ས་རྒམ་དང་རྒས་ཚལ་ལྷན་ཁག

ROYAL GOVERNMENT OF BHUTAN

Ministry of Agriculture and Forests

Thimphu : Bhutan

Agriculture Statistics 2017

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FOREWORD

We are pleased to release the Annual Agriculture Statistics for the year 2017. It presents data on demography of farming population, land holdings, land use, crop area, yield, production, utilization of crops and other general aspects disaggregated at Dzongkhag level.

This is the first survey conducted and published by RNR Statistics Division (RSD), Directorate Services, MoAF. Prior to this, the Information and Management Section of the Department of Agriculture used to conduct the survey.

We are further glad to note that this survey employed Computer Assisted Personal Interviewing (CAPI) method which is a sign that our data collection methods are coming of age and moving away from traditional pen-and-paper approach and greatly enhancing the timeliness of data dissemination to the public.

I hope this publication will prove beneficial for planners, policymakers, researchers, extension personnel, academicians and those who are involved in the developmental activities of the agricultural sector.

We are very grateful to the Agriculture Extension Supervisors in the field for their dedicated effort in enumerating the sample farmers in their respective Gewogs and then diligently submitting the data to RSD on time. The supervisory work of the Dzongkhag Agriculture Officers/Assistant Dzongkhag Agriculture Officers during the survey is very much appreciated. Last but not the least, our deep-felt thanks goes to the farmers who have provided the data year in year out.

(Rabgey Tobden)

DIRECTOR

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PART 1

METHODOLOGY

1. Introduction

The annual agriculture sample survey was initiated in 2004. Since then, the annual publication endeavours to present comprehensive information on area, production and yield of principle crops viz: cereals, oil seeds, pulses and spices, vegetables, fruit crops, roots & tubers and other horticultural crops. The publication comprises of two parts, Part 1 at National level statistics, which includes national level crop and fruit production data with other analysis like price and income, crop and fruit utilization, food security and coping mechanism data etc. Part 2 comprises of Dzongkhag level crop and fruit production statistics. A single survey was conducted from December 2017 to February 2018 to collect the above mention list of indicators related to agriculture sector for the year 2017, unlike the previous year where it was conducted biannually. The shift from biannual to annual sample survey was considered after the feedbacks and comments received from the field staff. This is the first ever agriculture sample survey conducted by the survey section under the Statistics Division (RSD), Directorate Services, MoAF with the support from district and field staffs of the Department of Agriculture.

2. Objectives

The objectives of the survey are:

- The immediate objective is to generate data needed for preparation of the plans, programs and to assess the achievements.
- To establish reliable information on crop production and land use for planning and monitoring of agriculture development programmes.
- To collect information on indicators like annual crop production, yield and agricultural engaged area, fruit crop production and trees estimates etc...
- Prepare time series data of land use and agriculture production trend.

3. Sampling Frame

The Household (HH) listing is done by the Gewog (sub district) agriculture extension officers. The Gewog agriculture extension officer annually submits the updated Household listing to the Dzongkhag. Then, the Dzongkhag validates and submit complied HHs list to the Department.

For 2017 annual agriculture sample survey the 2015 and 2014 household listings were used as a frame and only for few sub district / gewogs the house hold lists were updated as per the need. The household list frame used for the sample survey was also validated through the agriculture sector frame items collected in the latest Population and Housing Census for Bhutan (PHCB).

Format for the annual agriculture sample survey HHs listing

Sl.No	Name of head of the HHs	Village	H.no	T. no	Land cultivated/ not cultivated	If Cultivated		Land left fallow		Land leased out		Land leased in	
						WLC	DLC	WLF	DLF	WLO	DLO	WLI	DLI
1	Pema	Benzibee	Ka-3-42	198	LC		11.37		4.63				
2	Jangchub	Benzibee	KA-3-39	106	LC		8.76		10.59				
3	Dolkar	Benzibee	KA-3-41	231	NC			3.7		1.5			
4	Sangay	Benzibee	KA-3-40	199	LC		14.87		7.93				

With the information collected using the above mentioned HHs listing format for the sample survey, the HHs which are engaged only in agriculture activities i.e. LC HHs (Land cultivating HHs) were only included and NC HHs (Land not cultivating HHs/ empty HHs / Gungtongs) were excluded from the list in order to reduce the non-response / empty questionnaires.

The agriculture land utilized area information collected with the above list was used as indicator/auxiliary information to come up with an appropriate sample size for the survey.

4. Survey Design

Questionnaire

The 2017 agriculture sample survey questionnaire is an improved version of 2016. A major reform was made to the questionnaire after close consultation with the relevant stake holders and field staff. The changes are under demography with additional questions to capture data related to education level and occupation. Under the land utilization, new questions were added to capture information related to land under irrigation by land types. A new chapter on input use was also included.

Sample size

Given that geographical distribution of crops in Bhutan is based on the different ecological and climatic zones; it is not feasible to produce precise survey results for all crops in each gewog/sub district level. This is because agriculture has many indicators to be estimated like annual crop production, yield, crop area and fruit trees etc... Thus, it was difficult to come up with an optimum sample size which could give precise and unbiased efficient estimates. Also, the farmers in Bhutan practice conventional mix farming system with small land holdings.

For 2017 annual sample survey the 2014 sample size formulae was adopted and improved using additional information gathered in previous survey, using the information collected on agriculture utilized areas of farming households at Gewog (sub district) level as an indicator for sample size calculation. Additionally, the sample size was also adjusted at the gewog level domain using the variation of number of various crops grown within a gewog.

The formulae given below were used for sample size calculation

The initial sample size $n_0 = \left(\frac{Z*100*\text{CV area}}{P} \right) \wedge 2$

Here,

n_0= *is the initial sample size*

Z= is the statistic that defines the level of confidence desired, at 95 Confidence Interval the value of z = 1.96

C.V= non percentage C.V (coefficient of variation) of the agriculture utilized area was taken for this survey.

Non percentage C.V= SD area / $\bar{x}$ area

P = the value of population proportion "p" or Margin of error is set at 15 i.e. 0.15 at gewog level.

The final sample size is given by,

Using Population correction factor we have:

$$n = \frac{n_0}{(1+(n_0/N))}$$

Were, N= Population size / total farming Households.

With the above described formulae, the sample size at gewog level was determined for all the 205 gewogs in 20 Dzongkhags.

Sampling design

The annual agriculture surveys attempt to collect data on more than 60 indicators related to cereal crops, horticulture crops, oil seeds, spices, vegetables and others. A greater effort is also made using the same survey to generate statistics on crop utilization, farm gate price and income, loss in area and production due to crop damage by both the natural and non-natural calamities and also coping mechanisms. The estimates are expected to be reliable with greater accuracy at Dzongkhag level and also to some extent at the Gewog level. The existing survey design has good scope to provide reliable estimates at the District/ Dzongkhag level.

A **stratified uni-stage sampling design** was adopted where the farming households within the Gewogs are selected using **circular systematic selection** approach. All the 20 Districts and 205 Gewogs/ sub Districts were completely enumerated.

5. Data Collection, processing & analysis

For 2017 Agriculture sample survey the data collection was carried out from 20th December 2017 to February 2019. The agriculture data was collected for the calendar year 2017.

The survey section under RNR statistics division coordinated and monitored the overall data collection activity. For this survey the assistant district agriculture officers (ADAOs) who serve as the data manager where used as a supervisor and field agriculture extension officers as an enumerator. The whole country was divided into four regions east, west, centre and south. For timely data collection and to speed up the whole process three teams where formed at the RSD. These teams visited and trained district agriculture sector officials of the west, centre and southern region on use of questionnaire for data collection and other data collection modality. For eastern region a one-day training of trainers (ToT) were provided for six gewog agriculture extension officers that were attached for internship with the department of agriculture, head office, Thimphu. These six gewog agriculture extension officers in return trained personals within their respective Dzongkhags on data collection.

The sample survey data collected was entered and processed using a database developed in CSPRO 7 version software. The database was developed by the officials of RNR statistics division. In the process of briefing district and field people on data collection modality using the agriculture sample survey questionnaire, they were also trained on use of CSPRO database for data entry, cleaning and processing.

The data entry and processing was carried out at the Gewogs and Dzongkhags by the Dzongkhag Agriculture Sector Officials in the month of March 2018. The survey section under RSD compiled the raw data from 20 districts and 205 gewogs. In the month of April, a thorough data cleaning was carried out by the survey section. The cleaned data were merged and made ready for analysis and tabulation.

The data analysis and report writing was conducted in the month of May 2018 by the survey section using STATA 15 original version. The weight estimation procedure was used to represent the estimates of population from the sample survey. Therefore, it is necessary to multiply the data by a sampling weight, or expansion factor. The basic weight for each sample household would be equal to the inverse of its probability of selection. The sample design for the agriculture survey 2017 was a self-weighting within stratum, meaning that all the sampled or the enumerated households within a gewog will have the same weight.

Adjustment for non-response/ Non-response Weight

In order to adjust for the loss of representativeness caused by non-responding households, the weight of the responding units **(*Wt_Eh*)** was increased by deploying the following formulae. It is the reciprocal/inverse of the percentage responding units from the sample.

$$\textit{Non response Weight / } W_{nr} = \frac{1}{Eh / Sh} \Rightarrow \boxed{\frac{Sh}{Eh}}$$

Where: *Sh = Sampled households in the gewog*
Eh= Enumerated households in the gewog

Design Weight / Weighting for probability of sample selection

The design weight or base weight is the inverse of probability of selection of the sample.

Based on the Circular systematic sampling design, the probability of selection for the sample households in a gewog was calculated as follows:

$$\textit{Design weight/Base weight/ } Wd = K \Rightarrow \boxed{\frac{Nh}{Sh}}$$

Where: *Nh = Total households in the gewog*
Sh = Sampled households in the gewog

Therefore the final weight becomes / $\mathrm{FW} = Wd \times Wnr$

(Or)

The Final WEIGHT = Design Weight × Non response Weight

Finally, the estimation for observed values in the Gewogs has been obtained by multiplying each sample data with the final weight (FW) calculated for each Gewog.

Therefore, the estimate of a *total value* (such as total production) is the product of the final weight, FW and the value, yi, for each responding unit, summed over all responding units:

$$\hat{\mathrm{Y}} = \sum_{i=1}^{n} \mathrm{FW} \times yi$$

6. Survey Coverage and Scope

From the new updated total rural farming households (area list frame gathered from gewog extension centres) of 60,646, at least 15,396(25 on an average) were selected for the enumeration in this survey. The coverage was 15,064 (98%) of the total sampled households of 15,396. The non-response or the absentees stood at 2% (332) of the farming households selected for the survey. With the updated household list used for 2017 sample survey the non-response rate has reduced to 2% as compare to 5% in 2016.

Table 1: Coverage of Rural housheholds by the survey 2017

Dzongkhag	Total HHs (Sample frame) Nh	Sample HHs/Sh	Percent Sampled	Enumerat-ed HHs (Eh)	Percentage Coverage
Bumthang	1,151	308	27	308	100
Chhukha	2,889	788	27	768	97
Dagana	4,461	1,081	24	1,017	94
Gasa	487	174	36	174	100
Haa	1,300	475	37	469	99
Lhuentse	2,332	641	27	631	98
Mongar	5,363	1,323	25	1,291	98
Paro	2,886	760	26	724	95
Pemagathsel	2,934	727	25	647	89
Punakha	3,094	834	27	810	97
Samdrupjongkhar	3,844	771	20	771	100
Samtse	5,867	1,191	20	1,188	100
Sarpang	3,592	867	24	849	98
Thimphu	967	414	43	395	95
Trashigang	6,984	1,300	19	1,297	100
Trashiyangtse	2,554	589	23	587	100
Trongsa	1,705	386	23	387	100
Tsirang	2,813	916	33	928	101
Wangdue	3,546	1,198	34	1,179	98
Zhemgang	1,877	653	35	644	99
Total	**60,646**	**15,396**	**25**	**15,064**	**98**

PART 2

NATIONAL LEVEL STATISTICS

7. Demographic Characteristics

Table 2: Farming household member residing on farm in 2017

Dzongkhag	Average re-sponding age	Responding sex in %		0-5 years		6-14 years		15 -64 years		Above 65 years	
		Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
Bumthang	44	21	79	197	169	401	338	1,282	1,630	288	361
Chhukha	47	60	40	250	255	734	601	4,008	4,285	629	605
Dagana	45	59	41	419	371	1,198	1,069	5,740	5,767	752	595
Gasa	47	56	44	30	38	78	68	556	705	55	63
Haa	47	46	54	143	119	231	198	1,426	1,632	262	265
Lhuentse	50	34	66	442	313	906	772	2,598	3,062	552	631
Mongar	43	38	62	888	867	1,856	1,700	6,368	7,658	1,146	953
Paro	50	39	61	244	295	756	651	3,370	4,107	859	844
P/gatshel	50	55	45	225	211	480	632	2,892	3,207	765	656
Punakha	48	31	69	381	250	990	791	3,559	4,170	689	660
S/jongkhar	47	66	34	381	342	900	837	4,355	4,596	720	542
Samtse	49	76	24	561	536	1,587	1,376	8,830	8,235	1,555	1,128
Sarpang	47	59	41	376	277	1,071	775	4,370	4,444	993	654
Thimphu	48	39	61	84	78	196	235	1,200	1,479	310	198
Trashigang	49	55	45	670	551	1,749	1,338	7,060	8,043	1,393	942

T/yangtse	47	49	51	233	224	548	588	2,593	3,011	470	404
Trongsa	42	32	68	97	81	570	492	2,265	2,839	397	309
Tsirang	50	69	31	241	176	648	511	3,746	3,417	660	438
Wangdue	45	37	63	533	483	1,004	829	4,152	5,235	869	913
Zhemgang	46	51	49	256	144	157	146	2,144	2,345	525	401
Bhutan	**47**	**49**	**51**	**6,651**	**5,780**	**16,059**	**13,947**	**72,516**	**79,866**	**13,889**	**11,563**

Table 3: Dzongkhag wise estimated total population residing on farm by sex in 2017

Dzongkhag	Male Total	Female Total	Population Total
Bumthang	2,168	2,498	4,665
Chhukha	5,621	5,746	11,368
Dagana	8,109	7,802	15,911
Gasa	719	873	1,592
Haa	2,062	2,215	4,277
Lhuentse	4,498	4,778	9,276
Mongar	10,258	11,178	21,436
Paro	5,229	5,897	11,126
Pemagatshel	4,363	4,706	9,069
Punakha	5,618	5,872	11,489
Samdrupjongkhar	6,356	6,317	12,673
Samtse	12,534	11,275	23,810
Sarpang	6,809	6,150	12,960
Thimphu	1,790	1,990	3,780
Trashigang	10,873	10,874	21,747
Trashiyangtse	3,844	4,227	8,071
Trongsa	3,329	3,721	7,050
Tsirang	5,295	4,542	9,837
Wangdue	6,558	7,460	14,017
Zhemgang	3,081	3,036	6,117
Total	**109,115**	**111,156**	**220,271**

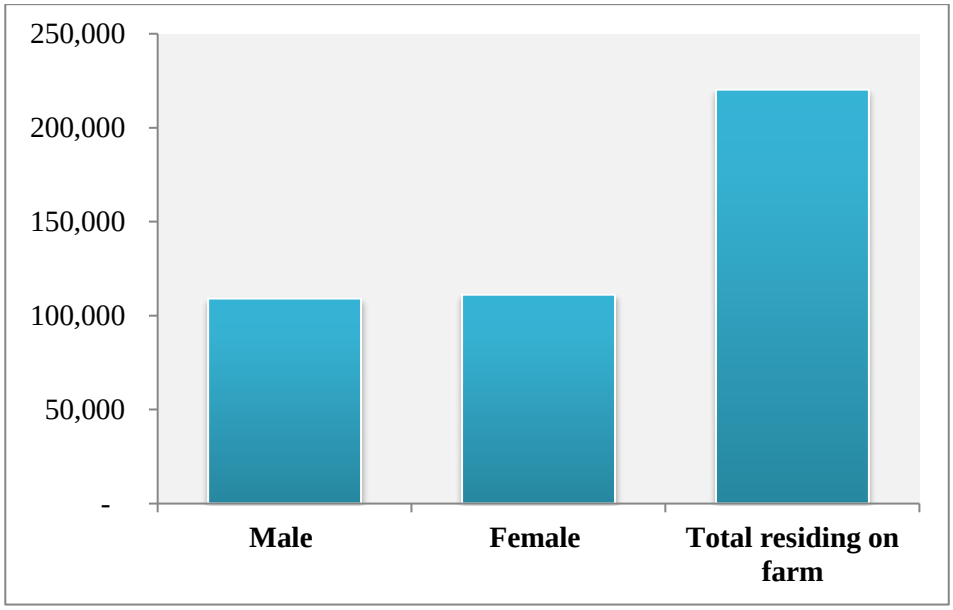

Figure 1: Total population residing on farm by sex, 2017

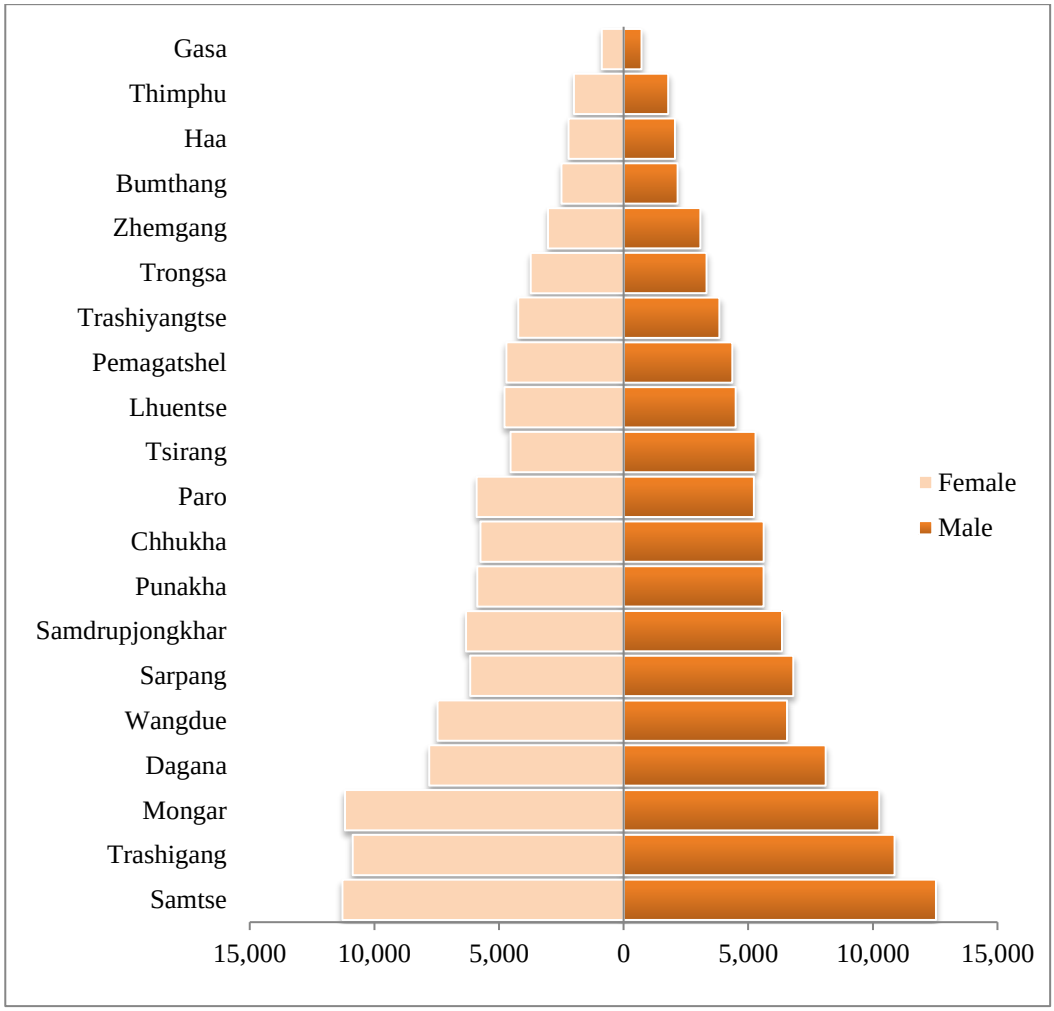

Figure 2: Dzongkhag wise population residing on farm pyramid by sex, 2017

Table 4: Proportion of the household members presently living and eating together in the farm households by education level

Dzongkhag	Never Attended School	Class PP to 6	Class 7 - 10	Class 11 - 12	Bachelor's Degree	Masters/PhD Degree	Monastic education
Bumthang	60	18	14	5	2	0	1
Chhukha	64	19	13	3	1	0	1
Dagana	62	21	12	3	1	0	1
Gasa	69	19	8	1	0	0	2
Haa	55	21	13	4	1	0	7
Lhuentse	65	19	10	3	1	0	1
Mongar	66	18	10	3	0	0	3
Paro	52	18	15	8	4	0	3
P/gatshel	67	15	10	4	0	0	3
Punakha	62	18	11	4	1	0	2
S/jongkhar	67	15	11	2	0	0	3
Samtse	61	21	12	4	1	0	0
Sarpang	56	23	14	4	1	0	1
Thimphu	51	22	15	7	3	0	3
Trashigang	71	17	7	2	0	0	2
Trashiyangtse	65	17	13	2	0	0	2
Trongsa	55	19	14	6	2	0	3
Tsirang	63	19	12	4	1	0	0
Wangdue	67	20	7	2	1	0	3
Zhemgang	78	9	6	2	0	0	4
Total	**63**	**18**	**11**	**4**	**1**	**0**	**2**

Table 5: Proportion of the household members presently living and eating together in the farm households by Occupation

Dzongkhag	Farmer	Student	Gom chen	Shop-keeper	Taxi driver	Others
Bumthang	69	19	1	0	0	10
Chhukha	77	17	0	0	0	5
Dagana	72	20	1	1	0	6
Gasa	82	13	0	1	0	3
Haa	80	14	1	1	0	5
Lhuentse	69	25	1	0	0	5
Mongar	71	22	3	0	0	4
Paro	68	18	1	1	1	10
P/gatshel	72	17	4	1	0	6
Punakha	70	22	0	0	0	7
S/jongkhar	71	18	4	1	0	5
Samtse	75	18	0	1	0	6
Sarpang	71	20	1	1	1	7
Thimphu	65	18	1	1	0	15
Trashigang	75	17	3	0	0	4
Trashiyangtse	77	16	2	1	0	4
Trongsa	69	25	1	0	0	4
Tsirang	79	15	0	1	1	5
Wangdue	75	15	1	1	0	9
Zhemgang	88	5	1	1	0	5
Total	**74**	**18**	**1**	**1**	**0**	**6**

8. Population of Farmers

Table 6: Farmers Population in 2017 by sex

Dzongkhag	Male	Female	Total Farmer
Bumthang	1,386	1,855	3,241
Chhukha	4,024	4,539	8,564
Dagana	5,495	5,754	11,248
Gasa	552	741	1,292
Haa	1,489	1,771	3,261
Lhuentse	2,873	3,492	6,365
Mongar	6,425	8,385	14,810
Paro	3,273	4,221	7,494
Pemagatshel	2,697	3,616	6,313
Punakha	3,601	4,288	7,890
Samdrupjongkhar	4,123	4,790	8,913
Samtse	9,015	8,444	17,458
Sarpang	4,388	4,614	9,001
Thimphu	1,141	1,332	2,473
Trashigang	7,473	8,595	16,068
Trashiyangtse	2,690	3,225	5,915
Trongsa	2,197	2,659	4,856
Tsirang	5,042	3,524	8,566
Wangdue	4,591	5,877	10,467
Zhemgang	2,637	2,716	5,353
Total	**75,111**	**84,437**	**159,548**

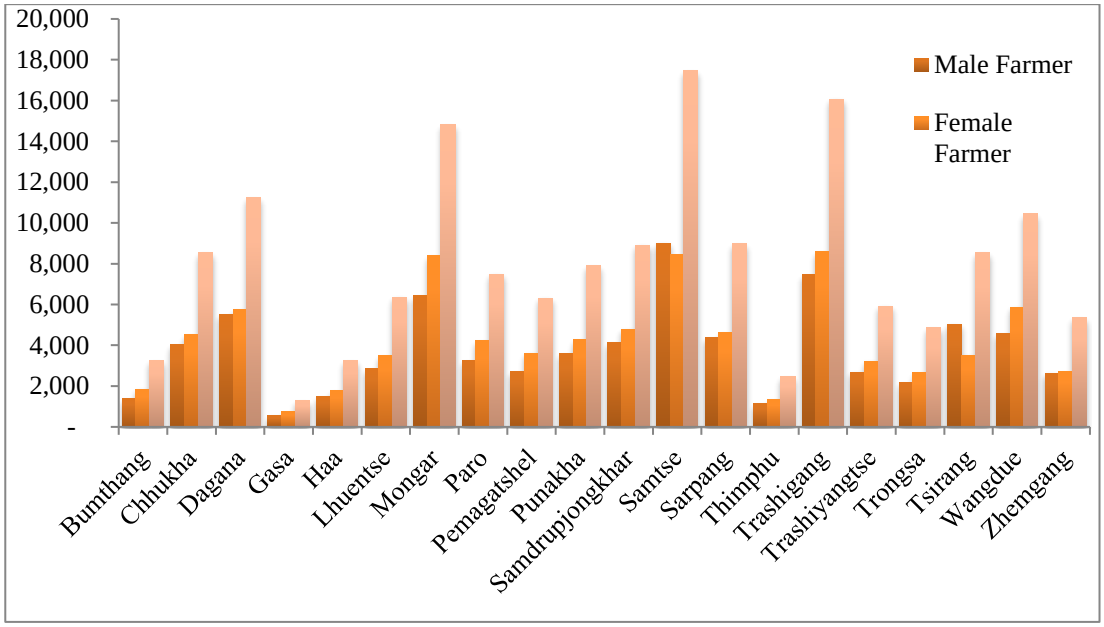

Figure 3 : Population of farmers in 2017 by sex

Table 7: Farmers Population in 2017 by age interval

Dzongkhag	0-5 years	6-14 years	15-64 years	Above 65 years
Bumthang	22	24	2,566	629
Chhukha	243	87	7,021	1,213
Dagana	298	195	9,430	1,326
Gasa	26	41	1,109	116
Haa	6	23	2,716	516
Lhuentse	434	125	4,662	1,143
Mongar	830	362	11,652	1,966
Paro	116	87	5,716	1,575
Pemagatshel	135	82	4,757	1,338
Punakha	167	136	6,261	1,326
Samdrupjongkhar	243	156	7,355	1,159
Samtse	420	274	14,107	2,657
Sarpang	269	107	7,028	1,597
Thimphu	10	16	1,971	476
Trashigang	547	301	13,043	2,177
Trashiyangtse	166	100	4,792	857
Trongsa	75	53	4,032	697
Tsirang	202	113	7,029	1,221
Wangdue	239	179	8,292	1,756
Zhemgang	191	55	4,223	884
Total	**4,639**	**2,517**	**127,762**	**24,630**

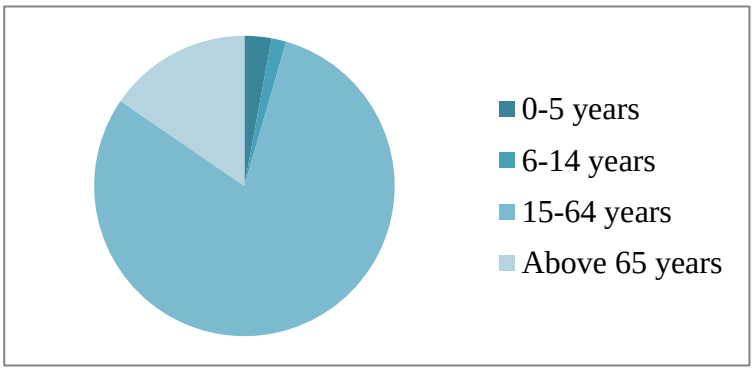

Figure 4: Population of farmers in 2017 by age interval

Table 8: Farmers Population in 2017 by education level attended

Dzongkhag	Never attended school	Class PP to 6	Class 7 to 10	Class 11 to 12	Bachelors Degree	Masters/ PhD Degree	Monastic Education
Bumthang	2,371	296	384	129	8		53
Chhukha	6,878	759	747	100	14	8	58
Dagana	9,186	1,194	661	129	18	10	50
Gasa	1,043	166	55	3			25
Haa	2,073	488	357	90	17		235
Lhuentse	5,615	332	286	83	2		47
Mongar	13,107	897	578	111	13	10	95
Paro	5,234	894	780	340	82	5	159
P/gatshel	5,529	384	233	57	13		96
Punakha	6,526	647	427	86	8	3	193
Sjongkhar	7,837	536	427	36	16	15	45
Samtse	13,670	2,214	1,249	228	42	30	25
Sarpang	6,642	1,312	757	218	24	5	43
Thimphu	1,709	434	200	64	8	2	56
T/gang	14,228	1,106	434	149			151
T/yangtse	4,968	408	410	40		4	85
Trongsa	3,754	552	279	108	29	17	118
Tsirang	6,898	872	601	116	34	3	42
Wangdue	8,363	1,220	455	121	18		290
Zhemgang	4,573	215	287	69	6	3	200
Total	**130,205**	**14,927**	**9,608**	**2,275**	**352**	**115**	**2,066**

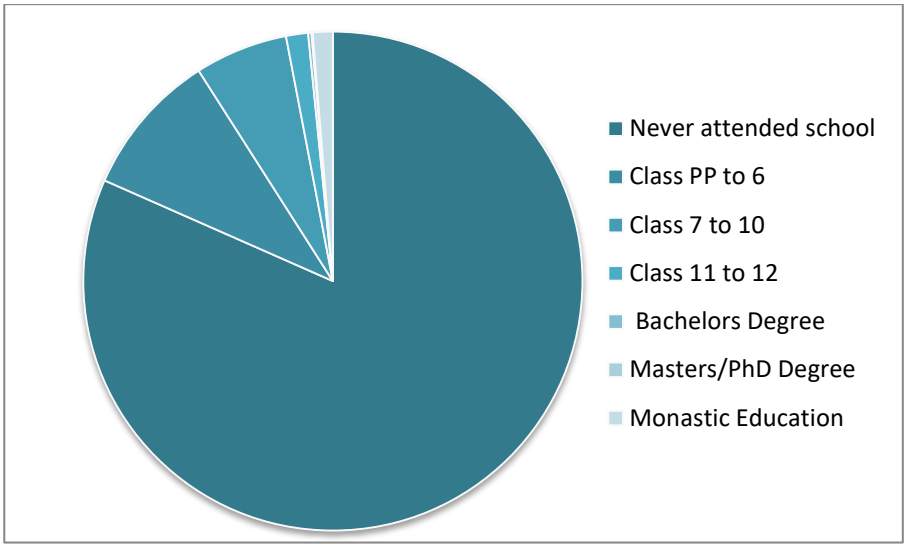

Figure 5: Population of farmers in 2017 by education level attended

9. Land Utilization 2017

Dry land

The survey estimated that in 2017, the total operational was 145,838 acres. The operational dryland holding is defined as:

Operational land holdings= Kamzhing own land cultivated + Kamzhing fallow + Kamzhing leased in.

Since, only the farming households which are engaged in agriculture activities are included in the agriculture sample survey 2017 excluding the Gungtong (empty HHs) and HHs having land but not engaged in agriculture activities, the Kamzhing/Dry land left fallow could be much higher than the estimated figure below.

A total of **46,704 acres** were estimated to have left fallow.

Table 9: Dryland utilization by farming households in 2017 (acres)

Dzongkhag	Own Land	Leased in	Irrigated	left fallow	Total Operational holdings
Bumthang	1,956	211	226	4,593	6,760
Chhukha	9,652	212	618	707	10,570
Dagana	10,594	182	2,348	1,228	12,003
Gasa	460	16	-	64	540
Haa	2,631	49	528	826	3,506
Lhuentse	2,989	89	197	2,703	5,781
Mongar	7,651	252	738	5,219	13,123
Paro	4,164	145	1,070	595	4,903
P/gatshel	5,522	95	567	6,444	12,061
Punakha	1,013	21	153	428	1,461
S/jongkhar	6,764	113	-	2,971	9,848
Samtse	13,718	412	601	2,525	16,655
Sarpang	7,180	214	565	1,141	8,535
Thimphu	897	119	781	113	1,130
Trashigang	4,588	313	563	7,039	11,940

Trashiyangtse	1,902	92	400	2,555	4,549
Trongsa	1,191	125	558	2,477	3,793
Tsirang	5,611	161	1,296	661	6,434
Wangdue	3,257	327	860	879	4,463
Zhemgang	4,244	2	18	3,535	7,780
Total	**95,983**	**3,151**	**12,089**	**46,704**	**145,838**

Wetland

The wetland left fallow could be much higher than the one estimated below as the survey excludes the gungtong (empty hhs), also households which are re-siding at their place but not engaged in any agriculture activities, thus, keeping their lands fallow during the survey period. The gungtongs and those house-holds not engaged in agriculture activities are excluded to minimize the effect over the estimates due to the occurrence of non-response by default.

The total wetland harvested area includes the wetland leased in by farming households.

Table 10: Wetland utilization in 2017 by farming households (acres)

Dzongkhag	Harvested (inclusive of leased in)	Leased in	Irrigated	Fallow	Total Opera-tional holdings
Bumthang	160	5	18	6	166
Chhukha	2,333	51	1,139	128	2,461
Dagana	3,906	224	2,782	485	4,392
Gasa	137	10	66	33	170
Haa	179	-	170	89	268
Lhuentse	2,173	236	1,288	470	2,643
Mongar	1,076	84	436	385	1,462
Paro	3,459	712	3,209	211	3,670
P/gatshel	28	6		189	217
Punakha	7,339	1,490	4,965	390	7,730
S/jongkhar	2,368	335	1,827	99	2,467

Samtse	6,104	731	1,633	1,024	7,127
Sarpang	4,255	517	2,218	867	5,122
Thimphu	592	29	240	17	609
Trashigang	3,671	285	929	533	4,204
T/yangtse	2,301	159	1,321	910	3,211
Trongsa	1,738	395	1,228	384	2,121
Tsirang	3,265	222	2,035	538	3,803
Wangdue	5,070	787	3,779	605	5,675
Zhemgang	1,214	9	411	455	1,669
Bhutan	**51,368**	**6,288**	**29,694**	**7,820**	**59,188**

10. Crop Production

Table 11: Cereal, Oilseeds, Spices, Legumes & Pulses and Roots/Tubers

Crop Type	Crop Name	Harvested Area (Acres)	Production (MT)	Yield (Kgs/acre)
Cereal	Paddy	51,368	86,385	1,682
	Maize	66,042	94,052	1424.12
	Wheat	5,259	3,833	729
	Barley	3,421	2,005	586
	Buckwheat	5,817	3,480	598
	Millet	3,623	1,739	480
	Amarantha	43	3	66
	Quinoa	70	9	132
	Cereal Total	**135,643**	**191,506**	
Oil seeds	Mustard	2,697	969	359
	Groundnut	437	246	563
	Soya bean	867	204	235
	Sunflower	23	3	138
	Pyrilla/ Naam	249	108	435
	Niger	37	6	164
	Oil Seeds Total	**4,310**	**1,536**	
Spices	Cardamom	13,880	2,245	162
	Ginger	3,809	7,859	2,063
	Spices Total	**17,422**	**10,104**	
Legumes & Pulses	Rajma Bean	2,236	932	417
	Mung Bean	922	298	323
	Legumes & Pulses Total	**3,158**	**1,230**	
Roots & Tubers	Sweet Potato	203	80	394
	Tapioca	320	306	959
	Roots & Tubers Total	**522**	**386**	

Table 12: Vegetable and Potato Production in 2017

Crop Name	Harvested Area(acres)	Production (MT)	Yield (Kg/Acre)
Asparagus	201	79	392
Chilli	7,571	13,606	1,797
Cabbage	3,551	10,562	2,974
Cauliflower	1,604	3,575	2,229
Carrot	529	787	1,487
Radish	3,533	6,307	1,785
Turnip	1,804	13,051	7,236
Beans	3,739	5,273	1,410
Green Peas	1,003	859	856
Tomato	320	383	1,198
Broccoli	1,056	1,371	1,298
Eggplant	751	643	857
Lady Finger	45	26	568
Green leaves	3,492	4,153	1,189
Onion Bulb	594	489	824
Garlic	1,441	708	491
Tree Tomato		404	
Cultivated Mushroom		122	
Cucumber		1,948	
Pumpkin		3,171	
Squash		1,755	
Gourds		278	
Vegetable Total		**69,549**	
Potato	**12,824**	**57,223**	**4,462**

11. Fruit Production

Table 13: Fruits Production

Commodities	Total Trees (No's)	Bearing Trees (No's)	Production (MT)	Yield (Kgs/bearing tree)
Apple	321,928	258,215	8,039	31
Mandarin	1,539,076	864,608	28,017	32
Areca nut	1,678,321	895,579	9,342	10
Mango	38,311	17,273	530	31
Pear	35,141	24,423	1,510	62
Peach	32,472	25,865	1,124	43
Plum	11,735	9,571	482	50
Walnut	16,042	10,646	239	22
Jackfruit	4,297	3,088	528	171
Guava	44,694	36,189	1,084	30
Papaya	9,949	7,853	278	35
Pomegranate	6,019	4,500	74	16
Litchi	44,076	10,456	313	30
Persimmon	5,632	4,305	152	35
Banana	458,651	161,000	3,113	19
Date Plum (Gendum)	1,177	1,128	23	20
Avacado	4,219	1,455	43	30
Apricot	1,502	360	8	23
Passion Fruit			94	
Pine Apple			72	
Total			**54,656**	

12. Crop Utilization for 2017

Table 14: Utilization of Cereals, Spices, Legumes & Pulses, Oil seeds, Cucurbits and Roots & Tuber

Crop Type	Crop Name	Quantity Sold(MT)	Mean Unit price (Nu/Kg)	Median Unit price (Nu/Kg)	Amount Earned (Million Nu)
Cereals	Paddy	442	82	63	36.38
	Maize	1,124	20	17	22.48
	Wheat	34	61	70	2.06
	Buckwheat	48	49	48	2.37
	Barley	9	53	47	0.45
	Quinoa	2	125	100	0.3
	Millet	6	38	28	0.23
Oil seeds	Mustard	60	29	25	1.74
	Sunflower	1	200	200	0.14
	Soya bean	6	54	50	0.31
	Groundnut	64	79	80	5.08
Pulses	Rajma Bean	146	86	75	12.62
	Mung Bean	63	94	92	5.95
	Gram	0.5	100	100	0.05
Spices	Garlic	136	95	100	12.9
	Ginger	3,970	44	46	175
	Pepper	3	350	300	0.99
	Xaythoxyllum	0.13	400	400	0.05
	Cardamom	1,932	634	500	1,224.06
Roots & Tubers	Sweet Potato	1	39	40	0.03
	Collocacia	35	31	25	1.11
Cucurbits	Cucumber	345	44	30	15.29
	Pumpkin	139	19	12	2.6
	Squash	130	13	10	1.66
	Gourd	60	30	23	1.8
Total Amount Earned					**1,526**

Table 15: Utilization of Vegetables and Potato

Commodities	Quantity Sold (MT)	Mean Unit Price (Nu/Kg)	Median Unit Price (Nu/Kg)	Amount Earned (Million Nu)
Asparagus	40	156	155	6
Green Chilli	3,462	99	84	343
Cabbage	2,582	22	20	57
Cauliflower	429	65	50	28
Carrot	385	41	40	16
Radish	1,131	21	15	24
Turnip	5	25	20	0.1
Beans	955	53	50	51
Dallay Chilli	25	221	200	6
Green Peas	1	46	40	0.1
Tomato	59	44	40	3
Potato	28,400	25	21	710
Eggplant	105	33	30	3
Green leaves	713	56	50	40
Broccoli	270	56	50	15
Tree Tomato	25	49	50	1
Onion	32	69	65	2
Brinjal	31	33	30	1
Mushroom	12	356	325	4
Coriander	3	44	10	0.1
Total Amount Earned				**1,310**

13. Fruit Utilization for 2017

Table 16: Fruits Utilization

Commodities	Quantity Sold(MT)	Mean Unit Price (Nu/Kg)	Median Unit Price (Nu/Kg)	Amount Earned (Million Nu)
Apple	3,077	34	33	105
Areca nut	7,797	72	30	561
Apricot	1	55	50	0.1
Avocado	14	246	250	3
Coconut	0.4	30	30	0.01
Guava	69	43	35	3
Lemon	15	53	53	1
Litchi	116	43	40	5
Mandarin	17,271	34	38	480
Papaya	39	47	45	2
Passion fruit	1	43	25	0.04
Peach	1,327	48	50	64
Pear	467	47	43	22
Persimmon	17	64	50	1
Pine Apple	14	28	28	0.4
Plum	18	56	40	1
Pomegranate	3	52	30	0.1
Sugarcane	15	45	40	1
Walnut	24	118	63	3
Date Plum	0.1	69	69	0.01
Water Melon	10	50	48	1
Total Amount Earned				**1,254**

14. HHs Cash Income

Table 17: Cash income from forest edible products and other activities in 2017

Household Cash income from forest edible products and other activities	Amount Earned (Nu)
Bamboo products (bamboo shoot)	2.8
Cane products (cane shoot (patsha))	1.6
Fern (Nakay)	3.7
Damru	0.7
Namna/Namda/Namsaa	0.3
Medicinal Aromatic Plants_herbs	25
Wild Mushrooms	12
Cordyceps	190
Weaving (Weaving and sale of woven products)	94
Pottering (Carrying Luggage and other loads)	41
Buisness/Contract works	1,100
Part time skilled labour (eg. Carpentry, Wood Crafting, traditional painting)	404
On-farm labour Wages	297

Table 18: Cash income from processed cereal products (Processed from own produced crop)

Commodities	Quantity produce (MT)	Quantity Sold (MT)	Avg. Unit price (Nu/kg)	Amount Earned (Nu. million)
Tengma	595	357	138	48
Zaw	393	276	71	20
Zawflour (Zaw chee)	3	3	60	0.2
Sip(from rice)	33	10	159	1.5
Makhu	9	8	100	0.8
Alcohol	1,481	331	35	12
Animal feed	2,402			

Table 19: Crops from own production sold in last one year

Commodities	Quantity sold (MT)	Unit Price (Nu/kg)		Amount Earned (Million Nu)
		Mean	Median	
Rice	1,553	97	69	150.05
Kharang	3	60	68	0.17
Banana chips	5	50	55	0.25
Dry Chilli	3	690	600	2.17
Dry Persimmon	1	50	50	0.04
Gundurug	0.02	300	300	0.01
Green Tea	75	2,800	2,800	210.00
Total Amount Earned				**362.69**

15. Food Security

Table 20: Proportion of farming households by self-sufficiency of food (agriculture crops) for 2017

Dzongkhag	Enough	Not Enough
Bumthang	65	35
Chhukha	66	34
Dagana	52	48
Gasa	26	74
Haa	22	78
Lhuentse	80	20
Mongar	95	5
Paro	83	17
Pemagatshel	73	27
Punakha	90	10
Samdrupjongkhar	77	23
Samtse	40	60
Sarpang	55	45
Thimphu	36	64
Trashigang	74	26
Trashiyangtse	64	36
Trongsa	49	51
Tsirang	45	55
Wangdue	72	28
Zhemgang	71	29
Bhutan	**62**	**38**

Table 21: Food shortage coping mechanism in 2017

Coping Mechanisms adopted	% HHS
Sale of non-wood forest products (NWFP)	3
Sale livestock products	16
Cash remittance from employed members	13
Off-farm activities (weaving, pottering, Business/ Contract works etc.)	16
Borrowed from neighbours (cash or agricultural products)	6
Daily wages (amount earned from working in others field)	8

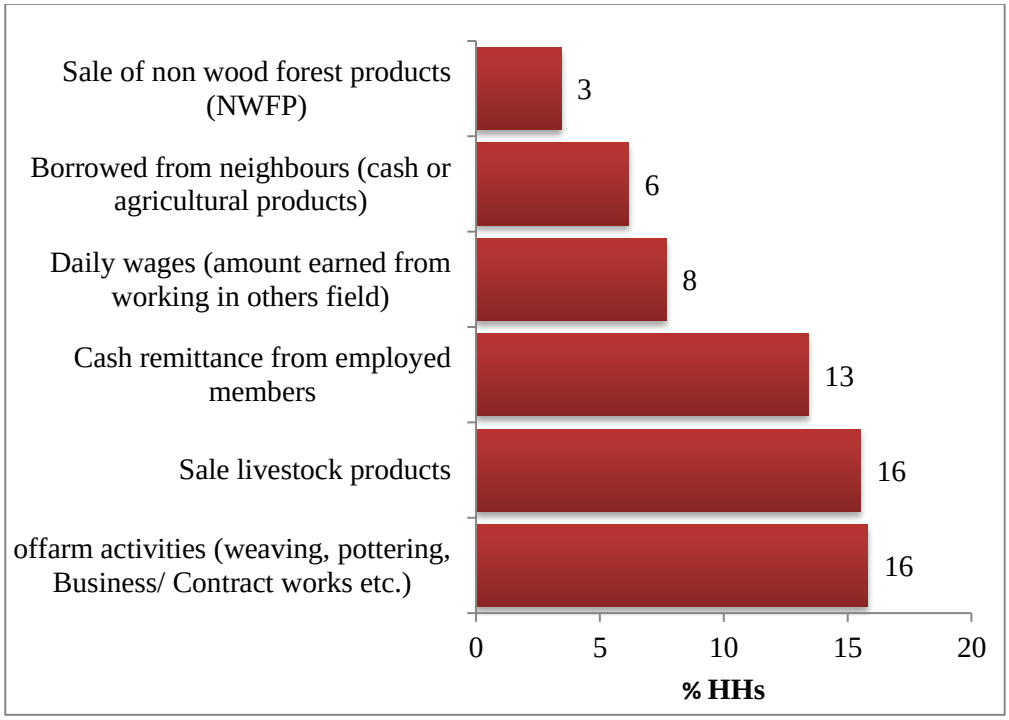

Figure 6: Proportion of HHs using various coping mechanisms to address the food (agriculture crops) shortage in the year 2017

16. Farming Constraints Faced

Table 22: Proportion of HHs affected by the various farming constraints in the year 2017

Farming Constrains Faced	%HHs
Labour shortage	53
Crop damage by wild animals	49
Unproductive land	14
Shortage of land	14
Crop damage by insects/diseases	22
Insufficient irrigation supply	27
Landslides/soil erosion	2
Hail storm/wind	5
Excessive rain	4
Limited access to Markets	12
Drought	4
Limited access to Seeds	5
Limited skills /lack of technology	4
Limited access to tools &equipment	3

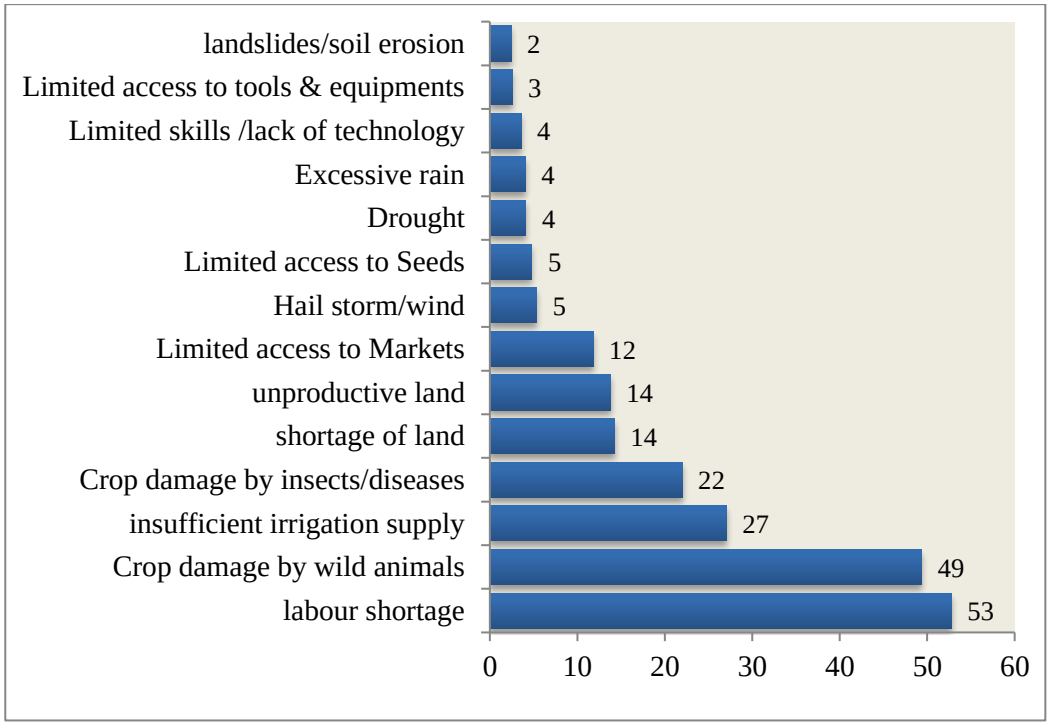

Figure 7: Proportion of farming HHs affected by the various constrains in the year 2017

17. Crop damage by wild animals

Table 23: Estimated Paddy quantity lost to the wild animals

Dzongkhag	Quantity lost (MT)
Bumthang	0.4
Chhukha	32
Dagana	91
Gasa	5
Haa	11
Lhuentse	116
Mongar	11
Paro	56
Pemagatshel	3
Punakha	129
Samdrupjongkhar	45
Samtse	94
Sarpang	143
Thimphu	7
Trashigang	126
Trashiyangtse	61
Trongsa	59
Tsirang	105
Wangdue	132
Zhemgang	58
Total	**1,284**

Table 24: Estimated Maize quantity lost to the wild animals

Dzongkhag	Quantity lost (MT)
Chhukha	93
Dagana	273
Haa	16
Lhuentse	226
Mongar	453
Paro	3
Pemagatshel	170
Punakha	7
Samdrupjongkhar	2,144
Samtse	308
Sarpang	262
Trashigang	334
Trashiyangtse	126
Trongsa	115
Tsirang	499
Wangdue	6
Zhemgang	115
Total	**5,151**

Table 25: Estimated Wheat quantity lost to the wild animals

Dzongkhag	Quantity lost (MT)
Bumthang	4
Haa	8
Paro	2
Punakha	9
Samtse	1
Trongsa	4
Wangdue	8
Zhemgang	0.3
Total	**37**

Table 26: Estimated Barley quantity lost to the wild animals

Dzongkhag	Quantity lost (Mt)
Bumthang	3.7
Dagana	0.01
Haa	0.3
Mongar	1.5
Punakha	0.2
Trashigang	0.3
Trongsa	0.5
Tsirang	0.1
Wangdue	1.4
Total	**8**

Table 27: Estimated Millet quantity lost to the wild animals

Dzongkhag	Quantity lost (MT)
Chhukha	2
Dagana	4
Haa	1
Lhuentse	0.4
Pemagatshel	1
Samdrupjongkhar	5
Samtse	22
Sarpang	19
Trashiyangtse	9
Tsirang	1
Wangdue	0.07
Zhemgang	0.02
Total	**64**

Table 28: Estimated Buckwheat quantity lost to the wild animals

Dzongkhag	Quantity lost (MT)
Bumthang	21
Chhukha	2
Dagana	1.7
Haa	27
Mongar	2
Pemagatshel	0.4
Punakha	4.8
Samdrupjongkhar	4.2
Samtse	0.8
Sarpang	4
Trongsa	8
Tsirang	0.7
Wangdue	0.7
Zhemgang	1
Total	**78**

Table 29: Estimated Vegetable quantity lost to the wild animals

Dzongkhag	Quantity lost (MT)
Chhukha	7
Dagana	22
Gasa	0.2
Haa	44
Lhuentse	11
Mongar	7
Paro	11
Pemagatshel	4
Punakha	6
Samdrupjongkhar	15
Samtse	7
Sarpang	15
Thimphu	2
Trashigang	14
Trashiyangtse	5
Trongsa	10
Tsirang	14
Wangdue	26
Zhemgang	0.7
Total	**221**

Table 30: Estimated Potato quantity lost to the wild animals

Dzongkhag	Quantity lost (MT)
Bumthang	45
Chhukha	109
Dagana	1
Haa	150.5
Lhuentse	20.3
Mongar	71.0
Paro	114.9
Pemagatshel	17.5
Punakha	0.2
Samdrupjongkhar	17.5
Samtse	0.4
Sarpang	0.4
Thimphu	12
Trashigang	330
Trashiyangtse	163
Trongsa	9
Tsirang	2
Wangdue	344
Zhemgang	0.5
Total	**1,407**

18. Crop Guarding

Table 31: Dzongkhag wise estimated average number of days and nights spent in guarding crops from wild animal damages in 2017

Dzongkhag	Average number of days	Average number of nights
Bumthang	30	141
Chhukha	38	39
Dagana	56	52
Gasa	11	10
Haa	19	92
Lhuentse	44	53
Mongar	69	72
Paro	68	78
Pemagatshel	52	63
Punakha	42	60
Samdrupjongkhar	44	45
Samtse	54	39
Sarpang	52	53
Thimphu	13	140
Trashigang	57	60
Trashiyangtse	62	62
Trongsa	76	76
Tsirang	47	60
Wangdue	85	76
Zhemgang	44	69
Total	**48**	**67**

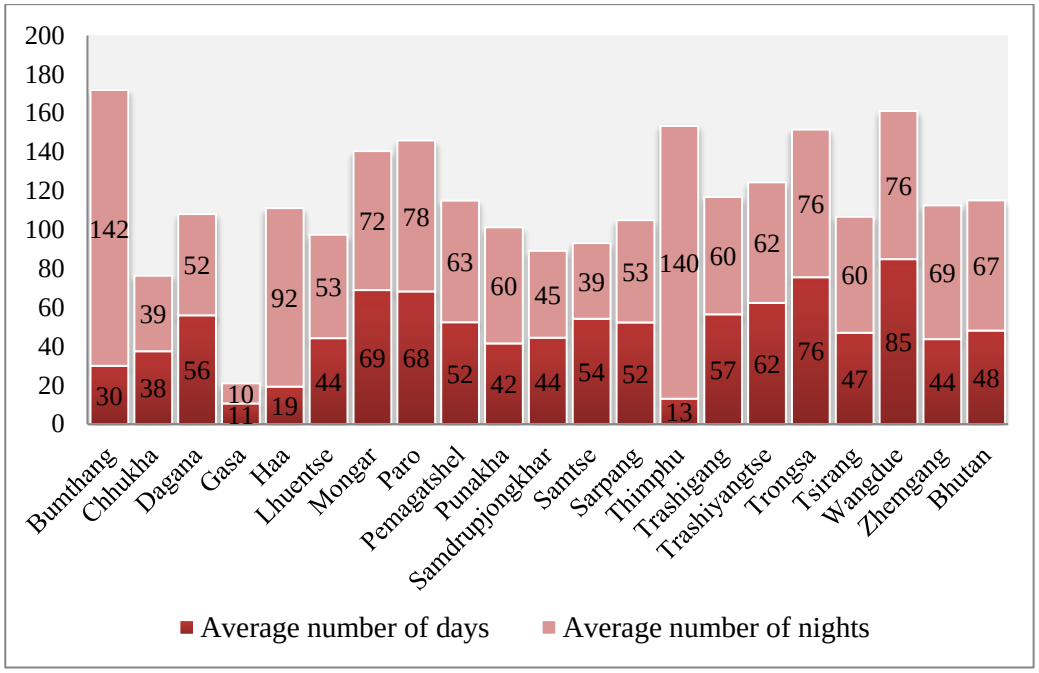

Figure 8: Dzongkhag wise estimated number of days and nights spent in guarding the crops from wild animal's damages

PART 3

DZONGKHAG LEVEL CROP AREA & PRODUCTION STATISTICS

19. Cereal Crops

Table 32: Paddy harvested area (Acres), Production (MT) and Yield (Kgs/Acre)

Dzongkhag	Harvested Area (acre)	Production (MT)	Yield (kgs/acre)
Bumthang	160	266	1,574
Chhukha	2,333	2,400	1,029
Dagana	3,906	5,404	1,383
Gasa	137	306	2,286
Haa	179	224	1,270
Lhuentse	2,173	3,964	1,824
Mongar	1,076	1,231	1,144
Paro	3,459	8,647	2,500
Pemagatshel	28	41	1,464
Punakha	7,339	14,361	1,957
Samdrupjongkhar	2,368	3,739	1,579
Samtse	6,104	9,003	1,475
Sarpang	4,255	6,000	1,410
Thimphu	592	1,491	2,331
Trashigang	3,671	5,882	1,602
Trashiyangtse	2,301	4,118	1,790
Trongsa	1,738	3,887	2,237
Tsirang	3,265	4,930	1,510
Wangdue	5,070	8,836	1,833
Zhemgang	1,214	1,656	1,364
Total	**51,368**	**86,385**	**1,682**

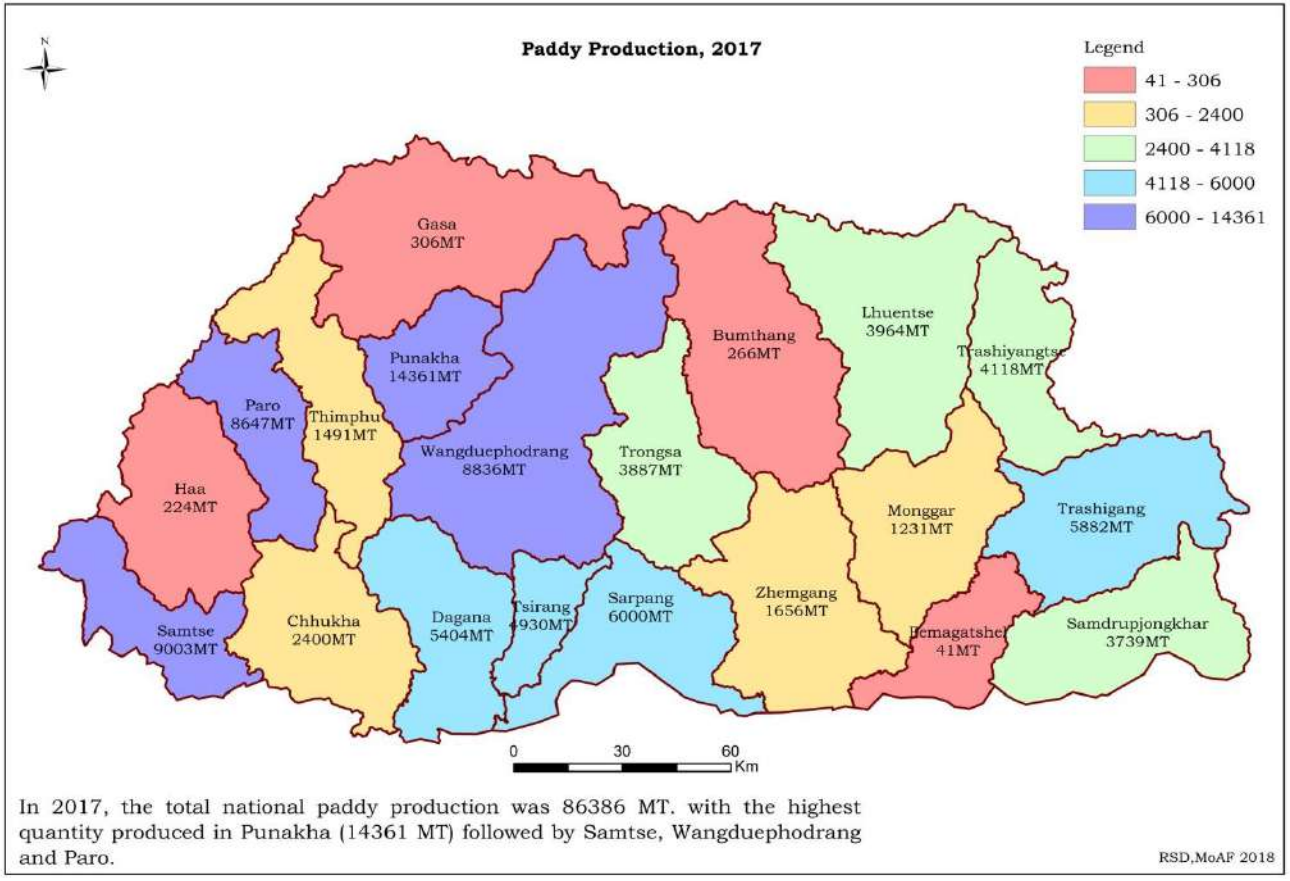

Figure 9 : Dzongkhag wise paddy production in 2017

Table 33: Maize harvested area (Acres), Production (MT) and Yield (Kgs/Acre)

Dzongkhag	Harvested Area (acre)	Production (MT)	Yield (kgs/acre)
Chhukha	3,115	4,012	1,288
Dagana	6,754	6,724	996
Gasa	1	2	1,538
Haa	166	145	878
Lhuentse	2,641	3,949	1,495
Mongar	11,503	15,871	1,380
Paro	24	15	615
Pemagatshel	3,964	4,361	1,100
Punakha	162	318	1,966
Samdrupjongkhar	8,221	9,195	1,118
Samtse	5,195	8,588	1,653
Sarpang	4,008	2,932	732
Thimphu	8	23	2,986
Trashigang	6,997	15,559	2,224
Trashiyangtse	2,165	4,015	1,854
Trongsa	825	1,504	1,822
Tsirang	2,545	7,100	2,790
Wangdue	285	455	1,596
Zhemgang	7,464	9,283	1,244
Total	**66,042**	**94,052**	**1424.12**

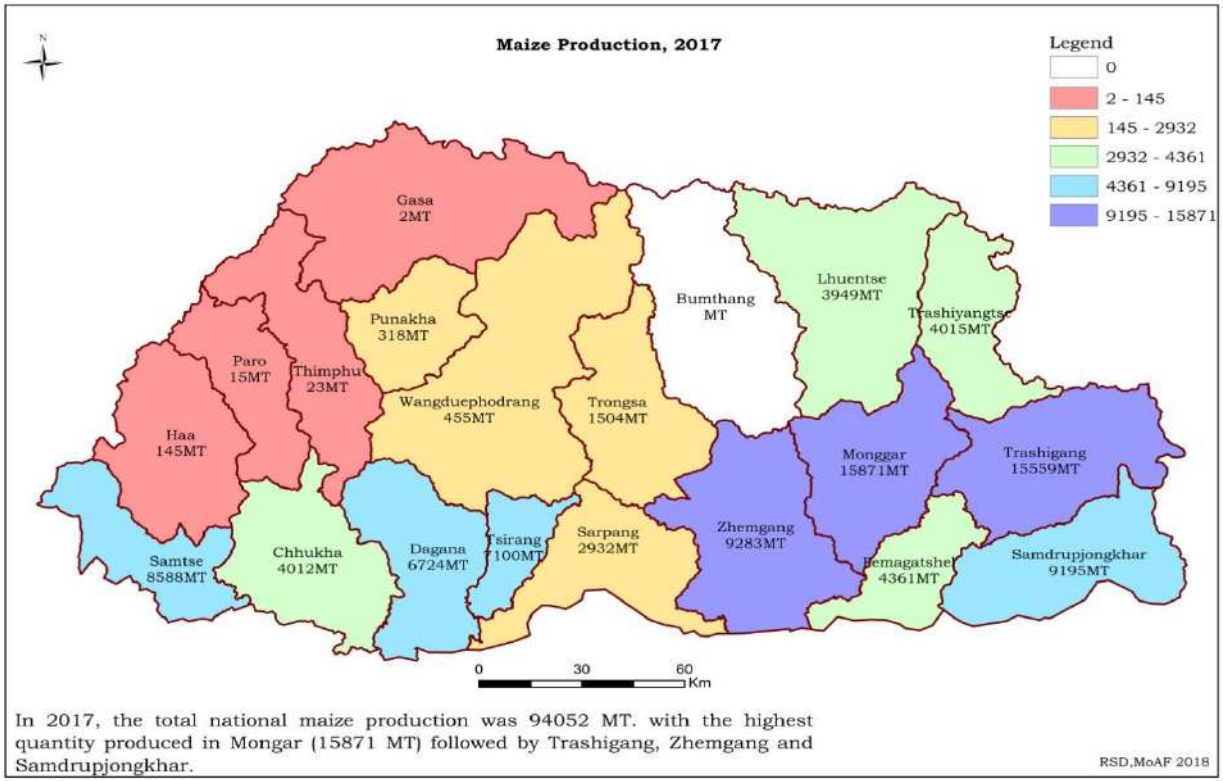

Figure 10: Dzongkhag wise maize production in 2017

Table 34: Wheat harvested area (Acres), Production (MT) and Yield (Kgs/Acre)

Dzongkhag	Harvested Area (acre)	Production (MT)	Yield (kgs/acre)
Bumthang	802	682	648
Chhukha	210	246	1,171
Dagana	62	33	538
Gasa	58	50	864
Haa	418	155	500
Lhuentse	20	19	836
Mongar	100	78	780
Paro	490	334	765
Pemagatshel	37	31	668
Punakha	543	436	803
Samdrupjongkhar	38	65	763
Samtse	223	130	583
Sarpang	89	65	774
Thimphu	389	316	813
Trashigang	167	147	880
Trashiyangtse	64	33	624
Trongsa	473	288	617
Tsirang	48	17	359
Wangdue	943	624	709
Zhemgang	84	85	952
Total	**5259**	**3,833**	**729**

Table 35: Barley harvested area (Acres), Production (MT) and Yield (Kgs/Acre)

Dzongkhag	Harvested Area (acre)	Production (MT)	Yield (kgs/acre)
Bumthang	331	302	912
Chhukha	167	75	446
Dagana	15	9	641
Gasa	232	250	1,079
Haa	22	8	352
Lhuentse	9	6	720
Mongar	1,867	882	472
Paro	78	48	613
Pemagatshel	11	6	526
Punakha	42	10	239
Samdrupjongkhar	68	17	248
Samtse	4	2	515
Sarpang	2	0.3	199
Thimphu	22	13	607
Trashigang	71	58	811
Trashiyangtse	1	0.2	121
Trongsa	296	220	742
Tsirang	6	3	430
Wangdue	169	93	552
Zhemgang	7	3	416
Total	**3,421**	**2,005**	**586.08**

Table 36: Buckwheat harvested area (Acres), Production (MT) and Yield (Kgs/Acre)

Dzongkhag	Harvested Area (acre)	Production (MT)	Yield (kgs/acre)
Bumthang	1,160	843	726
Chhukha	529	251	475
Dagana	310	250	807
Haa	423	193	455
Lhuentse	10	5	506
Mongar	266	73	276
Paro	106	50	474
Pemagatshel	265	62	233
Punakha	99	73	739
Samdrupjongkhar	304	465	1527
Samtse	216	91	420
Sarpang	166	66	396
Thimphu	1	0.1	161
Trashigang	270	99	366
Trashiyangtse	150	79	527
Trongsa	671	415	618
Tsirang	114	33	291
Wangdue	349	207	594
Zhemgang	406	225	554
Total	**5,817**	**3,480**	**598.23**

Table 37: Millet harvested area (Acres), Production (MT) and Yield (Kgs/Acre)

Dzongkhag	Harvested Area (acre)	Production (MT)	Yield (kgs/acre)
Chhukha	447	128	286
Dagana	454	447	984
Haa	52	24	468
Lhuentse	74	41	550
Mongar	22	11	512
Paro	9	4	453
Pemagatshel	247	83	336
Punakha	2	0.3	195
Samdrupjongkhar	176	88	497
Samtse	613	255	416
Sarpang	656	276	421
Thimphu	0.5	0.1	277
Trashigang	48	19	391
Trashiyangtse	305	173	566
Trongsa	25	9	363
Tsirang	331	126	379
Wangdue	8	6	733
Zhemgang	153	49	318
Total	**3,623**	**1,739**	**479.87**

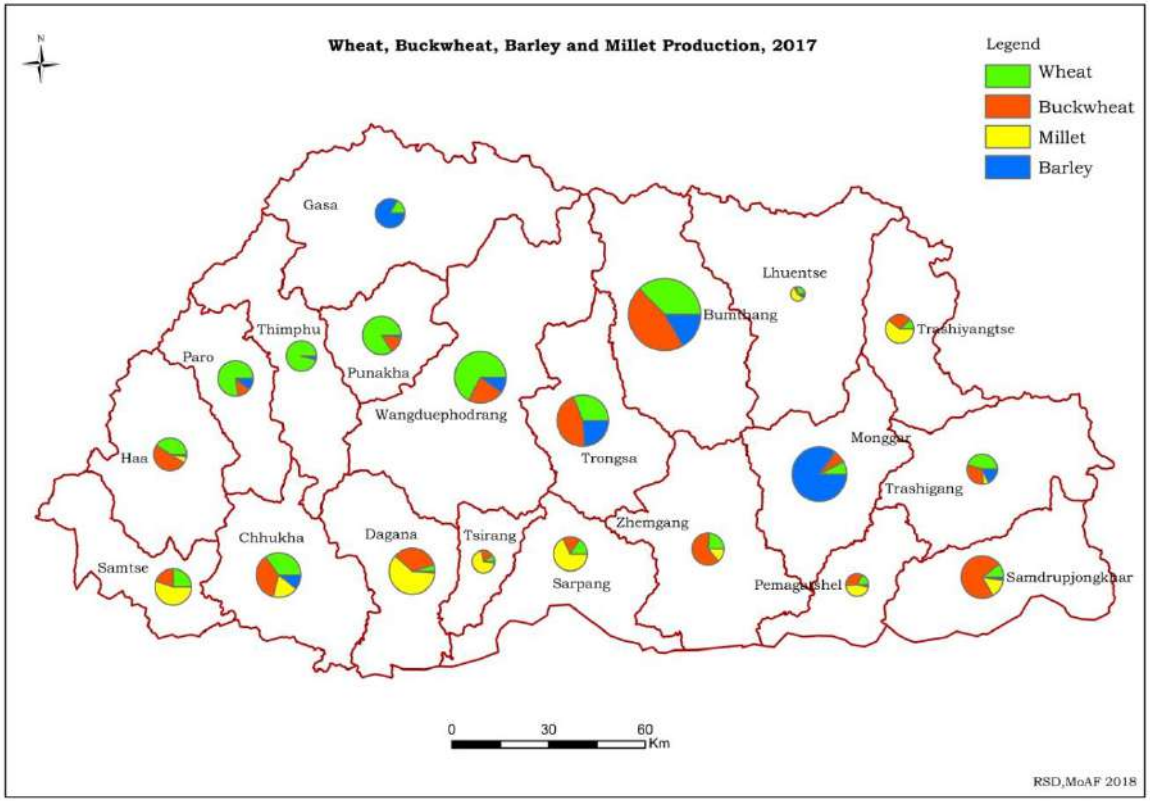

Figure 11: Dzongkhag wise other cereals production in 2017

Table 38: Amaranth harvested area (Acres), Production (MT) and Yield (Kgs/Acre)

Dzongkhag	Harvested Area (acre)	Production (MT)	Yield (kgs/acre)
Chhukha	3	0.2	69
Haa	2	0.5	235
Lhuentse	1	0.1	67
Mongar	16	1	35
Pemagatshel	12	1	41
Samdrupjongkhar	6	1	101
Samtse	0.5	0.1	196
Trongsa	0.1	0.02	400
Tsirang	3	0.02	7
Wangdue	1	0.3	245
Zhemgang	0.4	0.1	256
Total	**43**	**3**	**66**

Table 39: Quinoa harvested area (Acres), Production (MT) and Yield (Kgs/Acre)

Dzongkhag	Harvested Area (acre)	Production (MT)	Yield (kgs/acre)
Chhukha	7	1	103
Dagana	0.2	0.1	273
Haa	2	1	212
Lhuentse	10	2	196
Mongar	22	3	128
Paro	2	0.2	79
Pemagatshel	5	1	157
Samdrupjongkhar	3	0.2	81
Samtse	10	2	158
Sarpang	0.4	0.05	125
Thimphu	0.3	0.09	346
Trashigang	7	0.3	42
Trashiyangtse	1	0.02	14
Tsirang	0.2	0.01	59
Wangdue	0.2	0.03	200
Total	**70**	**9**	**132**

20. Vegetable Crops

Table 40: Potato harvested area (Acres), Production (MT) and Yield (Kgs/Acre)

Dzongkhag	Harvested Area (acres)	Production (MT)	Yield (kgs/acre)
Bumthang	1,015	7,181	7,075
Chhukha	559	2,900	5,190
Dagana	290	259	892
Gasa	108	405	3,757
Haa	364	1,491	4,101
Lhuentse	301	1,181	3,921
Mongar	1,940	5,596	2,885
Paro	962	4,510	4,687
Pemagatshel	328	1,396	4,250
Punakha	69	135	1,970
Samdrupjongkhar	685	1,504	2,197
Samtse	175	324	1,851
Sarpang	128	147	1,151
Thimphu	371	3,228	6,355
Trashigang	1,348	5,298	3,932
Trashiyangtse	541	3,186	5,894
Trongsa	197	833	4,227
Tsirang	215	478	2,225
Wangdue	3,106	17,001	5,474
Zhemgang	124	170	1,377
Total	**12,824**	**57,223**	**4,462**

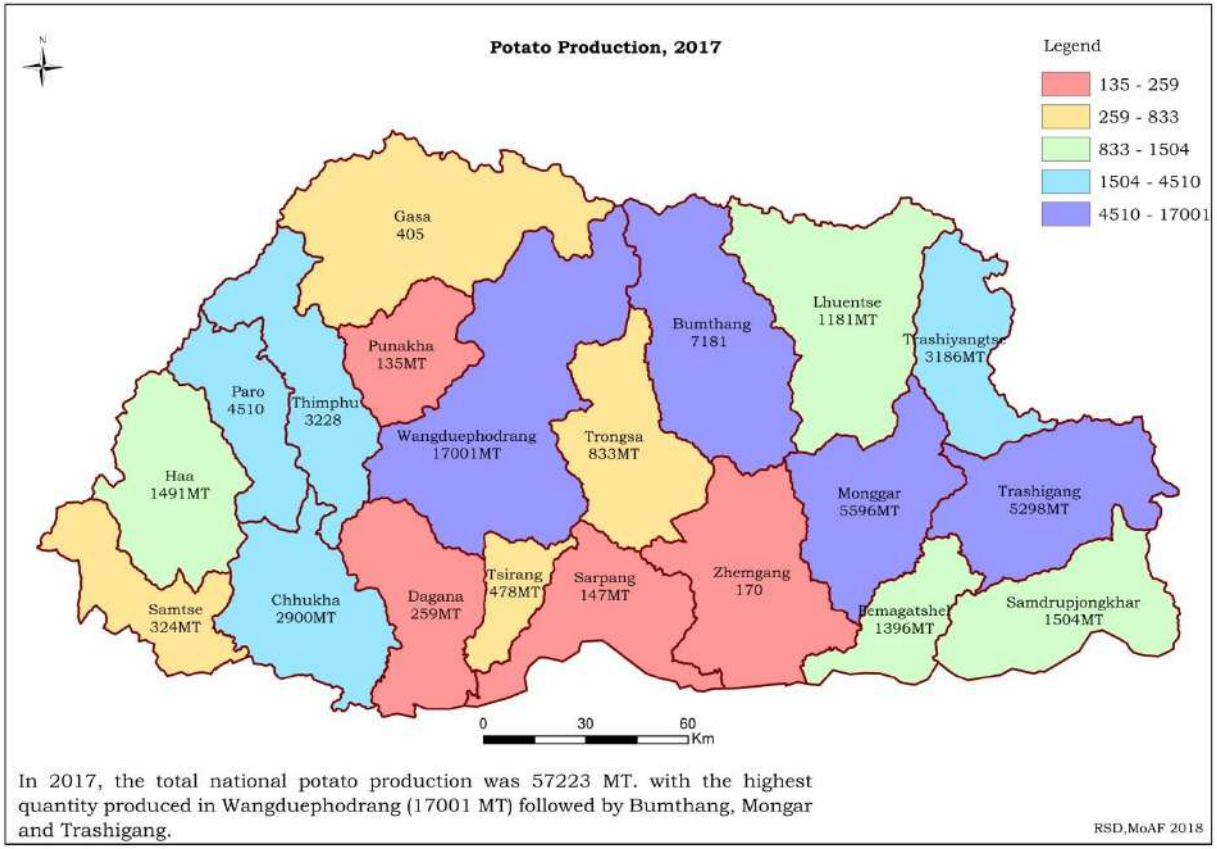

Figure 12: Dzongkhag wise potato production in 2017

Table 41: Asparagus harvested area (Acres), Production (MT) and Yield (Kgs/Acre)

Dzongkhag	Harvested Area (acres)	Production (MT)	Yield (Kgs/acres)
Chhukha	1	0.2	152
Dagana	1	0.1	196
Gasa	1	0.4	510
Haa	1	1	755
Lhuentse	6	2	391
Mongar	14	2	168
Paro	39	33	831
Pemagatshel	25	2	88
Punakha	12	2	213
Samdrupjongkhar	22	4	179
Samtse	1	0.4	302
Sarpang	3	1	275
Thimphu	13	7	539
Trashigang	20	9	433
Trashiyangtse	18	2	95
Trongsa	16	6	358
Tsirang	1	0.2	165
Wangdue	6	6	1165
Zhemgang	0.1	0.02	333
Total	**201**	**79**	**392**

Table 42: Chilli harvested area (Acres), Production (MT) and Yield (Kgs/Acre)

Dzongkhag	Harvested Area (acres)	Production(MT)	Yield (kgs/acre)
Bumthang	66	193	2,903
Chhukha	258	515	1,993
Dagana	407	250	614
Gasa	9	18	2,114
Haa	22	39	1,757
Lhuentse	380	812	2,135
Mongar	1,771	1,608	908
Paro	478	1,193	2,496
Pemagatshel	227	343	1,515
Punakha	360	873	2,425
Samdrupjongkhar	477	586	1,229
Samtse	104	92	881
Sarpang	234	232	994
Thimphu	147	502	3,412
Trashigang	663	999	1,507
Trashiyangtse	640	1,929	3,012
Trongsa	198	594	2,992
Tsirang	539	1,536	2,851
Wangdue	498	1,192	2,396
Zhemgang	92	99	1,072
Total	**7,571**	**13,606**	**1,797**

Table 43: Cabbage harvested area (Acres), Production (MT) and Yield (Kgs/Acre)

Dzongkhag	Harvested Area (Acres)	Production (MT)	Yield (kgs/acre)
Bumthang	19	39	2,068
Chhukha	90	168	1,867
Dagana	106	74	695
Gasa	13	35	2,649
Haa	64	194	3,009
Lhuentse	153	302	1,974
Mongar	453	813	1,797
Paro	290	1,338	4,618
Pemagatshel	171	546	3,201
Punakha	90	298	3,329
Samdrupjongkhar	399	384	963
Samtse	115	127	1,106
Sarpang	140	84	597
Thimphu	148	1,147	7,752
Trashigang	299	988	3,304
Trashiyangtse	386	1,655	4,289
Trongsa	134	637	4,752
Tsirang	274	1,204	4,386
Wangdue	143	448	3,128
Zhemgang	65	81	1,254
Total	**3,551**	**10,562**	**2,974**

Table 44: Cauliflower harvested area (Acres), Production (MT) and Yield (Kgs/Acre)

Dzongkhag	Harvested Area (acres)	Production (MT)	Yield (kgs/acre)
Bumthang	7	20	2,654
Chhukha	40	61	1,503
Dagana	65	69	1,065
Gasa	6	10	1,767
Haa	11	18	1,684
Lhuentse	77	130	1,684
Mongar	176	195	1,112
Paro	39	107	2,765
Pemagatshel	25	31	1,266
Punakha	55	171	3,109
Samdrupjongkhar	336	611	1,818
Samtse	60	84	1,410
Sarpang	47	56	1,200
Thimphu	101	620	3,066
Trashigang	80	148	1,859
Trashiyangtse	267	846	3,168
Trongsa	53	180	3,396
Tsirang	81	78	963
Wangdue	44	96	2,177
Zhemgang	35	44	1,252
Total	**1,604**	**3,575**	**2,229**

Table 45: Carrot harvested area (Acres), Production (MT) and Yield (Kgs/Acre)

Dzongkhag	Harvested Area (acres)	Production (MT)	Yield (kgs/acre)
Bumthang	5	9	1,993
Chhukha	28	45	1,607
Dagana	4	7	1,602
Gasa	8	14	1,825
Haa	26	49	1,862
Lhuentse	13	19	1,534
Mongar	34	43	1,240
Paro	97	205	2,102
Pemagatshel	12	11	874
Punakha	15	11	690
Samdrupjongkhar	41	35	855
Samtse	6	9	1,688
Sarpang	11	18	1,577
Thimphu	60	122	2,023
Trashigang	14	21	1,554
Trashiyangtse	70	26	370
Trongsa	22	47	2,095
Tsirang	8	8	1,001
Wangdue	52	86	1,650
Zhemgang	3	4	1,582
Total	**529.39**	**787.17**	**1,487**

Table 46: Radish harvested area (Acres), Production (MT) and Yield (Kgs/Acre)

Dzongkhag	Harvested Area (acres)	Production (MT)	Yield (kgs/acre)
Bumthang	13	40	3,002
Chhukha	80	168	2,097
Dagana	188	220	1,173
Gasa	14	32	2,245
Haa	31	99	3,206
Lhuentse	83	231	2,798
Mongar	456	413	904
Paro	66	187	2,832
Pemagatshel	217	403	1,860
Punakha	171	244	1,429
Samdrupjongkhar	471	345	734
Samtse	170	292	1,723
Sarpang	116	197	1,699
Thimphu	56	332	5,894
Trashigang	335	715	2,133
Trashiyangtse	407	387	951
Trongsa	117	385	3,301
Tsirang	138	168	1,215
Wangdue	325	1,298	3,993
Zhemgang	80	151	1,880
Total	**3,533**	**6,307**	**1,785**

Table 47: Turnip harvested area (Acres), Production (MT) and Yield (Kgs/Acre)

Dzongkhag	Harvested Area (acres)	Production (MT)	Yield (kgs/acres)
Bumthang	58	324	5,539
Chhukha	41	154	3,751
Dagana	16	47	3,036
Gasa	14	138	9,690
Haa	271	2,331	8,596
Lhuentse	3	25	7,587
Mongar	12	38	3,073
Paro	89	442	4,987
Pemagatshel	9	34	3,979
Punakha	39	138	3,535
Samdrupjongkhar	13	17	1,363
Samtse	9	47	5,113
Sarpang	2	13	5,408
Thimphu	52	390	7,444
Trashigang	17	98	5,838
Trashiyangtse	9	23	2,491
Trongsa	36	196	5,391
Tsirang	6	26	4,609
Wangdue	1,104	8,558	7,750
Zhemgang	2	12	5,236
Total	**1,804**	**13,051**	**7,236**

Table 48: Beans harvested area (Acres), Production (MT) and Yield (Kgs/Acre)

Dzongkhag	Harvested Area (Acres)	Production (MT)	Yield (kgs/acre)
Bumthang	3	2	611
Chhukha	180	297	1,650
Dagana	226	165	730
Gasa	9	13	1,350
Haa	25	26	1,058
Lhuentse	172	309	1,795
Mongar	375	204	545
Paro	168	343	2,039
Pemagatshel	143	86	605
Punakha	244	543	2,220
Samdrupjongkhar	462	574	1,242
Samtse	227	218	961
Sarpang	249	167	671
Thimphu	54	165	3,047
Trashigang	187	191	1,024
Trashiyangtse	214	325	1,518
Trongsa	62	140	2,233
Tsirang	475	1088	2,290
Wangdue	192	361	1,883
Zhemgang	72	58	803
Total	**3,739**	**5273**	**1,410**

Table 49: Green Peas harvested area (Acres), Production (MT) and Yield (Kgs/Acre)

Dzongkhag	Harvested Area (acres)	Production (MT)	Yield (kgs/acres)
Bumthang	1	1	608
Chhukha	55	44	787
Dagana	41	17	410
Gasa	6	5	859
Haa	48	64	1,327
Lhuentse	24	33	1,381
Mongar	72	42	579
Paro	151	203	1,346
Pemagatshel	27	15	560
Punakha	71	63	882
Samdrupjongkhar	215	97	453
Samtse	11	9	835
Sarpang	21	16	764
Thimphu	34	80	2,325
Trashigang	32	43	1,329
Trashiyangtse	74	22	304
Trongsa	19	32	1,669
Tsirang	52	22	428
Wangdue	40	47	1,171
Zhemgang	6	3	505
Total	**1,003**	**859**	**856**

Table 50: Tomato harvested area (Acres), Production (MT) and Yield (Kgs/Acre)

Dzongkhag	Harvested Area (acres)	Production (MT)	Yield (kgs/acres)
Bumthang	0.1	0.2	1,500
Chhukha	8	8	979
Dagana	35	35	1,025
Gasa	0.1	0.2	2,500
Haa	7	13	1,849
Lhuentse	12	21	1,743
Mongar	17	20	1,166
Paro	17	23	1,358
Pemagatshel	5	7	1,306
Punakha	26	33	1,293
Samdrupjongkhar	36	42	1,162
Samtse	44	49	1,105
Sarpang	40	43	1,099
Thimphu	3	4	1,459
Trashigang	7	13	1,948
Trashiyangtse	18	12	672
Trongsa	5	6	1,361
Tsirang	19	22	1,172
Wangdue	19	26	1,351
Zhemgang	3	5	1,713
Total	**320**	**383**	**1,198**

Table 51: Broccoli harvested area (Acres), Production (MT) and Yield (Kgs/Acre)

Dzongkhag	Harvested Area (acres)	Production (MT)	Yield (Kgs/acres)
Bumthang	8	22	2,954
Chhukha	22	26	1,217
Dagana	43	30	690
Gasa	7	13	1,962
Haa	4	4	1,050
Lhuentse	38	50	1,316
Mongar	118	95	801
Paro	18	28	1,565
Pemagatshel	15	14	909
Punakha	39	78	1,991
Samdrupjongkhar	229	122	534
Samtse	31	38	1,212
Sarpang	43	71	1,658
Thimphu	120	443	3,694
Trashigang	51	52	1,015
Trashiyangtse	132	77	585
Trongsa	36	62	1,723
Tsirang	43	26	597
Wangdue	42	98	2,350
Zhemgang	17	22	1,257
Total	**1,056**	**1,371**	**1,298**

Table 52: Onion harvested area (Acres), Production (MT) and Yield (Kgs/Acre)

Dzongkhag	Harvested Area (acres)	Production (MT)	Yield (kgs/acres)
Chhukha	6	4	615
Dagana	56	45	802
Gasa	0.1	0.2	1,667
Haa	2	4	1,607
Lhuentse	10	24	2,525
Mongar	42	43	1,015
Paro	4	5	1,159
Pemagatshel	23	21	884
Punakha	48	44	910
Samdrupjongkhar	87	55	634
Samtse	23	27	1,170
Sarpang	42	54	1,287
Thimphu	0.4	1	1,941
Trashigang	32	33	1,037
Trashiyangtse	130	48	369
Trongsa	8	15	1,882
Tsirang	55	41	746
Wangdue	21	24	1,114
Zhemgang	4	3	703
Total	**594**	**489**	**824**

Table 53: Garlic harvested area (Acres), Production (MT) and Yield (Kgs/Acre)

Dzongkhag	Harvested Area (acre)	Production (MT)	Yield (kgs/acre)
Bumthang	5	6	1,180
Chhukha	15	8	556
Dagana	64	15	237
Gasa	5	10	2,188
Haa	11	7	637
Lhuentse	115	165	1,432
Mongar	264	51	193
Paro	4	2	477
Pemagatshel	85	20	239
Punakha	88	30	344
Samdrupjongkhar	161	47	296
Samtse	17	15	841
Sarpang	32	16	508
Thimphu	2	1	758
Trashigang	224	162	720
Trashiyangtse	217	59	272
Trongsa	26	18	682
Tsirang	33	10	296
Wangdue	60	56	937
Zhemgang	12	8	674
Total	**1,441**	**708**	**491**

Table 54: Eggplant harvested area (Acres), Production (MT) and Yield (Kgs/Acre)

Dzongkhag	Harvested Area (acres)	Production (MT)	Yield (kgs/acres)
Chhukha	8	6	758
Dagana	34	14	398
Gasa	1	5	3,628
Haa	4	5	1,440
Lhuentse	42	68	1,623
Mongar	22	12	572
Paro	120	217	1,808
Pemagatshel	22	8	376
Punakha	38	48	1,251
Samdrupjongkhar	118	24	199
Samtse	20	14	725
Sarpang	36	26	726
Thimphu	7	18	2,579
Trashigang	70	23	329
Trashiyangtse	128	34	267
Trongsa	15	20	1,371
Tsirang	15	11	702
Wangdue	44	81	1,839
Zhemgang	9	11	1,246
Total	**751**	**643**	**857**

Table 55: Lady Finger harvested area (Acres), Production (MT) and Yield (Kgs/Acre)

Dzongkhag	Harvested Area (acres)	Production (MT)	Yield (kgs/acres)
Chhukha	1	1	969
Dagana	7	5	728
Haa	0.1	0.1	1,075
Lhuentse	1	1	1,046
Mongar	0.3	0.2	562
Paro	0.3	1	1,643
Pemagatshel	3	1	271
Punakha	0.2	0.1	667
Samdrupjongkhar	6	1	216
Samtse	6	4	753
Sarpang	16	9	563
Trashigang	1	0.5	404
Trashiyangtse	2	0.3	190
Trongsa	0.2	0.2	760
Tsirang	0.3	0.2	641
Wangdue	1	1	808
Zhemgang	0.1	0.3	2,750
Total	**45**	**26**	568

Table 56: Greenleaves harvested area (Acres), Production (MT) and Yield (Kgs/Acre)

Dzongkhag	Harvested Area (acres)	Production (MT)	Yield (kgs/acres)
Bumthang	12	11	875
Chhukha	112	199	1,780
Dagana	238	149	627
Gasa	15	17	1,109
Haa	22	39	1,773
Lhuentse	119	265	2,221
Mongar	419	122	292
Paro	92	68	743
Pemagatshel	196	121	615
Punakha	161	231	1,430
Samdrupjongkhar	426	373	874
Samtse	269	292	1,084
Sarpang	152	248	1,634
Thimphu	100	246	2,458
Trashigang	313	240	767
Trashiyangtse	422	970	2,297
Trongsa	75	143	1,899
Tsirang	136	120	883
Wangdue	145	235	1,617
Zhemgang	67	67	998
Total	**3,492**	**4,153**	**1189**

Table 57: Cucurbits Production (MT)

Dzongkhag	Cucumber Production(MT)	Pumpkin Production(MT)	Squash Production(MT)	Gourd Production(MT)
Bumthang	4	11	-	-
Chhukha	43	137	198	22
Dagana	65	162	141	7
Gasa	6	3	4	0.01
Haa	18	23	22	10
Lhuentse	219	181	152	15
Mongar	131	204	43	4
Paro	41	67	1	5
Pemagatshel	82	220	61	3
Punakha	384	50	98	70
Samdrupjongkhar	152	227	107	17
Samtse	89	335	328	22
Sarpang	57	131	118	42
Thimphu	7	15	1	0.01
Trashigang	180	169	47	6
Trashiyangtse	199	491	43	17
Trongsa	56	95	31	6
Tsirang	92	430	306	26
Wangdue	98	89	34	4
Zhemgang	25	130	21	2
Total	**1,948**	**3,171**	**1,755**	**278**

Table 58: Cultivated Mushroom Production (MT)

Dzongkhag	Production (MT)
Bumthang	2
Chhukha	6
Dagana	4
Gasa	1
Haa	0.12
Lhuntse	3
Mongar	6
Paro	27
Pemagatsel	3
Punakha	2
Samdrup Jongkhar	5
Samtse	0.48
Sarpang	2
Tashigang	19
Tashiyangtse	1
Thimphu	14
Trongsa	13
Tsirang	3
Wangdue	2
Zhemgang	8
Total	**122**

21. Spices

Table 59: Ginger harvested area (Acres), Production (MT) and Yield (Kgs/Acre)

Dzongkhag	Harvested Area (acre)	Production (MT)	Yield (kgs/acre)
Bumthang	0.2	0.4	2,176
Chhukha	509	832	1,633
Dagana	162	112	688
Gasa	0.4	1	1,611
Haa	6	2	352
Lhuentse	15	11	710
Mongar	160	37	233
Paro	1	0.3	400
Pemagatshel	262	362	1,381
Punakha	32	7	220
Samdrupjongkhar	847	2,312	2,730
Samtse	912	2,950	3,235
Sarpang	414	677	1,636
Thimphu	-	-	
Trashigang	42	59	1,407
Trashiyangtse	101	40	395
Trongsa	21	32	1,535
Tsirang	200	222	1,110
Wangdue	23	24	1,048
Zhemgang	102	180	1,771
Total	**3,809**	**7,859**	**2,063**

Table 60: Cardamom harvested area (Acres), Production (MT) and Yield (Kgs/Acre)

Dzongkhag	Harvested Area (acre)	Production (MT)	Yield (kgs/acre)
Chhukha	3,115	205	66
Dagana	1,743	235	135
Haa	1,023	40	39
Lhuentse	45	0.3	7
Mongar	159	3	21
Pemagatshel	336	7	21
Punakha	8	0.5	59
Samdrupjongkhar	168	11	67
Samtse	4,496	1,008	224
Sarpang	1,070	130	121
Trashigang	104	3	26
Trashiyangtse	59	0.1	1
Trongsa	342	18	51
Tsirang	780	70	90
Wangdue	14	0.1	6
Zhemgang	417	22	52
Total	**13,880**	**2,245**	**162**

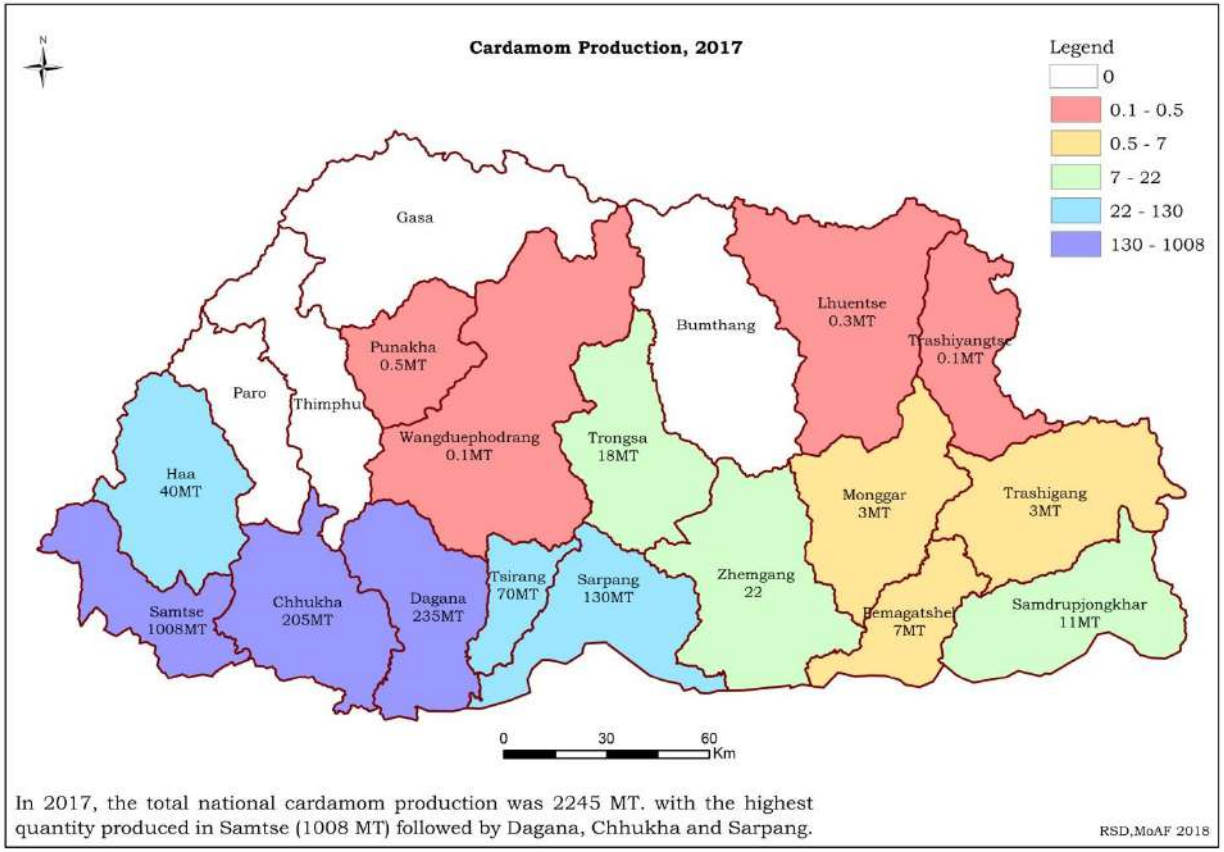

Figure 13: Dzongkhag wise cardamom production in 2017

22. Oil Seeds

Table 61: Ground nut harvested area (Acres), Production (MT) and Yield (Kgs/Acre)

Dzongkhag	Harvested Area (acre)	Production (MT)	Yield (kgs/acre)
Dagana	3	1	393
Lhuentse	3	2	635
Mongar	30	12	392
Pemagatshel	91	57	628
Punakha	12	25	2,098
Samdrupjongkhar	17	1	81
Samtse	1	0.4	404
Sarpang	0.2	0.1	400
Trashigang	114	98	860
Trashiyangtse	148	46	313
Tsirang	13	3	197
Wangdue	0.1	0.03	273
Zhemgang	3	1	198
Total	**436**	**246**	**565**

Table 62: Sunflower harvested area (Acres), Production (MT) and Yield (Kgs/Acre)

Dzongkhag	Harvested Area (acre)	Production (MT)	Yield (kgs/acre)
Bumthang	3	0.3	120
Dagana	4	0.4	91
Mongar	5	1	128
Pemagatshel	0.3	0.2	600
Samdrupjongkhar	2	0.04	23
Samtse	0.2	0.03	150
Sarpang	6	0.4	70
Trashigang	3	1	317
Tsirang	1	0.1	208
Wangdue	0.1	0.01	200

Total	**23**	**3**	**138**

Table 63: Mustard harvested area (Acres), Production (MT) and Yield (Kgs/Acre)

Dzongkhag	Harvested Area (acre)	Production (MT)	Yield (kgs/acre)
Bumthang	20	4	181
Chhukha	341	106	310
Dagana	357	108	303
Gasa	5	2	407
Haa	32	10	303
Lhuentse	39	19	476
Mongar	140	30	213
Paro	151	30	202
Pemagatshel	54	13	241
Punakha	87	27	309
Samdrupjongkhar	396	192	485
Samtse	397	235	592
Sarpang	226	59	261
Thimphu	7	3	476
Trashigang	108	44	406
Trashiyangtse	24	4	153
Trongsa	34	8	247
Tsirang	103	30	288
Wangdue	120	30	251
Zhemgang	56	16	278
Total	**2,697**	**969**	**359**

Table 64: Mustard harvested area (Acres), Production (MT) and Yield (Kgs/Acre)

Dzongkhag	Harvested Area (acre)	Production (MT)	Yield (kgs/acre)
Chhukha	16	3	155
Dagana	18	4	253
Haa	3	2	549
Lhuentse	98	35	362
Mongar	107	35	329
Paro	2	1	326
Pemagatshel	170	31	184
Punakha	5	1	245
Samdrupjongkhar	81	8	104
Samtse	25	9	348
Sarpang	16	3	169
Trashigang	89	32	359
Trashiyangtse	157	23	149
Tsirang	44	9	205
Wangdue	1	0.1	192
Zhemgang	37	7	188
Total	**867**	**204**	**235**

Table 65: Pyrilla (Naam) harvested area (Acres), Production (MT) and Yield (Kgs/Acre)

Dzongkhag	Harvested Area (acre)	Production (MT)	Yield (kgs/acre)
Chhukha	0.39	0.03	77
Dagana	4	1	186
Haa	14	3	210
Lhuentse	3	0.3	130
Mongar	5	0.4	89
Pemagatshel	79	15	197
Punakha	10	1	125
Samdrupjongkhar	112	83	742
Samtse	2	1	647
Sarpang	3	0.4	116
Trashigang	5	1	114
Trashiyangtse	0.4	0.01	25
Trongsa	2	0.3	121
Tsirang	6	1	106
Zhemgang	3	1	263
Total	**249**	**108**	**435**

Table 66: Niger harvested area (Acres), Production (MT) and Yield (Kgs/Acre)

Dzongkhag	Harvested Area (acre)	Production (MT)	Yield (kgs/acre)
Dagana	1	0.3	199
Mongar	3	1	156
Punakha	0.3	0.1	235
Samdrupjongkhar	8	2	293
Samtse	4	1	339
Sarpang	0.2	0.03	200
Trashigang	13	1	78
Trongsa	0.2	0.1	391
Tsirang	7	0.4	63
Total	**37**	**6**	**164**

23. Legumes and Pulses

Table 67: Rajma bean harvested area (Acres), Production (MT) and Yield (Kgs/Acre)

Dzongkhag	Harvested Area (acre)	Production (MT)	Yield (kgs/acre)
Chhukha	68	12	172
Dagana	453	152	337
Haa	4	2	608
Lhuentse	4	3	769
Mongar	702	403	574
Pemagatshel	47	31	670
Punakha	1	1	589
Samdrupjongkhar	223	71	320
Samtse	27	16	607
Sarpang	107	26	240
Trashigang	386	141	366
Trashiyangtse	52	10	192
Trongsa	0.04	0.03	750
Tsirang	161	62	387
Zhemgang	3	0.5	184
Total	**2,236**	**932**	**417**

Table 68: Mung bean harvested area (Acres), Production (MT) and Yield (Kgs/Acre)

Dzongkhag	Harvested Area (acre)	Production (MT)	Yield (kgs/acre)
Chhukha	27	5	192
Dagana	234	79	337
Haa	0.3	0.3	848
Lhuentse	3	3	1,056
Mongar	86	43	500
Pemagatshel	73	12	160
Samdrupjongkhar	89	12	140
Samtse	29	7	247
Sarpang	247	75	303
Trashigang	25	14	577
Trashiyangtse	19	5	245
Tsirang	90	43	478
Total	**922**	**298**	**323**

24. Roots and Tubers

Table 69: Sweet Potato harvested area (Acres), Production (MT) and Yield (Kgs/Acre)

Dzongkhag	Harvested Area (acre)	Production (MT)	Yield (kgs/acre)
Chhukha	1	1	855
Dagana	13	3	248
Haa	0.1	0.1	1,300
Lhuentse	1	1	1,986
Mongar	12	8	632
Pemagatshel	14	7	498
Punakha	11	2	204
Samdrupjongkhar	38	4	94
Samtse	11	5	512
Sarpang	14	4	286
Trashigang	20	12	625
Trashiyangtse	43	9	205
Trongsa	1	0.4	691
Tsirang	16	18	1,114
Wangdue	5	0.2	49
Zhemgang	5	5	1,079
Total	**203**	**80**	**394**

Table 70: Tapioca harvested area (Acres), Production (MT) and Yield (Kgs/Acre)

Dzongkhag	Harvested Area (acre)	Production (MT)	Yield (kgs/acre)
Chhukha	39	27	709
Dagana	38	31	822
Haa	1	1	975
Lhuentse	0.2	0.1	667
Mongar	6	6	954
Pemagatshel	24	25	1,065
Punakha	0.5	1	1,489
Samdrupjongkhar	86	34	401
Samtse	67	119	1,769
Sarpang	17	13	786
Trashigang	5	3	567
Trashiyangtse	17	8	472
Tsirang	17	32	1,893
Wangdue	2	4	2,042
Zhemgang	1	2	1,602
Total	**320**	**306**	**959**

19. Horticulture Fruit Crop Production

Table 71: Apple Production and Yield

Dzongkhag	Total Tree (Nos)	Bearing Tree (Nos)	Production (MT)	Yield (kgs/Bearing Tree)
Bumthang	3,912	3,461	68	20
Chhukha	4,893	3,910	157	40
Dagana	5,770	5,564	92	17
Gasa	21	21	0.2	9
Haa	22,161	18,448	232	13
Lhuentse	2,041	706	27	39
Mongar	1,768	583	10	17
Paro	166,682	132,895	3,624	27
Pemagatshel	871	306	6	18
Punakha	96	71	1	11
Samdrup Jongkhar	4,420	250	2	9
Samtse	5	5	0.0	1
Sarpang	100	100	1	10
Thimphu	97,522	88,082	3744	43
Trashigang	2,075	837	24	28
Trashiyangtse	6,790	1,203	18	15
Trongsa	185	168	2	15
Tsirang	617	495	15	30
Wangdue	1,998	1,110	16	15
Total	**321,928**	**258,215**	**8,039**	**31**

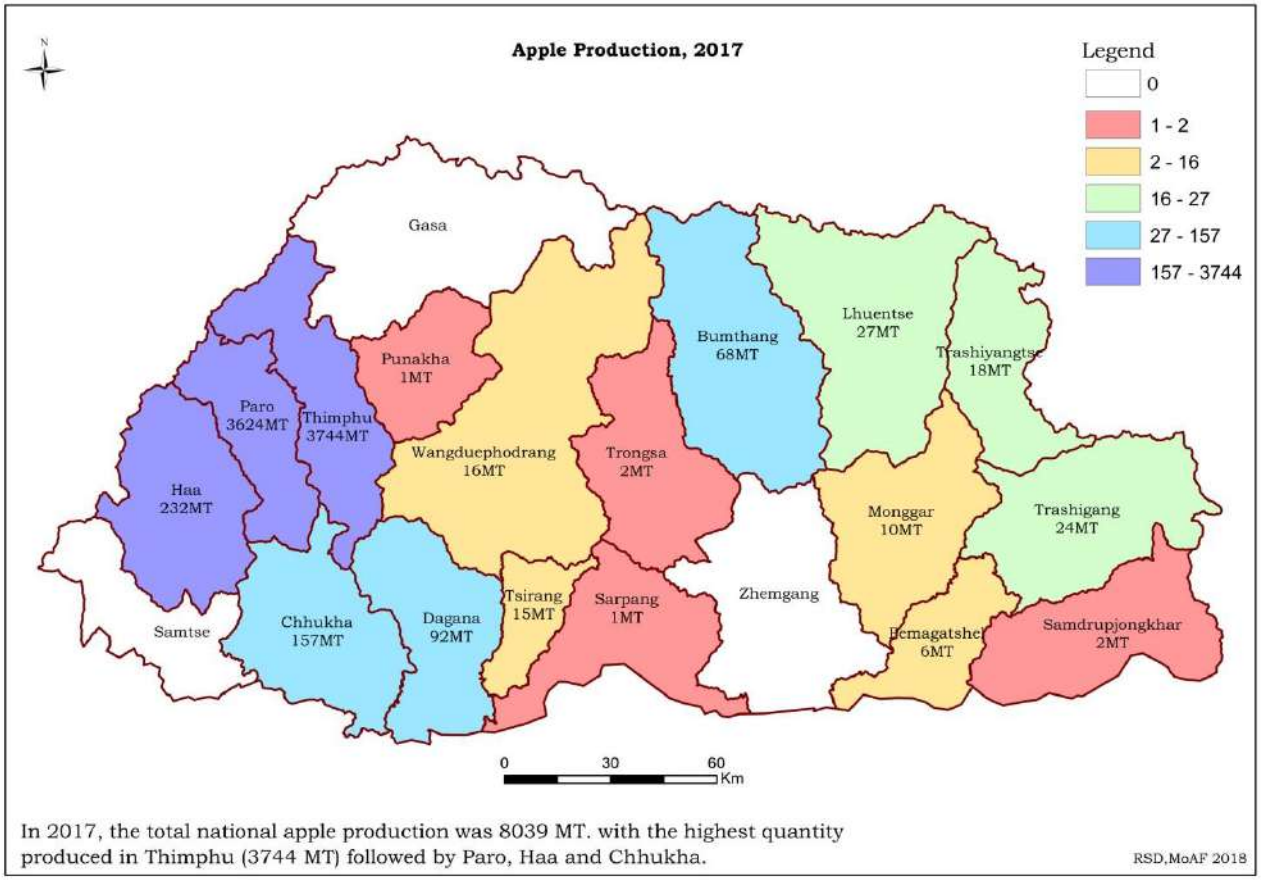

Figure 14: Dzongkhag wise apple production in 2017

Table 72: Mandarin Production and Yield

Dzongkhag	Total Tree (Nos)	Bearing Tree (Nos)	Production (MT)	Yield (kgs/Bearing Tree)
Chhukha	72,730	42,492	800	19
Dagana	227,563	154,380	6,060	39
Gasa	80	77	1	10
Haa	1,399	797	35	44
Lhuentse	13,012	4,887	291	60
Mongar	119,147	35,743	2,279	64
Pemagatshel	238,972	141,616	2,602	18
Punakha	22,062	16,489	150	9
Samdrup Jongkhar	260,141	113,832	4,182	37
Samtse	69,947	36,137	1,062	29
Sarpang	166,077	143,526	3,063	21
Trashigang	45,896	15,261	1,235	81
Trashiyangtse	25,572	9,000	356	40
Trongsa	20,282	9,431	369	39
Tsirang	126,868	79,837	3,089	39
Wangdue	10,089	5,761	257	45
Zhemgang	119,239	55,343	2,186	39
Total	**1,539,076**	**864,608**	**28,017**	**32**

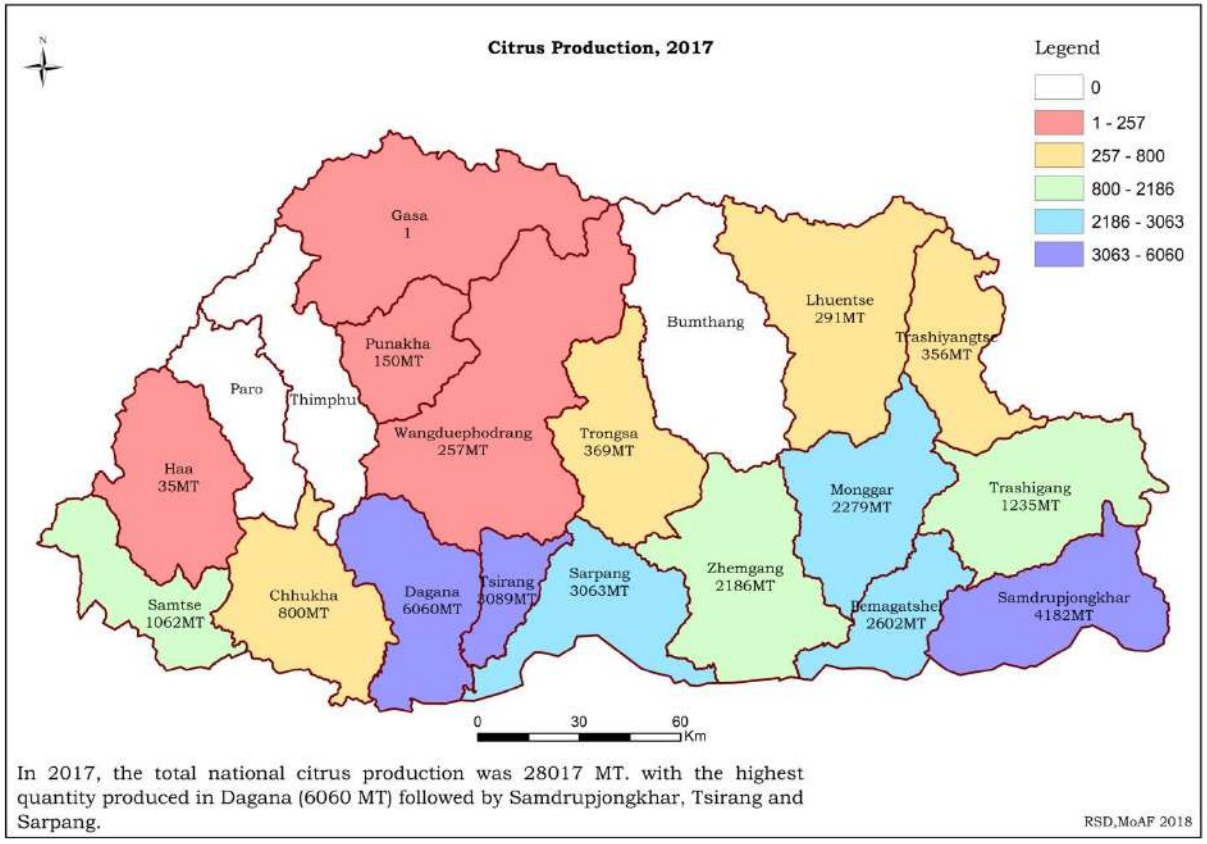

Figure 15: Dzongkhag wise Citrus production in 2017

Table 73: Areca nut Production and Yield

Dzongkhag	Total Tree (Nos)	Bearing Tree (Nos)	Production (MT)	Yield (kgs/Bearing Tree)
Chhukha	89,158	63,269	450	7
Dagana	156,405	73,969	832	11
Mongar	3,840	1,386	13	9
Pemagatshel	16,777	5,141	36	7
Samdrup Jongkhar	103,837	60,033	1,061	18
Samtse	493,586	248,541	3,760	15
Sarpang	807,471	440,839	3,146	7
Tsirang	428	138	13	94
Wangdue	2	2	0.1	60
Zhemgang	6,817	2,261	31	14
Total	**1,678,321**	**895,579**	**9,342**	**10**

25. Other Fruit Crops

Table 74: Mango Production and Yield

Dzongkhag	Total Tree (Nos)	Bearing Tree (Nos)	Production (MT)	Yield (kgs/Bearing Tree)
Chhukha	509	264	4	17
Dagana	4,833	1,669	44	26
Lhuentse	2,142	1,638	27	17
Mongar	4,258	2,151	76	36
Pemagatshel	7,608	2,083	32	15
Punakha	934	703	17	23
Samdrupjongkhar	4,582	1,852	31	17
Samtse	1,584	850	36	42
Sarpang	2,558	1,816	91	50
Trashigang	2,200	1,068	45	43
Trashiyangtse	902	271	4	16
Trongsa	581	415	16	38
Tsirang	3,542	1,606	88	55
Wangdue	146	108	2	22
Zhemgang	1,932	779	16	21
Total	**38,311**	**17,273**	**530**	**31**

Table 75: Pear Production and Yield

Dzongkhag	Total Tree (Nos)	Bearing Tree (Nos)	Production (MT)	Yield (kgs/Bearing Tree)
Bumthang	155	150	3	23
Chhukha	766	622	31	50
Dagana	1,548	1,381	129	93
Gasa	403	294	2	6
Haa	137	138	2	16
Lhuentse	1,831	852	128	150
Mongar	7,195	3,584	114	32
Paro	1,154	994	44	44
Pemagatshel	707	395	10	25
Punakha	2,775	2,226	90	40
Samdrup Jongkhar	2,060	1,680	141	84
Samtse	1,190	896	31	34
Sarpang	2,741	2,678	219	82
Thimphu	287	256	8	33
Trashigang	6,211	3,998	223	56
Trashiyangtse	2,598	1,486	41	28
Trongsa	574	471	9	20
Tsirang	1,440	1,350	252	187
Wangdue	1,213	868	31	36
Zhemgang	158	104	3	27
Total	**35,141**	**24,423**	**1,510**	**62**

Table 76: Peach Production and Yield

Dzongkhag	Total Tree (Nos)	Bearing Tree (Nos)	Production (MT)	Yield (kgs/Bearing Tree)
Bumthang	214	189	3	15
Chhukha	1,456	1,261	18	15
Dagana	1,534	1,276	46	36
Gasa	114	101	1	12
Haa	163	151	4	29
Lhuentse	3,760	2,334	258	111
Mongar	3,930	3,128	81	26
Paro	2,178	2,100	77	37
Pemagatshel	3,323	2,150	91	43
Punakha	2,034	1,664	45	27
Samdrup Jongkhar	1,626	1,547	75	48
Samtse	972	885	26	29
Sarpang	680	582	34	58
Thimphu	424	413	15	36
Trashigang	2,900	2,500	102	41
Trashiyangtse	3,065	2,380	99	42
Trongsa	893	683	13	19
Tsirang	1,398	1,201	88	74
Wangdue	1,304	971	29	30
Zhemgang	507	350	18	52
Total	**32,472**	**25,865**	**1,124**	**43**

Table 77: Plum Production and Yield

Dzongkhag	Total Tree (Nos)	Bearing Tree (Nos)	Production (MT)	Yield (kgs/Bearing Tree)
Bumthang	187	178	3	15
Chhukha	118	95	3	33
Dagana	1,335	1,080	42	39
Gasa	15	15	0	8
Haa	69	69	2	30
Lhuentse	1,310	962	77	80
Mongar	1,619	1,336	66	49
Paro	285	275	9	33
Pemagatshel	747	589	28	47
Punakha	664	609	16	26
Samdrup Jongkhar	878	800	50	63
Samtse	243	184	4	21
Sarpang	301	267	11	41
Thimphu	173	171	6	33
Trashigang	1,371	1,132	74	66
Trashiyangtse	766	589	22	37
Trongsa	180	135	4	33
Tsirang	819	754	56	74
Wangdue	198	139	4	30
Zhemgang	458	192	6	33
Total	**11,735**	**9,571**	**482**	**50**

Table 78: Walnut Production and Yield

Dzongkhag	Total Tree (Nos)	Bearing Tree (Nos)	Production (MT)	Yield (kgs/Bearing Tree)
Bumthang	330	293	2	6
Chhukha	244	150	3	20
Dagana	991	365	10	28
Haa	404	344	5	14
Lhuentse	638	395	39	99
Mongar	1,641	898	30	33
Paro	1,885	1,540	27	18
Pemagatshel	433	409	7	18
Punakha	1,658	971	12	12
Samdrup Jongkhar	75	65	1	22
Sarpang	911	828	10	12
Thimphu	360	350	5	15
Trashigang	2,422	1,497	43	29
Trashiyangtse	1,337	858	16	19
Trongsa	1,072	514	11	22
Tsirang	108	64	4	63
Wangdue	658	539	2	5
Zhemgang	876	568	11	19
Total	**16,042**	**10,646**	**239**	**22**

Table 79: Jack Fruit Production and Yield

Dzongkhag	Total Tree (Nos)	Bearing Tree (Nos)	Production (MT)	Yield (kgs/Bearing Tree)
Chhukha	127	66	10	159
Dagana	330	279	44	158
Mongar	153	148	107	722
Pemagatshel	971	472	52	110
Punakha	15	15	1	73
Samdrup Jongkhar	657	500	71	142
Samtse	810	606	63	104
Sarpang	728	613	135	220
Trashigang	20	20	3	128
Trashiyangtse	5	5	1	100
Trongsa	10	10	0.5	49
Tsirang	248	161	24	146
Wangdue	3	3	0.1	40
Zhemgang	220	191	18	92
Total	**4,297**	**3,088**	**528**	**171**

Table 80: Guava Production and Yield

Dzongkhag	Total Tree (Nos)	Bearing Tree (Nos)	Production (MT)	Yield (kgs/Bearing Tree)
Chhukha	831	766	12	16
Dagana	3,978	3,402	90	26
Haa	10	10	0	5
Lhuentse	606	538	26	48
Mongar	3,359	2,855	81	29
Pemagatshel	4,586	3,002	108	36
Punakha	8,064	7,079	156	22
Samdrup Jongkhar	2,721	2,179	52	24
Samtse	4,331	3,289	72	22
Sarpang	2,889	2,454	97	40
Trashigang	1,857	1,618	47	29
Trashiyangtse	1,333	972	30	31
Trongsa	2,093	1,740	91	52
Tsirang	4,767	3,924	163	42
Wangdue	1,855	1,549	38	25
Zhemgang	1,414	812	20	25
Total	**44,694**	**36,189**	**1,084**	**30**

Table 81: Papaya Production and Yield

Dzongkhag	Total Tree (Nos)	Bearing Tree (Nos)	Production (MT)	Yield (kgs/Bearing Tree)
Chhukha	39	33	2	57
Dagana	964	747	17	22
Lhuentse	13	13	0.2	15
Mongar	711	664	11	17
Pemagatshel	355	306	16	54
Punakha	166	155	3	21
Samdrupjongkhar	793	588	20	34
Samtse	579	486	9	18
Sarpang	2,157	1,959	44	23
Trashigang	225	191	6	29
Trashiyangtse	532	371	3	8
Trongsa	151	105	5	43
Tsirang	3,157	2,135	141	66
Wangdue	67	59	0.5	8
Zhemgang	41	38	1	19
Total	**9,949**	**7,853**	**278**	**35**

Table 82: Pomegranate Production and Yield

Dzongkhag	Total Tree (Nos)	Bearing Tree (Nos)	Production (MT)	Yield (kgs/Bearing Tree)
Chhukha	22	22	0	9
Dagana	974	619	7	11
Gasa	4	4	0	15
Lhuentse	189	179	4	22
Mongar	691	599	12	20
Paro	82	74	2	22
Pemagatshel	461	196	2	12
Punakha	546	496	10	21
Samdrupjongkhar	244	167	1	7
Samtse	129	118	1	9
Sarpang	92	86	2	20
Trashigang	518	483	8	16
Trashiyangtse	423	284	5	17
Trongsa	285	235	6	24
Tsirang	769	549	6	11
Wangdue	380	293	6	22
Zhemgang	210	96	1	13
Total	**6,019**	**4,500**	**74**	**16**

Table 83: Litchi Production and Yield

Dzongkhag	Total Tree (Nos)	Bearing Tree (Nos)	Production (MT)	Yield (kgs/Bearing Tree)
Chhukha	915	274	9	34
Dagana	2,592	846	19	23
Mongar	2,493	170	1	7
Pemagatshel	8,761	235	4	16
Punakha	8	6	0.2	40
Samdrupjongkhar	9,267	551	6	11
Samtse	4,320	1,685	55	33
Sarpang	11,995	6,500	216	33
Trashiyangtse	55			
Trongsa	10			
Tsirang	2,715	175	2	9
Wangdue	17			
Zhemgang	928	13	0	13
Total	**44,076**	**10,456**	**313**	**30**

Table 84: Persimmon Production and Yield

Dzongkhag	Total Tree (Nos)	Bearing Tree (Nos)	Production (MT)	Yield (kgs/Bearing Tree)
Chhukha	51	25	1	42
Dagana	5	5	0.0	10
Gasa	64	64	1	19
Haa	13	13	0.1	7
Lhuentse	92	73	9	130
Mongar	651	326	11	34
Paro	344	290	12	43
Pemagatshel	143	102	1	9
Punakha	1,472	1,310	40	31
Samdrupjongkhar	96	96	2	18
Samtse	28	28	0.5	16
Sarpang	14	14	0.2	15
Thimphu	8	8	0.5	57
Trashigang	854	693	20	30
Trashiyangtse	160	58	0.3	5
Trongsa	200	190	4	23
Tsirang	19	19	0.2	11
Wangdue	1,400	974	47	49
Zhemgang	17	17	1	30
Total	**5,632**	**4,305**	**152**	**35**

Table 85: Banana Production and Yield

Dzongkhag	Total Tree (Nos)	Bearing Tree (Nos)	Production (MT)	Yield (kgs/Bearing Tree)
Chhukha	8,905	3,671	73	20
Dagana	52,230	31,050	479	15
Haa	742	758	11	14
Lhuentse	3,261	1,046	52	50
Mongar	15,975	8,374	94	11
Pemagatshel	34,046	8,238	148	18
Punakha	4,041	1,623	28	18
Samdrupjongkhar	45,064	9,852	387	39
Samtse	99,266	29,281	519	18
Sarpang	55,913	28,099	541	19
Trashigang	20,801	3,355	51	15
Trashiyangtse	7,914	3,581	41	11
Trongsa	9,624	4,565	109	24
Tsirang	83,169	18,309	382	21
Wangdue	4,269	1,699	37	22
Zhemgang	13,431	7,498	160	21
Total	**458,651**	**161,000**	**3,113**	**19**

Table 86: Date Plum (Gendum) Production and Yield

Dzongkhag	Total Tree (Nos)	Bearing Tree (Nos)	Production (MT)	Yield (kgs/Bearing Tree)
Chhukha	25	25	0.362	14
Dagana	10	5	0.005	1
Gasa	64	64	1	17
Haa	33	33	0.31	9
Lhuentse	67	67	5	80
Mongar	187	184	2	13
Paro	74	74	1	19
Pemagatshel	3	3	0.24	75
Punakha	138	134	3	19
Samdrupjongkhar	93	93	2	18
Samtse	226	219	4	19
Thimphu	5	5	0.02	5
Trashigang	7	7	0.01	2
Trashiyangtse	167	139	1	10
Trongsa	30	30	0.38	13
Wangdue	49	46	2	35
Total	**1,177**	**1,128**	**23**	**20**

Table 87: Avocado Production and Yield

Dzongkhag	Total Tree (Nos)	Bearing Tree (Nos)	Production (MT)	Yield (kgs/Bearing Tree)
Chhukha	44	44	1	20
Dagana	296	246	3	12
Gasa	2	2	0.03	15
Haa	3	3	0.02	6
Mongar	1,242	195	9	46
Pemagatshel	449	257	11	43
Punakha	459	148	3	17
Samdrupjongkhar	367	128	1	6
Samtse	143	37	2	57
Sarpang	111	51	1	14
Trashigang	10	10	0.30	30
Trongsa	201	60	2	33
Tsirang	190	66	7	99
Wangdue	79	13	0.12	9
Zhemgang	622	194	4	22
Total	**4,219**	**1,455**	**43**	**30**

Table 88: Apricot Production and Yield

Dzongkhag	Total Tree (Nos)	Bearing Tree (Nos)	Production (MT)	Yield (kgs/Bearing Tree)
Dagana	19	15	2	136
Lhuentse	3	3	0.03	10
Mongar	8	8	0.15	20
Paro	109	81	3	34
Punakha	30	30	1	23
Samdrupjongkhar	15	15	0.5	33
Sarpang	1,182	104	1	7
Thimphu	11	11	0.19	17
Trashigang	20	13	0.03	3
Trongsa	15	15	0.20	13
Tsirang	18	18	0.23	13
Wangdue	73	47	1	14
Total	**1,502**	**360**	**8**	**23**

Table 89: Tree Tomato Production and Yield

Dzongkhag	Total Tree (Nos)	Bearing Tree (Nos)	Production (MT)	Yield (kgs/Bearing Tree)
Chhukha	859	830	7	8
Dagana	3,263	2,855	22	8
Gasa	460	367	4	10
Haa	412	330	4	11
Lhuentse	4,078	3,920	87	22
Mongar	4,102	3,787	41	11
Pemagatshel	1,356	1,098	8	7
Punakha	8,610	6,747	63	9
Samdrupjongkhar	1,390	1,327	19	14
Samtse	1,382	1,206	10	9
Sarpang	6,333	5,263	35	7
Trashigang	2,356	2,009	28	14
Trashiyangtse	2,144	1,740	17	10
Trongsa	1,008	1,003	10	10
Tsirang	5,217	4,403	27	6
Wangdue	2,094	1,787	14	8
Zhemgang	1,340	1,071	11	10
Total	**46,405**	**39,743**	**404**	**10**

Table 90: Other Fruit Production (MT)

Dzongkhag	Passion Fruit Production (MT)	Pineapple Production (MT)
Chhukha	3	3
Dagana	2	2
Gasa	0.1	
Haa	0.2	
Lhuentse	3	
Mongar	12	8
Pemagatshel	4	6
Punakha	2	
Samdrup Jongkhar	11	6
Samtse	5	18
Sarpang	35	22
Trashigang	5	1
Trashiyangtse	0.2	
Trongsa	1	
Tsirang	9	5
Wangdue	0.1	
Zhemgang	0.78	1.5
Total	**94.5**	**72.3**