

**STANDARDIZATION OF MEASUREMENT
UNIT SURVEY, BHUTAN
2002**



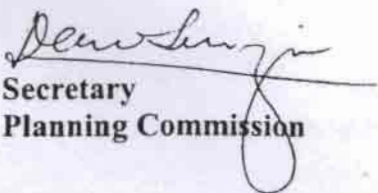
**CENTRAL STATISTICAL ORGANIZATION
PLANNING COMMISSION**

FOREWARD

The Central Statistical Organization (CSO), Planning Commission with the support of the Asian Development Bank, conducted a survey to standardize measurement units in the country. The need for such a study was realised when a study on household income and expenditure was conducted in 2000 and it was found that the units of measurements for household consumer goods, in most cases, were local traditional measurements, which are not consistent with the International System of Units (SI). This posed considerable problems whenever any quantitative analysis had to be carried out and hence the need for the conversion of local measurement units to SI.

The results of the study will not only be useful to the agencies and individual users to carry out proper analysis, involving quantitative conversion of local units to SI units in particular but will also provide a bench mark to study the trends of its usage by the general public. We are confident that various organizations of the Royal Government, private sector, international agencies and individual researchers at large will find the results informative and useful. The conversion of local measurement units to SI not only brings about standardization of measurement units but will also allow for comparison both at the national and international level.

This survey would not have been possible without the support of ADB for which, we sincerely thank and appreciate. We also wish to place on record our deepest appreciation for the hard work and commitment of the CSO officials for the successful implementation of this survey. Finally, the CSO would appreciate valuable comments and suggestions from the users for the ultimate improvement of the quality of reports in future.


Secretary
Planning Commission



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PART I: PRESENTATION OF SURVEY METHODOLOGY

1.1 Background

The survey on standardization of measurement units is the first of its kind initiated by the CSO and funded by the ADB through its TA 3669: "Strengthening of National Statistical System." The Ministry of Agriculture had collected information on the use of the local units used to measuring cereals for transaction in each Dzongkhag. However, these units of measurement were not uniform. The evidences from the pilot survey on Household Income and Expenditure Survey 2000 showed that a large proportion of the rural population use local traditional units for their daily transaction. This survey is an attempt to record all commonly used traditional measurement instruments that are used for transactions of consumer goods. Consumer goods include both agricultural and non-agriculture products like cereals, vegetables, fruits, tobacco, spices, and other related products, dairy products and meat, and alcohol and beverages. Due to the non-standardization of the local units reports on consumption and production for the country has been very difficult and sometimes very misleading. Further, the problem was most visible while trying to analyse the consumption pattern by quantity. This survey would in a way also provide the total list of different local traditional units (measuring instruments) in various Dzongkhags, which are most commonly being used at this juncture. This survey was intended to mitigate such problems and as well facilitate conversion among local units and approximation of each local unit to SI units.

1.2 Objectives

Through this survey the CSO will examine and attempt to standardize the local units by converting to the International System of Unit (SI Unit). All the local units will be converted into SI units, which will not only allow comparability at the International level but also allow conversion of quantities into monetary forms, measure the production values; that will be an input to national economic analysis. The conversion table generated from the survey will be widely circulated to all the user agencies in the country.

1.3 Coverage and Methodology

The survey covered 18 Dzongkhags (18 urban centers and 55 geogs). Two Dzongkhags, Samdrup Jongkhar and Sarpang were not covered due to

security reasons. All the Dzongkhag headquarters were treated as urban centers and 55 geogs were selected through purposive sampling method after thorough verification from the Dzongkhag sectoral officials and the gups, depending on the common knowledge about the usage of the local units. The samples were selected in such a way that no two adjacent geogs were selected. The survey was conducted at the geog level. Minimum sample of three geogs from each Dzongkhag were enumerated.

1.4 Questionnaire

A questionnaire was developed with the names of all the possible local units, which were in use in the past. The whole questionnaire was divided into eight blocks as follows:-

- Block 1: Cereals, Cereal Preparations and Pulses.
- Block 2: Vegetables
- Block 3: Fruits
- Block 4: Tobacco and Other Products
- Block 5: Oil, Alcoholic and Other Beverages
- Block 6: Dairy Products and Meat
- Block 7: Spices
- Block 8: Miscellaneous

1.5 Approach

The visiting team met the Gups, mangaps, chupens to collect information about the commonly used local units within the geog. As a standard measure; a sample of three existing measuring instrument of different sizes were selected. All items were then measured in the three units. The enumerators actually measured every reported item with the common local unit and then the same amounts of goods were measured using the SI unit. Depending on the names of the local units the team collected weights for three different sizes (smallest, medium and largest) for all reported items.

1.6 Training and Field operation

A total of three teams composed of four members each visited the Dzongkhags. During the training thorough discussions were held on the

purpose and the methodology of the survey. Detailed review of each item under different blocks along with practice in filling up the questionnaire was carried out. The supervisors were instructed to observe ongoing interviews and carry out the field edits. The survey was conducted during the peak winter month of February 2002.

The survey team members were trained to measure and estimate the weights of the items under each block. As a standard rule, for every local unit reported three weights depending on the physical verification of the sizes (smallest, Medium, Largest) was made mandatory. If for instance only one size is standard then the same weight was repeated two times. A detailed instruction to fill-up the form is annexed (Annexure).

1.7 Presentation of results

The survey result is presented at two levels: National and Dzongkhag. The conversion rates from traditional measuring instrument to the SI unit at the national level are the average of the Dzongkhag averages. A detail and reliable estimates are presented at the Dzongkhag level. It is logical to present at the Dzongkhag level since the local measurement units in use are known by different names from one Dzongkhag to another Dzongkhag. It is observed that the average weights measured by a particular measuring local unit known by the same name like *Gasekhalo*, *Chandre* etc differ in conversion rate from one Dzongkhag to another significantly. In order not to misguide and confuse the user and also to retain the uniqueness of the local units to the localities the results are presented at the Dzongkhag level with respective items. All the weights presented have been converted to SI unit (i.e. grams and liters) from local units.

In the urban areas the use of local units for daily transaction with respect to cereal and cereal products are quite negligible because most use standard instruments as kg for weights and metres/feet for length. However, there are instances like the use of bundles for leafy vegetables, *Plate* and *Bangchu* for dried vegetables, *Dre/Khaw* in measuring some miscellaneous items like locally made tea leaves and "Tsangzay". In the rural areas the usage of Standard International (SI) measuring units are limited.

PART II: PRESENTATION OF THE SURVEY RESULT AT NATIONAL LEVEL

CAUTION

The average conversion rates presented at the nation level are the average of the Dzongkhag averages. The conversion rates for different Dzongkhags not only differ significantly for a particularly local unit like *Gasekhalo*, *Chandre Phita* etc; but the traditionally accepted measuring instruments also vary quite significantly. As a matter of fact, the conversion rates at the national level must be used with real good care for meaningful interpretation.

2.1 Presentation of the national conversion rates

The conversion rates table for the national level is presented in four different groupings. The grouping is made based on the items under separate blocks. This was necessary to indicate distinctly the local measuring units used for particular types of crops/items. The first group contains the conversion information for cereal, cereal preparations and the pulses collected under block I. The second group for the vegetable related items collected under block II, third group for items covered under block III to block VI and the fourth group for those items under block VII and block VIII. The survey indicated more than twenty-five different local units still being used at various instances for the transaction of cereals and cereal products (Block I) alone. The various types of local units are as follows:- *Gasekhalo*, *Chandre*, *Badre*, *Khaw*, *Pathi*, *Phita/Lamshu*, *Dre*, *Wongbray*, *Bray*, *Mana*, *Drechu*, *Dhudre*, *Thodre*, *Chethra*, *Zangdre*, *Ngesadre*, *Tsongdre*, *Padre*, *Drupjay*, *Chapjay*, *Zobjay*, *Shinjey*, *Matidre*, *Thimje* etc.

(Note: In this report the word *local Unit* and *Local Measurement Instrument* are used interchangeably. The indigenous/local units names are shown in italic in the report and the use of local names of the items inside the tables are also indicated in italic word. Star (**) marks inside the table indicate that the items do not use the specified local unit.)

Table 1: Presents the summary of different local units used for measuring cereal and cereal preparations and pulses by Dzongkhag.

Thimphu	Paro	Haa	Chukha	Punakha	Gasa
Gasekhalo Chandre Phita Dre	Gasekhalo Chandre Phita Dre Padre Drupjay Zobjay Shinjay Bangchu	Phita Drupjay Chapjay Matidre	Chandre Pathi Phita Dre Khaw Bray Padre Mana Bangchu	Gasekhalo Chandre Phita Thodre Bangchu	Gasekhalo Phita Zangdre Ngesadre Bangchu
Wangdue	Bumtha	Trongsa	Zhemgang	Lhuentse	Mongar
Gasekhalo Chandre Badre Phita Dre Drechu Dhudre Thodre Bangchu	Gasekhalo Chandre Phita Chethre Bangchu	Gasekhalo Chandre Phita Dre Bangchu	Gasekhalo Chandre Badre Phita	Gasekhalo Chandre Lamshu	Gasekhalo Chandre Khaw Lamshu
Trashigang	T/Yangtse	P/gatshel	Samtse	Tsirang	Dagana
Gasekhalo Chandre Khaw Lamshu Bray	Gasekhalo Chandre Khaw Lamshu Wongbray	Gasekhalo Khaw Lamshu Bangchu	Gasekhalo Khaw Mana Thodre Paila	Khaw Pathi Mana	Gasekhalo Badre Pathi Dre Mana Thodre

From table 1, it could be noticed that Gasekhalo, Chandre and Phita/Lamshu are instruments used for measuring cereals/products in all the Dzongkhag except for a few that uses instruments different from the rest.

Table 2: Presents the conversion rates for the cereals and pulses items at the National Level in grams.

LOCAL MEASURING INSTRUMENTS	Family	Rice	Zaw (Ngasa)	Zaw (Shunza)	Zaw (Baga)	Flaten Rice	Maize	Khoring
Gasekhalo	1242	1703	862	691	346	1000	1665	1486
Chandre	1214	1677	868	805	336	999	1544	1344
Badre	1675	1950	1020	870	**	1290	1830	**
Khaw	1141	1737	956	466	273	**	1815	1468
Pathi	2867	3735	**	**	**	**	3522	**
Phita/Lamshu	273	379	190	142	92	211	340	354
Dre	1233	1510	695	**	**	**	1630	**
Wong bray	2600		**	**	**	**	2800	**
Bray	564	913	**	**	**	**	780	700
Mana	363	486	**	**	**	**	340	444
Drechu	480	650	**	**	**	**	**	**
Dhudre	870	1190	**	**	**	**	**	**
Thodre	1384	1869	**	890	500	**	1770	**
Chethra	1005	1455	**	**	**	**	1400	1155
Zangdre	710	1124	**	495	223	578	858	**
Ngesadre	1060	1470	**	750	310	810	1200	**
Padre	1490	2154	970	662	509	1198	1899	**
Drupjay	1438	1982	525	983	455	1199	1764	**
Zobjay	1288	1856	**	900	**	**	**	**
Bangchu	**	1453	693	655	351	1029	**	993
Tsongdre	**	1550	**	**	260	**	**	**
Chapjay	**	1949	**	963	**	**	**	**
Mati dre	**	1902	488	969	450	1020	1638	**
Paila	**	910	**	**	**	**	**	**
Phita	**	**	370	**	**	**	**	**
Shinjay	**	**	**	**	**	1202	**	**

Table 2: Presents the conversion rates for the cereals and pulses items at the National Level in grams (cont.).

LOCAL MEASURING INSTRUMENTS	Tejina	Wheat	Ribey	Bitter Buckwheat	Brown Buckwheat	Finger millet	Foxtail millet	Mustard
Gasekhala	1090	1575	1559	1374	1271	1480	1391	1378
Chandre	938	1481	1310	1349	1198	1437	1510	1322
Badre	1160	2280	2590	**	**	1910	**	**
Khaw	1232	1621	1348	1393	1265	1444	1400	1376
Pathi	**	**	**	3012	3010	3143	2480	3135
Phita/lamshu	230	326	346	285	255	334	282	305
Dre	**	1190	1213	1335	988	1508	**	1395
Wong bray	**	**	**	2180	**	2230	**	**
Bray	**	710	**	630	**	**	**	**
Mana	**	450	**	377	383	379	335	344
Drechu	**	**	**	**	**	**	**	**
Dhudre	**	**	**	**	**	**	**	**
Thodre	**	1774	**	1520	**	1630	**	1511
Chethra	725	1255	1435	1250	**	**	**	**
Zangdre	800	923	1095	979	713	915	**	952
Ngesadre		1300	1430	1150	920	1410	**	1220
Padre	1006	1859	1741	1595	1371	1559	1760	1642
Drupjay	1750	1860	1889	1602	1428	**	**	1621
Zobjey	**	**	**	**	**	**	**	**
Bangchu	979	**	1244	**	**	**	**	1134
Tsongdre	1090	**	1290	1270	**	**	**	1230
Chapjay	**	1939		1661	1400	**	**	1620
Mati dre	1625	1700	1810	1460	1355	**	**	**
Paila	**	**	**	**	**	**	**	**
Plate	**	**	**	**	**	**	**	**
Shinjey	**	1689	**	1490	**	1722	**	1600

Table 2: Presents the conversion rates for the cereals and pulses items at the National Level in grams (cont.).

LOCAL MEASURING INSTRUMENTS	Sesame	Flour	Soybean	Beans	White Dal	Black Dal	Peanut	Pop Corn
Gasekhala	801	1135	1582	1576	1830	1853	1570	**
Chandre	730	1098	1377	1410	**	1645	1567	**
Badre	**	1260	**	**	**	**	**	**
Khaw	**	1097	1457	1602	1858	1817	**	**
Pathi	**	2932	**	3673	**	3424	**	**
Phita/lamshu	219	251	387	350	383	416	317	48
Dre	1260	1043	**	**	**	**	**	145
Wong bray	**	**	**	**	**	3360	**	**
Bray	**	440	**	**	**	**	**	**
Mana	300	414	**	437	**	433	*	**
Drechu	**	400	**	**	**	**	**	**
Dhudre	**	**	**	**	**	**	**	**
Thodre	**	**	**	**	**	**	**	**
Chethra	**	970	**	1325	**	**	**	**
Zangdre	990	536	**	**	**	**	**	**
Ngesadre	**	630	**	**	**	**	**	**
Fadre	1230	1340	**	2060	**	**	1926	287
Drupjay	1330	1318	**	1960	**	**	**	**
Zobjey	**	**	**	**	**	**	**	**
Bangchu	**	**	**	**	**	**	**	140
Tsongdre	**	942	**	**	**	**	**	**
Chapjay	**	1159	**	**	**	**	**	**
Mati dre	1235	1160	**	1895	**	**	**	267
Paila	**	**	**	**	**	**	**	**
Plate	**	**	**	**	**	**	**	**
Shinjey	**	**	**	**	**	**	**	**

Table 3: Presents the conversion rates for the vegetable related items at the National Level in SI units.

ITEMS	LOCAL MEASURING INSTRUMENTS	CONVERSION RATE IN GRAMS	ITEMS	LOCAL MEASURING INSTRUMENTS	CONVERSION RATE IN GRAMS
Spinach	Bundle	410	Brinjal (dry)	Bundle	57
Spinach(dry)	Pathi	695	Brinjal (dry)	Bangchu	149
Spinach(dry)	Plate	415	Turnip/radish (dry)	Gasekhalo	358
Spinach(dry)	Mana	140	Turnip/radish (dry)	Khaw	406
Cane shoot	Number	439	Turnip/radish (dry)	Bundle	158
Mushroom	Plate	80	Turnip/radish (dry)	Bangchu	258
Mushroom	Dre	140	Turnip/radish (dry)	Zangdre	110
Fern	Bundle	275	Turnip/radish (dry)	Sima	4530
Damru	Bundle	243	Dried leafy Veg.	Pathi	500
Onion shoot	Bundle	211	Dried leafy Veg.	Phita/lamshu	50
Garlic shoot	Bundle	259	Dried leafy Veg	Bundle	155
Coriander	Bundle	88	Dried leafy Veg	Plate	85
Broccoli	Bundle	286	Dried leafy Veg	Bangchu	162
Asparagus	Bundle	275	Dried leafy Veg	Mana	60
Mushroom (dry)	Bangchu	198	Dried leafy Veg	Zangdre	96
Garlic (bulb)	Phita/lamshu	137	Ginger	Plate	90
Garlic (bulb)	Bangchu	550	Potato	Phita/lamshu	240
Pumpkin (dry)	Gasekhalo	320	Potato	Dre	1090
Pumpkin (dry)	Khaw	373	Tomato	6 Numbers	157
Pumpkin (dry)	Bundle	223	Little gourd (dry)	Bangchu	105
Pumpkin (dry)	Plate	258	Brinjal (fresh)	Plate	765
Pumpkin (dry)	Bangchu	302	Peas	Plate	830
Pumpkin (dry)	Dre	280	Wet turnip leaf	Plate	270

Table 4: Presents the conversion rates for the items for blocks III to block VI at the National Level in SI units.

ITEMS	LOCAL MEASURING INSTRUMENTS	CONVERSION RATE IN GRAMS	ITEMS	LOCAL MEASURING INSTRUMENTS	CONVERSION RATE IN GRAMS
			BLOCK III		
Apple	6 numbers	1438	Tobacco Leaves	6 numbers	23
Orange	6 numbers	893	Betel nut (wet)	10 numbers	757
Pear	6 numbers	280	Betel nut (dry)	10 numbers	531
Walnut	6 numbers	191	Pan leaves (local)	Bundle	135
Lemon	6 numbers	583	Pan leaves (local)	Plate	257
Guava	6 numbers	1248	Pan leaves	Bundle	305
Pomegranate	6 numbers	4908	Lime (tsinay)	Phita/lamshu	560
Banana	6 numbers	1077	Lime	Poto	1022
Groundnut	Phita/lamshu	297	Lime	Timchus	70
Groundnut	Poto	213	BLOCK IV		
Gooseberry	Phita/lamshu	610	Aara/Singcha	Palang	1777 ml
Gooseberry	Poto	420	Aara/Singcha	Jandum	1391 ml
Pear (dry)	Phita/lamshu	340	Aara/Singcha	Tshendum	1250 ml
Pear (dry)	Bangchu	1890	B/chang/Tongpa	Throchu	1236 ml
Pear (dry)	Poto	362	BLOCK V		
Asian grapes	Phita/lamshu	581	BLOCK VI		
Asian grapes	Paila	303	Butter	Tsang	388
Asian grapes	Poto	443	Butter	Ser	794
Persimmon(dry)	Gasekhalo	1178	Cheese	3 balls	271
Persimmon(dry)	Phita/lamshu	303	Fresh Beef	Tsang	392
Persimmon(dry)	Bangchu	957	Dry Beef	Tsang	374
Persimmon(dry)	Poto	163	Fresh Pork	Tsang	395
Persimmon(dry)	Zangdre	910	Dry Cheese	Chushey	178
Persimmon(dry)	Tsongdre	1167	Dry Pork	Tsang	727
Mango	6 numbers	1947	Dry Pork	Tsang	381
Peach dry	Poto	362			

Table 5: Presents the conversion rates for the spices items in Block VII at the National Level in SI units.

ITEMS	LOCAL MEASURING INSTRUMENTS	CONVERSION RATE IN GRAMS	ITEMS	LOCAL MEASURING INSTRUMENTS	CONVERSION RATE IN GRAMS
Fresh chilli (local)	Gasekhalo	185	Dry chilli (local)	Drupjay	170
Fesh chilli (local)	Dre	150	Dry chilli (local)	Chapjay	150
Dry chilli (local)	Gasekhalo	180	Dry chilli (local)	Zobjey	185
Dry chilli (local)	Chandre	152	Dry chilli (local)	Shinjey	200
Dry chilli (local)	Khaw	148	Dry chilli (local)	Mati dre	150
Dry chilli (local)	Pathi	360	Chilli powder	Phita/lamshu	187
Dry chilli (local)	Phita/lamshu	150	Chilli powder	Poto	298
Dry chilli (local)	Bangchu	159	Chilli powder	Mana	280
Dry chilli (local)	Dre	183	Dry pepper (thinge)	Kaw	307
Dry chilli (local)	Bray	100	Dry pepper (thinge)	Phita/lamshu	97
Dry chilli (local)	Mana	80	Dry pepper (thinge)	Poto	40
Dry chilli (local)	Thodre	158	Dry chilli (hokum)	Plate	110
Dry chilli (local)	Chethra	140	Dry chilli (hokum)	Bangchu	165
Dry chilli (local)	Zangdre	129	Dry chilli (hokum)	Dre	190
Dry chilli (local)	Ngesadre	105	Dry chilli (shurukum)	Chandre	192
Dry chilli (local)	Tongdre	160	Dry chilli (shurukum)	Bangchu	148
Dry chilli (local)	Pdre	190	Dry chilli (shurukum)	Thimje	110

Table 6: Presents the conversion rates for the items specified under miscellaneous (block VIII) at the National Level in SI units.

ITEMS	LOCAL MEASURING INSTRUMENTS	CONVERSION RATE IN GRAMS	ITEMS	LOCAL MEASURING INSTRUMENTS	CONVERSION RATE IN GRAMS
Tea leaves (local)	Phita/lamshu	107	Tsangzay (sulu)	Padre	410
Tea leaves (local)	Bangchu	277	Tsangzay (karchu)	Gasekhalo	340
Tea leaves (local)	6 balls	150	Tsangzay (karchu)	Bangchu	233
Tea leaves (local)	Poto	70	Tsangzay (pangpoi)	Poto	120
Tea leaves (jarl)	Plate	143	Tsangzay (pangpoi)	Dre	140
Tsangzay (balu)	Gasekhalo	255	Tsangzay mixed	Gasekhalo	330
Tsangzay (balu)	Chandre	550	Tsangzay mixed	Chandre	298
Tsangzay (balu)	Poto	85	Tsangzay mixed	Plate	446
Tsangzay (balu)	Dre	370	Tsangzay mixed	Bangchu	293
Tsangzay (balu)	Zangdre	230	Tsangzay mixed	Poto	260
Tsangzay (balu)	Tsongdre	271	Tsangzay mixed	Chethra	270
Tsangzay (sulu)	Bangchu	307	Tsangzay mixed	Zangdre	170
Tsangzay (sulu)	Poto	130	Tsangzay mixed	Ngesadre	222
Tsangzay (sulu)	Dre	430			

Table 7: Shows the average conversion rate to SI unit for cereal and pulses per local unit for Ha Dzongkhag.

CEREALS & PULSES	LOCAL MEASURING INSTRUMENTS	CONVERSION RATE IN GRAMS	CEREALS & PULSES	LOCAL MEASURING INSTRUMENTS	CONVERSION RATE IN GRAMS
Rice	Phita	320	B/buckwheat	Phita	264
Rice	Drupjay	1993	B/buckwheat	Drupjay	1602
Rice	Chapjay	1949	B/buckwheat	Chapjay	1661
Rice	Mati dre	1902	B/buckwheat	Mati dre	1460
Zaw (ngoza)	Phita	88	S/buckwheat	Phita	229
Zaw (ngoza)	Drupjay	525	S/buckwheat	Drupjay	1428
Zaw (ngoza)	Mati dre	488	S/buckwheat	Chapjay	1400
Zaw (shunza)	Phita	157	S/buckwheat	Mati dre	1355
Zaw (shunza)	Drupjay	1009	Mustard	Phita	263
Zaw (shunza)	Chapjay	963	Mustard	Drupjay	1621
Zaw (shunza)	Mati dre	969	Mustard	Chapjay	1620
Zaw (baga)	Phita	104	Sesame	Phita	190
Zaw (baga)	Drupjay	455	Sesame	Drupjay	1330
Zaw (baga)	Mati dre	450	Sesame	Mati dre	1235
Flatten rice	Phita	190	Flour	Phita	223
Flatten rice	Drupjay	1110	Flour	Drupjay	1318
Flatten rice	Mati dre	1020	Flour	Chapjay	1159
Maize	Phita	301	Flour	Mati dre	1160
Maize	Drupjay	1764	Beans	Phita	375
Maize	Mati dre	1638	Beans	Tin (Poto)	1718
Tejma	Phita	285	Beans	Drupjay	1960
Tejma	Drupjay	1750	Beans	Mati dre	1895
Tejma	Mati dre	1625	Pop corn	Phita	48
Wheat	Phita	281	Pop corn	Drupjay	287
Wheat	Drupjay	1860	Pop corn	Mati dre	267
Wheat	Chapjay	1939	Barley	Phita	325
Wheat	Mati dre	1700	Barley	Drupjay	1889
			Barley	Mati dre	1810

PART III: RESULTS AT THE DZONGKHAG LEVEL

Table 8: Shows the average conversion rate to SI unit for cereal and pulses per local unit for Paro Dzongkhag.

CEREALS & PULSES	LOCAL MEASURING INSTRUMENTS	CONVERSION RATE IN GRAMS	CEREALS & PULSES	LOCAL MEASURING INSTRUMENTS	CONVERSION RATE IN GRAMS
Paddy	Gasekhalo	1219	Tegma	Padre	1500
Paddy	Chandre	1150	Wheat	Gasekhalo	1563
Paddy	Phita	244	Wheat	Phita	317
Paddy	Padre	1490	Wheat	Padre	1868
Paddy	Drupjay	1438	Wheat	Shinje	1689
Paddy	Zobjey	1288	Barley	Gasekhalo	1535
Rice	Gasekhalo	1578	Barley	Phita	320
Rice	Phita	345	Barley	Padre	1687
Rice	Bangchu	1450	B/buckwheat	Gasekhalo	1306
Rice	Padre	2210	B/buckwheat	Phita	271
Rice	Drupjay	1950	B/buckwheat	Padre	1583
Rice	Zobjey	1856	B/buckwheat	Shinje	1490
Zaw (ngoza)	Gasekhalo	797	S/buckwheat	Gasekhalo	1100
Zaw (ngoza)	Phita	160	S/buckwheat	Phita	225
Zaw (ngoza)	Bangchu	1010	S/buckwheat	Padre	1400
Zaw (ngoza)	Padre	970	Finger millet	Gasekhalo	1480
Zaw (shunza)	Gasekhalo	479	Finger millet	Phita	327
Zaw (shunza)	Phita	114	Finger millet	Padre	1521
Zaw (shunza)	Bangchu	662	Finger millet	Shinje	1722
Zaw (shunza)	Padre	662	Finger millet	Phita	45
Zaw (shunza)	Drupjay	930	Mustard	Gasekhalo	1392
Zaw (shunza)	Zobjey	900	Mustard	Phita	285
Zaw (baga)	Gasekhalo	366	Mustard	Padre	1635
Zaw (baga)	Phita	105	Mustard	Shinje	1600
Zaw (baga)	Bangchu	496	Sesame	Gasekhalo	1025
Zaw (baga)	Padre	509	Sesame	Phita	203
Flatten rice	Gasekhalo	962	Sesame	Padre	1230
Flatten rice	Phita	200	Flour	Gasekhalo	1145
Flatten rice	Bangchu	1092	Flour	Phita	232
Flatten rice	Padre	1198	Flour	Padre	1352
Flatten rice	Drupjay	1288	Beans	Gasekhalo	1611
Flatten rice	Shinje	1202	Beans	Phita	333
Maize	Gasekhalo	1570	Beans	Padre	2060
Maize	Padre	1980	Peas	Gasekhalo	1630
Tegma	Gasekhalo	1185	Peas	Phita	320
Tegma	Phita	250	Peas	Padre	1880
Tegma	Bangchu	1588	Pop corn	Dre	190

Table 9: Shows the average conversion rate to SI unit for cereal and pulses per local unit for Chukha Dzongkhag.

CEREALS & PULSES	LOCAL MEASURING INSTRUMENTS	CONVERSION RATE IN GRAMS	CEREALS & PULSES	LOCAL MEASURING INSTRUMENTS	CONVERSION RATE IN GRAMS
Paddy	Chandre	1189	S/buckwheat	Chandre	1190
Paddy	Pathi	2724	S/buckwheat	Pathi	2920
Paddy	Phita	254	S/buckwheat	Phita	250
Paddy	Mana	355	S/buckwheat	Mana	365
Paddy	Chandre	1698	S/buckwheat	Padre	1342
Rice	Pathi	3874	Finger millet	Chandre	1415
Rice	Phita	330	Finger millet	Pathi	3418
Rice	Mana	483	Finger millet	Phita	308
Rice	Padre	1985	Finger millet	Mana	388
Zaw (shunza)	Chandre	848	Finger millet	Padre	1674
Zaw (shunza)	Khaw	671	Foxtail millet	Chandre	1510
Zaw (shunza)	Phita	141	Foxtail millet	Pathi	2480
Zaw (shunza)	Bangchu	400	Foxtail millet	Phita	285
Flatten rice	Chandre	698	Foxtail millet	Mana	310
Flatten rice	Phita	143	Foxtail millet	Padre	1760
Maize	Chandre	1564	Mustard	Chandre	1396
Maize	Pathi	3603	Mustard	Pathi	3210
Maize	Phita	293	Mustard	Phita	277
Maize	Mana	460	Mustard	Mana	364
Maize	Padre	1817	Mustard	Padre	1665
Tegma	Phita	199	Sesame	Chandre	396
Tegma	Bangchu	748	Sesame	Phita	240
Tegma	Padre	512	Flour	Chandre	1269
Wheat	Chandre	1520	Flour	Pathi	2932
			Flour	Phita	218
Wheat	Phita	410	Flour	Packet	300
Wheat	Padre	1823	Flour	Mana	416
Barley	Phita	296	Flour	Padre	1305
Barley	Padre	1900	Black dal	Pathi	3424
B/buckwheat	Chandre	1369	Black dal	Mana	400
B/buckwheat	Pathi	3012	Peas	Chandre	1718
B/buckwheat	Phita	273	Peas	Phita	298
B/buckwheat	Mana	403	Peas	Padre	1973
B/buckwheat	Padre	1643			

Table 10: Shows the average conversion rate to SI unit for cereal and pulses per local unit for Thimphu Dzongkhag.

CEREALS & PULSES	LOCAL MEASURING INSTRUMENTS	CONVERSION RATE IN GRAMS	CEREALS & PULSES	LOCAL MEASURING INSTRUMENTS	CONVERSION RATE IN GRAMS
Paddy	Gasekhalo	1244	Wheat	Gasekhalo	1550
Paddy	Chandre	1198	Wheat	Chandre	1520
Paddy	Phita	269	Wheat	Phita	286
Rice	Gasekhalo	1750	B/buckweat	Gasekhalo	1351
Rice	Chandre	1680	B/buckweat	Chandre	1320
Rice	Phita	350	B/buckweat	Phita	275
Zaw (ngoza)	Gasekhalo	480	Mustard	Gasekhalo	1350
Zaw (shunza)	Gasekhalo	781	Mustard	Chandre	1320
Zaw (shunza)	Chandre	770	Mustard	Phita	260
Zaw (shunza)	Phita	140	Sesame	Phita	210
Zaw (baga)	Gasekhalo	330	Flour	Gasekhalo	1090
Zaw (baga)	Chandre	351	Flour	Chandre	1050
Zaw (baga)	Phita	75	Flour	Phita	285
Flatten rice	Gasekhalo	950	Peas	Gasekhalo	1620
Flatten rice	Chandre	1050	Peas	Chandre	1415
Flatten rice	Phita	210	Peas	Phita	320
Tegma	Gasekhalo	1050	Maize	Gasekhalo	1800
Tegma	Chandre	975	Maize	Phita	350
Tegma	Phita	240			

Table 11: Shows the average conversion rate to SI unit for cereal and pulses per local unit for Punakha Dzongkhag.

CEREALS & PULSES	LOCAL MEASURING INSTRUMENTS	CONVERSION RATE IN GRAMS	CEREALS & PULSES	LOCAL MEASURING INSTRUMENTS	CONVERSION RATE IN GRAMS
Paddy	Gasekhalo	1188	Tegma	Gasekhalo	1230
Paddy	Chandre	1265	Tegma	Chandre	1133
Paddy	Phita	230	Tegma	Phita	240
Paddy	Thodre	1300	Tegma	Bangchu	1210
Rice	Gasekhalo	1735	Wheat	Gasekhalo	1481
Rice	Chandre	1730	Wheat	Chandre	1444
Rice	Phita	327	Wheat	Phita	283
Rice	Thodre	1938	Wheat	Thodre	1721
Zaw (ngoza)	Gasekhalo	315	B/buckweat	Gasekhalo	1381
Zaw (shunza)	Gasekhalo	758	B/buckweat	Chandre	1320
Zaw (shunza)	Chandre	778	B/buckweat	Phita	260
Zaw (shunza)	Phita	142	B/buckweat	Thodre	1520
Zaw (shunza)	Bangchu	660	Mustard	Gasekhalo	1358
Zaw (shunza)	Thodre	890	Mustard	Chandre	1308
Zaw (baga)	Gasekhalo	353	Mustard	Phita	257
Zaw (baga)	Chandre	336	Mustard	Thodre	1511
Zaw (baga)	Phita	75	Sesame	Phita	160
Zaw (baga)	Bangchu	373	Flour	Gasekhalo	1290
Zaw (baga)	Thodre	500	Flour	Chandre	1055
Flatten rice	Gasekhalo	994	Flour	Phita	210
Flatten rice	Chandre	1048	Soyabean	Cup	200
Flatten rice	Phita	210	Peas	Gasekhalo	1510
Flatten rice	Bangchu	1130	Peas	Chandre	1415
Maize	Gasekhalo	1450	Peas	Phita	290
Maize	Phita	290			

Table 12: Shows the average conversion rate to SI unit for cereal and pulses per local unit for Gasa Dzongkhag.

CEREALS & PULSES	LOCAL MEASURING INSTRUMENTS	CONVERSION RATE IN GRAMS	CEREALS & PULSES	LOCAL MEASURING INSTRUMENTS	CONVERSION RATE IN GRAMS
Paddy	<i>Gasekhalo</i>	1210	Wheat	<i>Phita</i>	333
Paddy	<i>Phita</i>	253	Wheat	<i>Zangdre</i>	923
Paddy	<i>Zangdre</i>	710	Wheat	<i>Ngesadre</i>	1300
Paddy	<i>Ngesadre</i>	1060	Barley	<i>Gasekhalo</i>	1561
Rice	<i>Gasekhalo</i>	1711	Barley	<i>Phita</i>	350
Rice	<i>Phita</i>	361	Barley	<i>Bangchu</i>	1244
Rice	<i>Bangchu</i>	1455	Barley	<i>Zangdre</i>	1095
Rice	<i>Zangdre</i>	1124	Barley	<i>Ngesadre</i>	1430
Rice	<i>Ngesadre</i>	1470	Barley	<i>Tsongdre</i>	1290
Rice	<i>Tsongdre</i>	1550	B/buckweat	<i>Gasekhalo</i>	1384
Zaw (<i>shunza</i>)	<i>Gasekhalo</i>	780	B/buckweat	<i>Phita</i>	287
Zaw (<i>shunza</i>)	<i>Phita</i>	172	B/buckweat	<i>Zangdre</i>	979
Zaw (<i>shunza</i>)	<i>Bangchu</i>	705	B/buckweat	<i>Ngesadre</i>	1150
Zaw (<i>shunza</i>)	<i>Zangdre</i>	495	B/buckweat	<i>Tsongdre</i>	1270
Zaw (<i>shunza</i>)	<i>Ngesadre</i>	750	S/buckweat	<i>Gasekhalo</i>	1154
Zaw (<i>baga</i>)	<i>Gasekhalo</i>	333	S/buckweat	<i>Phita</i>	255
Zaw (<i>baga</i>)	<i>Phita</i>	79	S/buckweat	<i>Zangdre</i>	713
Zaw (<i>baga</i>)	<i>Bangchu</i>	328	S/buckweat	<i>Ngesadre</i>	920
Zaw (<i>baga</i>)	<i>Zangdre</i>	223	Finger millet	<i>Gasekhalo</i>	1381
Zaw (<i>baga</i>)	<i>Ngesadre</i>	310	Finger millet	<i>Phita</i>	310
Zaw (<i>baga</i>)	<i>Tsongdre</i>	260	Finger millet	<i>Zangdre</i>	915
Flatten rice	<i>Gasekhalo</i>	979	Finger millet	<i>Ngesadre</i>	1410
Flatten rice	<i>Phita</i>	223	Mustard	<i>Gasekhalo</i>	1344
Flatten rice	<i>Bangchu</i>	935	Mustard	<i>Phita</i>	321
Flatten rice	<i>Zangdre</i>	578	Mustard	<i>Bangchu</i>	1134
Flatten rice	<i>Ngesadre</i>	810	Mustard	<i>Zangdre</i>	952
Maize	<i>Gasekhalo</i>	1423	Mustard	<i>Ngesadre</i>	1220
Maize	<i>Phita</i>	298	Mustard	<i>Tsongdre</i>	1230
Maize	<i>Zangdre</i>	858	Sesame	<i>Phita</i>	210
Maize	<i>Ngesadre</i>	1200	Sesame	<i>Zangdre</i>	990
Tegma	<i>Gasekhalo</i>	1160	Flour	<i>Gasekhalo</i>	908
Tegma	<i>Phita</i>	255	Flour	<i>Phita</i>	177
Tegma	<i>Bangchu</i>	978	Flour	<i>Zangdre</i>	536
Tegma	<i>Zangdre</i>	923	Flour	<i>Ngesadre</i>	630
Tegma	<i>Tsongdre</i>	1300	Flour	<i>Tsongdre</i>	942
Wheat	<i>Gasekhalo</i>	1561			

Table 13: Shows the average conversion rate to SI unit for cereal and pulses per local unit for Wangdue Phodrang Dzongkhag.

CEREALS & PULSES	LOCAL MEASURING INSTRUMENTS	CONVERSION RATE IN GRAMS	CEREALS & PULSES	LOCAL MEASURING INSTRUMENTS	CONVERSION RATE IN GRAMS
Paddy	<i>Gasekhalo</i>	1250	Tegma	<i>Gasekhalo</i>	990
Paddy	<i>Chandre</i>	1330	Tegma	<i>Phita</i>	250
Paddy	<i>Badre</i>	1950	Tegma	<i>Bangchu</i>	990
Paddy	<i>Phita</i>	260	Wheat	<i>Gasekhalo</i>	1650
Paddy	<i>Drechu</i>	480	Wheat	<i>Chandre</i>	1667
Paddy	<i>Dhudre</i>	870	Wheat	<i>Badre</i>	2820
Paddy	<i>Thodre</i>	1430	Wheat	<i>Phita</i>	350
Rice	<i>Gasekhalo</i>	1700	Wheat	<i>Dre</i>	750
Rice	<i>Chandre</i>	1722	Wheat	<i>Thodre</i>	1880
Rice	<i>Phita</i>	370	Barley	<i>Chandre</i>	1610
Rice	<i>Dre</i>	800	Barley	<i>Badre</i>	2590
Rice	<i>Drechu</i>	650	Barley	<i>Dre</i>	740
Rice	<i>Dhudre</i>	1190	B/buckweat	<i>Chandre</i>	1480
Zaw (<i>ngoza</i>)	<i>Chandre</i>	930	S/buckweat	<i>Chandre</i>	1430
Zaw (<i>ngoza</i>)	<i>Phita</i>	200	S/buckweat	<i>Phita</i>	300
Zaw (<i>ngoza</i>)	<i>Dre</i>	400	S/buckweat	<i>Dre</i>	640
Zaw (<i>shunza</i>)	<i>Gasekhalo</i>	778	Mustard	<i>Gasekhalo</i>	1420
Zaw (<i>shunza</i>)	<i>Chandre</i>	970	Mustard	<i>Phita</i>	300
Zaw (<i>shunza</i>)	<i>Phita</i>	190	Sesame	<i>Gasekhalo</i>	107
Zaw (<i>shunza</i>)	<i>Bangchu</i>	830	Flour	<i>Gasekhalo</i>	1050
Zaw (<i>boyo</i>)	<i>Gasekhalo</i>	200	Flour	<i>Chandre</i>	1315
Zaw (<i>baga</i>)	<i>Phita</i>	140	Flour	<i>Phita</i>	305
Zaw (<i>baga</i>)	<i>Bangchu</i>	140	Flour	<i>Dre</i>	620
Flatten rice	<i>Gasekhalo</i>	1025	Flour	<i>Drechu</i>	400
Flatten rice	<i>Chandre</i>	1125	Beans	<i>Phita</i>	202
Flatten rice	<i>Phita</i>	260	Peas	<i>Phita</i>	360
Flatten rice	<i>Bangchu</i>	1170			

Table 14: Shows the average conversion rate to SI unit for cereal and pulses per local unit for Bumtha Dzongkhag.

CEREALS & PULSES	LOCAL MEASURING INSTRUMENTS	CONVERSION RATE IN GRAMS	CEREALS & PULSES	LOCAL MEASURING INSTRUMENTS	CONVERSION RATE IN GRAMS
Paddy	<i>Gasekhalo</i>	1348	<i>Tegma</i>	<i>Chandre</i>	860
Paddy	<i>Chandre</i>	1060	<i>Tegma</i>	<i>Phita</i>	215
Paddy	<i>Phita</i>	275	<i>Tegma</i>	<i>Bangchu</i>	670
Paddy	<i>Chethra</i>	1005	<i>Tegma</i>	<i>Chethra</i>	725
Rice	<i>Gasekhalo</i>	1793	Wheat	<i>Gasekhalo</i>	1572
Rice	<i>Chandre</i>	1415	Wheat	<i>Chandre</i>	1235
Rice	<i>Phita</i>	370	Wheat	<i>Phita</i>	327
Rice	<i>Chethra</i>	1455	Wheat	<i>Chethra</i>	1255
<i>Zaw (ngoza)</i>	<i>Gasekhalo</i>	915	Barley	<i>Gasekhalo</i>	1740
<i>Zaw (ngoza)</i>	<i>Phita</i>	285	Barley	<i>Chandre</i>	1310
<i>Zaw (ngoza)</i>	<i>Bangchu</i>	445	Barley	<i>Phita</i>	365
<i>Zaw (shunza)</i>	<i>Gasekhalo</i>	875	Barley	<i>Chethra</i>	1435
<i>Zaw (shunza)</i>	<i>Chandre</i>	675	B/buckwheat	<i>Gasekhalo</i>	1475
<i>Zaw (shunza)</i>	<i>Phita</i>	170	B/buckwheat	<i>Chandre</i>	1240
<i>Zaw (shunza)</i>	<i>Bangchu</i>	545	B/buckwheat	<i>Phita</i>	315
Flatten rice	<i>Phita</i>	240	B/buckwheat	<i>Chethra</i>	1250
Flatten rice	<i>Bangchu</i>	710	S/buckwheat	<i>Gasekhalo</i>	1510
Maize	<i>Gasekhalo</i>	1647	S/buckwheat	<i>Phita</i>	315
Maize	<i>Chandre</i>	1330	Sesame	<i>Chandre</i>	730
Maize	<i>Phita</i>	350	Sesame	<i>Phita</i>	190
Maize	<i>Chethra</i>	1400	Flour	<i>Gasekhalo</i>	1322
<i>Kharang</i>	<i>Gasekhalo</i>	1470	Flour	<i>Chandre</i>	895
<i>Kharang</i>	<i>Chandre</i>	1190	Flour	<i>Phita</i>	265
<i>Kharang</i>	<i>Phita</i>	305	Flour	<i>Chethra</i>	970
<i>Kharang</i>	<i>Bangchu</i>	993	Beans	<i>Gasekhalo</i>	1465
<i>Kharang</i>	<i>Chethra</i>	1155	Beans	<i>Phita</i>	335
<i>Tegma</i>	<i>Gasekhalo</i>	1058	Beans	<i>Chethra</i>	1325

Table 15: Shows the average conversion rate to SI unit for cereal and pulses per local unit for Trongsa Dzongkhag.

CEREALS & PULSES	LOCAL MEASURING INSTRUMENTS	CONVERSION RATE IN GRAMS	CEREALS & PULSES	LOCAL MEASURING INSTRUMENTS	CONVERSION RATE IN GRAMS
Paddy	<i>Gasekhalo</i>	1245	Barley	<i>Gasekhalo</i>	1449
Paddy	<i>Chandre</i>	1200	Barley	<i>Phita</i>	361
Paddy	<i>Phita</i>	282	Barley	<i>Dre</i>	1685
Paddy	<i>Dre</i>	1320	B/buckwheat	<i>Gasekhalo</i>	1273
Rice	<i>Gasekhalo</i>	1725	B/buckwheat	<i>Chandre</i>	1170
Rice	<i>Chandre</i>	1710	B/buckwheat	<i>Phita</i>	250
Rice	<i>Phita</i>	355	B/buckwheat	<i>Dre</i>	1330
Rice	<i>Dre</i>	1850	Finger millet	<i>Gasekhalo</i>	1425
<i>Zaw (ngoza)</i>	<i>Gasekhalo</i>	898	Finger millet	<i>Phita</i>	317
<i>Zaw (ngoza)</i>	<i>Chandre</i>	850	Finger millet	<i>Dre</i>	1525
<i>Zaw (ngoza)</i>	<i>Phita</i>	176	Mustard	<i>Gasekhalo</i>	1348
<i>Zaw (ngoza)</i>	<i>Bangchu</i>	625	Mustard	<i>Phita</i>	295
<i>Zaw (ngoza)</i>	<i>Dre</i>	990	Mustard	<i>Dre</i>	1495
Maize	<i>Gasekhalo</i>	1552	Sesame	<i>Gasekhalo</i>	815
Maize	<i>Chandre</i>	1540	Sesame	<i>Phita</i>	175
Maize	<i>Phita</i>	333	Flour	<i>Gasekhalo</i>	933
Maize	<i>Dre</i>	1580	Flour	<i>Chandre</i>	800
<i>Kharang</i>	<i>Gasekhalo</i>	1435	Flour	<i>Phita</i>	187
<i>Kharang</i>	<i>Phita</i>	365	Flour	<i>Dre</i>	1290
<i>Tegma</i>	<i>Gasekhalo</i>	840	Beans	<i>Gasekhalo</i>	1530
<i>Tegma</i>	<i>Chandre</i>	780	Beans	<i>Chandre</i>	1410
<i>Tegma</i>	<i>Phita</i>	130	Beans	<i>Phita</i>	332
Wheat	<i>Gasekhalo</i>	1622	Beans	<i>Poto</i>	280
Wheat	<i>Chandre</i>	1600	<i>Garey</i>	<i>Gasekhalo</i>	1200
Wheat	<i>Phita</i>	346	<i>Garey</i>	<i>Phita</i>	272
Wheat	<i>Dre</i>	1630	<i>Garey</i>	<i>Dre</i>	1335

Table 16: Shows the average conversion rate to SI unit for cereal and pulses per local unit for Dagana Dzongkhag.

CEREALS & PULSES	LOCAL MEASURING INSTRUMENTS	CONVERSION RATE IN GRAMS	CEREALS & PULSES	LOCAL MEASURING INSTRUMENTS	CONVERSION RATE IN GRAMS
Paddy	<i>Gasekhalo</i>	1255	B/buckwheat	<i>Gasekhalo</i>	1325
Paddy	<i>Pathi</i>	2690	B/buckwheat	<i>Phita</i>	335
Paddy	<i>Phita</i>	405	B/buckwheat	<i>Dre</i>	1340
Paddy	<i>Dre</i>	1190	B/buckwheat	<i>Mana</i>	350
Paddy	<i>Mana</i>	370	Finger millet	<i>Gasekhalo</i>	1590
Paddy	<i>Thodre</i>	1630	Finger millet	<i>Pathi</i>	2730
Rice	<i>Gasekhalo</i>	1730	Finger millet	<i>Phita</i>	400
Rice	<i>Pathi</i>	3485	Finger millet	<i>Dre</i>	1490
Rice	<i>Phita</i>	420	Foxtail millet	<i>Gasekhalo</i>	1280
Rice	<i>Dre</i>	1695	Foxtail millet	<i>Phita</i>	310
Rice	<i>Mana</i>	510	Foxtail millet	<i>Mana</i>	360
<i>Zaw (ngoza)</i>	<i>Gasekhalo</i>	820	Mustard	<i>Gasekhalo</i>	1413
<i>Zaw (ngoza)</i>	<i>Phita</i>	200	Mustard	<i>Phita</i>	395
<i>Zaw (shunza)</i>	<i>Gasekhalo</i>	910	Mustard	<i>Dre</i>	1345
<i>Zaw (shunza)</i>	<i>Badre</i>	870	Mustard	<i>Mana</i>	370
<i>Zaw (shunza)</i>	<i>Phita</i>	40	Sesame	<i>Phita</i>	260
Maize	<i>Gasekhalo</i>	1560	Sesame	<i>Mana</i>	300
Maize	<i>Pathi</i>	3130	Flour	<i>Gasekhalo</i>	1400
Maize	<i>Phita</i>	435	Flour	<i>Phita</i>	260
Maize	<i>Dre</i>	1655	Flour	<i>Dre</i>	1220
Maize	<i>Mana</i>	430	Flour	<i>Mana</i>	310
<i>Kharang</i>	<i>Mana</i>	550	Beans	<i>Pathi</i>	3430
Wheat	<i>Gasekhalo</i>	1660	Beans	<i>Phita</i>	370
Wheat	<i>Badre</i>	2150	Beans	<i>Mana</i>	480
Wheat	<i>Mana</i>	450			

Table 17: Shows the average conversion to SI unit for cereal and pulses per local unit for Zhemgang Dzongkhag.

CEREALS & PULSES	LOCAL MEASURING INSTRUMENTS	CONVERSION RATE IN GRAMS	CEREALS & PULSES	LOCAL MEASURING INSTRUMENTS	CONVERSION RATE IN GRAMS
Paddy	<i>Gasekhalo</i>	1245	<i>kharang</i>	<i>Phita</i>	388
Paddy	<i>Chandre</i>	1470	<i>Tegma</i>	<i>Gasekhalo</i>	1020
Paddy	<i>Badre</i>	1400	<i>Tegma</i>	<i>Badre</i>	1160
Paddy	<i>Phita</i>	280	<i>Tegma</i>	<i>Phita</i>	60
Rice	<i>Gasekhalo</i>	1735	Wheat	<i>Gasekhalo</i>	1660
Rice	<i>Chandre</i>	2000	Wheat	<i>Badre</i>	1870
Rice	<i>Badre</i>	1950	Wheat	<i>Phita</i>	430
Rice	<i>Phita</i>	385	B/buckweat	<i>Gasekhalo</i>	1420
<i>Zaw (ngoza)</i>	<i>Gasekhalo</i>	890	B/buckweat	<i>Chandre</i>	1690
<i>Zaw (ngoza)</i>	<i>Badre</i>	1020	B/buckweat	<i>Phita</i>	300
<i>Zaw (ngoza)</i>	<i>Phita</i>	230	Finger millet	<i>Gasekhalo</i>	1570
Flatten rice	<i>Gasekhalo</i>	1190	Finger millet	<i>Badre</i>	1890
Flatten rice	<i>Badre</i>	1290	Finger millet	<i>Phita</i>	365
Flatten rice	<i>Phita</i>	220	Mustard	<i>Gasekhalo</i>	1380
Maize	<i>Gasekhalo</i>	2225	Mustard	<i>Chandre</i>	1610
Maize	<i>Chandre</i>	2010	Mustard	<i>Phita</i>	270
Maize	<i>Badre</i>	1830	Flour	<i>Gasekhalo</i>	1030
Maize	<i>Phita</i>	363	Flour	<i>Chandre</i>	1370
<i>Kharang</i>	<i>Gasekhalo</i>	1563	Flour	<i>Badre</i>	1260
<i>Kharang</i>	<i>Chandre</i>	1760	Flour	<i>Phita</i>	293

Table 18: Shows the average conversion rate to SI unit for cereal and pulses per local unit for Tsirang Dzongkhag.

CEREALS & PULSES	LOCAL MEASURING INSTRUMENTS	CONVERSION RATE IN GRAMS	CEREALS & PULSES	LOCAL MEASURING INSTRUMENTS	CONVERSION RATE IN GRAMS
Paddy	Pathi	2980	Finger millet	Pathi	3470
Paddy	Mana	373	Finger millet	Mana	370
Rice	Pathi	3750	Mustard	Pathi	3097
Rice	Mana	455	Mustard	Mana	303
Flatten rice	Mana	325	Flour	Mana	420
Maize	Khaw	3720	Beans	Pathi	3795
Maize	Pathi	3550	Beans	Mana	415
Maize	Mana	423			

Table 19: Shows the average conversion rate to SI unit for cereal and pulses per local unit for Samtse Dzongkhag.

CEREALS & PULSES	LOCAL MEASURING INSTRUMENTS	CONVERSION RATE IN GRAMS	CEREALS & PULSES	LOCAL MEASURING INSTRUMENTS	CONVERSION RATE IN GRAMS
Paddy	Gasekhalo	1364	Maize	Mana	462
Paddy	Khaw	1190	Maize	Thodre	1770
Paddy	Pathi	2835	Kharang	Mana	540
Paddy	Mana	350	S/buckwheat	Pathi	3100
Paddy	Thodre	1260	S/buckwheat	Mana	400
Rice	Gasekhalo	1910	Finger millet	Chandre	1540
Rice	Khaw	1749	Finger millet	Khaw	1450
Rice	Pathi	3795	Finger millet	Pathi	2911
Rice	Mana	462	Finger millet	Mana	374
Rice	Thodre	1731	Finger millet	Thodre	1630
Rice	Paila	910	Mustard	Pathi	3100
Flatten rice	Mana	370	Mustard	Mana	400
Maize	Gasekhalo	1695	Flour	Mana	510
Maize	Khaw	1600	Black dal	Phita	395
Maize	Pathi	3590	Black dal	Mana	500

Table 20: Shows the average conversion rate to SI unit for cereal and pulses per local unit for Pema Gatshel Dzongkhag.

CEREALS & PULSES	LOCAL MEASURING INSTRUMENTS	CONVERSION RATE IN GRAMS	CEREALS & PULSES	LOCAL MEASURING INSTRUMENTS	CONVERSION RATE IN GRAMS
Paddy	Gasekhalo	1055	Finger millet	Gasekhalo	1500
Paddy	Khaw	1095	Finger millet	Khaw	1523
Rice	Gasekhalo	2000	Foxtail millet	Gasekhalo	1500
Rice	Khaw	1842	Foxtail millet	Khaw	1538
Rice	Phita	448	Foxtail millet	Phita	358
Zaw (baga)	Khaw	273	Mustard	Gasekhalo	1550
Zaw (baga)	Bangchu	297	Mustard	Khaw	1508
Maize	Gasekhalo	1800	Sesame	Phita	255
Maize	Khaw	1690	Flour	Gasekhalo	930
Kharang	Gasekhalo	1690	Flour	Khaw	1018
Kharang	Khaw	1619	Flour	Phita	261
Kharang	Phita	385	Soyabean	Khaw	1457
Tegma	Gasekhalo	1350	Soyabean	Phita	412
Tegma	Khaw	1355	Beans	Gasekhalo	1800
Tegma	Phita	310	Beans	Khaw	1778
Wheat	Khaw	1710	Beans	Phita	433
Barley	Gasekhalo	1910	White dal	Khaw	2087
Barley	Khaw	1472	Black dal	Gasekhalo	1950
B/buckwheat	Khaw	1475	Black dal	Khaw	1808
S/buckwheat	Gasekhalo	1470	Black dal	Phita	450
S/buckwheat	Khaw	1299			

Table 21: Shows the average conversion rate to SI unit for cereal and pulses per local unit for Trashy Yangtse Dzongkhag.

CEREALS & PULSES	LOCAL MEASURING INSTRUMENTS	CONVERSION RATE IN GRAMS	CEREALS & PULSES	LOCAL MEASURING INSTRUMENTS	CONVERSION RATE IN GRAMS
Paddy	<i>Gasekhalo</i>	1248	Finger millet	<i>Gasekhalo</i>	1458
Paddy	<i>Khaw</i>	1068	Finger millet	<i>Chandre</i>	1327
Paddy	<i>Wong bray</i>	2600	Finger millet	<i>Khaw</i>	1339
Rice	<i>Gasekhalo</i>	1683	Finger millet	<i>Wong bray</i>	2230
Rice	<i>Chandre</i>	1720	Foxtail millet	<i>Gasekhalo</i>	1320
Rice	<i>Khaw</i>	1645	Foxtail millet	<i>Khaw</i>	1203
Rice	<i>Lamshu</i>	408	Mustard	<i>Gasekhalo</i>	1312
<i>Zaw (ngoza)</i>	<i>Gasekhalo</i>	1048	Mustard	<i>Chandre</i>	1250
<i>Zaw (ngoza)</i>	<i>Chandre</i>	823	Mustard	<i>Khaw</i>	1291
<i>Zaw (ngoza)</i>	<i>Khaw</i>	1007	Sesame	<i>Gasekhalo</i>	1010
<i>Zaw (baga)</i>	<i>Gasekhalo</i>	305	Sesame	<i>Chandre</i>	1017
<i>Zaw (baga)</i>	<i>Khaw</i>	273	Sesame	<i>Lamshu</i>	253
Maize	<i>Gasekhalo</i>	1504	Flour	<i>Gasekhalo</i>	1125
Maize	<i>Khaw</i>	1465	Flour	<i>Chandre</i>	1400
Maize	<i>Wong bray</i>	2800	Flour	<i>Khaw</i>	1035
<i>Kharang</i>	<i>Gasekhalo</i>	1505	Flour	<i>Lamshu</i>	278
<i>Kharang</i>	<i>Khaw</i>	1372	Soyabean	<i>Gasekhalo</i>	1558
<i>Kharang</i>	<i>Lamshu</i>	352	Soyabean	<i>Chandre</i>	1520
Wheat	<i>Gasekhalo</i>	1598	Soyabean	<i>Khaw</i>	1448
Wheat	<i>Khaw</i>	1577	Soyabean	<i>Lamshu</i>	383
Barley	<i>Gasekhalo</i>	1390	Black dal	<i>Gasekhalo</i>	1680
Barley	<i>Khaw</i>	1260	Black dal	<i>Chandre</i>	1700
B/buckwheat	<i>Gasekhalo</i>	1288	Black dal	<i>Lamshu</i>	397
B/buckwheat	<i>Chandre</i>	1183	Black dal	<i>Wong bray</i>	3360
B/buckwheat	<i>Khaw</i>	1260	White dal	<i>Gasekhalo</i>	1830
B/buckwheat	<i>Wong bray</i>	2180	White dal	<i>Khaw</i>	1630
S/buckwheat	<i>Gasekhalo</i>	1250	White dal	<i>Lamshu</i>	383
S/buckwheat	<i>Khaw</i>	1243			

Table 22: Shows the average conversion rate to SI unit for cereal and pulses per local unit for Trashigang Dzongkhag.

CEREALS & PULSES	LOCAL MEASURING INSTRUMENTS	CONVERSION RATE IN GRAMS	CEREALS & PULSES	LOCAL MEASURING INSTRUMENTS	CONVERSION RATE IN GRAMS
Paddy	<i>Gasekhalo</i>	1276	S/buckwheat	<i>Khaw</i>	1370
Paddy	<i>Khaw</i>	1170	Finger millet	<i>Gasekhalo</i>	1585
Paddy	<i>Bray</i>	564	Finger millet	<i>Khaw</i>	1535
Rice	<i>Gasekhalo</i>	1495	Foxtail millet	<i>Gasekhalo</i>	1315
Rice	<i>Khaw</i>	1747	Foxtail millet	<i>Khaw</i>	1210
Rice	<i>Lamshu</i>	417	Mustard	<i>Gasekhalo</i>	1570
Rice	<i>Bray</i>	913	Mustard	<i>Khaw</i>	1360
<i>Zaw (ngoza)</i>	<i>Gasekhalo</i>	1043	Mustard	<i>Lamshu</i>	337
Maize	<i>Gasekhalo</i>	1745	Flour	<i>Gasekhalo</i>	1095
Maize	<i>Khaw</i>	1653	Flour	<i>Khaw</i>	1058
Maize	<i>Bray</i>	780	Flour	<i>Lamshu</i>	292
<i>Kharang</i>	<i>Gasekhalo</i>	1369	Flour	<i>Bray</i>	440
<i>Kharang</i>	<i>Khaw</i>	1315	Soyabean	<i>Gasekhalo</i>	1643
<i>Kharang</i>	<i>Lamshu</i>	341	Soyabean	<i>Khaw</i>	1510
<i>Kharang</i>	<i>Bray</i>	700	Soyabean	<i>Lamshu</i>	335
Wheat	<i>Gasekhalo</i>	1775	Beans	<i>Gasekhalo</i>	1445
Wheat	<i>Bray</i>	710	Beans	<i>Khaw</i>	1587
B/buckwheat	<i>Gasekhalo</i>	1483	Beans	<i>Lamshu</i>	378
B/buckwheat	<i>Khaw</i>	1360	Black dal	<i>Chandre</i>	1590
B/buckwheat	<i>Bray</i>	630	Black dal	<i>Lamshu</i>	417
S/buckwheat	<i>Gasekhalo</i>	1485			

Table 23: Shows the average conversion rate to SI unit for cereal and pulses per local unit for Mongar Dzongkhag.

CEREALS & PULSES	LOCAL MEASURING INSTRUMENTS	CONVERSION RATE IN GRAMS	CEREALS & PULSES	LOCAL MEASURING INSTRUMENTS	CONVERSION RATE IN GRAMS
Paddy	<i>Gasekhalo</i>	1385	Barley	<i>Khaw</i>	1190
Paddy	<i>Khaw</i>	1211	S/buckwheat	<i>Khaw</i>	1080
Rice	<i>Gasekhalo</i>	1835	Finger mille	<i>Gasekhalo</i>	1520
Rice	<i>Chandre</i>	1473	Finger millet	<i>Khaw</i>	1377
Rice	<i>Khaw</i>	1654	Foxtail millet	<i>Gasekhalo</i>	1542
Rice	<i>Lamshu</i>	419	Foxtail millet	<i>Khaw</i>	1387
Zaw (ngoza)	<i>Gasekhalo</i>	915	Foxtail millet	<i>Lamshu</i>	333
Zaw (ngoza)	<i>Khaw</i>	930	Mustard	<i>Khaw</i>	1170
Zaw (shunza)	<i>Gasekhalo</i>	300	Flour	<i>Gasekhalo</i>	1763
Zaw (shunza)	<i>Khaw</i>	260	Flour	<i>Chandre</i>	1017
Maize	<i>Gasekhalo</i>	1835	Flour	<i>Khaw</i>	1242
Maize	<i>Chandre</i>	1463	Flour	<i>Lamshu</i>	293
Maize	<i>Khaw</i>	1637	Soyabean	<i>Gasekhalo</i>	1610
Maize	<i>Lamshu</i>	365	Soyabean	<i>Khaw</i>	1441
Kharang	<i>Gasekhalo</i>	1590	Soyabean	<i>Lamshu</i>	385
Kharang	<i>Chandre</i>	1360	Beans	<i>Gasekhalo</i>	1640
Kharang	<i>Khaw</i>	1484	Beans	<i>Khaw</i>	1489
Kharang	<i>Lamshu</i>	367	Beans	<i>Lamshu</i>	383
Tegma	<i>Gasekhalo</i>	980	Black dal	<i>Gasekhalo</i>	1890
Tegma	<i>Khaw</i>	985	Black dal	<i>Khaw</i>	1825
Tegma	<i>Lamshu</i>	250	Black dal	<i>Lamshu</i>	420

Table 24: Shows the average conversion rate to SI unit for cereal and pulses per local unit for Lhuntse Dzongkhag.

CEREALS & PULSES	LOCAL MEASURING INSTRUMENTS	CONVERSION RATE IN GRAMS	CEREALS & PULSES	LOCAL MEASURING INSTRUMENTS	CONVERSION RATE IN GRAMS
Paddy	<i>Gasekhalo</i>	1184	Barley	<i>Chandre</i>	1010
Paddy	<i>Chandre</i>	943	S/buckwheat	<i>Gasekhalo</i>	1120
Rice	<i>Gasekhalo</i>	1697	S/buckwheat	<i>Chandre</i>	980
Rice	<i>Chandre</i>	1360	Finger millet	<i>Gasekhalo</i>	1346
Rice	<i>Lamshu</i>	397	Mustard	<i>Gasekhalo</i>	1250
Zaw (ngoza)	<i>Gasekhalo</i>	839	Mustard	<i>Chandre</i>	1000
Zaw (ngoza)	<i>Lamshu</i>	240	Sesame	<i>Gasekhalo</i>	1050
Maize	<i>Gasekhalo</i>	1587	Sesame	<i>Chandre</i>	777
Maize	<i>Chandre</i>	1340	Sesame	<i>Lamshu</i>	240
Kharang	<i>Gasekhalo</i>	1428	Flour	<i>Gasekhalo</i>	1032
Kharang	<i>Chandre</i>	1067	Flour	<i>Chandre</i>	800
Kharang	<i>Lamshu</i>	333	Flour	<i>Pathi</i>	250
Tegma	<i>Gasekhalo</i>	1050	Flour	<i>Lamshu</i>	250
Tegma	<i>Chandre</i>	783	Soyabean	<i>Gasekhalo</i>	1540
Wheat	<i>Gasekhalo</i>	1200	Soyabean	<i>Chandre</i>	1233
Wheat	<i>Chandre</i>	1083	Soyabean	<i>Lamshu</i>	400
Barley	<i>Gasekhalo</i>	1341			

PART IV: PRESENTATION OF RESULT FOR THE BLOCK II TO BLOCK VIII BY DZONGKHAG.

Block II:- Most of vegetables items are measured using *Dres*, *Bangchus*, *Plates* and *in bundles*. Some of the items are transacted in terms of numbers. In the urban areas the vegetable items are measured in SI unit except for leafy and dried vegetables. The differences observed in terms of the sizes of bundles from rural to urban within each Dzongkhag did not show large gaps in weights. The differences in weights observed are as low as 50 grams or less. Since the variation of weight is minimal the average weight at Dzongkhag level could be treated as a reliable estimate. Also since the survey was conducted during the dry season the items reported are mostly available in winter and the result indicated that the vegetable varieties reported are less. Special items of dried vegetables like turnip and radish leaves has been denoted as dried leafy vegetable in the table. The weight of the cane shoot is the average weight of three sticks of similar length but different sizes. However, the local unit has been referred as number and not stick.

Since the number of items reported in blocks II to VIII were less, the result are presented under a same table heading. The number of items reported from one Dzongkhag to another differs very significantly. It could be possibly understood as the extent of the use of local units to measure those items in particular Dzongkhag and on the other hand the increasing use of SI unit for the transaction of the goods.

Block III:- Collected information on the use of local units for the transaction of fruits. As our past experiences showed that the fruits were mostly reported in terms of numbers, as a trail the survey fixed the number of fruit items to be measured. The average weight of the denoted 6 numbers of the fruits in the table is actually the average weight of 18 numbers of fruit (ie 6 largest, 6 medium and 6 smallest). Most of the dried fruits are measured with the local units like *Poto* and *Phita* in the western Dzongkhags and *Lamshu* in the Eastern part of the country.

Block IV:- Deals with the transaction of Tobacco and other related products. Measurement of a fixed number of betelnut had been collected and presented in grams. Pan leaves (local and imported) and lime are measured in *bundle* and *Potas* respectively.

Block V:- Collected information on the use local units to measure liquid items like alcohol and other beverages. Most of the local units reported are *Palang*,

Jandum and *Throchu*. The volume of the unit measured in terms of liters show some variation from one place to the other. Bangchang/Tongpa is measured in grams as this item is not exactly in liquid form.

Block VI:- Basically collected various information on the use of local units to transact items related to Meat and Dairy products. In all the Dzongkhag the local unit reported was *Tsang* and in terms of balls. Dried cheese (Chugo) was measured in *chusey* (containing 10 small pieces of dried cheese).

Block VII:- Collected information to transact different items on Spices by using local units. The report indicated that a majority of the transaction is carried out using similar local units used for the cereals. The local units ranged from the smallest (*Poto*) to various forms of *Dres* like *Gasekhalo*, *Chandre*, *Zobjey*, *Thimjay*, *Padre* and *Shinje*.

Block VIII:- This block deals with the information on some miscellaneous items, which is not covered in other blocks. The local units reported under this block are similar to block VII.

The report also reveals that at several instances for a particular Dzongkhag, use of very unique local unit are recorded. Those units may be the last of its kind, which is almost getting extinct. The table numbers ranging from 24 to 41 represent the extent and different local units used for the transaction of the specified items for each identified block for every Dzongkhag.

Table 25: Shows the conversion rate of the existing different local units for measuring the specified items (for block II to Block VIII) to SI unit for Thimphu Dzongkhag.

ITEMS	LOCAL UNIT	CONVERSION RATE IN GRAMS	ITEMS	LOCAL UNIT	CONVERSION RATE IN GRAMS
BLOCK II					
Spinach	Bundle	287	Grapes(dry)	Phita	280
Cane shoot	3 Numbers	355	Persimmon (dry)	Poto	163
Fern	Bundle	390	Mango	6 Numbers	1947
Damru	Bundle	157	Peach dry	Poto	362
Onion shoot	Bundle	195	BLOCK IV		
Garlic shoot	Bundle	163	Betelnut (wet)	Numbers	692
Coriander	Bundle	108	Betelnut (dry)	Numbers	583
Broccoli	Bundle	343	Pan leaves	Bundle	413
Asparagus	Bundle	427	Lime (tsinay)	Poto	1968
Mushroom (dry)	Bangchu	130	BLOCK VI		
Pumkin (dry)	Plate	265	Cheese	3 Balls	342
Brinjal (dry)	Bundle	57	Dry cheese	Chushey	180
Brinjal (dry)	Bangchu	148	Dry pork	Bundle	727
Turnip/radish (dry)	Bundle	102	BLOCK VII		
Wet turnip leave	Plate	270	Dry chilli (local)	Bangchu	168
BLOCK III					
Apple	6 Numbers	1812	Chilli powder	Poto	65
Orange	6 Numbers	1427	Dry pepper (thinge)	Phita	90
Walnut	6 Numbers	162	BLOCK VIII		
Lemon	6 Numbers	583	Tea leaves (local)	Packet	173
Pomegranate	6 Numbers	4217	Tea leaves (jari)	Number	135
Banana	6 Numbers	913	Tea leaves (pachu)	Packet	250
Groundnut	Poto	213	<i>Tsangzay (balu)</i>	<i>Dre</i>	280
Gooseberry	Phita	420	<i>Tsangzay (sulu)</i>	<i>Dre</i>	280
Gooseberry	Poto	280	<i>Tsangzay (karchu)</i>	Bangchu	225
Pear (dry)	Poto	327	<i>Tsangzay (pangpoi)</i>	<i>Dre</i>	140

Table 26: Shows the conversion rate of the existing different local units for measuring the specified items (for block II to Block VIII) to SI unit for Haa Dzongkhag.

ITEMS	LOCAL UNIT	CONVERSION RATE IN GRAMS	ITEMS	LOCAL UNIT	CONVERSION RATE IN GRAMS
BLOCK II			BLOCK V		
Spinach	Bundle	344	Aara/singcha	Palang	2495 ml
Onion shoot	Bundle	121	Bangchang/tongpa	Throchu	1030
Garlic shoot	Bundle	210	BLOCK VI		
Coriander	Bundle	93	Butter	Tsang	437
Dried leafy veg.	Bundle	182	Cheese	3 Balls	354
BLOCK III			Dry cheese	Chushey	200
Apple	6 Numbers	1668	BLOCK VII		
Orange	6 Numbers	812	Fresh chilli (local)	Gasekhalo	185
Groundnut	Poto	61	Dry chilli (local)	Bangchu	168
Pear (dry)	Phita	285	Dry chilli (local)	Drupjay	170
BLOCK IV			Dry chilli (local)	Chapjay	150
Betelnut (wet)	10 Numbers	760	Dry chilli (local)	Mati dre	150
Betelnut (dry)	10 Numbers	625	Chilli powder	Phita	215
Pan leaves	Bundle	216	Chilli powder	Poto	172
Lime (tsinay)	Mug	567	BLOCK VIII		
			Tsangzay mixed	Poto	260

Table 27: Shows the conversion rate of the existing different local units for measuring the specified items (for block II to Block VIII) to SI unit for Paro Dzongkhag.

ITEMS	LOCAL UNIT	CONVERSION RATE IN GRAMS	ITEMS	LOCAL UNIT	CONVERSION RATE IN GRAMS
BLOCK II			BLOCK V		
Spinach	Bundle	318	Pan leaves	Bundle	88
Cane shoot	Number	387	Lime (tsinay)	Phita	560
Fern	Bundle	147	Lime (tsinay)	Poto	233
Damru	Bundle	270	Lime (tsinay)	Timchus	70
Onion shoot	Bundle	180	BLOCK VI		
Coriander	Bundle	63	Aara/singcha	Palang	1848 ml
Broccoli	Bundle	387	Tongpa	Throchu	1707
Asparagus	Bundle	125	BLOCK VII		
Mushroom (dry)	Bangchu	200	Butter	Tsang	580
Pumpkin (dry)	Bangchu	160	Cheese	3 Balls	94
Brinjal (dry)	Bangchu	104	Dry cheese	Chushey	294
Turnip/radish (dry)	Bundle	270	BLOCK VIII		
Turnip/radish (dry)	Bangchu	110	Dry chilli (local)	Gasekhalo	240
Dried Leafy veg.	Bundle	135	Dry chilli (local)	Bangchu	150
Dried Leafy veg.	Plate	65	Dry chilli (local)	Padre	193
Dried Leafy veg.	Bangchu	240	Dry chilli (local)	Zobjey	185
Little gourd (dry)	Bangchu	99	Dry chilli (local)	Shinjey	200
BLOCK III			Chilli powder	Phita	165
Apple	6 Numbers	835	Chilli powder	Poto	120
Orange	6 Numbers	782	Chilli powder	Cup	70
Pear	6 Numbers	280	Dry chilli (hokum)	Bangchu	165
Walnut	6 Numbers	217	Chilli (shurukum)	Bangchu	115
Guava	6 Numbers	1573	Chilli (shurukum)	Thimjey	110
Banana	6 Numbers	597	BLOCK VIII		
Groundnut	Phita	267	Tea leaves (local)	Packet	270
Gooseberry	Poto	560	Tea leaves (local)	Poto	70
Pear (dry)	Poto	397	Tsangzay (balu)	Poto	85
Grapes(dry)	Phita	467	Tsangzay (balu)	Dre	460
Persimmon (dry)	Phita	350	Tsangzay (sulu)	Bangchu	250
BLOCK IV			Tsangzay (sulu)	Padre	410
Betelnut (wet)	10 Numbers	867	Tsangzay mixed	Plate	446
Betelnut (dry)	10 Numbers	510	Tsoshing meto	Bundle	290
Pan leaves (local)	Bundle	155			

Table 28: Shows the conversion rate of the existing different local units for measuring the specified items (for block II to Block VIII) to SI unit for Chukha Dzongkhag.

ITEMS	LOCAL UNIT	CONVERSION RATE IN GRAMS	ITEMS	LOCAL UNIT	CONVERSION RATE IN GRAMS
BLOCK II			BLOCK IV		
Spinach	Bundle	520	Beteinut (wet)	10 Numbers	882
Cane shoot	Number	207	BLOCK V		
Fern	Bundle	243	Bangchang/tongpa	Throchu	1489
Damru	Bundle	308	BLOCK VI		
Onion shoot	Bundle	163	Cheese	3 Balls	233
Coriander	Bundle	108	BLOCK VII		
Brinjal (dry)	Packet	60	Dry chilli (local)	Chandre	161
Turnip/radish (dry)	Sima	4530	Dry chilli (local)	Bangchu	122
Dried Leafy veg.	Bundle	269	Dry chilli (local)	Padre	185
BLOCK III			Chilli (shurukum)	Chandre	192
Orange	6 Numbers	937	BLOCK VIII		
Guava	6 Numbers	1517	Tea leaves (local)	Packet	110
Pomegranate	6 Numbers	5600	Tsangzay (balu)	Packet	217
Banana	6 Numbers	724	Tsangzay (karchu)	Poto	50

Table 29: Shows the conversion rate of the existing different local units for measuring the specified items (for block II to Block VIII) to SI unit for Gasa Dzongkhag.

ITEMS	LOCAL UNIT	CONVERSION RATE IN GRAMS	ITEMS	LOCAL UNIT	CONVERSION RATE IN GRAMS
BLOCK II			BLOCK VI		
Spinach	Bundle	336	Cheese	3 Balls	160
Onion shoot	Bundle	170	Dry cheese	Chushey	69
Garlic shoot	Bundle	165	BLOCK VII		
Coriander	Bundle	30	Dry chilli (local)	Gasekhalo	162
Pumkin (dry)	Bangchu	370	Dry chilli (local)	Bangchu	140
Turnip/radish (dry)	Bundle	190	Dry chilli (local)	Zangdre	129
Turnip/radish (dry)	Zangdre	110	Dry chilli (local)	Ngesadre	105
Dried Leafy veg.	Bundle	100	Dry chilli (local)	Tsongdre	160
Dried Leafy veg.	Zangdre	96	Chilli powder	Phita	182
BLOCK III			Chilli powder	Poto	84
Grapes (dry)	Phita	858	BLOCK VIII		
Persimmon (dry)	Gasekhalo	1178	Tsangzay (balu)	Gasekhalo	270
Persimmon (dry)	Zangdre	910	Tsangzay (balu)	Zangdre	230
Persimmon (dry)	Tsongdre	1167	Tsangzay (balu)	Tsongdre	271
BLOCK IV			Tsangzay (sulu)	Bangchu	275
Beteinut (wet)	Numbers	882	Tsangzay mixed	Gasekhalo	286
BLOCK V			Tsangzay mixed	Zangdre	170
Aara/singcha	Palang	800 ml	Tsangzay mixed	Ngesadre	222
Bangchang/tongpa	Throchu	1674			

Table 30: Shows the conversion rate of the existing different local units for measuring the specified items (for block II to Block VIII) to SI unit for Wangdue Phodrang Dzongkhag.

ITEMS	LOCAL UNIT	CONVERSION RATE IN GRAMS	ITEMS	LOCAL UNIT	CONVERSION RATE IN GRAMS
BLOCK II					
Spinach	Bundle	370	Pan leaves (local)	Bundle	143
Cane shoot	Number	493	Pan leaves	Bundle	227
Damru	Bundle	257	BLOCK V		
Onion shoot	Bundle	201	Aara/singcha	Palang	2450 ml
Garlic shoot	Bundle	313	Bangchang/tongpa	Throchu	747
Coriander	Bundle	90	BLOCK VI		
Broccoli	Bundle	200	Butter	Tsang	333
Asparagus	Bundle	390	Cheese	3 Balls	332
Mushroom (dry)	Bangchu	170	Dried beef	Tsang	300
Garlic (bulb)	Phita	130	Dried cheese	Chushey	130
Garlic (bulb)	Bangchu	1010	Dried pork	Tsang	333
Pumkin (dry)	Plate	230	BLOCK VII		
Pumkin (dry)	Bangchu	350	Dry chilli (local)	Gasekhalo	147
Turnip/radish (dry)	Bundle	70	Dry chilli (local)	Chandre	150
Tomato	6 Numbers	157	Chilli powder	Poto	178
BLOCK III					
Orange	6 Numbers	610	BLOCK VIII		
Walnut	6 Numbers	207	Tea leaves (local)	Bangchu	213
Banana	6 Numbers	1160	Tea leaves (jari)	Plate	143
Persimmon (dry)	Bangchu	957	Tsangzay (balu)	Gasekhalo	240
BLOCK IV					
Betelnut (wet)	Numbers	503	Tsangzay (karchu)	Gasekhalo	240
Betelnut (dry)	Numbers	463	Tsangzay (karchu)	Bangchu	240

Table 31: Shows the conversion rate of the existing different local units for measuring the specified items (for block II to Block VIII) to SI unit for Bumtha Dzongkhag.

ITEMS	LOCAL UNIT	CONVERSION RATE IN GRAMS	ITEMS	LOCAL UNIT	CONVERSION RATE IN GRAMS
BLOCK II					
Mushroom (dry)	Bangchu	255	Dry pork	Tsang	350
Garlic (bulb)	Phita	105	BLOCK VII		
Pumpkin (dry)	Plate	205	Dry chilli (local)	Gasekhalo	170
Turnip/radish (dry)	Bangchu	260	Dry chilli (local)	Chandre	140
Dried Leafy veg.	Bangchu	147	Dry chilli (local)	Bangchu	138
BLOCK III					
Persimmon (dry)	Phita	303	Dry chilli (local)	Chethra	140
BLOCK V					
			Chilli powder	Phita	200
			Dry pepper (thinge)	Phita	88
Aara/singcha	Palang	2175 ml	BLOCK VIII		
Aara/singcha	Jandum	1423 ml	Tsangzay (sulu)	Bangchu	395
Bangchang/tongpa	Throchu	1245	Tsangzay (sulu)	Poto	130
BLOCK VI					
			Tsangzay (sulu)	Dre	580
Butter	Tsang	295	Tsangzay mixed	Gasekhalo	400
Cheese	3 Balls	305	Tsangzay mixed	Chandre	330
Fresh beef	Tsang	380	Tsangzay mixed	Bangchu	225
Dry beef	Tsang	380	Tsangzay mixed	Chethra	270
Fresh pork	Tsang	380			

Table 32: Shows the conversion rate of the existing different local units for measuring the specified items (for block II to Block VIII) to SI unit for Trongsa Dzongkhag.

ITEMS	LOCAL UNIT	CONVERSION RATE IN GRAMS	ITEMS	LOCAL UNIT	CONVERSION RATE IN GRAMS
BLOCK II			BLOCK VI		
Spinach	Bundle	253	Butter	Tsang	335
Cane shoot	Number	400	Cheese	3 Balls	335
Onion shoot	Bundle	153	Fresh beef	Tsang	335
Garlic shoot	Bundle	83	Dry beef	Tsang	357
Coriander	Bundle	90	Fresh pork	Tsang	335
Garlic (bulb)	Phita	175	Dry pork	Tsang	335
Pumpkin (dry)	Bangchu	240	BLOCK VII		
Pumpkin (dry)	Dre	250	Green chilli (local)	Dre	150
Turnip/radish (dry)	Bangchu	205	Dry chilli (local)	Gasekhalo	153
Dried Leafy veg.	Bangchu	163	Dry chilli (local)	Phita	150
Little gourd (dry)	Bangchu	110	Dry chilli (local)	Bangchu	160
BLOCK III			Dry chilli (local)	Dre	140
Orange	6 Numbers	823	Chilli powder	Phita	160
Pear (dry)	Phita	455	Chilli powder	Poto	1450
Pear (dry)	Bangchu	1890	Dry pepper (thinge)	Phita	75
BLOCK V			BLOCK VIII		
Aara/singcha	Palang	2006 ml	Tsangzay (pangpoi)	Poto	120
Aara/singcha	Jandum	3330 ml			
Bangchang/tongpa	Throchu	953			

Table 33: Shows the conversion rate of the existing different local units for measuring the specified items (for block II to Block VIII) to SI unit for Dagana Dzongkhag.

ITEMS	LOCAL UNIT	CONVERSION RATE IN GRAMS	ITEMS	LOCAL UNIT	CONVERSION RATE IN GRAMS
BLOCK II			BLOCK III		
Mushroom	Plate	80	Potato	Phita	240
Mushroom	Dre	140	Potato	Dre	1090
Pumpkin (dry)	Gasekhalo	320	BLOCK III		
Pumpkin (dry)	Dre	310	Orange	6 Numbers	793
Dried Leafy veg.	Phita	50	BLOCK V		
Dried Leafy veg.	Bundle	73	Aara/singcha	Tsendum	1250 ml
Dried Leafy veg.	Plate	75	Bangchang/tongpa	Throchu	740
Khaktem	Gasekhalo	1310	BLOCK VII		
Khaktem	Plate	160	Chilli powder	Phita	230
Dried cabbage	Dre	160	Chilli powder	Mana	280
Ginger	Plate	90			

Table 34: Shows the conversion rate of the existing different local units for measuring the specified items (for block II to Block VIII) to SI unit for Tsiyang Dzongkhag.

ITEMS	LOCAL UNIT	CONVERSION RATE IN GRAMS	ITEMS	LOCAL UNIT	CONVERSION RATE IN GRAMS
BLOCK II			BLOCK III		
Spinach	Bundle	690	Orange	6 Numbers	1033
Cane shoot	Number	513	Banana	6 Numbers	1233
Fern	Bundle	397	BLOCK VI		
Damru	Bundle	300	Butter	Ser	613
Onion shoot	Bundle	263	Cheese	3 Balls	200
Garlic shoot	Bundle	250	Dry cheese	Chushey	115
Coriander	Bundle	120	BLOCK VII		
Broccoli	Bundle	153	Dry chilli (local)	Pathi	360
Dried Leafy veg.	Pathi	500	Dry chilli (local)	Poto	40
Dried Leafy veg.	Mana	60	Dry pepper (thinge)	Poto	40
Spinach(dry)	Pathi	695	Black pepper	Poto	50
Spinach(dry)	Plate	415	BLOCK VIII		

Spinach(dry) Mana 140 Tea leaves (local) Poto 60

Table 35: Shows the conversion rate of the existing different local units for measuring the specified items (for block II to Block VIII) to SI unit for Samtse Dzongkhag.

ITEMS	LOCAL UNIT	CONVERSION RATE IN GRAMS	ITEMS	LOCAL UNIT	CONVERSION RATE IN GRAMS
BLOCK II					
Spinach	Bundle	419	Betelnut (dry)	Numbers	554
Fern	Bundle	232	Pan leaves	Bundle	400
Onion shoot	Bundle	255	Lime (tsinay)	Packet	70
Garlic shoot	Bundle	301	BLOCK V		
Coriander	Bundle	70	Aara/singcha	Jandum	1350 ml
Garlic (bulb)	Bangchu	90	BLOCK VI		
Brinjal (fresh)	Plate	765	Butter	Ser	975
Beans	Plate	830	Cheese	3 Balls	132
BLOCK III					
Orange	6 Numbers	1113	Dry chilli (local)	Bangchu	300
Banana	6 Numbers	744	Chilli powder	Poto	145
BLOCK IV					
Betelnut (wet)	Numbers	838	tea leaves (local)	Packet	50

Table 36: Shows the conversion rate of the existing different local units for measuring the specified items (for block II to Block VIII) to SI unit for Pema Gatshel Dzongkhag.

ITEMS	LOCAL	CONVERSION RATE IN GRAMS	ITEMS	LOCAL UNIT	CONVERSION RATE IN GRAMS
BLOCK II			BLOCK V		
Spinach	Bundle	340	Aara/singcha	Palang	1220 ml
Damru	Bundle	373	Aara/singcha	Jandum	1382 ml
Onion shoot	Bundle	130	Bangchang/tongpa	Throchu	1027
Garlic shoot	Bundle	140	BLOCK VI		
Mushroom (dry)	Bangchu	236	Butter	Tsang	347
Pumpkin (dry)	Plate	330	Cheese	3 Balls	305
Pumpkin (dry)	Bangchu	385	Dry beef	Tsang	325
Turnip/radish (dry)	Gasekhalo	460	BLOCK VII		
Turnip/radish (dry)	Khaw	492	Dry chilli (local)	Gasekhalo	150
Turnip/radish (dry)	Bangchu	355	Dry chilli (local)	Khaw	168
Dried Leafy veg.	Plate	110	Dry chilli (local)	Bangchu	140
Dried Leafy veg.	Bangchu	130	Dry pepper (thinge)	Khaw	307
BLOCK III			Dry pepper (thinge)	Lamshu	104
Orange	6 Numbers	747			
Walnut	6 Numbers	192			

Table 37: Shows the conversion rate of the existing different local units for measuring the specified items (for block II to Block VIII) to SI unit for Trashy Yangtse Dzongkhag.

ITEMS	LOCAL UNIT	CONVERSION RATE IN GRAMS	ITEMS	LOCAL UNIT	CONVERSION RATE IN GRAMS
BLOCK II			BLOCK V		
Spinach	Bundle	379	Aara/singcha	Palang	1300 ml
Onion shoot	Bundle	330	Aaara/singcha	Jandum	1373 ml
Garlic shoot	Bundle	262	BLOCK VI		
Coriander	Bundle	110	Cheese	3 Balls	90
BLOCK III			BLOCK VII		
Orange	6 Numbers	757	Dry chilli (local)	Gasekhalo	205
Walnut	6 Numbers	173	Dry chilli (local)	Khaw	129
Groundnut	Cup	163			

Table 38: Shows the conversion rate of the existing different local units for measuring the specified items (for block II to Block VIII) to SI unit for Trashigang Dzongkhag.

ITEMS	LOCAL UNIT	CONVERSION RATE IN GRAMS	ITEMS	LOCAL UNIT	CONVERSION RATE IN GRAMS
BLOCK II			BLOCK V		
Spinach	Bundle	625	Aara/singcha	Palang	1333 ml
Onion shoot	Bundle	360	Aara/singcha	Jandum	1167 ml
Garlic shoot	Bundle	478	Bangchang/tongpa	Bawl	890
Pumpkin (dry)	Khaw	373	BLOCK VIII		
Turnip/radish (dry)	Gasekhalo	255	Dry/chilli (local)	Khaw	127
BLOCK III			Dry chilli (local)	Dre	230
Walnut	6 numbers	197	Dry chilli (local)	Bray	100
			BLOCK VIII		
			Shingcee	Gasekhalo	1275

Table 39: Shows the conversion rate of the existing different local units for measuring the specified items (for block II to Block VIII) to SI unit for Mongar Dzongkhag.

ITEMS	LOCAL UNIT	CONVERSION RATE IN GRAMS	ITEMS	LOCAL UNIT	CONVERSION RATE IN GRAMS
BLOCK II			BLOCK V		
Spinach	Bundle	450	Aara/singcha	Jandum	1183 ml
Onion shoot	Bundle	225	Bangchang/tongpa	Bawl	1000
Asparagus	Bundle	157	BLOCK VI		
Pumpkin (dry)	Bangchu	370	Butter	Joi	1700
Turnip/radish (dry)	Khaw	233	Cheese	3 Balls	439
Turnip/radish (dry)	Bangchu	263	BLOCK VII		
BLOCK III			Dry chilli (local)	Khaw	148
Orange	6 numbers	930	Dry chilli (local)	Bangchu	170
Walnut	6 numbers	237	Dry chilli (local)	Dre	260
Gooseberry	Lamshu	710	BLOCK VIII		
			Tea leaves (local)	6 Balls	150

Table 40: Shows the conversion rate of the existing different local units for measuring the specified items (for block II to Block VIII) to SI unit for Lhuntse Dzongkhag.

ITEMS	LOCAL UNIT	CONVERSION RATE IN GRAMS	ITEMS	LOCAL UNIT	CONVERSION RATE IN GRAMS
BLOCK II			BLOCK V		
Spinach	Bundle	417	Aara/singcha	Palang	1367 ml
Damru	Bundle	90	Aara/singcha	Jandum	1400 ml
Onion shoot	Bundle	164	BLOCK VI		
Garlic shoot	Bundle	213	Butter	Tsang	360
Coriander	Bundle	25	BLOCK VIII		
BLOCK III			Dry chilli (local)	Gasekhalo	137
Walnut	6 Numbers	145	Dry chilli (local)	Chandre	157
Banana	6 Numbers	2983	Dry chilli (local)	Bangchu	177
Gooseberry	Lamshu	700	Chilli powder	Lamshu	210
BLOCK IV			Dry pepper (thinge)	Lamshu	140
Tobacco (bayla)	6 Numbers	23	BLOCK VIII		
Pan leaves (local)	Bundle	132	Tea leaves (local)	Lamshu	107
			Tea leaves (local)	Bangchu	352

Table 41: Shows the conversion rate of the existing different local units for measuring the specified items (for block II to Block VIII) to SI unit for Zhemgang Dzongkhag.

ITEMS	LOCAL UNIT	CONVERSION RATE IN GRAMS	ITEMS	LOCAL UNIT	CONVERSION RATE IN GRAMS
BLOCK II					
Spinach	Bundle	155	Dry beef	Tsang	326
Damru	Bundle	150	Fresh pork	Tsang	326
BLOCK IV			Dry cheese	Chushey	210
Pan leaves (local)	Plate	257	BLOCK VII		
BLOCK V			Dry chilli (local)	Gasekhalo	260
Aara/singcha	Palang	1720 ml	Dry chilli (local)	Dre	180
Aara/singcha	Jandum	1150 ml	Chilli powder	Phita	130
BLOCK VI			Dry pepper (thinge)	Phita	120
Butter	Tsang	358	Dry pepper (thinge)	Tea cup	40
Cheese	3 Balls	340	BLOCK VIII		
Fresh beef	Tsang	328	Tsangzay (karchu)	Gasekhalo	440

Table 42: Shows the conversion rate of the existing different local units for measuring the specified items (for block II to Block VIII) to SI unit for Punakha Dzongkhag.

ITEMS	LOCAL UNIT	CONVERSION RATE IN GRAMS	ITEMS	LOCAL UNIT	CONVERSION RATE IN GRAMS
BLOCK II			BLOCK V		
Spinach	Bundle	366	Aara/singcha	Palang	1905 ml
Cane shoot	Number	667	Bangchang/tongpa	Throchu	1400
Fern	Bundle	243	BLOCK VI		
Damru	Bundle	283	Butter	Tsang	467
Onion shoot	Bundle	249	Cheese	3 Balls	307
Garlic shoot	Bundle	266	Fresh beef	Tsang	527
Coriander	Bundle	104	Dry beef	Tsang	469
Broccoli	Bundle	347	Fresh pork	Tsang	469
Pumpkin (dry)	Bundle	223	Dry cheese	Chushey	105
Pumpkin (dry)	Bangchu	240	Dry pork	Tsang	469
Brinjal (dry)	Bangchu	240	BLOCK VII		
Dried Leafy veg.	Bundle	50	Dry chilli (local)	Gasekhalo	162
Dried Leafy veg	Plate	90	Dry chilli (local)	Chandre	150
BLOCK III			Dry chilli (local)	Bangchu	140
Groundnut	Phita	327	Dry chilli (local)	Dre	143
Pear (dry)	Phita	280	Dry chilli (local)	Thodre	158
Asian grape (dry)	Phita	443	Chilli powder	Poto	170
Asian grape (dry)	Paila	303	Chilli (hokum)	Plate	110
Persimmon (dry)	Phita	257	Chilli (hokum)	Dre	190
BLOCK IV			Chilli (shurukum)	Bangchu	180
Betelnut (dry)	10 Numbers	430	BLOCK VIII		
Pan leaves (local)	Bundle	172	Tea leaves (local)	Bangchu	190
Pan leaves (local)	Packet	287	Tsangzay (karchu)	Packet	187
Pan leaves	Bundle	293	Tsangzay mixed	Gasekhalo	280
Lime (tsinay)	Poto	863	Tsangzay mixed	Chandre	265
			Tsangzay mixed	Bangchu	360

INSTRUCTION MANUAL FOR THE SURVEY

Background

The Survey on Standardization of Quantity Units is the first of its kind to be initiated by the Central Statistical Office. The evidence from the recent pilot survey, HIES 2000 indicated that a majority of our rural population still use local units for their daily transaction. The different forms of local units, evidenced from the HIES 2000 has been listed in the questionnaire for the easy references. The data collected during the HIES 2000 survey based on the local unit has very limited use and did not allow us to further explore the possibilities of reporting the consumption pattern in quantity.

Why Measure Three Samples

Prior to the distribution of the measuring unit (Gasekhalo/Chandre) by the Ministry of Finance there were several local units being used depending on the convenience, which is still used by our rural people. On the other hand although the size of the measuring unit is same the names of the unit differ from place to place. Besides, for all the items which are reported in bundles, balls, containers and in numbers/pieces as a standard rule weights for three different sizes (smallest, medium and largest) are necessary and require to collect. In case of the liquid items three different containers with the same name will be measured. This survey is an attempt to actually standardize the names of the units along with the weights. For economic reasons the data will be collected at the geog level taking just three samples for every different commonly used local unit for each crop/items.

Vocabulary Consistency

To maintain the consistency of the vocabulary used in the questionnaire "Piece and Number", which mean the same thing has been retained as number. Read 6 numbers of apples, 6 numbers of tobacco leaves instead of piece.

Recording of the Responses

All the responses/answers should be recorded in terms of **grams** for solid items and in terms of **ml** in terms of liquid items in the questionnaire.

Others Category

For all the blocks particular space has been provided for the others, which means that the enumerators have to further try to investigate if there is any other crops/items not listed in the questionnaire and being measured in the similar manner in accordance with the listed items. For such items specify the items and the units used for the measurement.

Block 1: Cereals, cereal preparations and pulses

This block is meant for cereal and cereal preparation. In this block, if there are different types of units being used for measuring a single item, which differ in size of the measuring unit take three commonly used measuring unit and weigh the item in terms of the SI unit and record the weight in grams. For instance, take chandre; get three Chandres from three different sources and record the weights on the form the size may not be necessarily different but it is required to take the sample from different sources. Similarly in case of khaw it may either differ in size or in shape, as this is not actually supplied from one particular source, for such unit, try to measure three different units and record the weight in grams. Collect data for all the units as prescribed on the form and complete the collection for all the items listed. In case of the millet, there are two types; finger millet and foxtail millet, which can be easily identified by its colour. The former is red in colour and the latter white. Similarly, bitter and sweet buckwheat needs to be measured separately, which is known as Jho and Garay in Dzongkha. Although there are three different types of Zaws, namely Ngoza, Shunza and Baga you are required to mix the three in equal proportion and get the weight. It may be difficult but is very much required.

Block 2: Vegetables

This block deals with Vegetables (fresh and dried). In this block most of the items would be reported in terms of bundles, numbers and other non

standard containers like plates, bangchu etc. For the items, which are commonly transacted as bundles; it is required to take three different sized bundles for the particular item and weigh it. For those items, which are reported in numbers/sticks, specific numbers/sticks are indicated to measure. The measurement for three different sizes will have to be reported. Similarly for the other non standard container locate three different sizes and get the weight. Under this block special attention has to be paid while trying to get the measuring unit for weighing Garlic head. Possibilities of the units used are given on the form.

Block 3: Fruits

This block relates to Fruits (fresh and Dried). The items are reported in terms of Numbers. A standard count of number of the items listed needs to be weighed. In case of the sugarcane get the weight for 3 different nodal lengths. For the convenience of the data collector most of the item numbers to be measured are fixed at 6 numbers. For example 6 apples needs to be weighed for three times that is first select 6 numbers of smallest sized apples, then 6 medium sized apples and the 6 largest sized apples. Record the weights on the space provided.

Block 4: Tobacco and other products

This block relates to Tobacco and Other products. All those manufacture items, which come with the net weight on the packet, have been excluded. Specific items, which may be reported in terms of number, should be weighed as in block 3.

Block 5: Oil, Alcohol and other beverages

This block is for any form of liquid. Non standard container, which is used for the transaction of liquids should be measured and record the answers in ml. Bottle and plastic jenkins of any type and sizes, which have prescribed net weight has not be included for the survey. More attention has been placed on the containers, which are locally made like palang, dop, throchu etc.

Block 6: Dairy products and meat

This block is for dairy products. The various units for measuring butter could be tsang and pori in western region, phok in the east and ser in the southern region. The unit for cheese and egg can be in ball and numbers respectively. In the case of meat, the unit can be in tsang, pori, phok, ser, bundle and Goe. Take the defined sample and record the responses in grams. The exercise is similar to Block 1 and 2. Dry cheese are sold in the form of chu-shey. You should weigh the chu-shey and write the conversion rate in the given space.

Block 7: Spices

This block is meant for spices. The unit for fresh and dry chillies (local) can be in all forms of dres, bangchu, plates and phitas. Repeat similar exercise as in Block 1.

Block 8: Miscellaneous

This block is particularly for the religious items such as tsangzay powder. The possible measurement units in use would be in all types of Dres, Bangchu, plates and phitas. Carry out similar standard sample to actually get the weights.

Questionnaire

ROYAL GOVERNMENT OF BHUTAN
PLANNING COMMISSION
CENTRAL STATISTICAL OFFICE



Survey on Standardization of Quantity Units 2002
(with support of the Asian Development Bank, TA 3669-BHU)

Geog/Town :

Size :

No.of villages :

No.of chupens :

Round 1: Start/...../2002 End .../.....2002

Round 2: Start/...../2002 End/.....2002

Name of enumerator Signature.....Date

Name of supervisor.....Signature.....Date.....

Block 1 : Cereals, Cereal Preparations and Pulses

Item	Unit	Unit size	Round 1	Round 2
			Weight in grams	Weight in grams
PADDY	Gasekhalo	1		
		2		
		3		
	Chandre	1		
		2		
		3		
	Badre	1		
		2		
		3		
	Khaw	1		
		2		
		3		
	Pathi	1		
		2		
		3		
RICE	Gasekhalo	1		
		2		
		3		
	Chandre	1		
		2		
		3		
	Badre	1		
		2		
		3		
	Khaw	1		
		2		
		3		

		1		
	Pathi	2		
		3		
	Phita/Lamshu	1		
		2		
		3		
ZAW (NGOZA)		1		
	Gasekhalo	2		
		3		
	Chandre	1		
		2		
		3		
	Badre	1		
		2		
		3		
	Khaw	1		
		2		
		3		
	Pathi	1		
		2		
		3		
	Bangchu	1		
		2		
		3		
ZAW (SHUNZA)		1		
	Gasekhalo	2		
		3		
	Chandre	1		
		2		
		3		
	Badre	1		

		2		
		3		
	Khaw	1		
		2		
		3		
	Pathi	1		
		2		
		3		
	Bangchu	1		
		2		
		3		
ZAW (BAGA)		1		
	Gasekhalo	2		
		3		
	Chandre	1		
		2		
		3		
	Badre	1		
		2		
		3		
	Khaw	1		
		2		
		3		
	Pathi	1		
		2		
		3		
	Bangchu	1		
		2		
		3		
FLATTEN RICE	Gasekhalo	1		
		2		

		3		
		1		
	Chandre	2		
		3		
		1		
	Badre	2		
		3		
		1		
	Khaw	2		
		3		
		1		
	Pathi	2		
		3		
		1		
	Bangchu	2		
		3		
	MAIZE	1		
		2		
	Gasekhalo	3		
		1		
	Chandre	2		
		3		
		1		
	Badre	2		
		3		
		1		
	Khaw	2		
		3		
		1		
	Pathi	2		
		3		

		1		
	Bangchu	2		
		3		
	KHARANG	1		
		2		
	Gasekhalo	3		
		1		
	Chandre	2		
		3		
		1		
	Badre	2		
		3		
		1		
	Khaw	2		
		3		
		1		
	Pathi	2		
		3		
		1		
	Bangchu	2		
		3		
		1		
	Phita/Lamshu	2		
		3		
	TEGMA	1		
		2		
	Gasekhalo	3		
		1		
	Chandre	2		
		3		
		1		
	Badre	2		

		2	
		3	
	Khaw	1	
		2	
		3	
	Pathi	1	
		2	
		3	
	Bangchu	1	
		2	
		3	
	Phita/Lamshu	1	
		2	
		3	
WHEAT			
	Gasekhalo	1	
		2	
		3	
	Chandre	1	
		2	
		3	
	Badre	1	
		2	
		3	
	khaw	1	
		2	
		3	
	Pathi	1	
		2	
		3	
BARLEY	Gasekhalo	1	
		2	

		3	
	Chandre	1	
		2	
		3	
	Badre	1	
		2	
		3	
	khaw	1	
		2	
		3	
	Pathi	1	
		2	
		3	
B/BUCKWEAT			
	Gasekhalo	1	
		2	
		3	
	Chandre	1	
		2	
		3	
	Badre	1	
		2	
		3	
	Khaw	1	
		2	
		3	
	Pathi	1	
		2	
		3	
S/BUCKWEAT			
	Gasekhalo	1	
		2	
		3	

		1		
	Badre	2		
		3		
	Chandre	1		
		2		
		3		
	Khaw	1		
		2		
		3		
	Pathi	1		
		2		
		3		
FINGER MILLET (KONGPO)	Gasekhalo	1		
		2		
		3		
	Chandre	1		
		2		
		3		
	Badre	1		
		2		
		3		
	Khaw	1		
		2		
		3		
	Pathi	1		
		2		
		3		
FOXTAIL MILLET (YANGRA / CHERA)	Gasekhalo	1		
		2		
		3		
	Chandre	1		

		2		
		3		
	Badre	1		
		2		
		3		
	Khaw	1		
		2		
		3		
	Pathi	1		
		2		
		3		
	Phita/Lamshu	1		
		2		
		3		
MUSTARD	Gasekhalo	1		
		2		
		3		
	Chandre	1		
		2		
		3		
	Badre	1		
		2		
		3		
	Khaw	1		
		2		
		3		
	Pathi	1		
		2		
		3		
SESAME NAM (SHEMTSE)	Gasekhalo	1		
		2		

		3		
	Chandre	1		
		2		
		3		
	Badre	1		
		2		
		3		
	Khaw	1		
		2		
		3		
	Pathi	1		
		2		
		3		
	Phita/Lamshu	1		
		2		
		3		
FLOUR		1		
<i>Includes wheat, barley, buckweat, millet and maize.</i>	Gasekhalo	2		
		3		
Chandre	1			
	2			
	3			
Badre	1			
	2			
	3			
Khaw	1			
	2			
	3			
Pathi	1			
	2			
	3			

		1		
	Phita/Lamshu	2		
		3		
(PULSES)		1		
SOYABEAN / BEANS	Gasekhalo	2		
		3		
WHITE DAL / BLACK DAL (GAGPU)	Chandre	1		
		2		
		3		
PEAS (SHINJE)	Badre	1		
		2		
		3		
	Khaw	1		
		2		
		3		
	Pathi	1		
		2		
		3		
	Phita/Lamshu	1		
		2		
		3		
OTHERS		1		
<i>(Specify)</i>		2		
		3		
		1		
		2		
		3		
		1		
		2		
		3		

Block 2 : Vegetables				
Item	Unit	Unit size	Round 1	Round 2
			Weight in grams	Weight in grams
SPINACH	Bundle	1		
		2		
		3		
CANE SHOOT (PATSHA)	Number	1		
		2		
		3		
MUSHROOM	Plate	1		
		2		
		3		
	Bagnchu	1		
		2		
		3		
FERN (NAKEY)	Bundle	1		
		2		
		3		
DAMRU	Bundle	1		
		2		
		3		
ONION SHOOT(S)	Bundle	1		
		2		
		3		
GARLIC SHOOT(S)	Bundle	1		
		2		
		3		
CORIANDER (YOESU)	Bundle	1		
		2		

		3		
BROCCALI	Bundle	1		
		2		
		3		
ASPARAGUS	Bundle	1		
		2		
		3		
MUSHROOM (DRY)	Plate	1		
		2		
		3		
	Bagnchu	1		
		2		
		3		
GARLIC (BULB)	Bangchu	1		
		2		
		3		
	Khaw	1		
		2		
		3		
	Pathi	1		
		2		
		3		
	Plate	1		
		2		
		3		
PUMKIN (DRY)	Plate	1		
		2		
		3		
	Bangchu	1		
		2		
		3		

BRINJAL (DRY)	Plate	1		
		2		
		3		
	Bangchu	1		
		2		
		3		
TURNIP/RADDISH(DRY) YUNGDO	Plate	1		
		2		
		3		
	Bangchu	1		
		2		
		3		
TURNIP /RADDISH LEAVE/(S)(DRY)	Plate	1		
		2		
		3		
	Bangchu	1		
		2		
		3		
OTHERS		1		
(Specify)		2		
		3		

Block 3 : Fruits				
Item	Unit	Unit size	Round 1	Round 2
			Weight in grams	Weight in grams
APPLE	6 numbers	1		
		2		
		3		
ORANGE	6 numbers	1		
		2		
		3		
PEACH	6 numbers	1		
		2		
		3		
PEAR	6 numbers	1		
		2		
		3		
PLUM	6 numbers	1		
		2		
		3		
WALNUT	6 numbers	1		
		2		
		3		
LEMON	6 numbers	1		
		2		
		3		
GUAVA (BEABSU)	6 numbers	1		
		2		
		3		
POMEGRANATE (SINDRU)	6 numbers	1		
		2		
		3		

BANANA		1		
	6 numbers	2		
		3		
SUGARCANE		1		
	stick	2		
		3		
GROUNDNUT		1		
	Phita/Lamshu	2		
		3		
	Poto	1		
		2		
		3		
	Bangchu	1		
		2		
		3		
GOOSEBERRY UMLA		1		
	Phita/Lamshu	2		
		3		
	Poto	1		
		2		
		3		
PEAR (DRY)		1		
	Phita	2		
		3		
	Poto	1		
		2		
		3		
	Bangchu	1		
		2		
		3		
GUENDRUM (DRY) ASIAN GRAPES		1		
	Phita/Lamshu	2		
		3		

		1		
	Poto	2		
		3		
	Bangchu	1		
		2		
		3		
PERSIMMON ANNDRE (DRY)		1		
	Phita/Lamshu	2		
		3		
	Poto	1		
		2		
		3		
	Bangchu	1		
		2		
		3		
OTHERS (Specify)		1		
		2		
		3		
		1		
		2		
		3		
		1		
		2		
		3		

Block 4 : Tobacco and Other Products				
Item	Unit	Unit Size	Round 1	Round 2
			Weight in grams	Weight in grams
TOBACCO LEAVES BAYLA	6 numbers	1		
		2		
		3		
TOBACCO LEAVES DOPDO	6 numbers	1		
		2		
		3		
BETELNUT (WET)	10 numbers	1		
		2		
		3		
BETELNUT (DRY)	10 numbers	1		
		2		
		3		
PAN LEAVES (LOCAL)	Bundle	1		
		2		
		3		
PAN LEAVES	Bundle	1		
		2		
		3		
LIME (TSINAY)	poto	1		
		2		
		3		
	phita/Lamshu	1		
		2		
		3		
	timchu	1		
		2		

OTHERS (Specify)		3		
		1		
		2		
		3		
		1		
		2		
		3		
		1		
		2		
		3		
		1		
		2		
		3		
		1		

Block 5 : Oil, Alcoholic and Other Beverages				
Item	Unit	Unit Size	Round 1	Round 2
			Volume in ml	Volume in ml
AARA / SINGCHA	Palang	1		
		2		
		3		
	Jandum	1		
		2		
		3		
TONGPA / BANGCHA (grams)	Bawl	1		
		2		
		3		
	Throchu	1		
		2		
		3		
	Dop	1		
		2		
		3		
OTHER LIQUOR / OTHER BEVERAGES (Specify)		1		
		2		
		3		
		1		
		2		
		3		
		1		
		2		
		3		

Block 6 : Dairy Products and Meat				
Item	Unit	Unit Size	Round 1	Round 2
			Weight in grams	Weight in grams
BUTTER	Tsang	1		
		2		
		3		
	Pori	1		
		2		
		3		
	Phok	1		
		2		
		3		
	Ser	1		
		2		
		3		
CHEESE	3 balls	1		
		2		
		3		
	(Dry cheese) Chu-shey / Churkam	1		
		2		
		3		
HAAP (Chugo)	Number	1		
		2		
		3		
FRESH BEEF	Tsang	1		
		2		
		3		
	Pori	1		
		2		
		3		

	Phok	1		
		2		
		3		
	Ser	1		
		2		
		3		
	Goe	1		
		2		
		3		
DRY BEEF	Tsang	1		
		2		
		3		
	Pori	1		
		2		
		3		
	Phok	1		
		2		
		3		
	Ser	1		
		2		
		3		
Goe	1			
	2			
	3			
Bundle	1			
	2			
	3			
FRESH PORK	Tsang	1		
		2		
		3		
	Pori	1		

		2		
		3		
		1		
	Phok	2		
		3		
		1		
	Ser	2		
		3		
		1		
Goe	2			
	3			
	1			
DRY PORK	Tsang	1		
		2		
		3		
	Pori	1		
		2		
		3		
	Phok	1		
		2		
		3		
	Ser	1		
		2		
		3		
Goe	1			
	2			
	3			
Bundle	1			
	2			
	3			
OTHERS		1		
(Specify)		2		
		3		

Block 7: Spices				
Item	Unit	Unit Size	Round 1	Round 2
			Weight in grams	Weight in grams
FRESH CHILLI (LOCAL)	Dre	1		
		2		
		3		
	Gasekhalo	1		
		2		
		3		
	Chandre	1		
		2		
		3		
	Badre	1		
		2		
		3		
	Khaw	1		
		2		
		3		
Pathi	1			
	2			
	3			
DRY CHILLI (LOCAL)	Dre	1		
		2		
		3		
	Bangchu	1		
		2		
		3		
	Plate	1		
		2		
		3		
	phita/Lamshu	1		
		2		
		3		

	Pathi	1		
		2		
		3		
	Khaw	1		
		2		
		3		
	Chandre	1		
		2		
		3		
Gasekhalo	1			
	2			
	3			
CHILLI POWDER	phita/Lamshu	1		
		2		
		3		
Poto	1			
	2			
	3			
DRY PEPPER (THINGE)	Gasekhalo	1		
		2		
		3		
	Chandre	1		
		2		
		3		
	Badre	1		
		2		
		3		
	Khaw	1		
		2		
		3		
	Phita/Lamshu	1		
		2		
		3		
OTHERS (Specify)		1		
		2		
		3		

Block 8 : Miscellaneous				
Item	Unit	Unit Size	Round 1	Round 2
			Weight in grams	Weight in grams
TEA LEAVES (LOCAL)	Bangchu	1		
		2		
		3		
	phita/Lamshu	1		
		2		
		3		
	Plate	1		
		2		
		3		
BHUTANESE TEA LEAVES (JARI)	Plate	1		
		2		
		3		
BHUTANESE TEA LEAVES (PACHU)	Number	1		
		2		
		3		
TSANGZAY (BALU)	Number	1		
		2		
		3		
	Poto	1		
		2		
		3		
	Dre	1		
		2		
		3		
TSANGZAY (SULU)	Bangchu	1		
		2		
		3		

	Poto	1			
		2			
		3			
	Dre	1			
		2			
		3			
	TSANGZAY (KARCHU)	Bangchu	1		
			2		
			3		
	Poto	1			
		2			
		3			
	Dre	2			
		3			
TSANGZAY (PANGPOI)	Bangchu	1			
		2			
		3			
	Poto	1			
		2			
		3			
Dre	1				
	2				
	3				
OTHERS (Specify)		1			
		2			
		3			
		1			
		2			
		3			