



PERFORMANCE AGREEMENT

BETWEEN

Secretary and Director General

**DEPARTMENT OF GEOLOGY AND MINES
MINISTRY OF ECONOMIC AFFAIRS**

(July 1, 2018 – June 30, 2019)

TABLE OF CONTENTS

Section 1: Vision, Mission and Objectives

Section 2: Objectives, Actions, Success Indicators and Target

Section 3: Trend Values of Success Indicators

Section 4: Description and Measurement of Success Indicators.

Section 5: Requirements from other Departments & Secretariat Divisions

Preamble

The Performance Agreement is entered into between the Secretary and Director General, Department Of Geology And Mines.

The objectives of this Performance Agreement are:

- a) To establish clarity and consensus about annual priorities for the Department Of Geology And Mines consistent with the 12th 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 Geology And Mines 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

To contribute to sustainable socio-economic development through geo-scientific studies and scientific management of mineral resources in the kingdom.

Mission

To enable optimal exploitation of the mineral resource in a scientific manner compatible with the social and economic policy of the Royal Government and within the framework of sustainable development, protection of environment, mineral conservation and preservation of country's precious religious and cultural heritage;

To provide input for national development and social welfare to the citizens of Bhutan by opening up venue for investment and employment;

To apply geo-scientific expertise in prevention and mitigation of natural disasters resulting from geological hazards, thus contribute to the welfare of all Bhutanese citizens leading to Gross National Happiness.

Objectives

- 1) To enhance economic growth through sector diversification
- 2) To strengthen Geo-science institutional capacity
- 3) To enable legal and regulatory framework for sustainable and environment friendly mineral development
- 4) To reduce risk associated with Geo Hazards
- 5) To enhance mines inspection and monitoring

Section 2: Objectives, Success Indicators & Target

Objective	Weight	Action	Success Indicator	Unit	Weight	Excellent [100%]	Very Good [90%]	Good [80%]	Fair [70%]	Poor [60%]
To enhance economic growth through sector diversification	25	Non-hydro contribution to economy promoted	Mining sector contribution to GDP	Nu. (Million)	1	6710	6660	6610	6560	Less than 6560
			Annual export of mining products	Nu. (Million)	1	3482.78	3400	3200	3000	Less than 3000
	To explore mineral deposit		Socio-economic assessment study and report of Khothakpa Gypsum Mine for re-auctioning completed	Date	4	11/15/2018	11/30/2018	12/15/2018	12/31/2018	Later than 12/31/2019
			Percentage of detailed geological exploration of cement grade limestone in and around Edi under Mongar Dzongkhag (Spill over of 11th FYP) completed.	Percent	4	75	70	65	60	55
			Geological assessment of Chunaikhola dolomite deposit for re-auctioning completed	Date	5	6/20/2019	-	06/25/2019	-	06/30/2019
			Feasibility study for re-auctioning of coal deposit completed	Date	4	05/31/2019	-	6/15/2019	-	6/30/2019
			Jobs created	Number of jobs created in mining sector	Number	1	1265	1200	1150	1100
	To develop Geo-science database	Digitization of Dzongkhag wise geological maps completed	Number	2	18	15	10	8	5	
	To develop web based Mineral Information Portal	Development of a web based Mineral Information portal outsourced	Date	3	06/30/2019	-	-	-	Later than 06/30/2019	
To strengthen Geo-science institutional capacity	12	To strengthen technical capacity in Geo-science and mining sector	Concept for formulation of Strategic Plan for Geo-science completed	Date	2	06/30/2019	-	-	-	Later than 06/30/2019
			Manual Drilling Store Inventory developed and implemented	Date	2	09/30/2018	10/31/2018	06/11/2018	12/31/2018	Later than 31/12/2018
			Technical Drilling Manual developed and implemented	Date	2	12/31/2018	01/31/2019	02/28/2019	03/31/2019	04/30/2019

			In-house Training on Geographic Information Systems (GIS) conducted	Date	2	01/31/2019	02/28/2019	03/31/2019	04/30/2019	05/31/2019
			In-house knowledge-sharing seminar on Bhutan Geology, Geosciences, Drilling Technology, Laboratory Analytical Techniques, GIS, Remote Sensing and Mining conducted	Number	2	7	6	5	4	3
			In-house training on scientific report writing conducted	Date	1	05/15/2019	05/30/2019	06/15/2019	06/30/2019	Later than 06/30/2019
			Field orientation for new geologist recruits conducted	Date	1	June 2019	-	-	-	Later than June 2019
To enable legal and regulatory framework for sustainable and environment friendly mineral development	17	Amendment of Mines and Minerals Bill of Bhutan	First draft of the MMR in line with draft Bill completed	Date	4	06/15/2019	-	06/30/2019	-	Later than 06/30/2019
			Draft MM Bill reviewed and submitted to the Cabinet	Status of Work	6	Final draft submitted to the Cabinet	Final draft submitted to Ministry for endorsement	Final draft completed by the department without submission to the Ministry	-	No improvement in the bill
		Advocacy on MDP 2017	Number of workshop/seminar conducted to advocate on MDP 2017, draft MM bill and draft regulation conducted	Number	4	4	3	-	2	1
		Implementation on The Revised Taxes and Levies Act of Bhutan, 2016	Revision of Minimum Floor Price (MFP) for levy of ad valorem royalty for export of minerals completed	Date	3	05/01/2019	05/15/2019	06/01/2019	06/15/2019	06/30/2019
To reduce risk associated with Geo Hazards	27	Risk associated with geo hazard assessed	Macro seismic hazard map updated	Date	2	06/30/2019	-	-	-	Later than 06/30/2019
			Number of weak motion (WM) monitoring stations operated	Number	3	10-9	8-7	6-5	4-3	<3

		Number of active fault mapping completed	Percent	3	20	18	15	13	10	
		Number of intensity meters installed	Number	3	50-46	45-41	40-36	35-31	30	
		Number of national weak motion monitoring system installed	Number	3	10-9	8-7	6-5	4-3	<3	
		Uptime of Earthquake intensity network maintained	Percent	3	80-71	70-61	60-51	50-41	<40	
		Workshop with training on Intensity Meter network conducted	Date	2	06/15/2019	-	06/30/2019	-	Later than 06/30/2019	
		Carry out Integrated Geo-hazard and Risk Assessment of selected critical landslides	Detailed investigation of slope stability at Chapcha, Chhukha carried out	Percent	4	100	90-81	80-71	70-61	<61
		Carry out Integrated Geo-hazard and Risk Assessment of selected critical landslides (NAPA-II Project)	Final reports and maps for all four critical landslides printed and circulated to stakeholders through PMU, NEC	Date	2	10/31/2018	11/15/2018	11/30/2018	12/15/2018	12/31/2018
		To monitor six identified landslides and development of threshold (NAPA-II Project)	Final reports for all six landslide monitoring sites printed and circulated to stakeholders through PMU, NEC	Date	2	10/31/2018	11/15/2018	11/30/2018	12/15/2018	12/31/2018
To enhance mines inspection and monitoring	19	Effective monitoring of mines and quarries	Compliance monitoring of mines carried out	Percent	6	100-96	95-91	90-86	85-81	<80
			Cadastral survey and compilation of coordinates of Demarcation Pillars of mines completed	Number	5	3	-	2	-	1

		Biannual sampling of industrial minerals carried out and report submitted.	Number	4	10-9	8-7	6-5	4-3	<3
	To develop Mines Administration System	LAN connection for Regional Offices completed	Number	2	3	-	2	-	1
	To enhance Mines Monitoring Tool	Workshop for revision of Mines Monitoring tool carried out	Date	2	06/30/2019	-	-	-	Later than 06/30/2019

Section 3: Trend values of success indicators

Objective	Action	Success Indicator1	Unit	Actual Values [FY 2018-19]	Actual Values [FY 2019-20]	Target Values [FY 2020-21]	Projected Values [FY 2021-22]	Projected Values [FY 2022-23]
To enable legal and regulatory framework for sustainable and environment friendly mineral development	Advocacy on MDP 2017	Number of workshop/seminar conducted to advocate on MDP 2017, draft MM bill and draft regulation conducted	Number	3	6	6	6	6
	Amendment of Mines and Minerals Bill of Bhutan	Draft MM Bill reviewed and submitted to the Cabinet	Status of Work	-	-	-	-	-
		First draft of the MMR in line with draft Bill completed	Date	-	-	-	-	-
	Implementation on The Revised Taxes and Levies Act of Bhutan, 2016	Revision of Minimum Floor Price (MFP) for levy of ad valorem royalty for export of minerals completed	Date	-	-	-	-	-
To enhance economic growth through sector diversification	Jobs created	Number of jobs created in mining sector	Number	-	-	-	-	-
	Non-hydro contribution to economy promoted	Annual export of mining products	Nu. (Million)	3482.78	3558.31	3622.82	3709.34	3784.87
		Mining sector contribution to GDP	Nu. (Million)					
	To develop Geo-science database	Digitization of Dzongkhag wise geological maps completed	Number	-	-	-	-	-
To develop web	Development of a	Date	-	-	-	-	-	

	based Mineral Information Portal	web based Mineral Information portal outsourced						
To explore mineral deposit		Feasibility study for re-auctioning of coal deposit completed	Date	-	-	-	-	-
		Geological assessment of Chunaikhola dolomite deposit for re-auctioning completed	Date	-	-	-	-	-
		Percentage of detailed geological exploration of cement grade limestone in and around Edi under Mongar Dzongkhag (Spill over of 11th FYP) completed.	Percent	75	100	100	100	100
		Socio-economic assessment study and report of Khothakpa Gypsum Mine for re-auctioning completed	Date	-	-	-	-	-
To enhance mines inspection and monitoring	Effective monitoring of mines and quarries	Cadastral survey and compilation of coordinates of Demarcation Pillars of mines completed	Number	-	-	-	-	-
		Biannual sampling of industrial minerals carried out and report submitted.	Number	-	-	-	-	-
		Compliance	Percent	-	-	-	-	-

		monitoring of mines carried out							
	To develop Mines Administration System	LAN connection for Regional Offices completed	Number						
	To enhance Mines Monitoring Tool	Workshop for revision of Mines Monitoring tool carried out	Date	-	-	-	-	-	
To reduce risk associated with Geo Hazards	Carry out Integrated Geo-hazard and Risk Assessment of selected critical landslides	Detailed investigation of slope stability at Chapcha, Chhukha carried out	Percent	30	60	100	100	100	
	Carry out Integrated Geo-hazard and Risk Assessment of selected critical landslides (NAPA-II Project)	Final reports and maps for all four critical landslides printed and circulated to stakeholders through PMU, NEC	Date	-	-	-	-	-	
	Risk associated with geo hazard assessed	Uptime of Earthquake intensity network maintained		Percent	-	-	-	-	-
		Macro seismic hazard map updated		Date	-	-	-	-	-
		Number of active fault mapping completed		Percent	-	-	-	-	-
		Number of intensity meters installed		Number	-	-	-	-	-
Number of national weak motion monitoring system installed			Number	-	-	-	-	-	

		Number of weak motion (WM) monitoring stations operated	Number	-	-	-	-	-
		Workshop with training on Intensity Meter network conducted	Date	-	-	-	-	-
	To monitor six identified landslides and development of threshold (NAPA-II Project)	Final reports for all six landslide monitoring sites printed and circulated to stakeholders through PMU, NEC	Date	-	-	-	-	-
To strengthen Geo-science institutional capacity	To strengthen technical capacity in Geo-science and mining sector	Concept for formulation of Strategic Plan for Geo-science completed	Date	-	-	-	-	-
		Field orientation for new geologist recruits conducted	Date	-	-	-	-	-
		In-house knowledge-sharing seminar on Bhutan Geology, Geosciences, Drilling Technology, Laboratory Analytical Techniques, GIS, Remote Sensing and Mining conducted	Number	-	-	-	-	-
		In-house Training on Geographic Information Systems (GIS) conducted	Date	-	-	-	-	-

	In-house training on scientific report writing conducted	Date					
	Manual Drilling Store Inventory developed and implemented	Date	-	-	-	-	-
	Technical Drilling Manual developed and implemented	Date	-	-	-	-	-

Section 4: Definition of Success Indicators

Success Indicator	Description	Data Collection Methodology	Data Collection Frequency	Data Source
Number of active fault mapping completed	The department will be carrying out geophysical study investigation to study active faults in the southern Bhutan.	Annual progress report	Annually	Administrative records, DGM, MoEA
Detailed investigation of slope stability at Chapcha, Chhukha carried out	<p>100% - Completion of Desktop study, detailed topographical, geological and geotechnical mapping in large scale (1:1000/2000) including sampling, geotechnical laboratory analysis of the samples collected, and submission of map and report within 30th June 2019.</p> <p>90-81%- Completion of Desktop study, detailed topographical, geological and geotechnical mapping in large scale (1:1000/2000) including sampling, geotechnical laboratory analysis of the samples collected, but only draft map and report submitted within 30th June 2019.</p> <p>80-71%- Completion of Desktop study, detailed topographical, geological and geotechnical mapping in large scale (1:1000/2000) including sampling, geotechnical laboratory analysis of the samples collected, but map and report submitted after 30th June 2019.</p>	Annual progress report	Annually	Administrative records, DGM, MoEA

	<p>70-61%- Completion of Desktop study, detailed topographical, geological and geotechnical mapping in large scale (1:1000/2000) including sampling, geotechnical laboratory analysis of the samples collected, but only draft map and report submitted after 30th June 2019.</p> <p>60% - Only Desktop study completed, but detailed topographical, geological and geotechnical mapping in large scale (1:1000/2000) including sampling not completed, and map and report not submitted within 30th June 2019.</p> <p>General comments:</p> <p>The achievements of this activity may be affected by factors such as: (1) approved budget for the FY 2018-2019 since the field duration is dependent on budget; (2) the accessibility of the study area; and (3) timely analysis of the samples that depend on the workload of the Geotechnical Laboratory.</p>			
Number of intensity meters installed	The department will be selecting sites to install the national weak motion monitoring system in the geowgs.	Administrative Record	Annually	DGM Administrative record
Macro seismic hazard map updated	Updating of macro-seismic hazard map.	Administrative Record	Annually	DGM, MoEA
Number of national weak motion	Additional broadband sensors will	Administrative Record	Annually	DGM

monitoring system installed	be installed. These sensors will be collocated with existing short period stations.			Administrative record
Uptime of Earthquake intensity network maintained	Uptime of earth-quake intensity network with information fed from the sensors installed	Administrative Record	Annually	DGM Administrative record
Number of weak motion (WM) monitoring stations operated	Number of weak motion stations operated	Administrative Record	Annually	DGM Administrative records
Workshop with training on Intensity Meter network conducted	Training on Intensity meters will be conducted with relevant stakeholders.	Administrative Record	Annually	DGM Administrative records
Final reports for all six landslide monitoring sites printed and circulated to stakeholders through PMU, NEC	Circulation of reports to relevant stakeholders	Administrative Record	Annually	DGM Administrative records
Annual export of mining products	The value of annual mining export is based on the MFP of the minerals and quantities exported.	Annual report and Administrative record	Annually	DGM, MoEA
Percentage of detailed geological exploration of cement grade limestone in and around Edi under Mongar Dzongkhag (Spill over of 11th FYP) completed.	<p>The target set in Section 2 is in cumulative and not in actual figures. The achievement of target projected for FY 2019-20 will depend on the recommendations of this FY report.</p> <p>100% - Desktop studies, one borehole drilling and core logging completed, detailed geological mapping, topographical survey and sampling carried out (if required), and interim geological report submitted within 30th June 2019. The geological report includes geochemical analysis results and geological map of the studied area.</p>	Annual progress report	Annually	Administrative records, DGM, MoEA

	<p>90%- Desktop studies, one borehole drilling and core logging completed, detailed geological mapping, topographical survey and sampling carried out (if required), but only draft interim geological report submitted within 30th June 2019.</p> <p>80%- Desktop studies, one borehole drilling and core logging completed, detailed geological mapping, topographical survey and sampling carried out (if required), but interim geological report not submitted within 30th June 2019.</p> <p>70%- Desktop studies, one borehole drilling and core logging completed, detailed geological mapping, topographical survey and sampling carried out (if required), but interim geological report submitted after 30th June 2019.</p> <p>60% - Desktop studies completed, detailed geological mapping, topographical survey and sampling carried out (if required), but one borehole drilling and core logging not completed, and interim geological report not submitted within 30th June 2019.</p> <p>General comments: The achievements of this activity may be affected by factors such as: (1) approved budget for the FY 2018-2019 since the field duration is dependent on budget; (2) the accessibility of the study area; and (3) timely analysis of the samples</p>			
--	---	--	--	--

	that depend on the workload of the Geochemical Laboratory and also on the availability of continuous water supply for carrying out the analysis.			
Geological assessment of Chunaikhola dolomite deposit for re-auctioning completed	Completion of Desktop study, detailed topographical and geological mapping of the area including groove sampling, chemical analysis of the samples collected, and submission of map and report within 30th June 2019.	Annual progress report	Annually	Administrative records, DGM, MoEA
Socio-economic assessment study and report of Khothakpa Gypsum Mine for re-auctioning completed	The lease for auctioned Khothakpa Gypsum Mine expired on 31st December, 2018. In order to continue the mine and keeping in mind the requirement of gypsum for the cement industry in the country, the department will have to carry out the feasibility for re-auctioning of the mine. After the completion of the study, the department will have to present the report to the government to further process for re-auctioning.	Annual progress report	Annually	Administrative records, DGM, MoEA
Feasibility study for re-auctioning of coal deposit completed	The lease for auctioned Coal Mine expires on August, 2019. In order to continue the mine and keeping in mind the requirement of gypsum for the cement industry in the country, the department will have to carry out the feasibility for re-auctioning of the mine. After the completion of the study, the department will have to present the report to the government to further process for re-auctioning.	Annual progress report	Annually	Administrative records, DGM, MoEA

Mining sector contribution to GDP	The GDP contribution is in terms of Gross Value Product in million Nu.	NSB revenue report	Annually	
Digitization of Dzongkhag wise geological maps completed	Conversion of geological data sets into digital format	Manual heads up digitization using GIS software by thematic Layers	Annually	DGM Library
Development of a web based Mineral Information portal outsourced	With fund from World Bank, the department aims to outsource the formation of web based portal to third party. Since the portal is first of it's kind, the department will be able to draft tender documents only.	Administrative records, DGM	Annually	DGM, MoEA
Workshop for revision of Mines Monitoring tool carried out	With the help of Monitoring Tool in place, the department aims to monitor the performance of individuals mines and quarries in the country. Such tool will help the department strengthen compliance with technical and environment standards in mining sector. A workshop will be conducted to enhance and review the monitoring tool	Annual report	Annually	Administrative records, DGM, MoEA
Compliance monitoring of mines carried out	The target is in conjunction to the active mines and compliance monitoring visits carried out by the Regional Offices.	Administrative Record	Annually	DGM Administrative records
Cadastral survey and compilation of coordinates of Demarcation Pillars of mines completed	Cadastral survey along with the collection of geo-coordinates of Demarcation pillars of mines under 3 regions will be carried out.	Administrative Record	Annually	DGM Administrative records
Biannual sampling of industrial minerals carried out and report submitted.	Bi-annual sampling of industrial minerals and from captive mines will be carried out to ensure proper utilization of industrial minerals.	Administrative Record	Annually	DGM Administrative records
LAN connection for Regional Offices	LAN connections to DGM owned		Annually	DGM

completed	offices will be carried out in order to enhance internet connectivity which will be a crucial part in developing database system			Administrative records
First draft of the MMR in line with draft Bill completed	The regulation will be drafted in line with the draft Mines and Minerals Bill of Bhutan to ease the transaction of change in law	Administrative Record	Annually	DGM Administrative records
Draft MM Bill reviewed and submitted to the Cabinet	Upon instruction from the Cabinet to undertake another round of stakeholder consultation meeting in FY 2017-18, the department will be finalizing the draft bill and submitting the bill (both in english and Dzongkha) for endorsement.	Annual progress report	Annually	Administrative records, DGM, MoEA
Number of workshop/seminar conducted to advocate on MDP 2017, draft MM bill and draft regulation conducted	For effective implementation of MDP 2017, various workshop/seminar/training are required to be carried out.	Annual progress report	Annually	Administrative records, DGM, MoEA
Revision of Minimum Floor Price (MFP) for levy of ad valorem royalty for export of minerals completed	In line with the Revised Taxes and Levies Act of Bhutan, 2016, the department is required to revise MFP at least once a year. Revision of MFP requires studying market for export of minerals in the neighbouring countries.	Annual progress report	Annually	Administrative records, DGM, MoEA
Concept for formulation of Strategic Plan for Geo-science completed	One of the mandate for department is to ensure scientific mining and Geo-science activities. The activity is proposed to come up with a Strategic Plan for Geo-science. The plan will be further submitted to ministry in the next FY for approval and implementation.	Annual progress report	Annually	Administrative records, DGM, MoEA
Manual Drilling Store Inventory developed and implemented	Develop a database inventory for drilling equipments and implementation of the inventory.	Administrative Record	Annually	DGM Administrative records

Technical Drilling Manual developed and implemented	Manual for drilling will be developed and implemented	Administrative Record	Annually	DGM Administrative records
In-house Training on Geographic Information Systems (GIS) conducted	An in-house GIS training will be provided to the staffs on GIS software and application. The software is crucial for mapping and survey and will be carried out to engage the staffs fruitfully. There is minimal budget implications.	Administrative Record	Annually	DGM, MoEA
In-house knowledge-sharing seminar on Bhutan Geology, Geosciences, Drilling Technology, Laboratory Analytical Techniques, GIS, Remote Sensing and Mining conducted	The in-house knowledge sharing also forms a part to enhance geo-scientific and mining institutional capacity in the department. The session is also aimed to fruitfully engage the staff during absence of field works. The budget implications is minimal.	Administrative Record,	Annually	DGM Administrative records
In-house training on scientific report writing conducted	The activity is to strengthen geo-scientific institutional capacity and to standardize and improve the scientific report writing. The budget implication is minimal.	Administrative Record	Annually	DGM Administrative records
Field orientation for new geologist recruits conducted	The activity is proposed to strengthen institutional capacity and impart knowledge on field orientation. The budget implication is minimal.	Administrative Record	Annually	DGM Administrative records

Section 5: Requirements from other Departments & Secretariat Divisions

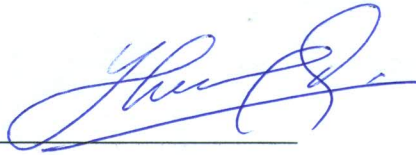
Organisation Name	Relevant Success Indicator	Requirement from the Organisation	Justification for the Requirement	Requirement detail	Impact (If Not Met)
--------------------------	-----------------------------------	--	--	---------------------------	----------------------------

Whereas,

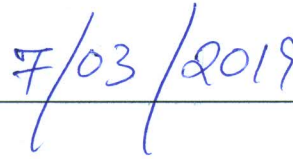
I, the Director General, Department Of Geology And Mines, commit to the Secretary and the Minister, Ministry Of Economic Affairs to deliver the results described in this Annual Performance Agreement.

I, the Secretary, commit to the Director General, Department Of Geology And Mines to provide necessary support for the delivery of results described in this Annual Performance Agreement.

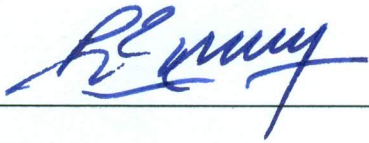
SIGNED:



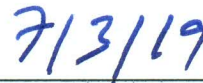
Secretary



Date



Director General



Date