



**PERFORMANCE AGREEMENT TARGET**

**BETWEEN**

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

**(July 1, 2018 – June 30, 2019)**

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OR

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**Preamble**

The Performance Agreement is entered into between the Chairman, Governing Board, National Center for Hydrology and Meteorology and Director, National Center for Hydrology Meteorology

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 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:

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## 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) Access to hydro logical information and understanding of national water availability improved
- 3) End-to-end operational National Framework for Climate Services (NFCS)
- 4) To provide effective and efficient admin, direction and related common support services

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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	60	Critical Hydro-met infrastructures & Network enhanced	Hydro met and Flood/GLOF warning network enhanced.	Number	15	7	6	5	4	2
		Reliable and timely issuance of severe weather forecasts, warnings, advisories .	Weather forecast and advisories on extreme weather events issued	Number	10	6	5	4	3	2
	Assessment and monitoring of cryosphere and associated hazards conducted.	Assessment and monitoring of cryosphere and associated hazards conducted.	Number	15	4	3	2	N.A	1	
		Assessment of hydrological hazard conducted.	Number	10	3	N.A	2	N.A	1	
Access to hydro logical information and understanding of national water availability improved	20	Mean annual flow of main river basins generated	Mean annual flow of main river basins generated	Status of Work	10	Flood forecasting model Operational	N.A	Flood forecasting model set up	N.A	Activity initiated
		Enhance the dissemination of reliable hydro-met information services	Monitoring and Transmission of hydromet data to HQ	Days	5	Publication of annual Data book & Flow status	Publication of flow status report	N.A	Publication of annual data book	within 55 days

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End-to-end operational National Framework for Climate Services (NFCS)	15	Enhance and dissemination of reliable weather & climate information services	Aviation met services provided	Number	5	3	N.A	2	N.A	1
			Climate services issued	Number	10	8	7	6	5	4
To provide effective and efficient admin, direction and related common support services	5	Provide effective and efficient admin, direction and ICT support services	Effective HR/Admin and related services provided and delivery of hydro-met services and products enhanced	Days	2	5	7	10	12	14
			Effective budget and finance services provided for delivery of hydro-met services and products	Days	2	5	7	10	12	14
			Effective ICT and related support services provided to deliver hydro-met services and products	Percent	1	100	90	80	70	60

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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	Critical Hydro-met infrastructures & Network enhanced	Hydro met and Flood/GLOF warning network enhanced.	Number	221	226	233	240	247
	Reliable and timely issuance of severe weather forecasts, warnings, advisories .	Weather forecast and advisories on extreme weather events issued	Number	6	6	7	7	8
	Assessment and monitoring of cryosphere and associated hazards conducted.	Assessment and monitoring of cryosphere and associated hazards conducted.	Number	4	9	14	18	23
Access to hydro logical information and understanding of national water availability improved	Mean annual flow of main river basins generated	Mean annual flow of main river basins generated	Number	6	9	12	15	18
	Enhance the dissemination of reliable hydro-met information services	Monitoring and Transmission of hydromet data to HQ	Days	40	35	30	25	20
	Flood forecast, GLOF/Flood warning/advisories services issued.	Flood forecast, GLOF/Flood warning/advisories services issued.	Status of Work	1	2	4	6	8

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End-to-end operational National Framework for Climate Services (NFCS)	Enhance and dissemination of reliable weather & climate information services	Aviation met services provided	Number	3	3	4	5	6
		Climate services issued	Number	8	10	12	13	14
To provide effective and efficient admin, direction and related common support services	Provide effective and efficient admin, direction and ICT support services	Effective HR/Admin and related services provided and delivery of hydro-met services and products enhanced	Days	1	2	3	4	5
		Effective budget and finance services provided for delivery of hydro-met services and products	Days	1	2	3	4	5
		Effective ICT and related support services provided to deliver hydro-met services and products	Percent	1	2	3	4	5

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Section 4: Definition of Success Indicators

Success Indicator	Description	Data Collection Methodology	Data Collection Frequency	Data Source
Hydro met and Flood/GLOF warning network enhanced.	<p>The success Indicator measures renovation &amp; annual maintenance works to be carried out as following details:</p> <ol style="list-style-type: none"> <li>1. Construction of Toilet, Kitchen, damaged boundary retention wall and fencing at Wangdue Control Room</li> <li>2. Maintenance &amp; relocation works of 24 no. hydro-met stations(AWS, AWLS &amp; Manual hydro met stations)</li> <li>3. Procurement of spare parts for GLOF station, AWLS/AWS &amp; Manual stations</li> <li>4. Installation of one wind profiler,&amp; upgradation of AWOS at Paro international Airport under HSDRRP Project.</li> <li>5. Installation and integration of ceilometer and visibility sensor to existing AWOS at one domestic airport.</li> <li>6. Annual/Adhoc maintenance works of AWOS at all 3 domestic airports.</li> <li>7. Annual maintenance works of Snow stations</li> </ol>	Physical progress of works	Annually	HOID, NCHM
Weather forecast and advisories on extreme weather events issued	<p>This indicator will be measured by 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 of 24/7 shift</li> <li>d. Operation and maintenance of systems (GTS, HimawariCast and WRF)</li> <li>e. Extreme weather advisories</li> <li>f. Common Operating Platform (SmartMet)</li> </ol>	Advisories/press-releases archive/log book	Annually	WCSD, NCHM
Assessment and monitoring of cryosphere and associated hazards conducted.	<p>This SI measures the field works carried out on glacial lakes in Pa Chhu sub basin, annual monitoring on two bench mark glaciers (Thana and Gangju La) and glacier ice thickness survey on Thana glacier.</p>	Technical reports	Annually	CSD, HWRSD

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Assessment of hydrological hazard conducted.	This indicator measures the number of activities carried out such as hydrological hazard assessment, Flood hazard map generation pre-feasibility studies for flood early warning systems as follows: a. Hydrological and flood hazard assessment for major river basin and sub basins of (Amo Chhu, Wangchhu (Thim Chhu, Pa Chhu and Haa Chhu ), Gamri Chhu under Manas) b. Pre-feasibility studies for flood/GLOF early warning systems for selected (3) river basin and sub basins of Wangchu Basin c. Flood hazard map preparation for settlements along major river basin of Bhutan( Amo hhu, Thim Chhu, Pa Chhu, Haa Chhu, Gamri Chhu, )	Report & Publication	Annually	HWRSD
Flood forecast, GLOF/Flood warning/advisories services issued.	This indicator measures the 1. Flood/Flow forecasting model is set up and operational in wangchhu river basin/sub-basins	Physical progress/report	Annually	HWRSD
Mean annual flow of main river basins generated	This indicator will measure following activity: 1. River basin and sub-basins characteristics report and river basins information system 2. Publication of hydrological yearbook (yearly publication ) and other technical reports based on research;	Report publication	Annually	HWRSD, NCHM
Monitoring and Transmission of hydromet data to HQ	This indicator will measure the timely monitoring, data observation, collection by Site staff at field station and timely transmission of monthly field data to Head Quarter for data processing and archival in National Database; Ground verification and monitoring of extreme hydromet events as redundancy to automatic warning	Data report record	Annually	HOID, NCHM
Aviation met services provided	This indicator measures aviation met services for safe, regular and efficient air navigation within Bhutan.  This activity will be measured by the number of services under the following: a. Operation and maintenance of aviation met equipment at all airports b. Meteorological observations and reports (METAR/SPECI)	Physical progress/Report/data record	Annually	WCSD, NCHM

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Climate services issued	<p>c. Upgradation of meteorological observation at airports</p> <p>This indicator measures climate monitoring, climate change projection, seasonal forecasting and other climate services. It includes data management, quality control, data archival, and provision of data services to public and end users. It also includes initiating of long range forecasts.</p> <p>This activity will be measured by the number of services/reports generated under the following:</p> <ol style="list-style-type: none"> <li>National Climate Forum (NCF)</li> <li>Seasonal prediction (summer outlook)</li> <li>Seasonal prediction (winter outlook)</li> <li>Climate monitoring (annual)</li> <li>Historical climate information and data</li> <li>Update weather and climate information on the NCHM website</li> <li>Climate projection for Bhutan</li> <li>Climate monitoring (monthly)</li> </ol>	Report/data record	Annually	WCSD, NCHM
Effective HR/Admin and related services provided and delivery of hydro-met services and products enhanced	<p>The number of days required to complete the works after the HRC endorsement and provided the admin. services within given timeline</p>	Admin record	Annually	Secretariat, NCHM
Effective budget and finance services provided for delivery of hydro-met services and products	<p>Timeline by which the bill settlement, salary disbursement; budget preparation &amp; review etc provided.</p>	Admin record	Annually	Secretariat, NCHM
Effective ICT and related support services provided to deliver hydro-met services and products	<ol style="list-style-type: none"> <li>Support services(networking, web updates, basic trouble shooting).</li> <li>Administer the NWFWC.</li> <li>Support for GTS systems, MCH, Himawari Satellite System, WRF, SMART-Met, and other automatic station's server.</li> </ol>	Admin records	Annually	Secretariat, NCHM

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Section 5: Requirements from other Ministries, Agencies & Dzongkhags

Organization Name	Relevant Success Indicator	Requirement from the Organisation	Justification for the Requirement	Requirement detail	Impact (If Not Met)
BUMTHANG	Assessment and monitoring of cryosphere and associated hazards conducted.	Support in arranging logistics (transportation, potter and pony)	Field sites are located away from the motor-able road	26 ponies and 10 labors	Target will not achieve
GASA	Assessment and monitoring of cryosphere and associated hazards conducted.	Support in arranging logistics (transportation, potter and pony)	Field sites are located away from the motor-able road	26 ponies and 10 labors	Target will not achieve
PARO	Assessment and monitoring of cryosphere and associated hazards conducted.	Support in arranging logistics (transportation, potter and pony)	Field sites are located away from the motor-able road	26 ponies and 10 labors	Target will not achieve
BUMTHANG	Hydro met and Flood/GLOF warning network enhanced.	Support in arranging logistics (transportation, potter and pony)	Field sites are located away from the motor-able road	20 ponies and 10 labors in one trip	Target will not achieve
GASA	Hydro met and Flood/GLOF warning network enhanced.	Support in arranging logistics (transportation, potter and pony)	Field sites are located away from the motor-able road	20 ponies and 10 labors in one trip	Target will not achieve
PARO	Hydro met and Flood/GLOF warning network enhanced.	Support in arranging logistics (transportation, potter and pony)	Field sites are located away from the motor-able road	20 ponies and 10 labors in one trip	Target will not achieve
TRONGSA	Hydro met and Flood/GLOF warning network enhanced.	Support in arranging logistics (transportation, potter and pony)	Field sites are located away from the motor-able road	20 ponies and 10 labors in one trip	Target will not achieve
WANGDUE PHODRANG	Hydro met and Flood/GLOF warning network enhanced.	Support in arranging logistics (transportation, potter and pony)	Field sites are located away from the motor-able road	20 ponies and 10 labors in one trip	Target will not achieve

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Whereas,

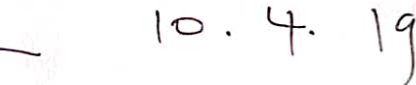
I, the Director, commit to the Chairman, the Government and the people of Bhutan to deliver the results described in this Annual Performance Target.

I, the Chairman, commit to the Director, NCHM, on 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:



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(Sonam P. Wangdi)

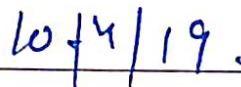


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Date

Chairman, Governing Board,  
National Center for Hydrology  
& Meteorology



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(Karma Dupchu)



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Date

Director, National Center for  
Hydrology and Meteorology