

Agriculture Survey 2011 (Vol: I)

Dzongkhag Level Statistics

**Data collection
and
Compilation**

**Department of Agriculture
Ministry of Agriculture and Forests**

**Processing
and
Analysis**

**RNR-Statistical Coordination Section
Policy and Planning Division
Ministry of Agriculture & Forests**

A: Methodology

A1: Design of the Survey

The survey questionnaire used for the Agriculture Survey 2011 was the revised version of the Agriculture Survey 2010. The revision was done by Agriculture Extension and Information Management Section (AEIMS) of the Department of Agriculture (DoA) in consultation with representatives of all twenty dzongkhags and technical support from RNR Statistical Coordination Section (RNR-SCS) of the Policy and planning Division (PPD), Ministry of Agriculture and Forests (MoAF).

The purpose of the revision was to do away with some of the unwanted data variables in the previous questionnaire and to include data items that can be useful for measuring the development indicators reflected in the 10th Five-Year Plan of the RNR sector.

A2: Sample Selection Procedures

Given that the geographical distribution of crops is based on the different ecological and climatic conditions, it is not feasible to produce precise survey results for all crops in each geog. Moreover, as it used to be in the past surveys, application of a uniform of 10 percent sample selection system across all the geogs (sub-districts), although produce reliable results for the larger geogs with 300 or more households, its precision for the smaller geogs with less than 300 households appeared to be very poor. This has given an impression that the level of precision of the survey estimates would be increased with increased sample size for smaller geogs with less than 300 households.

Therefore, for the agriculture survey 2011, the sample sizes ranging from 10 percent to 50 percent have been adopted depending on the size of the geogs. At least 115 (56.1%) geogs accounted for 10% sample, 39 (19.0%) geogs for 11-14% sample, 26 (12.7%) geogs for 15-20% sample, 15 (7.3%) geogs for 21-30% sample and 10 (4.9%) geogs for the sample sizes greater than 30% sample. The average sample size or the households selected for the survey at the national level stands at 12 percent of the total rural households of the country.

A3: Data Collection

The data collection was carried out during April-May 2012 and as usual, by agriculture extension officials (EAs) posted in the geogs under supervision of dzongkhag agriculture sector heads. Twenty assistant dzongkhags agriculture officers (ADAOs) were briefed on the use of the questionnaire, who in turn trained the field agriculture staff on the use of the questionnaire for data collection.

A4: Data Entry

The data entry into the database developed by the (RNR-SCS) was executed by Assistant Dzongkhag Agriculture Officers (ADAO) from 20 dzongkhags at a private IT institute in Thimphu in July 2012. The data entry works was closely monitored by the AIEMS.

A5: Data Processing and Analysis

Because of lack of statistical capacity at the AIEMS in DoA, at least for this survey, the RNR-SCS in PPD had taken over the charge of the data processing and analysis. The processing and analysis of data at the RNR-SCS started from the last week of August 2012 and completed in September 2012.

A6: Estimation Procedures

In order for the estimates from the sample survey to be representative of the population, 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 2011 was a self-weighting within stratum, meaning that all the sampled or the enumerated households within a geog will have the same weight.

Adjustment for non-response

In order to adjust for the loss of representativeness caused by non-responding households, the weight of the responding units (W_t_{Eh}) was increased by deploying the following formulae.

$$W_t_{Eh} = \frac{S_h}{E_h}$$

Where: S_h = Sampled households in the geog
 E_h = Enumerated households in the geog
 Wt_{E_h} = basic weight for enumerated households in the geog

Weighting for probability of sample selection

Based on the one-stage stratified sample design, the probability of selection for the sample households in a geog was calculated as follows:

$$Wt_{S_h} = \frac{N_h}{S_h}$$

Where: N_h = Total households in the geog
 S_h = Sampled households in the geog
 Wt_{S_h} = basic weight for sampled households in the geog

Finally, the estimation for observed values in the geogs has been obtained by deploying the following formulae.

$$\sum_{N_h} \square = \frac{S_h}{E_h} \times \frac{N_h}{S_h} \times \square = Wt_{E_h} \times Wt_{S_h} \times \square$$

Where: **Nh** = Total households (sampling frame) in the geog
 S_h = Sampled households in the geog
 E_h = Enumerated households in the geog
 \square = Sum of observed value of enumerated households in the geog
 $\sum N_h \square$ = Estimated observed value for total households in the geog.

B: Survey Coverage and Scope

Of the total rural households (list gathered from geog extension centers) of 65,677, at least 7,605 (12% on average) were selected for enumeration. The coverage however, was 6,364 (88%) of the total sampled households of 7,605. The non-response or the absentees stood at 11.6% percent (885) of the households selected for the survey.

At least four dzongkhags of Dagana, Sarpang, Pemagatshel and S/Jongkhar accounted for non-response of 10% to 11%, Trashigang, Chhukha, Mongar, Paro, Trashiyangtse accounted for 5% to 8%, Tsirang, Thimphu and Zhemgang accounted for 3% to 4%, Wangdue, Ha, Trongsa, Punakha and Samtse for 1% to 2% and Lhuentse, Gasa and Bumthang for less than 1% of the national 11.6% non-responded households.

Table 1: Coverage of rural households by the survey 2011

Dzongkhag	Total HH (Sample frame)	Sampled HH	Percent Sampled	Enumerated HH	Percent Coverage
	[N _h]	[S _h]		[E _h]	
Bumthang	1,364	146	11	145	99
Chhukha	3,369	435	13	373	86
Dagana	3,881	463	12	361	78
Gasa	542	120	22	117	98
Ha	1,461	185	13	168	91
Lhuentse	2,360	268	11	261	97
Mongar	5,290	576	11	520	90
Paro	3,500	388	11	334	86
Pemagatshel	4,271	453	11	353	78
Punakha	2,121	336	16	320	95
S/jongkhar	4,066	445	11	345	78
Samtse	6,114	644	11	631	98
Sarpang	4,504	482	11	380	79
Thimphu	2,021	310	15	281	91
Trashigang	7,631	773	10	695	90
Trashiyangtse	3,286	334	10	288	86
Trongsa	1,686	184	11	168	91
Tsirang	3,251	366	11	334	91
Wangdue	2,860	447	16	423	95
Zhemgang	2,099	250	12	212	85
Bhutan	65,677	7,605	12	6,709	88

Summary of Key Results

In general, to a greater extent, it has been found that the quality of data collection has improved. The precision level of the survey results was better for all geogs as compared to the previous surveys. The improvement in the level of precision is believed to be contributed by increased sample size for the smaller geogs with less than 300 households, enhanced capacity of field staff in data collection and supervisory aspects and procedures adopted for estimation of the results.

Following are the summary statistics resulted from the Agriculture Survey 2011.

Table 2: Cereals production

Crops	2011		
	Area (Acres)	Production (MT)	Yield (Kg/Acre)
Barley	3,927	3,110	792
Buckwheat	10,547	8,337	794
Maize	70,312	79,826	1,135
Millets	9,194	7,064	768
Paddy	59,609	78,730	1,312
Wheat	5,802	6,266	1,080
All cereals	158,841	182,404	1,148

Table 3: Fruits production

Crops	2011			
	Tot Trees (Nos)	Bearing Trees (Nos)	Production (MT)	Yield (Kg/Tree)
Apple	698,072	557,780	20,752	37
Mandarin	3,122,356	1,719,637	60,993	35
Mango	51,688	16,250	451	28
Banana	488,759	174,816	2,439	14
Guava	52,731	39,641	950	24
Jack fruit	10,079	6,005	245	41
Litchi	23,217	8,579	120	14
Papaya	9,803	7,215	155	22
Passion fruit	15,908	3,498	66	19
Peach	62,662	41,964	1,649	39
Pear	52,242	27,497	1,354	49
Persimmon	10,190	6,151	213	35
Pine Apple			14	
Plum	22,270	14,422	565	39
Pomegranate	9,478	6,155	119	19
Areca nut	1,726,581	846,506	9,781	12

Walnut	147,613	19,423	474	24
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Table 4: Major vegetables, oilseeds and spices production (2011)

Crops	Area (Acres)	Production (MT)	Yield (Kgs/Acre)
Potato	15,609	52,116	3,339
Asparagus	310	280	902
Cabbage	3,138	2,130	679
Broccoli	371	304	819
Cauliflower	3,138	2,130	679
Carrot	391	458	1,172
Tomato	440	559	1,269
Chili	11,079	8,121	733
Egg plant	344	255	740
Green leaves	2,990	2,510	839
Lady Finger	34	27	792
Radish	2,840	4,865	1,713
Turnip	1,128	7,823	6,936
Peas	759	770	1,014
Beans	2,421	2,111	872
Ground nut	277	175	630
Mustard	3,101	2,344	756
Perilla (Naam)	181	83	461
Soybean	1,302	826	634
Sunflower	29	25	870
Cardamom	4,144	650	157
Dolay Chili	440	181	411
Garlic	2,927	584	199
Ginger	3,363	4,533	1,348
Onion bulb	782	285	364
Dal	1,010	579	573
Lentil	101	58	578
Mung bean	718	579	807
Rajma bean	1,124	873	776
Cucumber		2,796	
Gourds		327	
Pumpkin		5,368	
Squash		2,766	

Table 5: Food-grains security (2011)

Observed variables	% HH
Households reported to have produced enough food-grains	55
Households reported to have not produced enough food-grains	45
Average Food-grains shortage households by months	% HH
January	14.6
February	18.2
March	23.3
April	27.0
May	29.6
June	30.8
July	27.2
August	21.8
September	17.0
October	13.9
November	10.9
December	11.9

Table 6: cash income earned through sale of farm products and off-farm activities and proportion of households by income ranges (2011)

Income sources	Cash Income (Nu.Millions)	% Households earning cash income	Proportion of households by income ranges							
			Below 10000	10000-50000	50000-100000	100000-250000	250000-500000	Above 500000	No Income	
Cereal Crops	68.363	12.5	7.3	4.5	0.0	0.0	0.0	0.0	0.0	87.5
Horticulture Crops	752.215	66.5	29.8	27.4	6.1	0.6	0.0	0.0	0.0	33.5
Cereal + Horticulture Crops	820.578	69.6	31.5	31.2	6.8	0.8	0.0	0.0	0.0	30.4
Off-Farm Activities	1,153.377	47.4	13.6	27.0	5.7	2.1	0.4	0.2	0.2	52.6
Total Income	1,973.856	85.4	22.4	44.0	13.3	4.4	0.5	0.2	0.2	14.6
Contribution from Crops	41.6%	59.5	69.8	53.6	54.4	28.6	0.0	0.0	0.0	40.5
Contribution from Off-Farm Activities	58.4%	40.5	30.2	46.4	45.6	71.4	100.0	100.0	100.0	59.5

Note: The shaded areas represent contribution of cash income and corresponding proportion of households' to total income and income earning households by income ranges.

Table 7: Households members residing and working on the farm (2011)

Total Members	Proportion as percentage of total members By Male and Female		Proportion as percentage of total members by Age Categories			Male and Female proportion as percentage of the total members by Age Categories					
	Male	Female	(-) 15 yrs	15-64 yrs	(+) 64 yrs	(-) 15 yrs		15-64 yrs		(+) 64 yrs	
						Male	Female	Male	Female	Male	Female
282,842	49.0	51.0	27.0	64.3	8.7	13.6	13.5	30.9	33.4	4.6	4.1

Table 8: Motor-road access (2011)

Nos. of Geogs	Proportion of geogs with more than 70% of their households residing within 1 hour walking distance	Proportion of geogs with more than 70% of their households residing above 6 hours walking distance	Proportion of households by walking time taken to reach nearest motor-roads points			
			(-) 1 hour	1 to 3 hours	4 to 6 hours	(+) 6 hours
205	56.6	10.7	67.3	15.6	6.7	10.3

Dzongkhag Level Statistics

1. Crop Production

1.1 Cereals

Table 9: Cultivated area under cereal crops and distribution by dzongkhags and crops (2011)

Dzongkhag	Total cultivated area under cereals and distribution by dzongkhags		Cereals cultivated area distribution as percentage of dzongkhag total by crops					
	Area (Acres)	Distribution as percentage of the national total	Paddy	Maize	Wheat	Barley	Buckwheat	Millets
Bumthang	1,835	1.2	7.9	0.1	19.3	23.7	49.0	0.0
Chhukha	7,351	4.6	28.0	42.6	3.8	0.7	11.7	13.2
Dagana	14,025	8.8	38.2	48.1	0.5	0.6	3.7	8.9
Gasa	481	0.3	35.0	0.0	5.9	59.1	0.0	0.0
Ha	2,662	1.7	4.3	15.3	33.1	5.2	34.7	7.4
Lhuentse	6,310	4.0	53.7	44.5	0.1	0.2	0.0	1.6
Mongar	10,467	6.6	16.3	70.8	0.2	9.4	2.9	0.4
Paro	5,389	3.4	84.7	1.8	10.5	0.7	2.3	0.0
Pemagatshel	7,341	4.6	2.2	77.2	0.8	0.4	10.7	8.7
Punakha	6,492	4.1	81.0	6.4	9.4	1.0	2.3	0.0
S/jongkhar	12,059	7.6	19.9	54.0	1.7	2.6	18.5	3.2
Samtse	18,649	11.7	45.3	40.1	1.3	0.5	2.5	10.3
Sarpang	16,019	10.1	45.0	43.1	0.2	0.1	2.6	9.0
Thimphu	1,958	1.2	74.6	6.5	14.0	4.8	0.1	0.0
Trashigang	12,619	7.9	30.2	54.9	2.9	3.7	6.3	2.0
Trashiyangtse	5,289	3.3	48.9	41.9	0.3	1.0	0.5	7.3
Trongsa	4,327	2.1	29.4	27.9	8.4	9.7	21.6	3.0
Tsirang	11,583	7.3	34.0	53.1	0.8	0.4	1.9	9.7
Wangdue	4,758	3.0	58.5	9.1	18.1	4.1	9.8	0.5
Zhemgang	10,256	6.5	30.1	56.7	3.5	0.6	5.5	3.6
Bhutan	159,869	100.0	0.1	44.2	3.5	2.4	6.6	5.8

Table 10: Cereal crops production and distribution by dzongkhag and crops (2011)

Dzongkhag	Total cereals production and distribution by dzongkhags		Cereals production distribution as percentage of dzongkhag total by crops					
	Cereal prod (MT)	Distribution as percentage of the national total	Paddy	Maize	Wheat	Barley	Buckwheat	Millets
Bumthang	1,721	0.9	10.5	0.1	22.9	19.8	46.7	0.0
Chhukha	7,536	4.1	32.4	42.7	4.0	0.6	10.0	10.3
Dagana	14,694	8.1	43.4	45.0	0.6	0.6	3.5	7.0
Gasa	516	0.3	52.7	0.0	4.5	42.8	0.0	0.0
Ha	2,713	1.5	4.7	12.9	35.1	6.1	33.6	7.6
Lhuentse	8,676	4.8	53.3	45.3	0.1	0.2	0.0	1.1
Mongar	13,089	7.2	17.8	75.8	0.2	4.6	1.4	0.2
Paro	8,807	4.8	90.6	1.2	6.6	0.4	1.2	0.0
Pemagatshel	8,044	4.4	2.3	79.5	0.8	0.2	9.7	7.5
Punakha	10,454	5.7	86.3	5.4	6.3	0.6	1.4	0.0
S/jongkhar	12,586	6.9	21.7	64.6	1.5	1.3	9.5	1.4
Samtse	17,711	9.7	50.1	39.8	1.5	0.3	1.7	6.6
Sarpang	17,322	9.5	50.2	40.0	0.3	0.1	2.4	7.0
Thimphu	3,028	1.7	81.1	5.5	10.7	2.6	0.0	0.0
Trashigang	17,081	9.4	31.7	58.4	2.3	2.3	4.0	1.3
Trashiyangtse	6,780	3.7	50.0	42.8	0.2	1.1	0.3	5.6
Trongsa	4,254	1.8	33.8	27.6	8.9	10.5	16.9	2.3
Tsirang	11,407	6.3	39.2	50.8	0.9	0.5	1.5	7.1
Wangdue	6,001	3.3	64.4	8.2	16.1	3.7	7.2	0.5
Zhemgang	10,958	6.0	33.5	56.7	3.7	0.3	3.4	2.5
Bhutan	183,379	100.0	42.9	43.7	3.3	1.7	4.6	3.9

Table 11: Paddy and Maize harvested area, production and yield (2011)

Dzongkhag	Paddy			Maize		
	Area (Acres)	Production (MT)	Yield (Kg/Acre)	Area (Acres)	Production (MT)	Yield (Kg/Acre)
Bumthang	145	180	1,241	2	1	833
Chhukha	2,058	2,439	1,186	3,131	3,218	1,028
Dagana	5,358	6,375	1,190	6,748	6,612	980
Gasa	168	272	1,619		0	0
Ha	114	127	1,111	408	350	856
Lhuentse	3,388	4,624	1,365	2,805	3,934	1,402
Mongar	1,703	2,328	1,367	7,413	9,927	1,339
Paro	4,563	7,976	1,748	99	105	1,062
Pemagatshel	164	183	1,116	5,665	6,395	1,129
Punakha	5,256	9,025	1,717	412	566	1,374
S/jongkhar	2,403	2,730	1,136	6,518	8,134	1,248
Samtse	8,446	8,867	1,050	7,478	7,056	943
Sarpang	7,206	8,704	1,208	6,896	6,922	1,004
Thimphu	1,462	2,456	1,680	128	167	1,303
Trashigang	3,809	5,419	1,423	6,932	9,974	1,439
Trashiyangtse	2,587	3,391	1,311	2,218	2,899	1,307
Trongsa	1,439	1,635	1,136	1,061	1,064	1,002
Tsirang	3,940	4,469	1,134	6,147	5,800	944
Wangdue	2,782	3,862	1,388	434	494	1,138
Zhemgang	3,085	3,667	1,188	5,817	6,210	1,068
Bhutan	59,609	78,730	1,321	70,312	79,827	1,135

Table 12: Wheat and Barley harvested area, production and yield (2011)

Dzongkhag	Wheat			Barley		
	Area (Acres)	Production (MT)	Yield (Kg/Acre)	Area (Acres)	Production (MT)	Yield (Kg/Acre)
Bumthang	355	395	1,111	434	340	784
Chhukha	281	304	1,080	49	42	853
Dagana	72	86	1,189	87	87	1,004
Gasa	29	23	819	284	221	778
Ha	880	953	1,083	138	167	1,211
Lhuentse	6	8	1,272	10	14	1,406
Mongar	20	20	1,043	989	596	603
Paro	565	580	1,028	37	36	964
Pemagatshel	59	66	1,120	28	19	692
Punakha	610	656	1,076	64	63	986
S/Jongkhar	210	192	916	313	162	518
Samtse	250	261	1,044	95	61	647
Sarpang	37	52	1,399	16	14	896
Thimphu	273	325	1,190	94	80	853
Trashigang	365	392	1,075	468	401	857
Trashiyangtse	16	16	1,039	55	72	1,326
Trongsa	463	452	977	459	426	928
Tsirang	97	108	1,110	52	54	1,036
Wangdue	859	969	1,128	193	220	1,142
Zhemgang	356	407	1,143	64	34	537
Bhutan	5,802	6,266	1,080	3,927	3,110	792

Table 13: Buckwheat and Millets harvested area, production and yield (2011)

Dzongkhag	Buckwheat			Millets		
	Area (Acres)	Production (MT)	Yield (Kg/Acre)	Area (Acres)	Production (MT)	Yield (Kg/Acre)
Bumthang	899	804	894	0	0	0
Chhukha	862	754	875	971	779	802
Dagana	515	512	994	1,246	1,023	0
Gasa	0	0	0	0	0	0
Ha	924	911	985	197	206	1,047
Lhuentse	1	1	667	99	95	963
Mongar	304	186	611	38	32	0
Paro	125	109	871	0	0	0
Pemagatshel	786	781	994	640	600	0
Punakha	150	144	959	0	0	0
S/jongkhar	2,232	1,191	534	383	178	463
Samtse	459	294	640	1,921	1,171	610
Sarpang	418	423	1,012	1,445	1,207	835
Thimphu	2	1	605	0	0	0
Trashigang	797	678	851	248	216	872
Trashiyangtse	25	22	880	387	379	977
Trongsa	797	596	748	108	81	745
Tsirang	224	171	767	1,123	804	716
Wangdue	464	429	924	26	27	1,051
Zhemgang	562	370	658	372	270	727
Bhutan	10,547	8,377	794	9,194	7,064	768

1.2 Fruits

Table 14: Apple and Mandarin production (2011)

Dzongkhag	Apple				Mandarin			
	Total Trees	Bearing Trees	Production (MT)	Yield (Kg/Bearing Tree)	Total Trees	Bearing Trees	Production (MT)	Yield (Kg/Bearing Tree)
Bumthang	11,655	9,869	500	51	0	0	0	0
Chhukha	11,396	10,220	414	41	200,894	159,113	2,089	13
Dagana	730	273	18	65	418,303	283,106	7,542	27
Gasa	125	129	8	59	22	22	0	5
Ha	45,771	30,864	1,046	34	522	434	16	37
Lhuentse	2,689	845	35	41	35,762	6,771	182	27
Mongar	1,999	553	24	44	139,197	43,142	2,723	63
Paro	386,583	282,464	10,333	37	0	0	0	0
Pemagatshel	826	3,932	141	36	775,311	422,006	14,687	35
Punakha	472	247	7	29	65,403	24,438	609	25
S/Jongkhar	588	40	1	30	126,031	49,740	2,842	57
Samtse	35	18	0	21	157,347	112,035	2,877	26
Sarpang	0	0	0	0	414,200	280,870	15,389	55
Thimphu	221,577	215,255	8,079	38	0	0	0	0
Trashigang	4,787	1,297	60	46	134,571	22,077	907	41
Trashiyangtse	6,274	354	16	45	40,542	11,395	512	45
Trongsa	0	0	0	0	17,424	9,822	335	34
Tsirang	345	229	5	23	264,283	176,993	6,599	37
Wangdue	2,220	1,192	64	54	19,227	3,471	111	32
Zhemgang	0	0	0	0	313,317	114,203	3,573	31
Bhutan	698,072	557,780	20,752	37	3,122,356	1,719,637	60,993	35

Table 15: Arecanut and Mango production (2011)

Dzongkhag	Arecanut				Mango			
	Total Trees	Bearing Trees	Production (MT)	Yield (Kg/Bearing Tree)	Total Trees	Bearing Trees	Production (MT)	Yield (Kg/Bearing Tree)
Bumthang	0	0	0	0	0	0	0	0
Chhukha	94,739	57,454	1,104	19	5,550	621	20	32
Dagana	245,629	120,675	1,070	9	6,325	2,225	59	27
Gasa	0	0	0	0	0	0	0	0
Ha	0	0	0	0	0	0	0	0
Lhuentse	0	0	0	0	207	43	2	37
Mongar	3,925	2,966	38	13	6,243	3,448	110	32
Paro	0	0	0	0	0	0	0	0
Pemagatshel	35,007	15,761	203	13	6,685	1,104	33	29
Punakha	0	0	0	0	2,342	1,316	13	10
S/Jongkhar	62,513	37,350	452	12	2,473	847	37	44
Samtse	332,230	181,420	2,954	16	1,949	663	20	30
Sarpang	943,192	428,372	3,915	9	6,452	2,755	70	26
Thimphu	0	0	0	0	0	0	0	0
Trashigang	29	29	1	35	3,842	1,046	40	38
Trashiyangtse	0	0	0	0	767	314	5	14
Trongsa	0	0	0	0	252	128	5	41
Tsirang	1,051	309	3	10	3,420	1,314	29	22
Wangdue	0	0	0	0	241	141	5	32
Zhemgang	8,266	2,169	41	19	4,939	283	3	11
Bhutan	1,726,581	846,506	9,781	12	51,688	16,250	451	28

Table 16: Peach and Pear production (2011)

Dzongkhag	Peach				Pear			
	Total Trees	Bearing Trees	Production (MT)	Yield (Kg/Bearing Tree)	Total Trees	Bearing Trees	Production (MT)	Yield (Kg/Bearing Tree)
Bumthang	663	510	17	33	583	487	22	44
Chhukha	2,714	2,514	68	27	955	567	26	46
Dagana	2,885	2,100	68	32	2,528	1,935	77	40
Gasa	163	107	3	26	219	34	1	35
Ha	768	568	15	26	99	56	2	35
Lhuentse	4,277	3,632	149	41	3,224	1,748	106	60
Mongar	5,515	3,457	131	38	6,399	2,811	70	25
Paro	3,593	2,907	82	28	1,483	1,062	41	39
Pemagatshel	5,073	3,872	106	27	2,239	250	10	39
Punakha	2,662	1,644	83	51	3,667	2,578	106	41
S/Jongkhar	3,878	2,424	330	136	2,733	1,568	125	79
Samtse	2,523	2,034	69	34	1,857	1,398	83	59
Sarpang	1,704	1,458	44	30	2,096	1,584	89	56
Thimphu	909	880	24	27	904	792	21	26
Trashigang	8,077	5,868	213	36	11,321	5,684	211	37
Trashiyangtse	6,030	3,662	124	34	4,928	443	11	24
Trongsa	877	474	17	35	614	229	7	31
Tsirang	1,779	1,417	53	37	3,851	3,154	196	62
Wangdue	7,436	1,577	36	23	1,912	690	19	27
Zhemgang	1,135	859	18	21	627	425	12	28
Bhutan	62,662	41,964	1,649	39	52,242	27,497	1,233	45

Table 17: Plum and Walnut production (2011)

Dzongkhag	Plum				Walnut			
	Total Trees	Bearing Trees	Production (MT)	Yield (Kg/Bearing Tree)	Total Trees	Bearing Trees	Production (MT)	Yield (Kg/Bearing Tree)
Bumthang	486	328	12	36	2,049	1,198	10	8
Chhukha	359	351	14	39	975	401	9	21
Dagana	1,183	1,200	24	20	95,948	4,100	111	27
Gasa	0	0	0	0	0	0	0	0
Ha	184	112	3	27	1,334	375	20	53
Lhuentse	1,638	1,196	55	46	1,858	714	22	30
Mongar	3,111	1,918	96	50	6,208	743	29	39
Paro	454	298	11	35	2,544	1,370	43	31
Pemagatshel	1,173	1,022	25	24	1,540	504	7	14
Punakha	957	642	33	52	2,423	951	19	20
SamdrupJongkhar	1,414	521	45	86	3,459	978	50	51
Samtse	743	306	9	29	1,028	120	5	42
Sarpang	839	563	21	37	1,002	42	1	23
Thimphu	972	966	27	28	3,251	1,088	23	21
Trashigang	4,074	2,412	80	33	8,829	3,425	79	23
Trashiyangtse	1,912	697	24	34	5,746	2,666	30	11
Trongsa	833	387	11	27	1,715	215	6	30
Tsirang	1,433	1,154	66	57	1,137	50	3	64
Wangdue	326	235	7	29	2,727	82	1	8
Zhemgang	181	115	5	41	3,842	402	6	15
Bhutan	22,270	14,422	565	39	147,613	19,423	474	24

Table 18: Other fruits production (MT), 2011

Dzongkhag	Banana	Guava	Jack fruit	Litchi	Papaya	Passion fruit	Persimmon	Pineapple	Pomegranate
Bumthang	0	0	0	0	0	0	0	0	0
Chhukha	123	20	7	0	24	1	123	20	7
Dagana	288	40	25	16	14	7	288	40	25
Gasa	0	0	0	0	0	0	0	0	0
Ha	10	0	0	0	1	0	10	0	0
Lhuentse	11	24	0	0	0	0	11	24	0
Mongar	110	108	12	4	14	11	110	108	12
Paro	0	0	0	0	0	0	0	0	0
Pemagatshel	165	81	41	1	2	0	165	81	41
Punakha	11	153	0	0	0	3	11	153	0
S/Jongkhar	108	17	10	11	3	4	108	17	10
Samtse	373	93	73	20	8	2	373	93	73
Sarpang	560	103	41	67	37	1	560	103	41
Thimphu	0	0	0	0	0	0	0	0	0
Trashigang	197	59	7	0	6	15	197	59	7
Trashiyangtse	25	15	0	0	9	2	25	15	0
Trongsa	40	66	1	0	3	15	40	66	1
Tsirang	282	108	5	0	25	3	282	108	5
Wangdue	48	29	0	0	2	2	48	29	0
Zhemgang	88	33	22	1	7	0	88	33	22
Bhutan	2,439	950	245	120	155	66	2,439	950	245

1.3 Spices

Table 19: Cardamom and Ginger production (2011)

Dzongkhag	Cardamom			Ginger		
	Area (Acres)	Production (MT)	Yield (Kg/Acre)	Area (Acres)	Production (MT)	Yield (Kg/Acre)
Bumthang	0	0	0	0	0	0
Chhukha	748	88	118	525	757	1,465
Dagana	490	47	95	93	79	991
Gasa	0	0	0	0	0	0
Ha	503	22	44	5	1	675
Lhuentse	0	0	0	3	1	819
Mongar	4	0	128	49	22	456
Paro	0	0	0	0	0	0
Pemagatshel	0	0	290	67	57	906
Punakha	0	0	0	6	2	618
S/Jongkhar	3	5	1,936	295	401	870
Samtse	2,086	449	215	1,395	2,214	1,500
Sarpang	213	33	153	530	765	1,437
Thimphu	0	0	0	0	0	0
Trashigang	6	2	283	23	16	948
Trashiyangtse	0	0	0	31	16	797
Trongsa	69	1	13	7	4	697
Tsirang	19	3	143	268	127	822
Wangdue	0	0	0	10	14	1,444
Zhemgang	1	0	41	57	57	997
Bhutan	4,144	650	157	3,363	4,533	1,348

Table 20: Garlic and Onion production (2011)

Dzongkhag	Garlic			Onion		
	Area (Acres)	Production (MT)	Yield (Kg/Acre)	Area (Acres)	Production (MT)	Yield (Kg/Acre)
Bumthang	6	8	1,248	1	0	625
Chhukha	10	4	434	15	6	383
Dagana	49	11	229	33	9	256
Gasa	10	3	324	0	0	0
Ha	33	9	265	5	1	115
Lhuentse	80	40	502	9	7	691
Mongar	174	56	319	73	14	192
Paro	13	7	493	11	6	556
Pemagatshel	58	21	364	13	6	414
Punakha	35	23	651	44	30	679
S/Jongkhar	142	48	340	97	18	191
Samtse	35	25	700	42	17	404
Sarpang	49	24	496	48	22	453
Thimphu	10	6	572	6	3	430
Trashigang	232	149	644	160	46	288
Trashiyangtse	100	54	539	82	13	164
Trongsa	101	9	84	3	2	610
Tsirang	58	15	264	34	9	279
Wangdue	1,703	48	28	84	58	695
Zhemgang	27	24	870	20	18	882
Bhutan	2,927	584	199	782	285	364

1.4 Vegetables

Table 21: Potato and Chili production (2011)

Dzongkhag	Potato			Chili		
	Area (Acres)	Production (MT)	Yield (Kg/Acre)	Area (Acres)	Production (MT)	Yield (Kg/Acre)
Bumthang	973	4,158	4,272	85	61	722
Chhukha	1,286	4,483	3,486	522	343	657
Dagana	470	1,511	3,215	537	175	326
Gasa	142	530	3,724	40	11	277
Ha	406	1,604	3,949	176	54	309
Lhuentse	763	2,225	2,915	680	383	563
Mongar	1,785	5,423	3,039	1,181	546	462
Paro	940	3,144	3,345	778	1,317	1,692
Pemagatshel	880	2,831	3,217	918	272	296
Punakha	162	478	2,951	554	734	1,325
S/Jongkhar	947	2,607	2,751	625	646	1,033
Samtse	302	978	3,242	451	150	332
Sarpang	314	1,005	3,199	467	184	395
Thimphu	539	2,049	3,804	327	265	809
Trashigang	2,681	8,635	3,221	1,425	1,180	828
Trashiyangtse	935	2,764	2,957	876	404	461
Trongsa	201	672	3,347	231	121	523
Tsirang	437	1,305	2,988	426	161	378
Wangdue	1,231	5,315	4,319	294	741	2,523
Zhemgang	215	400	1,859	484	372	767
Bhutan	15,609	52,116	3,339	11,079	8,121	733

Table 22: Cabbage and Cauliflower production (2011)

Dzongkhag	Cabbage			Cauliflower		
	Area (Acres)	Production (MT)	Yield (Kg/Acre)	Area (Acres)	Production (MT)	Yield (Kg/Acre)
Bumthang	54	70	1,281	54	70	1,281
Chhukha	97	76	784	97	76	784
Dagana	65	36	557	65	36	557
Gasa	17	8	481	17	8	481
Ha	44	30	673	44	30	673
Lhuentse	227	137	603	227	137	603
Mongar	320	195	609	320	195	609
Paro	77	46	599	77	46	599
Pemagatshel	221	201	910	221	201	910
Punakha	4	2	470	4	2	470
S/jongkhar	178	89	502	178	89	502
Samtse	138	96	697	138	96	697
Sarpang	174	131	755	174	131	755
Thimphu	65	62	949	65	62	949
Trashigang	624	410	657	624	410	657
Trashiyangtse	281	193	686	281	193	686
Trongsa	72	36	493	72	36	493
Tsirang	137	128	934	137	128	934
Wangdue	60	38	641	60	38	641
Zhemgang	283	146	517	283	146	517
Bhutan	3,138	2,130	679	3,138	2,130	679

Table 23: Other Vegetables production (2011)

Dzongkhag	Broccoli	Asparagus	Green leaves	Lady Finger	Beans	Peas	Carrot	Turnip	Radish	Cucumber	Gourds	Pumpkin
Bumthang	4	1	21	0	12	7	17	124	97	4	0	14
Chhukha	3	0	162	1	93	81	71	106	317	129	56	280
Dagana	5	1	117	1	42	5	6	27	155	127	9	269
Gasa	1	0	5	0	4	12	6	16	24	6	0	4
Ha	2	1	18	0	18	41	20	245	116	19	15	97
Lhuentse	19	4	52	0	69	2	4	2	148	112	3	107
Mongar	16	3	77	1	132	6	25	11	426	218	4	296
Paro	23	160	68		198	148	63	183	244	137	1	194
Pemagatshel	5	1	49	0	72	12	5	3	241	160	6	439
Punakha	14	1	61	0	237	90	9	49	142	282	10	157
S/Jongkhar	21	5	272	5	124	55	6	0	402	269	51	564
Samtse	36		452	6	101	10	6	8	136	133	61	300
Sarpang	14	0	213	5	88	10	5	2	140	94	38	300
Thimphu	16	19	63	0	62	78	21	184	228	46	0	56
Trashigang	30	19	175	1	153	51	39	42	564	516	22	1,177
Trashiyangtse	7	7	58	0	63	19	13	5	117	151	11	339
Trongsa	9	2	24	0	26	10	10	16	59	48	3	157
Tsirang	35	0	236	6	116	24	8	12	216	130	14	235
Wangdue	3	6	103	2	60	11	42	373	412	87	12	94
Zhemgang	9	0	75		176	1	12	2	267	128	12	291
Bhutan	270	231	2,303	27	1,847	673	387	1,410	4,451	2,796	327	5,368

Table 24: Oilseeds production (2011)

Dzongkhag	Ground nut	Mustard	Perilla (Naam)	Soyabean
Bumthang	0	47	0	0
Chhukha	0	268	1	7
Dagana	4	192	2	21
Gasa	0	0	0	0
Ha	5	49	22	0
Lhuentse	0	66	0	14
Mongar	6	31	6	18
Paro	1	55	0	0
Pemagatshel	16	38	16	166
Punakha	1	100	1	9
S/Jongkhar	1	78	1	61
Samtse	0	224	0	16
Sarpang	0	337	2	12
Thimphu	0	15	0	0
Trashigang	75	240	1	310
Trashiyangtse	60	11	0	115
Trongsa	0	119	11	6
Tsirang	5	197	5	32
Wangdue	0	131	2	11
Zhemgang	0	144	12	28
Bhutan	175	2,344	83	826

2. Food grain security

Table 28: Proportion of farming households by self-sufficiency of food-grains (2011)

Dzongkhag	Percent Households having produced sufficient food-grains	Percent Households reported to have not produced sufficient food-grains	Percent households with food-Grain shortage by months											
			Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Bumthang	21.4	78.6	46	42	45	49	47	48	48	46	48	43	44	49
Chhukha	16.1	83.9	25	35	53	63	60	49	31	20	13	10	10	18
Dagana	40.3	59.7	11	13	21	26	36	49	50	44	33	23	13	10
Gasa	21.2	78.8	65	65	65	64	66	79	78	75	65	65	65	64
Ha	15.5	84.5	67	72	81	81	80	83	80	46	38	36	44	52
Lhuentse	83.9	16.1	1	3	3	6	10	13	11	7	5	3	1	1
Mongar	67.5	32.5	2	3	5	8	22	22	13	1	0	1	1	1
Paro	75.1	24.9	12	13	15	16	15	15	14	8	6	6	4	5
Pemagatshel	69.3	30.7	6	17	27	29	25	19	9	6	4	4	4	4
Punakha	77.3	22.7	2	3	3	5	9	10	14	14	14	12	10	3
S/jongkhar	53.5	46.5	12	18	28	27	12	9	7	8	9	7	3	5
Samtse	50.4	49.6	11	14	24	31	32	34	35	33	22	18	6	8
Sarpang	34.5	65.5	23	27	34	41	44	48	45	35	30	24	23	23
Thimphu	33.1	66.9	53	52	55	55	55	53	53	53	54	52	47	41
Trashigang	71.4	28.6	11	15	12	10	15	22	18	14	9	7	5	10
Trashiyangtse	59.4	40.6	9	12	19	23	27	27	28	25	17	11	7	5
Trongsa	31.6	68.4	17	32	45	54	61	62	49	40	31	17	14	15
Tsirang	48.9	51.1	16	19	26	37	42	40	32	24	16	14	11	13
Wangdue	73.0	27.0	10	11	8	8	14	14	17	19	16	12	10	9
Zhemgang	66.9	33.1	0	3	11	19	19	12	1	0	0	0	0	0
Bhutan	55.0	45.0	0	0	23	27	30	31	27	22	17	14	11	12

3. Farming households cash income

Table 29: Cash income and contribution by sources (2011)

Dzongkhag	Amount of cash income (Nu.Mn) by sources				Percent Contribution		Dzongkhag wise income distribution as percentage of the total national income
	Cereal	Horticulture	Off-Farm Activities	Total Income	Cereal + Horticulture	Off-Farm Activities	
Bumthang	0.206	28.185	35.750	64.141	44.3	55.7	3.2
Chhukha	0.419	62.090	27.257	89.766	69.6	30.4	4.5
Dagana	0.887	44.210	67.837	112.934	39.9	60.1	5.7
Gasa	0.041	0.664	31.913	32.618	2.2	97.8	1.7
Ha	0.037	28.830	33.984	62.851	45.9	54.1	3.2
Lhuentse	2.249	4.390	43.613	50.251	13.2	86.8	2.5
Mongar	4.420	19.930	50.936	75.286	32.3	67.7	3.8
Paro	17.404	89.953	55.990	163.347	65.7	34.3	8.3
Pemagatshel	0.271	52.393	95.847	148.511	35.5	64.5	7.5
Punakha	14.608	22.770	16.598	53.976	69.2	30.8	2.7
S/jongkhar	0.992	26.487	22.170	49.649	55.3	44.7	2.5
Samtse	0.780	73.134	51.342	125.256	59.0	41.0	6.3
Sarpang	3.128	75.322	191.826	270.276	29.0	71.0	13.7
Thimphu	2.014	38.939	98.448	139.400	29.4	70.6	7.1
Trashigang	14.236	45.513	121.005	180.754	33.1	66.9	9.2
Trashiyangtse	2.543	15.097	61.298	78.938	22.3	77.7	4.0
Trongsa	0.597	3.547	8.157	12.301	33.7	66.3	0.6
Tsirang	1.306	52.621	79.966	133.893	40.3	59.7	6.8
Wangdue	2.203	44.970	30.972	78.145	60.4	39.6	4.0
Zhemgang	0.024	23.171	28.468	51.662	44.9	55.1	2.6
Bhutan	68.363	752.215	1,153.377	1,973.954	41.6	58.4	100.0

3.1 Income generated through sale of cereal-grains

Table 30: Proportion of rural households by ranges of income generated from sale of cereal grains (2011)

Dzongkhag	Below 10000	10000 -50000	50000-100000	100000-250000	250000-500000	Above 500000	No Income
Bumthang	2.8	0.7	0.0	0.0	0.0	0.0	96.6
Chhukha	2.4	0.5	0.0	0.0	0.0	0.0	97.0
Dagana	4.7	0.6	0.0	0.0	0.0	0.0	94.7
Gasa	2.6	0.0	0.0	0.0	0.0	0.0	97.4
Ha	1.2	0.0	0.0	0.0	0.0	0.0	98.8
Lhuentse	7.3	3.5	0.0	0.0	0.0	0.0	89.2
Mongar	13.6	4.7	0.0	0.0	0.0	0.0	81.7
Paro	5.7	19.8	0.0	0.0	0.0	0.0	74.6
Pemagatshel	3.1	0.3	0.0	0.0	0.0	0.0	96.6
Punakha	25.0	30.0	0.0	0.0	0.0	0.0	45.0
S/Jongkhar	0.4	0.8	0.0	0.0	0.0	0.0	98.5
Samtse	3.0	0.6	0.0	0.0	0.0	0.0	96.3
Sarpang	6.1	1.9	0.0	0.0	0.0	0.0	92.0
Thimphu	3.9	3.2	0.0	0.0	0.0	0.0	92.8
Trashigang	12.9	7.2	0.0	0.0	0.0	0.0	79.9
Trashiyangtse	15.0	2.1	0.0	0.0	0.0	0.0	82.9
Trongsa	14.1	1.2	0.0	0.0	0.0	0.0	84.7
Tsirang	9.0	0.9	0.0	0.0	0.0	0.0	90.1
Wangdue	6.4	3.5	0.0	0.0	0.0	0.0	90.1
Zhemgang	1.0	0.0	0.0	0.0	0.0	0.0	99.0
Bhutan	7.4	4.6	0.0	0.0	0.0	0.0	88.0

3.2 Income generated through sale of cereal grains

Table 31: Proportion of rural households by ranges of income generated from sale of horticulture crops (2011)

Dzongkhag	Below 10000	10000-50000	50000-100000	100000-250000	250000-500000	Above 500000	No Income
Bumthang	9.7	46.2	12.4	0.0	0.0	0.0	31.7
Chhukha	15.4	43.9	12.9	0.3	0.0	0.0	27.5
Dagana	25.1	22.3	4.5	1.7	0.0	0.0	46.4
Gasa	35.0	2.6	0.0	0.0	0.0	0.0	62.4
Ha	12.1	42.4	17.0	0.0	0.0	0.0	28.5
Lhuentse	39.2	4.6	0.0	0.0	0.0	0.0	56.2
Mongar	45.8	15.4	2.1	0.3	0.0	0.0	36.4
Paro	17.1	51.2	15.0	2.1	0.0	0.0	14.7
Pemagatshel	38.1	34.2	6.5	1.4	0.0	0.0	19.8
Punakha	35.6	28.4	4.4	0.0	0.0	0.0	31.6
S/Jongkhar	7.6	1.9	0.0	0.0	0.0	0.0	90.5
Samtse	39.4	24.2	5.7	0.3	0.0	0.0	30.3
Sarpang	24.2	34.0	8.8	0.8	0.0	0.0	32.2
Thimphu	8.6	28.3	10.0	1.8	0.0	0.0	51.3
Trashigang	36.9	23.3	1.3	0.0	0.0	0.0	38.4
Trashiyangtse	44.4	15.7	0.3	0.0	0.0	0.0	39.5
Trongsa	65.9	9.4	1.2	0.0	0.0	0.0	23.5
Tsirang	31.9	34.3	9.9	1.8	0.0	0.0	22.1
Wangdue	27.7	39.8	7.7	0.0	0.0	0.0	24.9
Zhemgang	34.3	33.3	6.7	0.0	0.0	0.0	25.7
Bhutan	30.1	27.7	6.2	0.6	0.0	0.0	35.5

3.3 Income generated through sale of Cereal-grains and Horticulture crops

Table 32: Proportion of rural households by ranges of income generated from sale of cereal grains and horticulture crops (2011)

Dzongkhag	Below 10000	10000 -50000	50000-100000	100000-250000	250000-500000	Above 500000	No Income
Bumthang	9.7	46.2	13.1	0.0	0.0	0.0	31.0
Chhukha	15.6	44.5	12.9	0.3	0.0	0.0	26.7
Dagana	26.0	22.9	4.5	1.7	0.0	0.0	45.0
Gasa	34.2	3.4	0.0	0.0	0.0	0.0	62.4
Ha	13.3	42.4	17.0	0.0	0.0	0.0	27.3
Lhuentse	44.6	7.3	0.0	0.0	0.0	0.0	48.1
Mongar	45.0	20.4	2.6	0.3	0.0	0.0	31.7
Paro	14.4	49.7	18.0	4.8	0.0	0.0	13.2
Pemagatshel	38.4	34.2	6.5	1.4	0.0	0.0	19.5
Punakha	27.2	45.3	7.8	0.6	0.0	0.0	19.1
S/Jongkhar	42.6	29.3	1.9	0.4	0.0	0.0	25.9
Samtse	39.6	24.4	5.7	0.3	0.0	0.0	30.0
Sarpang	24.2	35.6	8.8	0.8	0.0	0.0	30.6
Thimphu	8.2	28.7	10.0	2.2	0.0	0.0	50.9
Trashigang	37.4	29.1	2.2	0.0	0.0	0.0	31.3
Trashiyangtse	46.2	18.9	0.3	0.0	0.0	0.0	34.6
Trongsa	64.7	12.9	1.2	0.0	0.0	0.0	21.2
Tsirang	32.5	34.3	10.4	1.8	0.0	0.0	20.9
Wangdue	26.7	42.2	8.4	0.0	0.0	0.0	22.7
Zhemgang	35.2	33.3	6.7	0.0	0.0	0.0	24.8
Bhutan	31.4	31.2	6.8	0.8	0.0	0.0	29.9

3.4 Income generated through Off-farm activities

Table 33: Proportion of rural households by ranges of income generated from off-farm activities (2011)

Dzongkhag	Below 10000	10000 -50000	50000-100000	100000-250000	250000-500000	Above 500000	No Income
Bumthang	5.5	19.3	6.9	0.0	0.0	1.4	66.9
Chhukha	13.7	23.5	2.7	0.8	0.0	0.3	59.0
Dagana	11.5	26.5	7.5	1.1	0.3	0.3	52.8
Gasa	0.9	18.8	17.9	17.1	1.7	0.0	43.6
Ha	17.6	21.8	11.5	4.8	0.0	0.0	44.2
Lhuentse	15.0	36.9	7.3	2.3	0.0	0.0	38.5
Mongar	11.8	41.1	4.7	0.5	0.0	0.0	41.9
Paro	0.3	11.1	6.0	3.9	1.5	0.0	77.2
Pemagatshel	19.8	26.8	6.8	2.5	1.1	0.6	42.4
Punakha	3.8	11.6	4.1	0.3	0.3	0.0	80.0
S/Jongkhar	44.5	30.8	1.9	0.4	0.0	0.0	22.4
Samtse	15.9	19.0	3.0	1.1	0.0	0.0	60.9
Sarpang	14.4	26.9	5.1	3.5	1.3	0.8	48.1
Thimphu	2.9	27.6	12.9	3.9	1.4	0.4	50.9
Trashigang	12.4	28.4	3.2	1.6	0.4	0.3	53.6
Trashiyangtse	15.0	37.1	8.0	1.0	0.7	0.0	38.1
Trongsa	17.6	17.6	3.5	1.2	0.0	0.0	60.0
Tsirang	14.0	34.0	10.1	3.9	0.0	0.3	37.6
Wangdue	9.4	26.2	3.5	0.2	0.2	0.0	60.5
Zhemgang	21.0	53.3	2.4	0.5	0.0	0.0	22.9
Bhutan	13.3	27.0	5.7	2.0	0.4	0.2	51.3

3.5 Total income generated through sale of cereal-grains, horticulture crops and off-farm activities

Table 34: Proportion of rural households by ranges of grand total income (2011)

Dzongkhag	Below 10000	10000 -50000	50000-100000	100000-250000	250000-500000	Above 500000	No Income
Bumthang	8.3	42.1	26.2	1.4	0.0	1.4	20.7
Chhukha	13.2	54.7	17.5	2.2	0.0	0.3	12.1
Dagana	18.7	39.4	14.5	3.1	0.8	0.3	23.2
Gasa	31.6	22.2	17.9	17.1	1.7	0.0	9.4
Ha	18.8	37.6	24.2	10.3	1.2	0.0	7.9
Lhuentse	23.8	41.9	9.6	2.7	0.0	0.0	21.9
Mongar	26.4	52.6	8.9	1.3	0.0	0.0	10.7
Paro	10.8	44.3	22.5	12.3	1.5	0.0	8.7
Pemagatshel	24.6	44.4	13.8	6.2	0.8	0.8	9.3
Punakha	22.8	48.4	12.8	1.9	0.3	0.0	13.8
S/Jongkhar	23.6	31.2	1.9	0.4	0.0	0.0	43.0
Samtse	30.0	38.4	8.9	2.7	0.0	0.0	19.9
Sarpang	20.5	42.0	18.4	5.1	1.3	0.8	12.0
Thimphu	5.4	40.5	25.1	7.5	1.1	0.7	19.7
Trashigang	29.0	44.6	7.5	2.4	0.6	0.3	15.7
Trashiyangtse	30.4	44.4	8.7	2.8	0.3	0.3	12.9
Trongsa	56.5	31.8	3.5	2.4	0.0	0.0	5.9
Tsirang	19.7	41.5	19.7	11.9	0.0	0.3	6.9
Wangdue	20.7	52.6	11.6	2.7	0.2	0.0	12.1
Zhemgang	15.7	67.1	9.0	2.4	0.0	0.0	5.7
Bhutan	22.2	44.2	13.4	4.4	0.5	0.3	15.1

4. Farming households' members

The households' members refer to the members staying and working on the farm during 2011.

Table 35: Member composition of farming-households (2011)

Dzongkhag	Total	Male	Female	Below 15 yrs		15-64 Total		Above 64 yrs	
				Male	Female	Male	Female	Male	Female
Bumthang	6,474	2,829	3,645	874	923	1,651	2,262	304	460
Chhukha	15,313	7,839	7,474	2,289	2,222	4,833	4,612	716	641
Dagana	18,755	9,141	9,614	2,659	2,550	5,853	6,660	630	404
Gasa	2,821	1,392	1,429	409	406	832	857	151	167
Ha	5,244	2,590	2,654	776	668	1,529	1,656	285	330
Lhuentse	10,074	4,789	5,285	1,530	1,493	2,738	3,273	520	518
Mongar	21,712	10,447	11,265	2,609	2,775	6,790	7,456	1,048	1,034
Paro	14,363	6,710	7,653	1,643	1,978	4,510	5,217	557	459
Pemagatshel	11,364	5,253	6,110	1,160	1,070	3,463	4,498	631	542
Punakha	10,185	4,764	5,421	1,526	1,619	2,707	3,183	531	619
S/jongkhar	17,630	8,971	8,659	2,297	2,329	5,581	5,429	1,094	901
Samtse	26,568	13,441	13,128	3,130	3,004	9,146	9,281	1,165	843
Sarpang	21,989	10,753	11,237	3,034	2,983	6,691	7,444	1,027	810
Thimphu	10,177	4,915	5,262	1,400	1,503	3,144	3,344	371	416
Trashigang	31,815	15,743	16,071	4,803	5,137	9,589	9,819	1,352	1,116
Trashiyangtse	12,957	6,510	6,447	2,217	2,117	3,762	3,857	532	472
Trongsa	7,580	3,796	3,784	794	847	2,631	2,677	370	260
Tsirang	18,204	9,414	8,790	2,718	2,352	6,003	5,923	693	515
Wangdue	12,998	6,140	6,858	1,664	1,442	3,739	4,690	736	726
Zhemgang	9,966	4,900	5,066	1,396	1,375	3,036	3,331	467	360
Bhutan	286,189	140,337	145,853	38,930	38,792	88,228	95,469	13,178	11,592

Table 36: Proportion of member composition of farming-households (2011)

Dzongkhag	Total		Age group			Age group and gender					
	Male	Female	Below 15 yrs	15-64 yrs	Above 64 yrs	Below 15 yrs		15-64 yrs		Above 64 yrs	
						Male	Female	Male	Female	Male	Female
Bumthang	43.7	56.3	27.8	60.4	11.8	13.5	14.3	25.5	34.9	4.7	7.1
Chhukha	51.2	48.8	29.5	61.7	8.9	15.0	14.5	31.6	30.1	4.7	4.2
Dagana	48.7	51.3	27.8	66.7	5.5	14.2	13.6	31.2	35.5	3.4	2.2
Gasa	49.3	50.7	28.9	59.8	11.3	14.5	14.4	29.5	30.4	5.3	5.9
Ha	49.4	50.6	27.5	60.7	11.7	14.8	12.7	29.2	31.6	5.4	6.3
Lhuentse	47.5	52.5	30.0	59.7	10.3	15.2	14.8	27.2	32.5	5.2	5.1
Mongar	48.1	51.9	24.8	65.6	9.6	12.0	12.8	31.3	34.3	4.8	4.8
Paro	46.7	53.3	25.2	67.7	7.1	11.4	13.8	31.4	36.3	3.9	3.2
Pemagatshel	46.2	53.8	19.6	70.1	10.3	10.2	9.4	30.5	39.6	5.6	4.8
Punakha	46.8	53.2	30.9	57.8	11.3	15.0	15.9	26.6	31.2	5.2	6.1
S/jongkhar	50.9	49.1	26.2	62.4	11.3	13.0	13.2	31.7	30.8	6.2	5.1
Samtse	50.6	49.4	23.1	69.4	7.6	11.8	11.3	34.4	34.9	4.4	3.2
Sarpang	48.9	51.1	27.4	64.3	8.4	13.8	13.6	30.4	33.9	4.7	3.7
Thimphu	48.3	51.7	28.5	63.8	7.7	13.8	14.8	30.9	32.9	3.6	4.1
Trashigang	49.5	50.5	31.2	61.0	7.8	15.1	16.1	30.1	30.9	4.2	3.5
Trashiyangtse	50.2	49.8	33.5	58.8	7.7	17.1	16.3	29.0	29.8	4.1	3.6
Trongsa	50.1	49.9	21.7	70.0	8.3	10.5	11.2	34.7	35.3	4.9	3.4
Tsirang	51.7	48.3	27.9	65.5	6.6	14.9	12.9	33.0	32.5	3.8	2.8
Wangdue	47.2	52.8	23.9	64.9	11.2	12.8	11.1	28.8	36.1	5.7	5.6
Zhemgang	49.2	50.8	27.8	63.9	8.3	14.0	13.8	30.5	33.4	4.7	3.6
Bhutan	49.0	51.0	27.2	64.2	8.7	13.6	13.6	30.8	33.4	4.6	4.1

Table 37: Dzongkhag-wise share of member composition of farming-households 2011)

Dzongkhag	Total share (%)			Age group (%)			Age group and gender (%)					
	Total	Male	Female	Below 15 yrs	15-64 yrs	Above 64 yrs	Below 15 yrs		15-64 Total		Above 64 yrs	
							Male	Female	Male	Female	Male	Female
Bumthang	2.3	2.0	2.5	2.3	2.2	3.1	2.3	2.4	1.9	2.4	2.3	4.0
Chhukha	5.4	5.7	5.2	5.9	5.2	5.5	6.0	5.8	5.5	4.9	5.5	5.6
Dagana	6.6	6.6	6.7	6.8	6.9	4.2	6.9	6.7	6.7	7.0	4.8	3.5
Gasa	1.0	1.0	1.0	1.1	0.9	1.3	1.1	1.1	1.0	0.9	1.2	1.5
Ha	1.9	1.9	1.8	1.9	1.8	2.5	2.0	1.8	1.8	1.8	2.2	2.9
Lhuentse	3.6	3.5	3.7	4.0	3.3	4.2	4.0	3.9	3.1	3.5	4.0	4.5
Mongar	7.7	7.5	7.8	7.0	7.8	8.5	6.8	7.3	7.8	7.9	8.0	9.0
Paro	5.1	4.8	5.3	4.7	5.3	4.1	4.3	5.2	5.2	5.5	4.3	4.0
Pemagatshel	4.0	3.8	4.2	2.9	4.4	4.8	3.0	2.8	4.0	4.8	4.8	4.7
Punakha	3.6	3.4	3.8	4.1	3.2	4.7	4.0	4.2	3.1	3.4	4.1	5.4
S/jongkhar	5.0	5.3	4.8	4.4	5.0	7.2	4.5	4.3	5.3	4.8	7.5	7.0
Samtse	9.4	9.7	9.1	8.0	10.1	8.2	8.2	7.9	10.5	9.8	8.9	7.3
Sarpang	7.8	7.8	7.8	7.9	7.8	7.5	7.9	7.8	7.7	7.9	7.9	7.0
Thimphu	3.6	3.5	3.7	3.8	3.6	3.2	3.6	3.9	3.6	3.5	2.8	3.6
Trashigang	11.2	11.4	11.1	13.0	10.7	10.1	12.5	13.5	11.0	10.4	10.4	9.7
Trashiyangtse	4.6	4.7	4.5	5.7	4.2	4.1	5.8	5.6	4.3	4.1	4.1	4.1
Trongsa	2.7	2.7	2.6	2.1	2.9	2.6	2.1	2.2	3.0	2.8	2.8	2.3
Tsirang	6.4	6.8	6.1	6.6	6.6	4.9	7.1	6.2	6.9	6.3	5.3	4.5
Wangdue	4.6	4.4	4.8	4.1	4.6	6.0	4.3	3.8	4.3	5.0	5.6	6.3
Zhemgang	3.5	3.5	3.5	3.6	3.5	3.4	3.6	3.6	3.5	3.5	3.6	3.1
Bhutan	100	100	100	100	100	100	100	100	100	100	100	100

5. Road access

The road access refers to the accessibility of farming households to any type of roads that are pliable for motor vehicles.

Table 38: Proportion of rural households by walking distance to motor-road points (2011)

Dzongkhag	Total Geogs	Proportion of geogs with more than 70% of their households residing within 1 hour walking distance	Proportion of geogs with more than 70% of their households residing above 6 hours walking distance	Proportion of households by walking time taken to reach nearest motor-roads points			
				(-) 1 hour	1 to 3 hours	4 to 6 hours	(+) 6 hours
Bumthang	4	100.0	0.0	95.7	4.3	0.0	0.0
Chhukha	11	27.3	18.2	58.9	13.2	8.3	19.6
Dagana	14	57.1	7.1	70.8	21.4	1.0	7.2
Gasa	4	50.0	50.0	34.9	0.0	0.0	65.1
Ha	6	66.7	33.3	79.6	0.0	0.0	20.4
Lhuentse	8	25.0	0.0	48.6	25.6	20.4	5.7
Mongar	17	58.8	5.9	66.0	18.4	9.6	6.0
Paro	10	100.0	0.0	98.1	1.9	0.0	0.0
Pemagatshel	11	36.4	9.1	48.3	36.1	7.3	8.3
Punakha	11	81.8	0.0	83.3	16.3	0.4	0.0
S/Jongkhar	11	23.1	7.7	40.7	30.5	13.0	15.7
Samtse	15	26.7	13.3	42.3	27.5	15.3	14.7
Sarpang	12	75.0	8.3	81.9	3.5	3.4	10.9
Thimphu	8	62.5	37.5	91.4	0.0	0.1	8.5
Trashigang	15	66.7	13.3	80.0	7.0	4.8	8.3
Trashiyangtse	8	62.5	0.0	68.3	17.8	8.3	5.0
Trongsa	5	66.7	0.0	75.7	7.2	13.5	3.6
Tsirang	12	75.0	0.0	82.4	15.3	1.6	0.4
Wangdue	15	60.0	6.7	69.2	20.6	5.8	4.4
Zhemgang	8	50.0	37.5	33.5	4.6	7.2	54.6
Bhutan	205	56.6	10.7	67.3	15.6	6.7	10.3