



PERFORMANCE AGREEMENT

BETWEEN

NATIONAL MUSHROOM CENTRE (NMC)

AND

**DEPARTMENT OF AGRICULTURE (DoA),
MINISTRY OF AGRICULTURE AND FORESTS (MoAF)**

(July 1, 2019 – June 30, 2020)

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Preamble

The Performance Agreement is entered into between the National Mushroom Centre (NMC) and Department of Agriculture (DoA), MoAF.

The objectives of this Performance Agreement are:

- a) To establish clarity and consensus about annual priorities for the Department of Agriculture 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 National Mushroom Centre at the end of the financial year

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

THEREFORE, the parties hereto agree as follows:

Section 1: Vision, Mission and Objectives

Vision

A self-reliant, resilient and sustainable agriculture food system.

Mission

Achieve food and nutrition security, agricultural transformation through innovative and sustainable technologies, diversified and competitive economic/production options, inclusive and sustainable policies and programs.

Objectives

- 1) To increase crop production for enhancing food self-sufficiency, income and nutrition security
- 2) To generate and promote climate-resilient agriculture technologies
- 3) To promote organic farming for sustainable agriculture, safe food, and environment conservation
- 4) To develop functional farm infrastructures and facilities (irrigation channel, farm roads, post-harvest facilities, etc.)
- 5) To promote agriculture enterprise development
- 6) To enhance effective and efficient delivery of agricultural services

Section 1: Objectives, Success Indicators & Target

Objective	Weight	Action	Success Indicator	Unit	Weight	Excellent [100%]	Very Good [90%]	Good [80%]	Fair [70%]	Poor [60%]
To increase Crop production for enhancing food self-sufficiency, income and nutrition security	39	Horticulture Production Enhanced	Mushroom production (Shiitake, Oyster, Ganoderma & Button mushroom)	MT	10	148	133	118	104	89
			Establish mushroom focus village (Western region)	Number	3	6	5	4	3	2
			Improve collection and marketing of wild mushrooms	Number	5	10	9	8	7	6
			Improve management of wild mushroom	Number	3	3	2	1	0	0
			Promote medicinal mushroom production	MT	3	0.25	0.225	0.2	0.175	0.150
			Production of mother and cultivation spawn	Number	10	25000	22500	20000	17500	15000
To develop functional farm infrastructures and facilities (irrigation channel, farm roads, post-harvest facilities, etc.)	15	Agriculture Service Delivery Facilities Established/ Improved	Construct laboratory and meeting hall	Timeline	5	15 th June	20 th June	25 th June	30 th June	-
			Construct water supply, chain linked fencing and approach road	Timeline	5	15 th June	20 th June	25 th June	30 th June	-
			Installation of new transformer	Timeline	5	15 th June	20 th June	25 th June	30 th June	-
To generate and promote	34	Agriculture Research	Explore Truffles in Bhutan	Number	4	2	1	0	0	0

climate-resilient agriculture technologies		Conducted	Conduct research on different mushroom cultivars	Number	4	1	0	0	0	0
			Conduct research on mushroom post production practices	Number	4	1	0	0	0	0
			Domestication trial on edible wild mushrooms	Number	4	1	0	0	0	0
		Agriculture Technologies Adopted	Up-scaling of button mushroom cultivation	Number	4	1	0	0	0	0
			Promotion of Ganoderma mushroom cultivation	Number	4	2	1	0	0	0
		Awareness on Improved Agricultural Technologies Enhanced	Create awareness on mushroom poisoning	Number	4	5	4	3	2	1
			Demonstration of mushroom technologies	Number	2	2	1	0	0	0
To promote organic farming for sustainable agriculture, safe food and environment conservation	5	Monitor and Report Flagship Program	Progress as per signed Organic Flagship Performance Agreement	Percent	5	100	90	80	70	60
To enhance effective and efficient delivery of agricultural		Agriculture Knowledge and Information Management Improved	Identify and generate information on wild mushroom	Number	2	200	180	160	140	120
			Establish herbarium for mushroom	Number	2	1	0	0	0	0
			PoP on mushroom cultivation (Button	Number	3	1	0	0	0	

services	12		mushroom & Ganoderma)							
			Publish research article in BJA	Number	2	3	2	1	0	0
			Develop Frameworks/ Guidelines/ Standards	Number	2	2	1	0	0	0
			Publish Annual report/ Annual Highlights	Timeline	2	4 th wk June	1 st wk July	2 nd wk July	3 rd wk July	4 th wk July
			Develop Regional Database	Timeline	2	1 st wk June	2 nd wk June	3 rd wk June	4 th wk June	-
		Budget Utilization Ensured	Budget utilization efficiently as per the BUP	Percent	2	>95	90	80	70	60
		Anti-Corruption Strategy Implemented	Declaration of assets by Officials	Percent	2	100	90	80	70	60

Section 3: Trend values of success indicators

Objective	Action	Success Indicator	Unit	Actual Values [FY 2018-19]	Target Values [FY 2019-2020]	Projected Values [FY 2020-2021]	Projected Values [FY 2021-2022]	Projected Values [FY 2022-2023]
To increase Crop production for enhancing food self-sufficiency, income and	Horticulture Production Enhanced	Mushroom production (Shiitake, Oyster, Ganoderma & Button	MT	139	148	166	183	201

nutrition security	To develop functional farm infrastructures and facilities (irrigation channel, farm roads, post-harvest facilities, etc.)	mushroom)						
		Establish mushroom focus village (Western region)	Number	10	5	5	5	5
		Improve collection and Marketing of wild mushrooms	Number	8	10	12	10	10
		Improve management of wild mushroom	Number	2	3	1	1	0
		Progress as per signed Organic Flagship Performance Agreement (Promote organic mushroom cultivation)	MT	1.5	2	2	2	2.5
		Promote medicinal mushroom production	MT	0	0.18	0.2	0.3	0.32
		Production of mother and cultivation spawn	Number	26417	20000	18000	16000	14000
	Agriculture service delivery	Construction of laboratory and meeting hall	Timeline	0	June 2020	0	0	0

	facilities established/ improved	Construct water supply, chain linked fencing and approach road	Timeline	0	June 2020	0	0	0
		Installation of new transformer	Timeline	0	June 2020	0	0	0
To generate and promote climate-resilient agriculture technologies	Agriculture research conducted	Explore Truffles in Bhutan	Number	0	2	0	0	0
		Conduct research on different mushroom cultivars	Number	1	1	1	1	2
		Conduct research on mushroom post production practices	Number	0	0	1	0	0
		Domestication trial on edible wild mushrooms	Number	2	1	1	1	1
	Agriculture technologies adopted	Up-scaling of button mushroom cultivation	Number	1	1	1	1	1
		Promotion of Ganoderma cultivation	Number	0	2	1	1	1
	Awareness on improved agricultural	Create awareness on mushroom poisoning	Number	3	5	5	6	6

	technologies enhanced	Demonstration of mushroom technologies	Number	2	1	1	1	1
To promote organic farming for sustainable agriculture, safe food and environment conservation	Monitor and report flagship program	Progress as per signed Organic Flagship Performance Agreement	Percent	0	100	100	100	100
To enhance effective and efficient delivery of agricultural services	Agriculture knowledge and information management improved	Identify and generate information on wild mushroom	Number	176	200	200	210	214
		Establish herbarium for mushroom	Number	1	1	0	0	0
		Publish research article in BJA	Number	0	1	1	2	1
		Develop Frameworks/ Guidelines/ Standards	Number	2	1	1	0	0
		Publish Annual Report/ Annual Highlights	Number	1	1	1	1	1
		Develop Regional Database	Number	3	2	1	0	0

	Budget utilization ensured	Budget efficiently utilized as per the BUP	Percent	>95	>95	>95	>95	>95
	Anti-Corruption Strategy implemented	Declaration of assets by Officials on time	Percent	100	100	100	100	100

Section 4: Definition of Success Indicators

Success Indicator	Description	Data Collection Methodology	Data Collection Frequency	Data Source
Mushroom production	The indicator measures the total quantity of mushrooms produced (Shiitake, Oyster, Ganoderma and Button mushroom) with support from NMC & ARDCs	Production report	Annually	Annual Report
Establish mushroom focus village	The indicator measures the number of mushroom focus village established in potential mushroom growing areas (Western region)	Field report	Annually	Annual Report
Improve collection and marketing of wild mushrooms	The indicator measures the number of wild mushroom species sold in the market	Survey	Weekly	Annual Report
Improve management of wild mushroom	The indicator measures the number of awareness programs created on sustainable harvesting of wild mushroom to the management groups	Awareness meeting	Annually	Annual Report
Promote medicinal mushroom production	The indicator measures the quantity of medicinal mushroom produced at regional /national level	Production report	Annually	Annual Report

Production of mother spawn and cultivation spawn	The indicator measures the quantity (bottles) of mother spawn and cultivation spawn produced and supplied to ARDCs, private spawn producers and mushroom growers	Monthly progress report	Annually	Annual Report
Construction of laboratory and meeting hall	The indicator measures the timeline for construction of laboratory and meeting hall	Administrative record	Annually	Annual Report
Construct water supply, chain linked fencing and approach road	The indicator measures the timeline for construction of water supply, chain linked fencing and approach road	Administrative record	Annually	Annual Report
Installation of new transformer	The indicator measures the timeline for installation of electricity transformer at NMC	Administrative record	Annually	Annual Report
Explore Truffles in Bhutan	The indicator measures the number of survey conducted for exploration of Truffles in Bhutan	Survey	Annually	Annual Report
Conduct research on different mushroom cultivars	The indicator measures the number of research conducted on different mushroom cultivars	Research data	Annually	Annual Report
Conduct research on mushroom post production practices	The indicator measures the number of research conducted on post production practices of mushroom	Research data	Annually	Annual Report
Domestication trial on edible wild mushrooms	The indicator measures the number of trials conducted on domestication of edible wild mushroom	Trial data	Annually	Annual Report
Up-scaling of Button mushroom cultivation	The indicator measures the number of Button mushroom farm established	Field report	Annually	Annual Report
Promotion of Ganoderma mushroom cultivation	The indicator measures the number of Ganoderma cultivation farms promoted	Field report	Annually	Annual Report

Create awareness on mushroom poisoning	The indicator measures the number of awareness programs on mushroom poisoning conducted	Awareness meetings	Annually	Annual Report
Demonstration of mushroom technologies	The indicator measures the number of mushroom technologies demonstrated	Field report	Annually	Annual Report
Progress as per signed Organic Flagship Performance Agreement	This SI measure the status of progress of one organic success indicators which are responsibilities of NMC as outlined in the Organic Flagship APA. (Promote organic mushroom cultivation)	Monthly progress report	Monthly	Annual Report
Identify and generate information on wild mushroom	The indicator measures the number of wild mushrooms identified and uploaded in specimen portal	Survey data	Annually	Annual Report
Establish herbarium for mushroom	The indicator measures the number of herbarium established for preservation of wild mushroom samples	Herbarium data	Annually	Annual Report
Publish research article in BJA	The indicator measures the number of research articles published in BJA	Publication report	Annually	Annual Report
Develop Frameworks/ Guidelines/ Standards	The indicator measures the number of PoP on mushroom cultivation (Button mushroom & Ganoderma) developed	Publication report	Annually	Annual Report
Publish Annual report/ Annual Highlights	The indicator measures the timeline for the publication of Annual report/ Annual Highlights	Administrative records	Annually	Annual Report
Develop Regional Database	The indicator measures the timeline for development of database at NMC like Inventory of structures, equipments, spawn production data, wild mushroom diversity and herbarium data	Administrative records	Annually	Annual Report
Budget utilization effectively as per the BUP	The indicator measures the percentage of budget utilized	Administrative records	Annually	System generated report
Declaration of assets by Officials	The indicator measures the percentage of Officials who have declared assets on time	Administrative records	Annually	System generated report

Section 5: Requirements from Other Agencies

Organization Name	Relevant Success Indicator	Requirement from the Organization	Justification for the Requirement	Requirement detail	Impact (If Not Met)
DoFPS/dzongkhag	Mushroom production	-Permit for collection of mushroom billets -Mobilization of mushroom growers	Forestry permit and mobilization of growers is necessary for mushroom cultivation in wood logs or sawdust	Require logs and growers for mushroom cultivation	Target cannot be achieved
Dzongkhag	Establish mushroom focus village	Mobilization of mushroom growers in one locality	Reduce cost of setting of mushroom farms and monitoring visits	Require more mushroom growers in one locality	Target cannot be achieved
DoFPS/dzongkhag	Improve management of wild mushrooms	Administrative support for group formation and trainings	To mobilize mushroom collectors	To conduct trainings and develop management plans	Target cannot be achieved
NOP/DoFPS/Gasa Dzongkhag	Promote organic mushroom cultivation	-Certification - Permit for logs -Mobilization of mushroom growers	To certify produce as organic - Permit is necessary for collection of logs - Mobilization of mushroom growers	Certification, permit for logs, mobilization of mushroom growers	Produce cannot be certified as organic and organic mushroom cannot be produced
DoFPS	Promote medicinal mushroom production	Permit for mushroom logs	Permit, is necessary for collection of logs	Permit	Target cannot be achieved
DoFPs	Production of mother spawn (inclusive of cultivation spawn)	Permit for wood to be used for sawdust preparation	Permit, is necessary for collection of wood for sawdust	Permit	Target cannot be achieved
Agriculture Engineering Division/Thromde	Laboratory constructed	Technical assistance and Administrative approval	No engineer in NMC	Construction supervision	Project cannot be completed on time

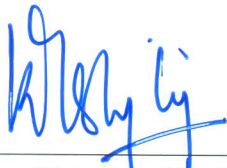
Agriculture Engineering Division/Thromde	Water supply, chain linked fencing and approach road	Technical assistance and Administrative approval	No engineer in NMC	Construction supervision	Project cannot be completed on time
Agriculture Engineering Division/Thromde	Installation of new transformer	Technical assistance and Administrative approval	No engineer in NMC	Construction supervision	Project cannot be completed on time
DoFPS	Promotion of Ganoderma cultivation	Permit for mushroom logs	Permit, is necessary for collection of logs	Permit	Target cannot be achieved

Whereas,

I, Program Director, National Mushroom Centre (NMC), commit to the Director, Department of Agriculture (DoA), MoAF to deliver the results described in this Annual Performance Agreement.

We, Department of Agriculture, MoAF commit to the Program Director, National Mushroom Centre to provide necessary support for the delivery of the results described in this Annual Performance Agreement.

SIGNED:



**Kinlay Tshering (Ms.)
DIRECTOR, DoA**

28th August, 2019
Date



**Namgay Thinley
CHIEF, APD**

28/8/19
Date



**Dawa Penjor
PROGRAM DIRECTOR
NATIONAL MUSHROOM CENTRE**

28.8.19.
Date