

**FARMER'S DIARY
FOR
BHUTAN GAP : FRUITS AND VEGETABLES**

**Department of Agriculture
Ministry of Agriculture and Forests
Thimphu, Bhutan**

June 2020

Farmer's Dairy

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Introduction

The farmers' diary is for keeping detail record of all the activities that occurs in the farm in line with the requirements stated in Bhutan wGAP Standard for Fruits and Vegetables, 2017 (BTS 30:2017). The requirements to be met by farmer has been translated into simple formats in the diary for effective recording. The records maintained in the farmers' diary will serve as the basis for certification of Good Agricultural Practices (GAP) produce by any third party certification body.

The information in the diary consists of site location up to sales record of the produce, thus encompassing the record of traceability which is the crux of GAP implementation.

The diary will help farmers in keeping track of their expenditure and also the return. It will also be useful to our field staff to calculate the cost of production and agronomic practices followed by the farmers.

Format 1: Land use consensus (Consent of Family Members for land under joint ownership)

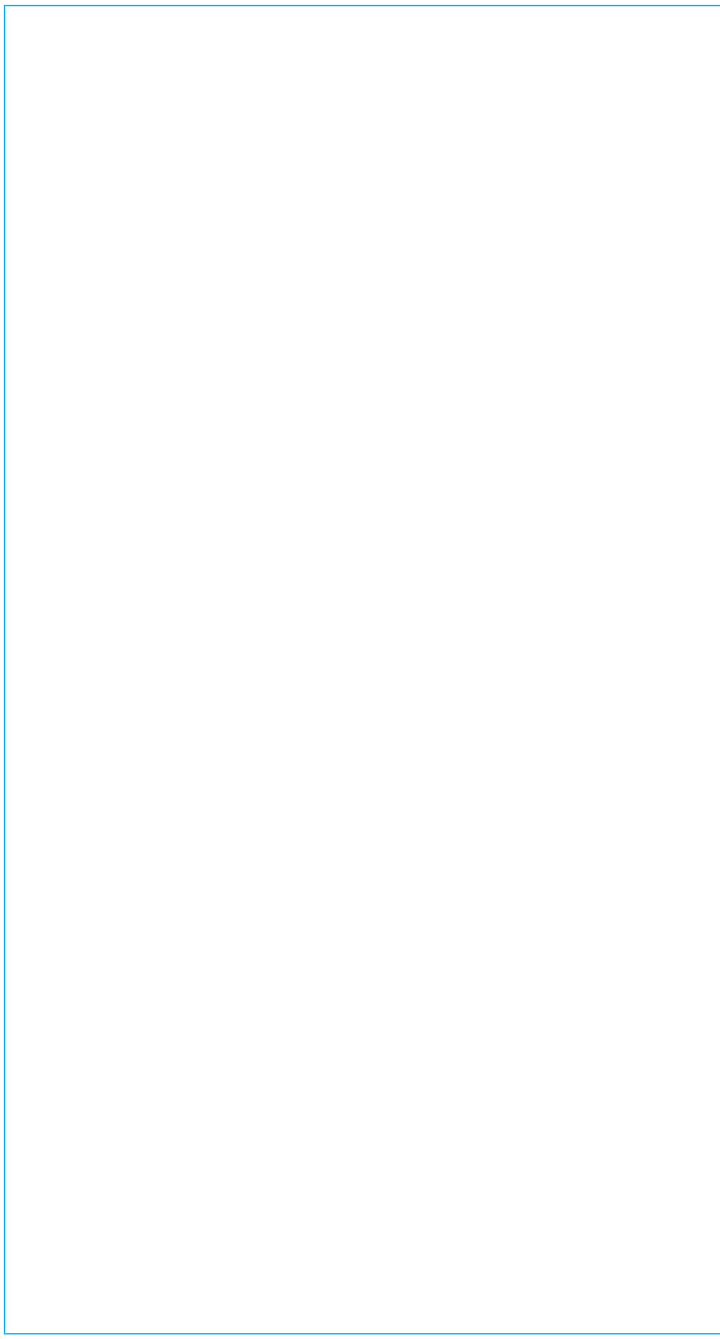
PLOT NO							
Area (ac)							
S.N	Name of Family Members (18 years & above)	Relationship with the applicant	Age	Thram Number (Family Ownership)	Plot no	Area (ac)	Signature

***Note: In case of family member being absent, authorization to use the land can be provided through any other means (email, authorization letter, etc)**

Format 2: Farm information / Site Map

1. Name of farmer:	
2. Village/Farm location:	
3. Chiwog:	
4. Gewog:	
5. Unique identification number (if member of a group)	
6. Thram No:	
7. Altitude:	
8. Land Topography:	
9. Name of Crop:	
10. Crop Variety:	
11. Area (ac):	
12. Plot No.:	
13. Buffer Zone (Indicate Yes/No, If Yes, provide brief description)	
14. Irrigation Source :	
15. Erosion Control Methods:	
16. Farm Store:	

Sketch Map of the Farm



***Note: Please provide legends**

Format 3: Details of propagation materials/Seeds

Crop Name	Variety Name	Source of seeds/seedlings	Date of Purchase	Quality details	Treated/untreated	Method of treatment	Invoice/Promotional Program evidence

•Note: In case of established orchard, a competent authority will certify the orchard from being free of pests and diseases

Format 4: Fertilizer/organic manures record

Date	Name of fertilizer/organic manures	Invoice/Bill No	Total Quantity (kg)	Expiry Date/Preparation Date

Format 5: Fertilizer/organic manure application record

Date	Name of Fertilizer/ Organic Manure	Plot No	Area (ac)	Quantity used	Doses (kg/ac)	Method of application	Balance (kg)	Name & sign of responsible person

Format 6: Pesticide/bio-pesticide/locally made pesticide record

Date	Name of pesticide/ bio-pesticide/ locally made pesticide	Invoice/Bill No	Total quantity (ltr/gm)	Expiry Date /Preparation Date

Format 7: Pesticide/bio-pesticide/locally made pesticide application record

Date	Plot no	Crop name & variety	Start and end time	Trade Name	Active Ingredient	Pre-harvest Interval	Justification for use	Quantity	Doses (Unit)	Area	Surplus spray mix disposal method	Name & sign of responsible person

Format 8: Waste Generated & Disposal record

S.N	Name of waste material	Hazardous (Please tick the relevant)		Non-Hazardous (Please tick the relevant)		Degradable (Please tick the relevant)	Non-Degradable (Please tick the relevant)	Quantity (Unit)	Method of disposal	Date	Name & sign of responsible person
		Hazardous	Non-Hazardous	Degradable	Non-Degradable						

Format 9: Irrigation record

Name of Technical Advisor:										
SN	Date	Crop & Variety	Plot no	Start Time	End time	Total Time	Water Quantity (ltr)	Irrigation Method	Name & sign of responsible person	

Format 10: Soil sterilization record

S.N	Type of sterilization	Chemicals used	Dose (Unit)	Plot No	Area (Ac)	Date of sterilization	Method of treatment	Duration of treatment	Name & sign of responsible person

Format 11: Energy efficiency record

Date	Energy Type (Bio fuel/electricity/any others(please specify))	Purpose	Energy consumed (Unit)	Amount paid (Nu)	Remarks

Format 12. Pre-harvest record

Plot No	Crop Name	Variety	Estimated production	
			Area/Total number of trees	Quantity (kg)

Format 13: Harvest record

Plot No	Crop Name	Variety	Cultivated Area/Total no of trees	Harvest Date	Harvest time		Total production		Method of harvesting
					Start	End	Area/total no of trees	Quantity (kg)	

Format 14: Post harvest record

Name of Technical Advisor:								
Single Harvest / Multi Harvest (please specify):								
Date	Plot no	Crop name & variety	Type of containers	Total Quantity (kg)	Rejected/postharvest losses (kg)	Post-harvest treatment (if any)	Mode of transport	Name & sign of responsible person

Format 15: Produce Traceability record

Crop name & variety	Quantity sold (kg)	Batch/lot number	Name, contact number & address of buyer

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Format 16: Recall record (if any)

S.N	Reason(s) for recall	Customer Informed (Yes/No)	Recall Date	Recall batch/lot no	Quantity Recalled (kg)	Name & sign of responsible person

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Format 17: Training records

S.N	Date	Venue	Training Module	Duration	Name & Organization of Trainer	Name & Gender of Trainee

Format 18: Biodiversity Management record

Types of agro-forestry system available	Name of trees (Common/Local name)	Any records of wild animals and birds on the farm: Yes/No(if Yes, then specify)	Control measures for wild pests

Format 19: Air/Noise Pollution Control record

Date	Type of machine/vehicles	Details of maintenance	Cash memo / pictures

Format 20: Farm Visitor record

By signing, the visitor accepts that he/she will comply with the visitor policy of the farm, which is being displayed on the farm's notice.

Date	Name and address of the visitor	Purpose of visit	Contact number	Signature	Remarks

Format 21: Calibration record

Name, model and make of machinery	Purchase Date	Calibration Date	Name & address of calibrating person/agency	Next Date of calibration	Calibration evidence/certificate

Format 22: In-House Irrigation Calibration

Farmer Name		Manufacture/Make/Model:		Code no:
Identification				
Drip System				
Fertigation Tank		M ³ /hr		
Sand Filter		M ³ /hr		
Motor (HP)				
Plot No		Planting distance:		
a. No of plants		b. Area:	acre	
c. Capacity Of Dripper		Type Of Dripper		
d. No of drippers per plant		e. Total drippers = a X d		
Total water		Lit/hr = c X e.		
Lane no	Plant no	Volume ml /min	Plant no	Volume ml /min
				A. Total volume ml /min= sum of water collected
				B. Avg. volume Lit/min= A / 1000
				D. Total Actual volume for plot lit/hr= C X e
				E. Actual Discharge lit/acre/hr = D / b
				F. Desired volume lit/acre/hr
The actual irrigation is equal/ over/under the desired volume decision is taken Reduce/increase the irrigation time to				
Calibration sheet no		Next calibration sheet no if any		
Calibrated by		Date		

Format 23: Training certificate (to be issued upon farmer's request)

To whom it may concern	
This is to certify that Mr/Ms..... holding CID no.....	
From	Village Geog Dzongkhag has successfully attended the training on
.....at.....
.....to
..... From
Name and designation of verifying Officer (signature & seal)	
Date :	

Format 24: Customer Complaint & Redressal record

Date	Name & Address of Complainant	Details of Complaint	Root Cause Analysis	Corrective Action	Date of Corrective Action	Responsible Person	Status of complaint (Pending/Complete)


Format 25: Corrective Action record

Date	Non-conformance Description	Root Cause analysis	Corrective Action	Date of Correction Action taken	Responsible Person	Signature of Internal Inspector

Format 26: Risk Assessment record (Soil Management and Conservation, Organic Manure/FYM, Environmental Impact of Water Resource Usage, Waste and Pollutant, Environment Conservation, Wildlife Conservation, New site, New Planting, Irrigation Water, Food safety during harvest and transportation)

S.N	Risk parameters	Probability of risk (Please tick)			Action taken for mitigation
		Low	Medium	High	

Visitor Safety Format

Do's	Don'ts
<p>1. Insist for an authorized person to accompany you.</p> <p>2. Follow required personnel hygiene procedures.</p> <p>3. Wear the protective clothing (if necessary) provided to you.</p> 	<p>Don'ts</p> <ol style="list-style-type: none"> 1. Drink or Eat during the work or field visit. 2. Touch the fresh produce with bare hands. 3. Smell, Sneeze or Cough on the produce. 4. Peep into the tanks. 5. Enter into the areas where crop protection chemicals have been sprayed recently. 6. Smell the crop protection chemical spray tank or containers. 7. Touch the crop protection chemical containers with bare hands.

Instruction 1: Nutrient Management Plan

In order to maintain soil fertility, use the recommended nutrient based on the soil test report. Only use treated FYM and avoid from using human sewerage and sludge. Always use balanced nutrient.

1. While using nitrogen fertilizer, split it into doses.
2. Intercrop with legumes wherever feasible
3. Use other forms of organic nutrient sources
4. Avoid excess application of water

Instruction 2: Soil Erosion, Minimisation and Prevention Plan

1. Follow Sustainable Land Management practices to minimise soil loss
2. Use proper planting method in sloppy areas
3. Provide adequate drainage to minimise surface runoff
4. Construct bench terraces wherever required

Instruction 3: Identification & Action Plan To Reduce Wastage/ Pollution on the Farm

A. Farm

1. Enlist various type of wastes generated in the farm which can be segregated as Plastic, Metal, Glass, Waste Paper, Card Board, Wood, Waste Oil, Rubber
2. Identify sources of pollution like fuel store tanks, burning of agricultural residues, tanks of chemicals, fertilizers, surplus spray mix
3. Prevent contamination by proper disposal/treatment of household waste, sewage water & animal wastage
4. Wash the empty PP contains at least three times before disposal
5. Further segregate wastes into Hazardous & Non-Hazardous waste and compostable (degradable) & non-compostable (non-degradable) waste for proper disposal/treatment
6. Store the waste properly as per the statutory requirement

B. Pack House

1. Collect the waste generated during the operation in collection bins inside the pack house
2. Place the numbered bins at designated areas with different bins for different nature of waste
3. Dispose or treat the waste properly

Instruction 4.: Visitor Safety

Place the signboard on the entrance of farm with following information

<i>DOs</i>	<i>DON'Ts</i>
1. Insist for an authorized person to accompany you.	1. Drink or eat during the work or field visit.
2. Follow required personnel hygiene procedures.	2. Smell, sneeze or cough over the fresh produce and chemical spray tanks/containers
3. Wear the protective clothing (if necessary) provided to you.	3. Touch the fresh produce and chemical containers with bare hands.
	4. Enter into the areas where crop protection chemicals are sprayed recently.

Instruction 5: Environment Conservation Plan

Be committed to implement Environment Conservation Plan with help of local forest department & community

We will use integrated management systems for pest & disease and nutrition.

For energy conservation, we will use energy saving equipment, tools, renewable energy options

1. Write here baseline count of wild animals, other biodiversity of plant	
2. Impact of Farming on the Environment and Biodiversity	
3. Ecological Upgrading of Unproductive Sites	
4. Water Collection / Recycling	

Instruction 6: Calibration Procedures

Calibration of machineries and equipment has to be carried out by competent personals.

A. For fertilizer

1. Fertilizer application machinery should be calibrated annually for accurate delivery of defined quantity in an area.
2. Maintain documented records for verification of calibration within last 12 months that has been carried out.

B. For Pesticide

1. Spray equipment should be calibrated annually.
2. Maintain documented records for verification of calibration within last 12 months that has been carried out.

C. Other machineries and equipment that require calibration are:

1. Sprayer & Drip system for fertigation
2. HTPE Pump, pulleys, pipes available in manufactured by local experienced fabricators
3. Tractor
4. The pressure gauge

Instruction 7: Hygiene Rules

1. Wear protective clothing
2. Use antibacterial hand cleanser
3. Remove all jewellery and watches.
4. No smoking
5. No drinking or eating (including chewing gum).
6. No nail varnish or false nails
7. All cuts to be covered with a suitable bandage