-	-	-	<100

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]
Hydro-meteorological and cryosphere disasters assessed & reduced	Conduct assessment of hydrological hazard	Assessment of hydrological hazard conducted.	Number	6	9	12	15	18
	Conduct assessment and monitoring of cryosphere and associated hazards	Assessment and monitoring of cryosphere and associated hazards conducted	Number	25	30	35	39	44
	Enhancing Hydro met and Flood/GLOF warning network	The critical hydro-met/GLOF infrastructures & network enhanced & maintained	Number	221	226	233	240	247
	Issue Flood forecast, GLOF/Flood warning/advisories	Flood forecast, GLOF/Flood warning/advisories issued.	Number	1	2	4	6	8
End-to-end operational National Framework for Climate Services (NFCS)	Issue Weather forecast and advisories on extreme weather events	Weather forecast and advisories on extreme weather events issued	Number	6	6	7	7	8
	Provide Aviation met services	Aviation met services provided	Number	3	3	4	5	6
	Provide Climate services	Climate services provided	Number	6	7	8	10	10

	0	1	2	3	4
Access to hydro logical information and understanding of national water availability improved	Number				
Generate Mean Annual Flow of River Basins	Mean annual flow of main river basins generated				
Monitoring and Transmission of hydromet data	Days	35	30	25	20
Measurement of suspended sediment loads in major rivers	Date	16	17	18	19
Provide effective and efficient admin,HR, ICT, direction and related common support services	Days	1	3	4	5
Enhance integrity system by implementing OIP	Percent	100%	80%	70%	60%
Ensure full utilization of Budget	Percent				
To institutionalize and strengthen Government Performance Management System	Date				
<p>वर्षिक गैरसहज सुधार केन्द्र प्रारम्भ अनुसंधान प्रारम्भ</p> <p>वर्षिक सुधार की प्रारम्भिक प्रतिक्रिया अनुसंधान प्रारम्भ</p>	Percent				



**Section 4: Definition of Success Indicators**

Success Indicator	Description	Data Collection Methodology	Data Collection Frequency	Data Source
Assessment of hydrological hazard conducted.	<p>This indicator measure the number of activities carried out for the assessment of hydrological hazards as follows:</p> <ol style="list-style-type: none"> <li>1. River Basin characteristics assessment of Thimchhu/Wangchhu</li> <li>2. Hydro-dynamic model set up for the Thimchhu/Wangchhu</li> <li>3. Flood Hazards maps of Thimchhu/Wangchhu</li> </ol>	Technical Report along with maps	Annually	HWRSD, NCHM

<p>Assessment and monitoring of cryosphere and associated hazards conducted</p>	<p>This indicator measures the number of cryosphere activities conducted such as monitoring of glaciers, glacial lakes, and associated hazards as follows:</p> <ol style="list-style-type: none"> <li>1. Monitoring of annual glacier mass balance on the benchmark glaciers (Thana Glacier)</li> <li>2. Monitoring of annual glacier mass balance on the benchmark glaciers (Gangju La Glacier)</li> <li>3. Sub surface assessment of Thorthomi glacial lakes for GLOF risk</li> <li>4. Glacier Mass Balance on Thim chhu headwater glacier.</li> <li>5. Assessment of glacial lakes for GLOF risk (Lakes of Zanam region)</li> </ol> <p>*note*: Target of 39 FY4 inclusive of target achieved in previous FY &amp; with projected baseline of 35, however in FY 2020-21 due to Covid 19 pandemic only 33 Targets (actual baseline) were achieved. Therefore in 2021-22 NCHM have targeted 5 activities out of 4 projected values (ref. Section III 9th row) to be completed as mentioned above.</p>	<p>Technical report</p>	<p>Annually</p>	<p>CSD</p>
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	Physical Progress	Annually	HOID, NCHM
The critical hydro-met/GLOF infrastructures & network enhanced & maintained	<p>This SI will measure the following works/activities:</p> <ol style="list-style-type: none"> <li>1. Repair and maintenance of site office at sipsoo.</li> <li>2. Renovation of office building at serstrong.</li> <li>3. Renovation of office Building at Sunkosh.</li> <li>4. Renovation of office building at Chazam.</li> <li>5. Relocation and upgradation of class A Station at Zhemgang, Chamkhar and Kanglung.</li> <li>6. Installation of AWS at Khotokha and Relocation of AWS at Bumdeling and Phobjikha.</li> <li>7. Installation of Meteorological station at Gangjula and Singye Dzong.</li> <li>8. Installation of Manual Snow Stations at Soe, Lingshi, Tegola and Pelela.</li> <li>9. Annual maintenance works of existing hydromet stations across the country.</li> <li>10. Construction of flood warning and monitoring office at Gakiling, Haa (SPILL OVER).</li> <li>11. Construction of site Office with Sediment Lab at Panbang, Zhemgang. (SPILL OVER)</li> </ol> <p>*note*: Target of 226 FY2 inclusive target achieved in previous FY &amp; baseline of 221, However in FY 2021-22 NCHM have targeted 11 activities to be completed as mentioned above.</p>		

<p>Flood forecast, GLOF/Flood warning/advisories issued.</p>	<p>This indicator measures the number of activities carried out as follows:</p> <ol style="list-style-type: none"> <li>1. Flood/Flow forecasting model set up and tested and operational for Punatsangchhu and Kuri Chhu basin.</li> <li>2. Operation of Flood Monitoring and Common Room (FMCR) of National Weather and Flood Warning Center (NFWWC) to provide 24/7 services and daily monitoring and hydrological condition of gauged rivers disseminated.</li> <li>3. Awareness/mockdrill on GLOF/Rainstorm EWS conducted for Punatsangchhu, Chamkhar-Mangde and Amochhu basins.</li> <li>4. Operation of interim flood early warning system at Amochhu Phuntsholing.</li> </ol>	<p>Technical Report/Records/physical verification of model at Flood Monitoring and Common Room (FMCR)</p>	<p>Annually</p>	<p>HWRSD, NCHM</p>
<p>Weather forecast and advisories on extreme weather events issued</p>	<p>This SI measures the number of services provided as follows:</p> <ol style="list-style-type: none"> <li>a. Daily weather forecast (365 days)</li> <li>b. Weather reports</li> <li>c. Operation and maintenance of systems (GTS, HimawariCast, WRF and SmartMet</li> <li>d. Extreme weather advisories</li> <li>e. Weather forecast of 8 points to WMO Weather Information System</li> <li>f. Medium range weather forecast</li> <li>g. Synoptic data to WMO</li> </ol>	<p>Forecast/report issued, advisories and logbook</p>	<p>Annually</p>	<p>WFS, WCSD, NCHM</p>

<p>Aviation met services provided</p>	<p>This SI is measured by the number of services provided as follows:</p> <ol style="list-style-type: none"> <li>1. Operation and maintenance of aviation met equipment at all airports</li> <li>2. Meteorological observations and reports (METAR/SPECI)</li> <li>3. Upgradation of meteorological observation at airports</li> <li>4. Aeronautical climatological information</li> <li>5. Services for operators and flight crew members (briefing)</li> </ol>	<p>Data report &amp; physical progress</p>	<p>Annually</p>	<p>AMS, WCSD</p>
<p>Climate services provided</p>	<p>This SI measures the number of services/reports generated as follows:</p> <ol style="list-style-type: none"> <li>1. National Climate Forum (NCF)</li> <li>2. Seasonal prediction (summer outlook)</li> <li>3. Seasonal prediction (winter outlook)</li> <li>4. Climate monitoring (annual)</li> <li>5. Historical climate information and data</li> <li>6. Update weather and climate information on the NCHM website</li> <li>7. Climate monitoring (monthly)</li> <li>8. Weather and seasonal information for agromet services</li> <li>9. Data rescue, metadata, data archival</li> <li>10.. Sub- seasonal predictions (extended range)</li> </ol>	<p>Reports and Data records</p>	<p>Annually</p>	<p>Reports and Data records</p>

<p>Mean annual flow of main river basins generated</p>	<p>This indicator will include the following:</p> <ol style="list-style-type: none"> <li>1. Assessment/ Modelling of basin-wide water resources availability focusing on surface water availability for the selected sub-basins of Wangchu.</li> <li>2. Hydrological Data Processing and Database Management of Hydrological data collection from the National Hydrological Observation networks and dissemination of data.</li> <li>3. Other publication like Annual Data book, River flow status, Posters and Brouchers</li> <li>4. Channel Rating of AWLS sites for Rating Curve development</li> <li>5. Data collection for Hydrological Information System development (DEM, Ariel image, multiple cross section, geo database, etc.)</li> <li>6. Research/ Studies on the hydrology and water resources</li> </ol>	<p>Technical Reports</p>	<p>Annually</p>	<p>HWRSD, NCHM</p>
<p>Monitoring and Transmission of hydro-met data to HQ</p>	<p>This indicator will measure the timely monitoring and data observation of field stations across the country by the Site staff. This data collected on daily basis from field stations are transmitted monthly to HQ for data processing and achival in National Database. Ground verification and monitoring of extreme hydromet events as redundancy to automatic warning</p>	<p>Data record</p>	<p>Monthly</p>	<p>HOID</p>

<p>Measurement of suspended sediment loads in major rivers</p>	<p>This indicator will measure the establishment of sediment sampling station and sediment laboratory to measured the suspended sediment data that are required for water quality assessment for watershed management and hydropower planning and development and planned to set up a station at 1. Kerabari on Punatsang Chhu "note": Target of 18 FY4 inclusive of target achieved in previous FY &amp; baseline of 15, however in FY 2021 -22 NCHM have targeted 1 activity to be completed as mentioned above.</p>	<p>Physical Progress</p>	<p>Annually</p>	<p>HOID, NCHM</p>
<p>Provided effective and efficient directorate &amp; common services</p>	<p>1. The number of days required to complete the works after the HRC Endorsement. 2. Regular common ICT services for the center in percentage (Network and system uptime).</p>	<p>Admin and Finance Record</p>	<p>Annually</p>	<p>Directorate (AFS, HRS) NCHM</p>
<p>Integrity score improved</p> <p>གཞུང་འབྲེལ་གྱི་ཡིག་འགྲུལ་ ཡོངས་འཕུལ་ལེགས་པར་ ཚོང་ཁའའི་ནང་གྱིས་འོད་པའི་བརྒྱུ་བྱེད་ཀྱི་ཡིག་འགྲུལ་ ཚོང་ཁའའི་ཡིག་འགྲུལ་གྱི་ཡིག་འགྲུལ་ཡང་ གཤམ་གསལ་ལུང་ བཟུ་ཆེ།</p> <p>1) བཀའ་རྒྱུ་འཕྲོད་ཀྱི་ཡིག་འགྲུལ་  <input type="checkbox"/> འཕྲོད་ཡིག་འགྲུལ་གྱི་ (Appointment Order)  <input type="checkbox"/> གནས་ལོང་གསལ་གྱི་ (Transfer Order)  <input type="checkbox"/> འགན་ལྗོད་གསལ་གྱི་ (Relieving Order)  <input type="checkbox"/> གོ་གནས་ལེགས་ལེགས་གསལ་གྱི་ (Promotion Order)  <input type="checkbox"/> རྒྱུང་གསལ་ཡིག་ཚང་གསལ་གྱི་ (Office Orders)"</p>	<p>This indicator measures the implementation status of Organisational Integrity Plan (OIP) as determined as Anti-Corruption Commission</p>	<p>Survey and Field Monitoring of OIP implementation by ACC</p> <p>ཡིག་འགྲུལ་གྱི་ཕྱི་རྒྱུ་འཕུལ་ལེགས་པར་བྱེད་ཀྱི་ཡིག་འགྲུལ་ཡང་ ཚོང་ཁའའི་ཡིག་འགྲུལ་གྱི་ཡིག་འགྲུལ་ལྟར་གྱི་</p>	<p>Annually</p>	<p>Administrative report by ACC</p> <p>ཡིག་འགྲུལ་གྱི་ཕྱི་རྒྱུ་འཕུལ་ལེགས་པར་བྱེད་ཀྱི་ཡིག་འགྲུལ་</p>

<p>Percentage of annual budget utilization</p>	<p>This indicator measures the variance between the Revised Budget and the Actual Expenditure at the end of the FY.</p>	<p>Assessment of variance between annual budget and expenditure</p>	<p>Annually</p>	<p>Department of National Budget</p>
<p>Timely submission of APA implementation updates</p>	<p>This SI shall be evaluated based on the following parameters:</p> <ol style="list-style-type: none"> <li>1. Timeline by which "monthly issue/no issue reported on GPMS.</li> <li>2. Timeline by which "timeline SIs and other achieved SIs are verified and evidence submitted."</li> <li>3. Timeline by which "MYR and year-end self-assessment report is submitted to GPMD."</li> <li>4. "Timely action taken on all the MYR directives.</li> </ol>	<p>Review of administrative data/documents/records</p>	<p>Quarterly</p>	<p>GPPMD</p>



**Section 5: Requirements from other Ministries, Agencies & Dzongkhags**

<b>Organisation Name</b>	<b>Relevant Success Indicator</b>	<b>Requirement from the Organisation</b>	<b>Justification for the Requirement</b>	<b>Requirement detail</b>	<b>Impact (If Not Met)</b>
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Whereas,

I, the Director, commit to the Chairman, the Government and the people of Bhutan to deliver the results described in this Annual Performance Target.

I, the Chairman, commit to the Director, NCHM, on the behalf of the Government and the people of Bhutan, to provide the necessary fund and resources for delivery of the results described in this Annual Performance Target.

**SIGNED:**

 — 25.6.21

(Sonam P. Wangdi)

Date

**Chairman,  
Governing Board,  
National Center for Hydrology and Meteorology**



(Karma Dupchu)

25.6.2021

Date

**Director,  
National Center for Hydrology and Meteorology**