



# **PERFORMANCE AGREEMENT**

**BETWEEN**

**AGRICULTURE RESEARCH AND DEVELOPMENT  
CENTRE (ARDC)-BAJO**

**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 Agriculture Research and Development Centre (ARDC)-Bajo 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 12<sup>th</sup> 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 Agriculture Research and Development Centre-Bajo 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 2: Objectives, Success Indicators & Target

Objective	Weight	Action	Success Indicator	Unit	Weight	Excellent [100%]	Very Good [90%]	Good [80%]	Fair [70%]	Poor [60%]
To increase crops production for enhancing cereal self-sufficiency, income and nutrition security	40	Rice Production	Increase area under spring and upland rice in the region	Acre	2	100	90	80	70	60
			Produce released rice varieties seeds and maintain	MT	2	6	5	4	3	2
			Procure improved rice seed and supply to farmers	MT	2	10	9	8	7	6
			Increase area under direct seeded rice	Acre	2	100	90	80	70	60
		Minor Cereal Production	Produce released wheat varieties seeds and maintain	MT	2	2.5	2.3	2.0	1.8	1.6
			Promote minor cereal (wheat, buckwheat & barley)	Kg	2	1000	900	810	729	656
		Quinoa Production	Produce quinoa seed and maintain	MT	2	2	1.8	1.6	1.4	1.2
			Crop intensification and promotion of quinoa	Acre	2	20	18	16	15	13
		Maize Production	Promote improved maize varieties	Kg	2	1000	900	810	729	656
		Oil Seed Production	Crop intensification and promotion of oil seeds	Acre	2	50	40	30	20	10
		Fruits & Nuts Production	Establish commodity focused villages	Number	2	6	5	4	3	2
			Produce and promote quality fruits and nuts grafted seedlings	Acre	4	25	23	20	18	15

		Citrus Production	Conduct Citrus Canopy Management	HHs	3	500	450	400	350	300
		Vegetable Production	Produce and promote improved vegetable seed to farmers for commercial production	Acre	4	200	180	162	146	131
		Mushroom Production	Produce and supply spawn for mushroom cultivation	Number	2	4000	3600	3200	2800	2400
			Produce spawn mother culture	Number	1	400	360	320	280	240
		MAP Production	Promote improved MAP crops	Acre	2	3	2.7	2.4	2.1	1.8
		Ornamental Plants Production	Strengthen floriculture germplasm collection	Number	2	5000	4500	4050	3645	3281
To generate and promote climate resilient agriculture technologies	47	Agriculture Production Research	Establish fruit & nuts demo orchards	Number	3	20	18	16	14	12
			Introduce and evaluate new rice lines	Number	3	146	131.4	116.8	102.2	87.6
			Conduct initial, advance & production evaluation rice trials	Number	4	30	27	24	21	18
			Study on Phenotypic Characterization of Traditional Land Races of rice	Number	3	15	14	13	12	11
			Conduct wheat evaluation trial	Number	2	10	9	8	7	6
			Conduct study wheat rust	Number	2	3	2	1		
			Evaluate and maintain germplasm of fruits and nuts	Number	4	20	18	16	15	13

			Initiate breeding programs (rice and guava)	Timeline	4	1st wk Sept.	2nd wk Sept.	3rd wk Sept.	4th wk Sept.	-
			Evaluate high yielding & high nutrient content vegetable varieties	Number	2	10	9	8	7	7
			Conduct soil fertility and nutrient management research	Number	2	4	3	2	1	-
			Conduct trial and demonstration on pest and diseases management	Number	2	3	2	1	-	-
			Conduct impact study of research technologies (outreach program, electric fencing, water harvesting)	Number	3	3	2	1	-	-
			Evaluate and maintain citrus germplasm	Number	3	108	97	87	79	71
			Evaluate and maintain cardamom germplasm	Number	2	6	4	3	2	1
		Agriculture Technologies Generated	Release of varieties (rice and vegetables) and improve technologies	Number	4	4	2	1	1	0
		Agriculture Technologies Adopted	Promote climate smart crops technologies	Number	4	6	5	4	3	2
To enhance effective and efficient	13	Agriculture Knowledge and Information Management Improved	Publish research papers and extension materials on crop management technologies	Number	5	8	7	6	5	4
			Frameworks/Guidelines/Standards/strategies/Manuals developed	Timeline	2	1st wk Sept	2nd wk June	3rd wk June	4th wk June	July

delivery of agricultural services		Generate regional agriculture database	Timeline	2	Dec	Jan	Feb	Mar	Apr
		Publish annual report	Timeline	2	30-Jun	1st wk July	2nd wk July	3rd wk July	4th wk July
	Budget Utilization Ensured	Budget Utilized effectively as per the BUP	Percent	2	>95	90	80	70	60

### Section 3: Trend Values of Success Indicators

Objective	Action	Success Indicator	Unit	Actual Values (2018-19)	Actual Values [FY 2019-20]	Target Values [FY 2020-21]	Projected Values [FY 2021-22]	Projected Values [FY 2022-23]
To increase crops production for enhancing cereal self-sufficiency, income and nutrition security	Rice Production	Increase area under spring and upland rice in the region	Acre	63	100	200	200	302
		Produce released rice varieties seeds and maintain	MT	10	6	6	6	6
		Procure improved rice seed and supply to farmers	MT	1.3	10	10	10	10
		Increase area under direct seeded rice	Acre	0	100	200	200	300
	Minor Cereal Production	Produce released wheat varieties seeds and maintain	MT	2.6	2.5	3	3	3
		Promote minor cereal (wheat, buckwheat & barley)	Kg	0	1000	1000	1000	1000
	Quinoa Production	Produce quinoa seed and maintain	MT	4.0	2	2	2	2
		Crop intensification and promotion of quinoa	Acre	10	20	30	40	50



	Maize Production	Promote improved maize varieties	Kg	1673	1000	2000	2000	1000
	Oil seed production	Crop intensification and promotion of oil seeds	Acre	55	60	100	150	145
	Fruits & Nuts Production	Establish commodity focused villages	Number	6	6	5	4	3
		Produce and promote quality fruits and nuts grafted seedlings	Acre	34	25	20	15	10
	Citrus Production	Conduct Citrus Canopy Management	HHs	966	100	100	100	100
	Vegetable Production	Produce and promote improved vegetable seed to farmers for commercial production	Acre	273	200	150	60	50
	Mushroom production	Produce and supply spawn for mushroom cultivation	Number	4000	4000	4000	4000	4000
		Produce spawn mother culture	Number	400	400	400	400	400
	MAP production	Promote improved MAP crops	Acre	0	3	3	2	0
	Ornamental plants production	Strengthen floriculture germplasm collection	Number	17300	5000	5000	5000	5000
To generate and promote climate resilient agriculture technologies	Agriculture production research	Establish fruit & nuts demo orchards	Number	23	20	15	10	5
		Introduce and evaluate new rice lines	Number	70	146	-	-	-
		Conduct initial, advance & production evaluation rice trials	Number	30	30	50	30	30

	Study on Phenotypic Characterization of Traditional Land Races of rice	Number	15	15	0	0	0
	Conduct wheat evaluation trial	Number	10	10	10	10	10
	Conduct study wheat rust	Number	0	3	3	0	0
	Evaluate and maintain germplasm of fruits and nuts	Number	7	7	10	10	10
	Initiate breeding programs (rice and guava)	Number	0	3	0	0	0
	Evaluate high yielding & high nutrient content vegetable varieties	Number	10	10	10	10	
	Conduct soil fertility and nutrient management research	Number	0	4	3	3	3
	Conduct trial and demonstration on pest and diseases management	Number	2	3	2	2	2
	Conduct impact study of research technologies (outreach program, electric fencing, water harvesting)	Number	0	3	1	1	0
	Evaluate and maintain citrus germplasm	Number	91	108	120	130	140
	Evaluate and maintain cardamom germplasm	Number	6	6	6	6	
Agriculture technologies generated	Release of varieties (rice, vegetables) and improve technologies	Number	4	4	5	5	5

	Agriculture technologies adopted	Promote climate smart crops technologies	Number	5	6	3	3	3
To enhance effective and efficient delivery of agricultural services	Agriculture knowledge and information management improved	Publish research papers and extension materials on crop management technologies	Number	13	8	5	5	5
		Frameworks/Guidelines/Standards/strategies/Manuals developed	Number	1	1	1	1	1
		Generate regional agriculture database	Number	1	1	1	1	1
		Publish annual report	Number	1	1	1	1	1
	Budget Utilization Ensured	Budget Utilized effectively as per the BUP	Percent	>95	>95	>95	>95	>95

#### Section 4: Definition of Success Indicators

Success Indicator	Description	Data Collection Methodology	Data Collection Frequency	Data Source
Increase area under spring and upland rice in the region	It measures the increased in area of spring rice and upland rice cultivation through improved technology (seed, plastic, nursery rising) and technical support	Field Report	Annually	Annual Report 2019-20
Produce released rice varieties seeds and maintain	It measures the on-station production of improved rice varieties seed and maintained for seed purpose	Field Report	Annually	Annual Report 2019-20

Procure improved rice seed and supply to farmers	It measures the quantity of improved rice seed procured from NSC and supplied to farmers	Field Report	Annually	Annual Report 2019-20
Increase area under direct seeded rice	It measures the area covered of direct seeded rice using drum seeder in the region	Field Report	Annually	Annual Report 2019-20
Produce released wheat varieties seeds and maintain	It measures the on-station production of released wheat varieties seeds and maintained for seed purpose	Field Report	Annually	Annual Report 2019-20
Promote minor cereal (wheat, buckwheat & barley)	It measures the quantity of improved minor cereals seed procured from NSC and supplied to farmers along with wheat seed promoted from the Centre	Field Report	Annually	Annual Report 2019-20
Produce quinoa seed and maintain	It measures the on-station production of quinoa seeds and maintain for seed purpose	Field Report	Annually	Annual Report 2019-20
Crop intensification and promotion of quinoa	It measures the area of quinoa promoted in the region.	Field Report	Annually	Annual Report 2019-20
Promote improved maize varieties	It measures the quantity of improved seed procured from NSC and supplied to farmers	Field Report	Annually	Annual Report 2019-20
Crop intensification and promotion of oil seeds	It measures the quantity of improved seed procured from NSC and supplied to farmers with area covered by oil seed cultivation	Field Report	Annually	Annual Report 2019-20
Establish commodity focused villages	It measures number of commodity focused village established through promotion of improved fruits and nuts seedlings through IHPP	Field Report	Annually	Annual Report 2019-20
Produce and promote quality fruits and nuts grafted seedlings	It measures the areas covered by high value fruits and nuts seedling supplied through IHPP as package with systemic training	Field Report	Annually	Annual Report 2019-20
Conduct Citrus Canopy Management for citrus rehabilitation	It measures the number of households whose citrus orchard management is carried out through technical support from the Centre	Field Report	Annually	Annual Report 2019-20

Produce and promote improved vegetable seed to farmers for commercial production	It measures the total quantity of quality seeds of high value vegetables produced at the Centre through IHPP and promoted to farmers for commercial production	Field Report	Annually	Annual Report 2019-20
Produce and supply spawn for mushroom cultivation	It measures number of bottles (750ml) Oyster spawn produced and supplied to the farmers with technical support	Field Report	Annually	Annual Report 2019-20
Produce spawn mother culture	It measures number of spawn mother culture produced at the Centre	Field Report	Annually	Annual Report 2019-20
Promote improved MAP crops	It measures the area covered through promotion of improved varieties of turmeric rhizomes and black peppers farmers with technical support	Field Report	Annually	Annual Report 2019-20
Strengthen floriculture germplasm collection	It measures total number of ornamental plants produced for supporting landscaping and beautification activities and supplied to various organizations	Field Report	Annually	Annual Report 2019-20
Establish fruit & nuts demo orchards	It measures number of orchards established with assorted fruits as demo-orchard by providing seedling and systematic training through IHPP	Field Report	Annually	Annual Report 2019-20
Introduce and evaluate new rice lines	It measures number of new rice lines received from IRRI and evaluation in introduction nursery	Field Report	Annually	Annual Report 2019-20
Conduct initial, advance & production evaluation rice trials	It measures the number of different type of rice trials conducted as observation nursery, Initial Evaluation trials(IET), advance evaluation trials (AET), Production Evaluation trials(PET) and production evaluation	Field Report	Annually	Annual Report 2019-20
Study on Phenotypic Characterization of Traditional Land Races of rice	It measures the number of traditional land races of rice study for phenotypic characterization on-station	Field Report	Annually	Annual Report 2019-20

Conduct wheat evaluation trial	It measures number of climate resilient wheat varieties introduced and evaluated on station	Field Report	Annually	Annual Report 2019-20
Conduct study wheat rust	It measures number of sites for the wheat rust pathological study conducted	Field Report	Annually	Annual Report 2019-20
Evaluate and maintain germplasm of fruits and nuts	It measures the number evaluation of promising varieties of fruits and nuts crops and maintained germplasm	Field Report	Annually	Annual Report 2019-20
Initiate breeding programs (rice and guava)	It measures initiation of breeding program in rice and guava by the given timeline	Field Report	Annually	Annual Report 2019-20
Evaluate high yielding & high nutrient content vegetable varieties	It measures the number of high value vegetable crops evaluation on-station and on-farm evaluation (Japanese pumpkin, Zucchini, lady finger, capsicum, water melon, tomato)	Field Report	Annually	Annual Report 2019-20
Conduct soil fertility and nutrient management research	It measures the number of soil fertility and nutrient management research conducted	Field Report	Annually	Annual Report 2019-20
Conduct trial and demonstration on pest and diseases management	It measures the number of trial and demonstration on pest and diseases management conducted	Field Report	Annually	Annual Report 2019-20
Conduct impact study of research technologies (outreach program, electric fencing, water harvesting)	It measures the number of impact study conducted by the Centre on research technologies (outreach program, electric fencing, water harvesting) adopted by the farmers	Field Report	Annually	Annual Report 2019-20
Maintain and increase citrus germplasm	It measures the number citrus varieties maintained as germplasm at NCR	Field Report	Annually	Annual Report 2019-20
Maintain and evaluate cardamom germplasm	It measures the number cardamom varieties maintained and evaluated as germplasm	Field Report	Annually	Annual Report 2019-20

Release of varieties (rice, vegetables) and improved technologies	It measures two rice varieties and two vegetable varieties proposed for release to the VRC	Field Report	Annually	Annual Report 2019-20
Promote climate smart crops technologies	It measures the number of improved technologies promoted by the Centre	Field Report	Annually	Annual Report 2019-20
Publish research papers and extension materials on crop management technologies	It measures number of articles/research papers published in BJA/Sanam Drupdrey/Other Journals both national and international, Extension materials produced related to agriculture	Administrative record	Annually	Annual Report 2019-20
Frameworks/Guidelines/Standards/strategies/Manuals developed	It measures at least one standard/guideline for crops/technology evaluation or dissemination developed and circulated for comments by the given timeline	Administrative record	Annually	DoA highlights 2019-20
Generate regional agriculture database	It measures survey conducted to estimate cost of production of identified crops and data submitted to DoA for final analysis and publication	Administrative record	Annually	DoA highlights 2019-20
Publish annual report	It measures the activities completion report published for the given financial year	Administrative record	Annually	Annual Report 2019-20
Budget utilized effectively as per the BUP	It measures the utilization of budget for given financial year	Administrative record	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)
Farmers/Dzongkhags	Increase area under spring and upland rice in the region	Interest of the farmers and administrative support from Dzongkhag agriculture sector.	Output depends on interest of the farmers and administrative support from Dzongkhag agriculture sector	More farmers willing to take up spring rice cultivation	Target may not meet
Farmers/Dzongkhags	Procure improved rice seed and supply to farmers	Interest of the farmers and administrative support from Dzongkhag agriculture sector.	Output depends on interest of the farmers and administrative support from Dzongkhag agriculture sector	Farmers willingness to take up improved varieties	Target may not meet
Farmers,/Dzongkhag and AMC	Increase area under direct seeded rice	Dzongkhag extension to identified farmers, AMC to collaborate and provide drum seeders	Output depends on interest of the farmers and administrative support from Dzongkhag agriculture sector	Seek cooperation of the farmers and AMC for successful implementation of the activity	If there is no willing farmers to take-up we may not meet the target
Promote minor cereal (wheat, buckwheat & barley)	Promote minor cereal (wheat, buckwheat & barley)	Support to collaborate the activities and encourage farmers to intensify minor cereals production	Since these crops are mostly in Central and Western regions	Farmers willingness to take up minor cereals, Dzongkhag should encourage farmers	If there is no willing farmers to take-up we may not meet the target



Farmers/Dzongkhags	Crop intensification and promotion of quinoa	Interest of the farmers and administrative support from Dzongkhag agriculture sector.	Output depends on interest of the farmers and administrative support from Dzongkhag agriculture sector	Dzongkhag extension to encourage Farmers take up quinoa production on buy back policy	Target may not meet
Farmers/Dzongkhags	Promote improved maize varieties	Interest of the farmers and administrative support from Dzongkhag agriculture sector	Output depends on interest of the farmers and administrative support from Dzongkhag agriculture sector	Farmers takes up maize production of improved varieties	Target may not meet
Crop intensification and promotion of oil seeds	Crop intensification and promotion of oil seeds	Interest of the farmers and administrative support from Dzongkhag agriculture sector	Output depends on interest of the farmers and administrative support from Dzongkhag agriculture sector	Farmers takes up oil seed production	Target may not meet
Farmers/Dzongkhags	Establish commodity focused villages	Establish commodity focused village	Interest of the farmers and administrative support from Dzongkhag agriculture sector	Output depends on the interest of farmers and administrative support of Dzongkhag	Target may not meet
Farmers/Dzongkhags	Produce and promote quality fruits and nuts grafted seedlings	Interest of the farmers and administrative support from Dzongkhag agriculture sector	Output depends on interest of the farmers and administrative support from Dzongkhag agriculture sector	Farmers to take up commercial vegetable production with the high value vegetable crops varieties	Target may not meet

Farmers/Dzongkhags	Promote commercial production of vegetables in the region	Interest of the farmers and administrative support from Dzongkhag agriculture sector	Output depends on interest of the farmers and administrative support from Dzongkhag agriculture sector	Farmers willingness to establish orchard provided they have suitable land	Target may not meet
Farmers/Dzongkhags	Produce spawn and supply to farmers	Interest of the farmers and support from Dzongkhag agriculture sector	Output depends on the interest of farmers and administrative support of Dzongkhags	Farmers arranges billets/straws and take up mushroom cultivation	Target may not meet
NMC	Produce spawn mother culture	For technical support and input support	The Centre do not have capacity for input and also technical knowhow	For technical support and also input support	We may not meet our target
Farmers/Dzongkhags	Area under improved MAPS technology	Dzongkhag to coordinate while implementing the activities	Output depends on the interest of farmers and administrative support of Dzongkhags	Farmers willingness to take up MAP	To meet the target set
Dzongkhags (West-Central), NSSC	Conduct soil fertility, land and nutrient management research	Analytical laboratory services from NSSC , Dzongkhag Extension to provide cooperation while conducting the survey	Without Dzongkhag cooperation we cannot carry out the survey and we need soil test result to implement research activities	Analytical laboratory services from NSSC , Dzongkhag Extension to provide cooperation while conducting the survey	To meet the target set
Dzongkhags (West-Central), NPPC	Trial on pest and diseases management in crops	Technical backstopping required	Since ARDC Bajo has only one focal person under Plant Protection Unit	Technical assistance	To meet the target set
Dzongkhag (West-Central)	Promote climate smart crops	Require full support from Dzongkhags and geog	Full cooperation required for successful	Seek cooperation of the farmers and	If no cooperation

	technologies	staffs to take-up improved technologies	implementation of the activity at farmers level	local leaders for successful implementation of the activity	especially from Dzongkhag and gewog, the activity cannot be implemented.
Dzongkhags	Generate regional agriculture database	Support of Dzongkhags	It a compilation of Dzongkhags' data	Dzongkhags provides the data on time	Target may not meet

**Whereas,**

I, Program Director, Agriculture Research and Development Centre (ARDC)-Bajo, commit to the Director, Department of Agriculture (DoA), MoAF to deliver the results described in this Annual Performance Agreement.

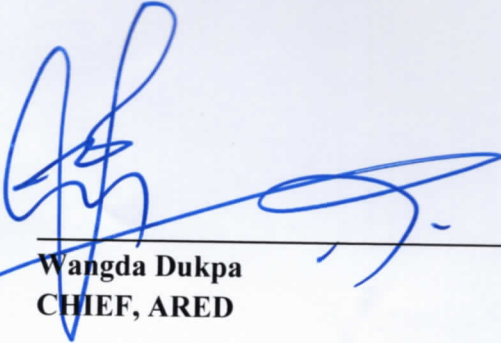
We, Department of Agriculture, MoAF commit to the Program Director, Agriculture Research and Development Centre-Bajo to provide necessary support for the delivery of the results described in this Annual Performance Agreement.

**SIGNED:**



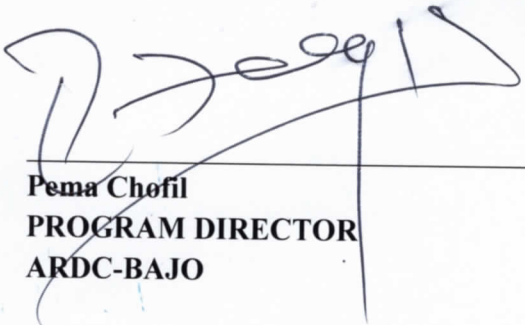
**Kinlay Tshering (Ms.)  
DIRECTOR, DoA**

28<sup>th</sup> August, 2019  
Date



**Wangda Dukpa  
CHIEF, ARED**

28/08/2019  
Date



**Pema Chofil  
PROGRAM DIRECTOR  
ARDC-BAJO**

28/8/2019  
Date