



PERFORMANCE AGREEMENT
BETWEEN
CHAIR OF THE GOVERNING BOARD AND DIRECTOR, NATIONAL CENTER FOR HYDROLOGY
AND METEOROLOGY (NCHM)

(July 1, 2017 – June 30, 2018)

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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 11th 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:

Section 1: Vision, Mission and Objectives

Vision

The Long-term vision of NCHM is building a nation and its society prepared and responsive to hydro meteorological threats and opportunities in the pursuit of "Self-Reliance and inclusive Green Socio Economic Development through provision of Decision support information on Weather, Climate, Water resources & Cryosphere

Mission

1. Provide Weather, Climate, Water Cryosphere data, forecast and warnings for the protection of life and property and enhancement of national economy
2. To influence positive results that matter to the public within severe resource constraints and overcome challenges of building credibility and public trust

Objectives

- 1) Improved weather & climate monitoring services with good national coverage
- 2) To improved & set up Hydrological monitoring network with good national coverage
- 3) Improved delivery of weather, climate & related environmental information & services to the public, government and other users
- 4) To deliver and enhance hydrological and related environmental information & services to the public, government and other users
- 5) To improve Flood/GLOF Early Warning Services to minimize loss of lives and properties
- 6) To provide effective and efficient direction; administration & operational services
- 7) To prevent corruption
- 8) To enhance efficiency and effectiveness of G2C Services

Section 2: Objectives, Success Indicators & Target

Objective	Weight	Action	Success Indicator	Unit	Weight	Excellent [100%]	Very Good [90%]	Good [80%]	Fair [70%]	Poor [60%]
Improved weather & climate monitoring services with good national coverage	15	Meteorological Observing Monitoring Network and Infrastructure expanded	Carried out annual maintenance/relocation works of Meteorological stations	Number	4	20	17	14	11	9
			Furnished & operationalized of central regional Office	Percent	2	100	90	80	70	60
			Set up of Calibration & Instrumentation Lab	Status of Work	1	100 %	90%	80%	70%	60%
			Availtion met equipment installed	Status of Work	2	100 %	90%	80%	70%	60%
			% of field data observed & collected	Percent	2	100	90	80	70	<=60
			Timely transmission of the observed hydromet data to HQ	Minutes	2	within 5 min	within 15 min	within 20 min	within 30 min	>=30
			No. of meetings/programs/correspondences conducted	Number	2	12	10	8	6	<=6
			Procured spare parts for GLOF EWS	Percent	1	100	90	80	70	60
			Annual maintenance works of Hydrological stations carried out	Number	2	10	8	6	4	2
			Annual lean flow measurement carried out	Number	2	60	50	40	30	20
To improved & set up Hydrological monitoring network with good national coverage	20	Hydrological Monitoring Network and Infrastructure expanded	Renovation of Site offices	Number	2	4	3	2	1	0
			Procurement of vehicle for station monitoring and maintenance	Number	2	2	1	0	0	0
			Carried out the Annual maintenance of existing sed. Sampling stations	Number	2	11	9	7	5	4
			Sediment network expanded	Number	2	11	9	7	5	4

To improved & set up	20	Sediment network expanded	No of sediment Labs set up at Panbang, Jampani & Keraberi	Number					1	1	1
				2	3	4	5	6			
Hydrological monitoring network with good national coverage		No of sed sampling stations set up at Luntephu, Keraberi, Haa, & Paro		1	4	3	2	1	1	0	
		Flood Warning Network and Infrastructure expanded		2	1	0.8	0.6	0.4	0.2		
Improved delivery of weather, climate & related environmental information & services to the public, government and other users	20	No. of new site office constructed		2	3	2	1	0	0	0	
		No. of site offices renovated		2	2	1	1	0	0		
		Conduct Refresher course for field observers	Date	0.5	November	December	January	February	March		
		Capacity built to develop and enhance weather and climate services	Number	1	2	1	1	0	0		
		Longterm trainings and shorter term trainings on weather, climate Change and development conducted	Number	0.5	2	1	0	0	0		
		Improved the existing NCHM website	Status of Work	0.5	100 %	90%	80%	70%	60%		
		Historical Climate data disseminated	Percent	0.5	100	90	80	70	60		
		Extended weather forecasting initiated.	Percent	0.5	100	90	80	70	60		
		Advisories/press-release on monsoon and meso-scale extreme weather events and on user demands issued	Number	0.5	5	4	3	2	1		
		Operation (24/7 shift) of weather monitoring and forecasting and systems to access to NWP products, warning, global data and satellite images including effective use & interpretations.	Percent	1	100	90	80	70	60		

Improved delivery of weather, climate & related environmental information & services to the public, government and other users	20	Weather prediction products are improved	Procured, Installed and operationalized the Common Operating Platform for the weather and climate services	Percent	1	100	90	80	70	60	
			Operation of weather monitoring and forecasting(24/7 shift)	Percent	1	100	90	80	70	60	
	Promote Hydro-met services in political & public profile	20	Weather prediction products are improved	Outreach education & awareness program conducted	Number	0.5	1	1	0	0	0
				Developed the Brochure, Pamphlet and Awareness program with media conducted	Number	0.5	2	1	0	0	0
	Promote Hydro-met services in political & public profile	20	Weather prediction products are improved	Education and awareness program on NCHM network station, data, products and services to schools and local government conducted	Number	1	2	1	1	0	0
				Collaboration plan with climate sensitive sectors for climate information services developed	Status of Work	0.5	100 %	90%	80%	70%	60%
	Promote Hydro-met services in political & public profile	20	Weather prediction products are improved	Communication Protocol for the hydro-met hazards & information developed	Status of Work	1	100 %	90%	80%	70%	60%
				Developed NCHM sustainability strategy plan.	Number	1	1	0	0	0	0
	Promote Hydro-met services in political & public profile	20	Weather prediction products are improved	Weather & climate related research papers and reports published	Number	1	1	0	0	0	0
				Hydro-meteorological events collected and archived	Percent	1	100	90	80	70	60
Promote Hydro-met services in political & public profile	20	Weather prediction products are improved	Annual climate data book published	Status of Work	0.5	100 %	90%	80%	70%	60%	

Improved delivery of weather, climate & related environmental information & services to the public, government and other users	20	Hydro-meteorological research papers, published	Technical report on GLOF risk assessment on priority glacial lakes produced in collaboration with ICIMOD, WMD & DDM .	Percent	1	100 %	90%	80%	70%	60%	
			Data on Cryosphere made available to the users through establishment of Cryosphere knowledge hub	Percent	1	100	90	80	70	60	
			Inventory of glacier and potentially dangerous glacial lakes updated	Percent	1	100	90	80	70	60	
			Climate modeling and projection initiated	Percent	1	100	90	80	70	60	
			Seasonal prediction issued	Number	0.5	2	1	0	0	0	0
			Operation and maintenance of aviation network and information is disseminated to Airports.	Percent	1	100	90	80	70	60	
			Workshop/seminar/training for stakeholders conducted	Number	0.5	2	1	0	0	0	0
To deliver and enhance hydrological and related environmental information & services to the public, government and other users	18	Capacity in Hydrological Modeling for Flow/Flood Forecasting Enhanced	Different Hydrological Model software tested in selected river Sub basins/basin.	Number	1	2	1	0	0	0	
			Selected Hydrological Model setup for different river sub basins/basin.	Number	2	2	1	0	0	0	
			Surface Hydrological Year book 2017 published	Number	2	1	0	0	0	0	
			Flood advisories prepared and issued based on weather severity.	Number	2	3	2	1	0	0	

To deliver and enhance hydrological and related environmental information & services to the public, government and other users	18	Hydrological information and related documents published and delivered.	Education materials/maps related to Organization and Flood/GLOF EWS published and disseminated.	Number	2	5	4	3	2	1
			Hydrological and Sediment data provided to users based on request	Percent	2	100	100	100	100	100
			Reviewed and publication of documents related to Hydrology, Water Resources, Flood/GLOF etc	Number	1	4	3	2	1	0
			Monitoring of annual glacier mass balance on the benchmark glaciers carried out.	Number	2	2	2	1	1	0
Capacity in hydrological modeling and glacier mass balance monitoring enhanced	18		Workshop/conference on Cryosphere conducted.	Number	2	3	2	1	0	0
			Time Series Monitoring of glacial lakes for GLOF risk carried out.	Number	2	1	0	0	0	0
			Number of GLOF/Flood EW issued during the severe weather	Percent	6	100	90	80	70	50
			Numbers of Workshop/training for GLOF EWS Control Room and modelling including meetings related to floods.	Number	6	4	3	2	1	0
To improve Flood/GLOF Early Warning Services to minimize loss of lives and properties	12	Operation of GLOF Early Warning System for 24/7	Timeline by which retirement benefits, RCSA & CSWS claims are processed	Days	0.5	5	7	10	14	21
			Timeline training processed & updated in CSIS	Days	1	7	10	12	15	20
			Timeline by which HR recruitments processed & submitted to RCSC	Date	0.5	May 2017	June 2017	July 2017	August 2017	August 2017
			Timeline by which contract extension, Transfer proposals, separation & promotions for NCHM staffs are processed	Days	0.5	7	10	14	21	21
To provide effective and efficient direction; administration & operational services	10	Delivered the effective direction & HRD support services.	Timeline by which retirement benefits, RCSA & CSWS claims are processed	Days	0.5	5	7	10	14	21
			Timeline training processed & updated in CSIS	Days	1	7	10	12	15	20
			Timeline by which HR recruitments processed & submitted to RCSC	Date	0.5	May 2017	June 2017	July 2017	August 2017	August 2017
			Timeline by which contract extension, Transfer proposals, separation & promotions for NCHM staffs are processed	Days	0.5	7	10	14	21	21

To provide effective and efficient direction; administrative & operational services	10	Delivered the effective direction & HRD support services.	No of days by which , medical, EOL, Medical Leave Maternity Leave is updated in CSIS	Days	0.5	5	7	10	14	15	
		Provided the effective and efficient Administration and Finance Services	No. of coordination of meetings/programs/correspondences within & with other Agencies carried out	Number	1	30	25	20	15	10	
			Timeline by which approved budget and budget notification for the FY 2018--19 distributed to all the divisions	Days	1	within 3 working days	within 5 working days	within 7 working days	within 10 working days	within 14 working days	
			Processed and carried out the budget revisions	Days	0.5	within 3 working days	within 5 working days	within 7 working days	within 10 working days	within 14 working days	
			Prepared, compiled and submitted the budget proposal for preceding Financial Year.	Status of Work	1	Budget Proposal submitted before deadline	Budget Proposal submitted on time	delay in submission of budget proposal	Prepared but not submitted	budget proposal prepared	
			Carried out mid year budget review for FY 2017-18 exercises	Days	0.5	within 3 working days	within 5 working days	within 7 working days	within 10 working days	within 14 working days	
			Carried out quarterly review for effective implementation of activities	Days	0.5	within 5 working days	within 10 working days	within 15 working days	within 20 working days	within 25 working days	

To provide effective and efficient direction; administrative & operational services	10	Provided the effective and efficient Administration and Finance Services	Timely disbursement of bill payments	Days	1	within 3 working days	within 5 working days	within 7 working days	within 10 working days	within 14 working days
		Monitored and Reported on expenditure status	Status of Work	0.5	Quarterly monitoring	Bi-annually monitoring	annual monitoring	not initiate	not initiate	not initiate
		No. of training provided on ICT Technologies and applications	Number	0.5	2	1	0	0	0	0
To prevent corruption	3	Provided reliable and effective ICT support services	Minutes	0.5	15	30	60	120	>120	>120
To enhance efficiency and effectiveness of G2C Services	2	Implement action plan	Percent	5	91-100	81-90	71-80	60-60	<60	<60
	2	1 mobile app/services operational and functional	Hours	5	72 hours weather forecast	36 hours weather forecast	24 hours weather forecast	12 hours weather forecast	6 hours weather forecast	6 hours weather forecast

Section 3: Trend values of success indicators

Objective	Action	Success Indicator	Unit	Actual Values [FY 2013-14]	Actual Values [FY 2014-15]	Target Values [FY 2015-16]	Projected Values [FY 2016-17]	Projected Values [FY 2017-18]		
Improved weather & climate monitoring services with good national coverage	Meteorological Observing Monitoring Network and Infrastructure expanded	Carried out annual maintenance/relocati on works of Meteorological stations	Number	20	20	20	20	20		
		Furnished & operationalized of central regional Office	Percent	0	0	0	0	1		
		Set up of Calibration & Instrumentation Lab	Status of Work	0	0	0	0	1		
		Avaition met equipment installed	Status of Work	0	0	0	0	1		
		Hydro-Met field data observed; collected and transmitted to HQ on time.	% of field data observed & collected	0	0	0	0	1		
			Timely transmission of the observed hydromet data to HQ	Minutes	0	0	0	0	1	
			No. of meetings/programs/c orrespondences conducted	Number	0	0	0	0	1	
		To improved & set up Hydrological monitoring network with good national coverage	Sediment network expanded	Carried out the Annual maintenance of existing sed. Sampling stations	Number	11	11	11	11	11
				No of sediment Labs set up at Panbang, Jampani & Keraberi	Number	3	3	3	3	3

To improved & set up Hydrological monitoring network with good national coverage	Sediment network expanded	No of sed sampling stations set up at Luntephu, Keraberi, Haa, & Paro	Number	4	4	4	4	4	
		Flood Warning Network and Infrastructure expanded	Number	0	0	0	4	1	
	Hydrological Monitoring Network and Infrastructure expanded	No. of new site office constructed	Number	1	2	3	2	3	
		No. of site offices renovated	Number	2	2	2	2	2	
		Annual maintenance works of Hydrological stations carried out	Number	10	10	10	10	10	
		Annual lean flow measurement carried out	Number	60	60	60	60	60	
	Improved delivery of weather, climate & related environmental information & services to the public, government and other users	Weather prediction products are improved	Renovation of Site offices	Number	4	4	4	4	4
			Procurement of vehicle for station monitoring and maintenance	Number	0	0	2	3	5
			Procured spare parts for GLOF EWS	Percent	0	0	0	0	1
			Operation of weather monitoring and forecasting(24/7 shift)	Percent	0	0	0	1	1
		Extended weather forecasting initiated.	Percent	0	0	0	0	1	
		Advisories/press-release on monsoon and meso-scale extreme weather events and on user demands issued	Number	1	1	2	3	8	

Improved delivery of weather, climate & related environmental information & services to the public, government and other users	Weather prediction products are improved	Operation (24/7 shift) of weather monitoring and forecasting and systems to access to NWP products, warning, global data and satellite images including effective use & interpretations.	Percent	0	0	0	1	1
		Procured, Installed and operationalized the Common Operating Platform for the weather and climate services	Percent	0	0	0	0	1
	Climate information services are improved and Climate projection products are introduced	Climate modeling and projection initiated	Percent	0	0	0	0	1
		Seasonal prediction issued	Number	0	1	1	1	2
Improved availability & access to reliable, high quality hydro-meteorological data		Historical Climate data disseminated	Percent	20	40	60	80	100
		Conduct Refresher course for field observers	Date	1	1	1	1	1
		Capacity built to develop and enhance weather and climate services	Number	1	1	1	1	2
		Longterm trainings and shortterm trainings on weather, climate Change and development conducted	Number	0	0	0	0	1
	Improved the existing NCHM website	Improved the existing NCHM website	Status of Work	0	0	0	0	1

Improved delivery of weather, climate & environmental information & services to the public, government and other users	Aviation Meteorological services operated & enhanced	Operation and maintenance of aviation network and information is disseminated to Airports.	Percent	0	0	0	0	0	1
	Enhanced capability to contribute and draw benefits from national, regional & global research capacity.	Workshop/seminar/training for stakeholders conducted	Number	0	1	2	3	5	
	Promote Hydro-met services in political & public profile	Outreach education & awareness program conducted	Number	0	1	2	1	1	
		Developed the Brochure, Pamphlet and Awareness program with media conducted	Number	0	1	1	1	2	
		Education and awareness program on NCHM network station, data, products and services to schools and local government conducted	Number	0	1	1	1	2	
		Collaboration plan with climate sensitive sectors for climate information services developed	Status of Work	0	1	0	0	1	

Improved delivery of weather, climate & environmental information & services to the public, government and other users	Promote Hydro-met services in political & public profile	Communication Protocol for the hydro-met hazards & information developed	Status of Work	0	0	0	1
		Developed NCHM sustainability strategy plan.	Number	0	0	0	1
	Hydro-meteorological research papers, records and Met data book published	Weather & climate related research papers and reports published	Number	0	0	1	2
		Hydro-meteorological events collected and archived	Percent	0	0	0	1
		Annual climate data book published	Status of Work	0	1	2	3
	Hydro-meteorological research papers, published	Technical report on GLOF risk assessment on priority glacial lakes produced in collaboration with ICIMOD, WMD & DDM.	Percent	0	0	0	1
		Data on Cryosphere made available to the users through establishment of Cryosphere knowledge hub	Percent	0	0	1	1
		Inventory of glacier and potentially dangerous glacial lakes updated	Percent	0	0	0	1

To deliver and enhance hydrological and environmental information & services to the public, government and other users	Capacity in Hydrological Modeling for Flow/Flood Forecasting Enhanced	Different Hydrological Model software tested in selected river Sub basins/basin.	0	0	1	1	1	2
		Selected Hydrological Model setup for different river sub basins/basin.	0	0	1	1	2	
	Hydrological information and related documents published and delivered.	Surface Hydrological Year book 2017 published	Number	1	1	1	1	1
		Flood advisories prepared and issued based on weather severity.	Number	0	1	2	3	3
		Education materials/maps related to Organization and Flood/GLOF EWS published and disseminated.	Number	0	1	2	3	5
		Hydrological and Sediment data provided to users based on request	Percent	100	100	100	100	100
	Capacity in hydrological modeling and glacier mass balance monitoring enhanced	Reviewed and publication of documents related to Hydrology, Water Resources, Flood/GLOF etc	Number	0	1	1	1	4
		Monitoring of annual glacier mass balance on the benchmark glaciers carried out.	Number	0	0	2	2	2

To deliver and enhance hydrological and related environmental information & services to the	Capacity in hydrological modeling and glacier mass balance monitoring enhanced	Workshop/conference on Cryosphere conducted. Time Series Monitoring of glacial lakes for GLOF risk carried out.	Number Number	0 0	1 0	2 0	3 0	4 1
To improve Flood/GLOF Early Warning Services to minimize loss of lives and properties	Operation of GLOF Early Warning System for 24/7	Number of GLOF/Flood EW issued during the severe weather	Percent	100	100	100	100	100
To provide effective and efficient direction; administration & operational services	Delivered the effective direction & HRD support services.	Numbers of Workshop/training for GLOF EWS Control Room and modelling including meetings related to floods. Timeline by which retirement benefits, RCSA & CSWS claims are processed Timeline training processed & updated in CSIS Timeline by which HR recruitments processed & submitted to RCSC Timeline by which contract extension, Transfer proposals, separation & promotions for NCHM staffs are processed	Number Days Days Date Days	1 0 0 0 0	2 0 0 0 0	3 0 0 0 0	4 0 0 0 0	5 1 1 1 1

To provide effective and efficient direction; administration & operational services	Delivered the effective direction & HRD support services.	No of days by which , Days medical, EOL, Medical Leave Maternity Leave is updated in CSIS	0	0	0	0	1
	Provided the effective and efficient Administration and Finance Services	No. of coordination of meetings/programs/correspondences within & with other Agencies carried out	0	0	0	0	1
		Timeline by which approved budget and budget notification for the FY 2018--19 distributed to all the divisions	0	0	0	0	1
		Processed and carried out the budget revisions	0	0	0	0	1
		Prepared, compiled and submitted the budget proposal for preceding Financial Year.	0	0	0	0	1
		Carried out mid year budget review for FY 2017-18 exercises	0	0	0	0	1
		Carried out quarterly review for effective implementation of activities	0	0	0	0	1
		Timely disbursement of bill payments	0	0	0	0	1
		Monitored and Reported on expenditure status	0	0	0	0	1

To provide effective and efficient direction; administration & operational services	Provided reliable and effective ICT support services	No. of training provided on ICT Technologies and applications	Number	0	0	0	0	1
To prevent corruption	Implement action plan	Acceptable downtime of office LAN, Connectivity & application per incidence	Minutes	0	0	0	0	1
To enhance efficiency and effectiveness of G2C Services	Provided G2C services of weather information using mobile apps	Percentage of IDT recommendations implemented	Percent	0	0	0	1	2
		1 mobile app/services operational and functional	Hours	0	0	0	0	1

Section 4: Definition of Success Indicators

Success Indicator	Description	Data Collection Methodology	Data Collection Frequency	Data Source
Carried out annual maintenance/relocation works of Meteorological stations	Annual maintenance/relocation works of Meteorological stations 20 class-A, 30 Class- C 15 Automatic stations across the country	Physical progress	Annually	HOID, NCHM
Furnished & operationalized of central regional Office	Furnish the newly constructed central regional office in Kurjey, Bumthang and make operational	Physical Progress	Annually	HOID, NCHM
Set up of Calibration & Instrumentation Lab	Set up of Calibration & Instrumentation Lab in RO, Bumthang for calibration of hydro-met equipment	Physical progress	Annually	NAPA-II Project unit & HOID, NCHM
Aviation met equipment installed	First kind of aviation Met equipment to installed through World Bank financial supports to help the aviation sector. The equipment like a set of AWOS & RWP to be installed at PIA and a ceilometer in BDA	Physical progress	Annually	HOID, NCHM
% of field data observed & collected	The hydro-met field data collected from the remote manual stations by the observers across the country	Data report	Annually	HOID, NCHM
Timely transmission of the observed hydromet data to HQ	Transmission of observed data to HQ from remote station after collecting the required data at site.	Data transmission record	Annually	HOID, NCHM
No. of meetings/programs/correspondences conducted	Coordination of division meeting/workshop/correspondence/program etc..related to division	Admin record	Annually	HOID, NCHM
Operation of weather monitoring and forecasting(24/7 shift)	Weather has to be monitored & predicted in timely manner in shift basis 24/7 and disseminate the weather report/forecast to various stakeholders/general public.	Daily weather reports/forecast, Weather forecast unit, NWFWC, NCHM	Annually	WCSD, NCHM

Climate modeling and projection initiated	Various climate models will be studied and downscale climate projection for the Bhutan will be initiated	% of work done.	Annually	WCSD, NCHM
Seasonal prediction issued	Seasonal prediction of winter monsoon outlook will be issued along with summer monsoon outlook.	Outlook Reports	Annually	WCSD, NCHM
Historical Climate data disseminated	The historical climate data is provided to the users based on the data requisitions.	Admin. record of data issued.	Annually	WCSD, NCHM
Operation and maintenance of aviation network and information is disseminated to Airports.	Aviation met services is operational in airports(International & Domestic) for day to day operation of flights. Issues reliable and timely meteorological information to flight operators for the safety of aircraft & passengers.	% of aviation met information delivered; Admin records.	Annually	WCSD, NCHM
Workshop/seminar/training for stakeholders conducted	WCSD produces weather and climate products. This information will be shared with the stakeholders by hosting the workshops/seminars/training. As such the NCHM conducts National Climate Outlook Forum (NCOF) before the monsoon season. Also NCHM will participate in SASCOF for predicting monsoon for Bhutan.	Workshop/seminar/training reports	Annually	WCSD, NCHM
Conduct Refresher course for field observers	The refresher course is being conducted every year for the site observers batch wise to update the skills & knowledge to build the capacity of hydromet technicians in field.	Adm. record	Annually	HOID, NCHM
Capacity built to develop and enhance weather and climate services	The capacity building to enhance skills and update with changing technology to develop and provide better weather and climate services	Adm. record	Annually	WCSD, NCHM

Longterm trainings and shortterm trainings on weather, climate Change and development conducted	One long term training on Environment, Climate change and development conducted. 1-2 short term training conducted to enhance weather forecasts and climate services	Training report	Annually	NAPA-II Project unit, WCSD & HOID
Improved the existing NCHM website	By improving the existing www.hydromet.gov.bt website, it would serve as a portal for the flood forecasts, weather forecasts and hydro-met data. It would be dynamic and user friendly with updated information.	launched website	Annually	NAPA-II project unit & ICSD, NCHM
Extended weather forecasting initiated.	Sub-seasonal forecasting will be initiated and pilot products will be available.	Adm. record	Annually	WCSD, NCHM
Advisories/press-release on monsoon and meso-scale extreme weather events and on user demands issued	Weather events happen around the country and to some extent is predicted. The weather forecast event information and monsoon outlook press-release will be shared to relevant stakeholders based on advisories/press-releases.	Adm. record	Annually	WCSD, NCHM
Operation (24/7 shift) of weather monitoring and forecasting and systems to access to NWP products, warning, global data and satellite images including effective use & interpretations.	Under various projects NWFWC has system in place for the GTS and Satellite image receiving stations. This systems produces information which are beneficial for the production of weather related products. There fore this system needs to be operated and maintained continuously. Weather monitoring and forecasting is done on 24/7 in a shift system.	Adm record	Annually	WCSD, NCHM

<p>Procured, Installed and operationalized the Common Operating Platform for the weather and climate services</p>	<p>The 99 hydro-met stations will provide quality and real-time hydro-met data to the servers at the National Weather and Flood Warning Centre (NWFWC) located at the NCHM. These data combined with additional data available through the Japanese Himawari Satellite and Global Telecommunication System, WMO, WRF, NWP can be used to provide weather and climate related advisories and products. However, the full benefit of this data sets can be drawn only with the help of an appropriate software package that can process various data sets centrally to generate weather forecasts.</p>	<p>Physical progress</p>	<p>Annually</p>	<p>NAPA-II project, NCHM</p>
<p>Outreach education & awareness program conducted</p>	<p>Awareness on the weather and climate will be done during the World Meteorological Day and through forums</p>	<p>Adm. record</p>	<p>Annually</p>	<p>WCSD, NCHM</p>
<p>Developed the Brochure, Pamphlet and Awareness program with media conducted</p>	<p>Brochures/Pamphlet on NCHM products and services generated under NAPA-II project. One audio visual awareness program on realtime-stations, hydromet products, services on the National television/local channel to garner supports from communities for security of hydro-met stations.</p>	<p>No. of Pamphlets/ brochures and no. of audio visual programs</p>	<p>Annually</p>	<p>NAPA-II Project Unit, NCHM</p>

Education and awareness program on NCHM network station, data, products and services to schools and local government conducted	The schools and local government would be sensitized on NCHM network station, data, products and services in order to make feel the importance of weather and water observing stations in their locality and also to reduce/avoid the vandalism of the stations.	Adm record	Annually	NAPA-II project, NCHM
Collaboration plan with climate sensitive sectors for climate information services developed	Since NCHM has several users, a workshop would be conducted to develop collaboration plan with the climate sensitive sectors for climate information services	collaboration plan	Annually	NAPA-II project unit, NCHM
Communication Protocol for the hydro-met hazards & information developed	After having the threshold value developed by the Department of Geology and Mines, a workshop would be conducted to develop communication protocol for the occurrence of landslide warnings, weather forecasts, flood/GLOF forecasts and hydro-met information and services.	Communication protocol	Annually	NAPA-II project unit, NCHM
Weather & climate related research papers and reports published	Research/report will be published related for the weather and climate	Report published	Annually	WCSD, NCHM
Hydro-meteorological events collected and archived	Various weather events occur in different seasons with varying intensity. All the events related to meteorology will be collected from the field station and archived for further studies of extreme weather in Bhutan.	Adm. Record	Annually	WCSD, NCHM
Annual climate data book published	Historical climate data will be analysed and book will be published in hard/soft copy for end users	Climate data Book published.	Annually	WCSD, NCHM

Technical report on GLOF risk assessment on priority glacial lakes produced in collaboration with ICIMOD, WMD & DDM .	Detailed information on hydrological and breach model, socio-economic survey and GLOF hazard map in Punatsangchu sub basin under CMP-B Project	Technical report	Annually	CMP-B project, CSD, NCHM
Data on Cryosphere made available to the users through establishment of Cryosphere knowledge hub	Repository of Cryosphere information; observational data, technical reports, publications, RS/GIS data and maps	Adm. record	Annually	CSD, NCHM
Inventory of glacier and potentially dangerous glacial lakes updated	Through Acquisition of satellite imageries (sentinel), glaciers in the Northern Frontiers will be mapped generating a new glacier map. The inventory on Potentially Dangerous Glacial Lakes will be updated compiling earlier time series studies	Technical Report	Annually	CSD, NCHM
Developed NCHM sustainability strategy plan.	Beginning from 2017, NCHM has been delinked from the Ministry of Economic Affairs and is now functioning as an Autonomous Agency. As such, in the light of huge expenses needed for maintenance and operation of the Hydro-met network, the center, needs a sustainability strategy plan and cost recovery of investments strategies.	Strategy Report	Annually	NAPA-II project unit, NCHM
Procured spare parts for GLOF EWS	An additional AWS/AWLS spare parts will be procured to replace or upgrade existing non-functional stations in the Punawangdi valle	Spare Parts inventory	Annually	NAPA-II project Unit & HWRSD
Carried out the Annual maintenance of existing sed. Sampling stations	Annual maintenance works of existing Sed. sampling station and it is planned to carry out Maintenance of the 11 stations	Physical Progress	Annually	HOID, NCHM
No of sediment Labs set up at Panbang, Jampani & Keraberi	Two Sed. labs to set up at Panbang, Jampani & Keraberi	Physical progress	Annually	HOID, NCHM

No of sed sampling stations set up at Luntephu, Keraberi, Haa, & Paro	Four sed. sampling stations to set up in Luntephu, Keraberi, Haa & Paro	physical progress	Annually	HOID, NCHM
setting up of Automatic river discharge measurement system	Set up one Automatic Discharge measurement system in Sershong under Gol program	Physical Progress	Annually	FWS, HOID, NCHM
No. of site offices renovated	Site offices renovated at Dorokha and Sershong	Physical Progress	Annually	FWS, HOID, NCHM
Annual maintenance works of Hydrological stations carried out	Annual maintenance works of Hydrological stations(16 Principal Stations, 9 secondary stations and 10 FWS stations carried	Physical progress	Annually	HOID, NCHM
Annual lean flow measurement carried out	Lean flow measurement is carried out annually	Physical progress	Annually	HOID, NCHM
Renovation of Site offices	Renovation of Site offices to be carried out in Sumpa Lhuentse & Doyagang in amochhu & old Kurjey office (relocation of septic tank, Water source)	Physical Progress	Annually	HOID, NCHM
Procurement of vehicle for station monitoring and maintenance	Two four wheeler vehicle will be procured for the National Hydro-Met stations's maintenance and monitoring across Bhutan.	Pool vehicle	Annually	NAPA-II Project Unit and MTO, NCHM
Different Hydrological Model software tested in selected river Sub basins/basin.	Hydro-logical model to set up for selected basin	Adm. record	Annually	HWRSD, NCHM
Selected Hydrological Model setup for different river sub basins/basin.	Select the best hydrological model used for operational in two river basins	adm. record	Annually	HWRSD, NCHM
Surface Hydrological Year book 2017 published	Annual hydro-logical data book publication	Adm. record	Annually	HWRSD, NCHM
Flood advisories prepared and issued based on weather severity.	Flood advisories issue to general public based on model results	Adm. record	Annually	HWRSD, HOID
Education materials/maps related to Organization and Flood/GLOF EWS published and disseminated.	carried out education & awareness program related to GLOF EWS	Adm. record	Annually	HWRSD, NCHM

Hydrological and Sediment data provided to users based on request	Provide data to users based on user request	Adm. record	Annually	HWSD, NCHM
Reviewed and publication of documents related to Hydrology, Water Resources, Flood/GLOF etc	Review the documents before publications	Adm. record	Annually	HWSD, NCHM
Monitoring of annual glacier mass balance on the benchmark glaciers carried out.	Collection of mass balance data from 2 benchmark glaciers; Stake, DGPS data, discharge, snow pit measurement on Thana glacier and Metatshota/Jichudramo/Gangju La glacier	Field report	Annually	CSD, NCHM
Workshop/conference on Cryosphere conducted.	National workshop on dissemination of results (Output) from CMP-B project	Workshop report	Annually	CMP-B Project, CSD, NCHM
Time Series Monitoring of glacial lakes for GLOF risk carried out.	Ground verification of 1 potentially dangerous glacial lake (Kuri_gl 172) in Kuri Chhu sub basin	Technical report	Annually	CSD, NCHM
Number of GLOF/Flood EW issued during the severe weather	GLOF early Warning to be issued during event of GLOF where GLOF early warning systems are set up.	Adm record,	Annually	HWRSD, NCHM
Numbers of Workshop/training for GLOF EWS Control Room and modelling including meetings related to floods.	Training/workshop/awareness programs to be carried out to build the capacity of NCHM, line agencies & general public	Adm. Record	Annually	HWRSD, NCHM
Timeline by which retirement benefits, RCSA & CSWS claims are processed	---	HRD records	Annually	HRS, NCHM
Timeline training processed & updated in CSIS	---	HR records	Annually	HRS, NCHM
Timeline by which HR recruitments processed & submitted to RCSC	--	HR records	Annually	HRS, NCHM
Timeline by which contract extension, Transfer proposals, separation & promotions for NCHM staffs are processed	---	HR record	Annually	HRS, NCHM

No of days by which , medical, EOL, Medical Leave Maternity Leave is updated in CSIS	--	HR record	Annually	HRS, NCHM
No. of coordination of meetings/programs/correspondences within & with other Agencies carried out	---	Admin Record	Annually	HRS, NCHM
Timeline by which approved budget and budget notification for the FY 2018--19 distributed to all the divisions	Yearly routine works	Budget report	Annually	AFS, NCHM
Processed and carried out the budget revisions	budget revisions like supplementary, re-appropriations, fund transfer and adjustment heads with GNHC, MoF and other relevant agencies	Budget Revision Report	Annually	AFS, NCHM
Prepared, compiled and submitted the budget proposal for preceding Financial Year.	Budget proposal for the FY 2018--19 within the dateline given by DNB with all necessary justifications	Budget report	Annually	AFS, NCHM
Carried out mid year budget review for FY 2017-18 exercises	conduct mid year budget review for FY 2017-18 exercise and surrender/withdraw the excess fund	Budget review report	Annually	AFS, NCHM
Carried out quarterly review for effective implementation of activities	Quarterly review and updating of Budget Utilization Plan(BUP) in line with approved budget as per plan	Quarterly budget review report	Annually	AFS, NCHM
Timely disbursement of bill payments	routine bill payment for center's activity like salary, and other bills	Accounts record	Annually	AFS, NCHM
Monitored and Reported on expenditure status	---	Budget report	Annually	AFS, NCHM
No. of training provided on ICT Technologies and applications	Routine ICT training	Training report	Annually	ICSD, NCHM
Acceptable downtime of office LAN, Connectivity & application per incidence	Routine ICT support works	incidence record	Annually	Acceptable downtime of office LAN and Connectivity per incidence

Percentage of IDT recommendations implemented	To track implementation of IDT recommendations	Regular reporting by ACC local in NCHM	Admin. record in NCHM
1 mobile app/services operational and functional	To share and inform the general public on daily weather forecasts, extreme weather & flood events and warnings to save life and properties and reduce risks.	Admin record, WCSD	Weather forecast unit, WCSD, NCHM

Section 5: Requirements from other Ministries, Agencies & Dzongkhags

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

I, the Director, NCHM commit to the Chair of the Board, the Government and the people of Bhutan to deliver the results described in this Annual Performance Agreement.

I, the Chair of the Governing Board to NCHM, 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 Agreement.

SIGNED:



Chencho Norbu
Chair of Governing Board, NCHM

29/09/17

Date



Karma
Officiating Director, NCHM

Date 29/9/17