



METADATA ON 2021 AGRICULTURE SURVEY (AS)

1. PRODUCER

Agriculture Survey, 2021 was conducted by National Statistics Bureau (NSB) and funded by Royal Government of Bhutan.

2. METHODOLOGY

Survey questionnaire: The 2021 AS questionnaire contains the following modules:

- Identification;
- Cereal;
- Oilseeds;
- Pulses;
- Vegetables;
- Spices;
- Roots and tubers;
- Fruits

In order to maintain comparability, most of the questions that were canvassed in previous AS were retained. There were 8 modules in the questionnaire and it was prepared in consultation with the relevant stakeholders. The content of the questionnaire were in coherence with the international standards as well as in sync with the requirements of the national needs. In order to determine the average time taken, flow and relevancy of the questions, the questionnaire was pretested.

Reference period

The 2021 AS was conducted from January 8, 2022 to April 20, 2022. January to December, 2021 was the reference year for the survey. This means that the 2021 AS provides production and area data as for 2021.

Target population, sample size and sample allocation: The AS has been designed to cover the regular households of the entire country. The sample for 2021 AS was designed to provide estimates of the agriculture related indicators both at the national and the dzongkhag levels. The total sample size for 2021 AS was 20,538 households at the national level.

The sample for the 2021 AS was designed to provide estimates for a larger number of agriculture households. A stratified uni-stage sampling design was employed and a Circular Systematic Sampling (CSS) approach was used to select the participating households from the gewogs. All the 20 dzongkhags and 205 gewogs were sampled.

The 2021 AS adopted the earlier approach of determining the sample size based on the agriculture utilized areas of farming households at Gewog (sub district) level as an indicator for sample size calculation. The survey domain is the dzongkhag. The chiwog as the primary sampling unit (PSU) is selected using the probability proportional to size (PPS) scheme. The farming household which serves as the secondary sampling unit (SSU) is selected systematically.

The initial sample size was calculated as:

$$n_0 = \left(\frac{z * 100 * CV_{area}}{p} \right)^2$$

n_0 = initial sample size;

z = statistics that defines the level of confidence desired. At 95 Confidence interval, the value of $z = 1.96$

CV = coefficient of variation, where $CV = \frac{SD}{\bar{x}}$

p = value of population proportion or margin of error which is set at 0.15 at gewog level.

The final sample size was then calculated by using the population correction factor:

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

Where N is the total farming population in the country.

3. QUESTIONNAIRE

The questionnaire for the 2021 AS is attached as Annex.

4. DATA COLLECTION

For the main survey, gewog supervisors and 175 university graduates were deployed as enumerators in low risk areas. Based on the pilot survey, an enumerator was estimated to complete data collection for, or enumerate, 6 households per day. The number of enumerators required in dzongkhags were estimated based on the sample household list and estimated enumerations per day.

Data was captured during a single visit to the household. In cases where a head of household or competent member of households could not be contacted during the first visit, a minimum of three revisits were made. The data collection was conducted using Computer Assisted Personal Interviewing (CAPI) method on the survey solution systems.

5. DATA PROCESSING

The field data collection was done using CAPI method. The questionnaire was designed in the survey solutions application. The data consistency checks were done by the respective supervisors during field enumeration, while the coding and revalidation were done by data coders at the head office.

The data validation, cleaning, and tabulations were done for the duration of three weeks using statistical software Stata Version.17. The sampling weights were developed and assigned to individual households in order to obtain

the estimates for the whole country. The analysis was based on 19,402 households. For 2021 AS, the response rate was 94 percent. The overall non-response rate was close to 6 percent.

6. SURVEY KEY FINDINGS

1. CEREALS

The production of main cereals was 76,487 MT in 2021. This was 25,728 MT less than in 2020. Samtse dzongkhag harvested 7,412 MT, Punakha harvested 6,820 MT and Sarpang harvested 6,746 MT of main cereals in 2021. The three dzongkhags accounted for more than one fifth (27 percent) of the total harvested production of main cereals in 2021.

1.1 Paddy

A total of 40,081 MT of irrigated paddy was harvested in 2021. This was 13,280 MT less than in 2020. A total of 427 MT (300 MT less than in 2020) of upland paddy was harvested. Punakha dzongkhag harvested 6,510 MT of irrigated paddy (1,329 MT less than in 2020) while Paro dzongkhag harvested 5,174 MT (2,848 MT less than in 2020) and Wangdue Phodrang harvested 4,470 MT (1,640 MT less than in 2020). Punakha (16 percent), Paro (13 percent) and Wangdue Phodrang (11 percent) dzongkhag accounted for the highest production of irrigated paddy in 2021.

Harvested production of paddy is observed to decrease gradually for many reasons. With the increasing urbanization and rapid socio-economic development, increasing amount of prime paddy wetland are being lost. Furthermore, agricultural holders are taking up more economically viable, less labor and resources intensive crops over paddy cultivation on wetland. The acreage under paddy is also slowly diminishing due to other competing crops such as growing of vegetables and other cash crops on wetland. Furthermore, in terms of paddy growers it has decreased from 28,516 holders in 2020 to 25,336 holders in 2021, an equivalent down 11 percent than in 2020.

1.2 Maize

Maize which is yet another mostly grown cereal crop in the country has harvested 30,939 MT in 2021. This was 10,026 MT less than in 2020. The major maize growing dzongkhags – Monggar harvested 4,369 MT (less 1,793 MT than in 2020), Pema Gatshel harvested 4,205 MT (more 768 MT than in 2020) and Trashigang harvested 3,493 MT (less 3,103 MT than in 2020) in 2021. Monggar (14 percent), Pema Gatshel (14 percent) and Trashigang (11 percent) dzongkhag accounted for the highest production of maize in 2021. Maize growers decreased from 43,776 holders in 2020 to 38,397 holders in 2021, an equivalent down 12 percent than in 2020.

1.3 Other cereals

A total of 1,169 MT of wheat and 1,855 MT of buckwheat were harvested. Harvested production of wheat fell to 1,169 MT (less 454 MT than in 2020) while buckwheat fell to 1,855 MT (less 846 MT than in 2020) in 2021.

A total of 857 MT of barley and 1,122 MT of millet was recorded in 2021. The harvested production of barley fell by 266 MT while millet fell by 491 MT than in 2020. There was also reduction in the harvest area of barley (less 159 acres than in 2020) and millet (less 417 acres than in 2020) like any other cereals in 2021.

About 37 MT of quinoa was estimated to harvest in 2021, which was 65 MT less than in 2020. The area under quinoa cultivation reduced to 101 acres (less 172 acres than in 2020) in 2021.

2. OILSEEDS AND PULSES

In 2021, the harvest of main oilseeds and pulses was lower than in 2020, in part reflecting the decline in the harvested area. The overall decline was principally due to lower harvested production levels for mustard (206 MT less than in 2020), groundnut (266 MT less than in 2020), beans dry (165 MT less than in 2020) and rajma beans (487 MT less than in 2020).

3. VEGETABLES

3.1 Cabbage

The total harvest of cabbage was 3,763 MT in 2021. This was 4,066 MT less than the production level in 2020. The overall fall in cabbage production in 2021 was due to the reduction in the harvest area (752 acres less than in 2020) and yield per acre. The yield per acre in 2021 was 2,851 kg, this was 928 kg less than in 2020.

3.2 Cauliflower

Cauliflower also saw sharp decrease in the harvested production from 2,448 MT in 2020 to 1,648 MT in 2021. This was about 800 MT less than in 2020. The overall yield per acre was 1,740 kg in 2021 (less 303 kg per acre than in 2020). Thimphu and Lhuentse dzongkhags saw highest per acre yield drop in 2021. Thimphu dzongkhag harvested 2,223 kg (less 2,476 kg than in 2020) per acre in 2021 while Lhuentse dzongkhag harvested 1,487 kg (less 1,613 kg than in 2020) per acre in 2021.

3.3 Beans

The total harvest of beans was 2,096 MT in 2021. This was 1,073 MT less than the production level in 2020. The overall fall in beans production in 2021 was due to the reduction in the harvest area (933 acres less than in 2020) rather than the yield per acre. The yield per acre in 2021 was 1,300 kg, this was 55 kg more than in 2020

3.4 Broccoli

Broccoli also saw decrease in the harvested production from 1,727 MT in 2020 to 1,157 MT in 2021. This was about 570 MT less than in 2020. The overall yield per acre was 1,328 kg in 2021 (less 232 kg per acre than in 2020). Tsirang and Monggar dzongkhags which accounted for the highest production share in 2020 saw drop in the harvested production.

3.5 Chili

Chili is a commercial crop and one of the most important vegetables grown in almost all 20 dzongkhags in the country. The total harvest of chili was 5,864 MT in 2021. This was 3,469 MT less than the production level in 2020. The overall fall in 2021 was due to the reduction in the harvest area (326 acres less than in 2020) and yield per acre. The yield per acre in 2021 was 1,705 kg, this was 774 kg less than in 2020. Most of the chili growing dzongkhags like Paro and Punakha harvested lower level of production in 2021 than in 2020. Punakha dzongkhag harvested 413 MT (476 MT less than in 2020) while Paro harvested 999 MT (663 MT less than in 2020) in 2021.

3.6 Onion bulb and tomato (excludes tree tomato)

A total of 419 MT (more 202 MT than in 2020) of onion bulb was harvested in the country. Major onion bulb producing dzongkhags also saw sharp increase in the harvested production – Tsirang with 65 MT (up 34 MT than in 2020) and Dagana with 110 MT (up 82 MT than in 2020). Although the yield per acre remained constant (1,067 kg in 2020 and 1,008 kg in 2021) for onion bulb, the harvested area increased more than double from 203 acres in 2020 to 415 acres in 2021.

Harvest of tomato, on the other hand was 289 MT in 2021. This was 69 MT less and 17 acres less in terms of harvest area than in 2020. Samtse (up 6 MT than in 2020) and Dagana (up 18 MT than in 2020) dzongkhags received positive growth in the harvested production in 2021 while for many other dzongkhags, the growth was otherwise.

3.7 Asparagus, carrot and radish

A total of 178 MT (more 51 MT than in 2020) of asparagus, 874 MT (less 914 MT than in 2020) of carrot and 2,576 MT (less 2,658 MT than in 2020) of radish in 2021. Asparagus harvest for many dzongkhags have improved over the years with the increase in the national yield per acre from 614 MT in 2020 to 983 MT in 2021. Paro and Thimphu accounted more than three-fourth of the total asparagus production in 2021.

4. SPICES

4.1 Cardamom

Among major spices grown in the country, cardamom and ginger are mostly grown as export commodities. About 1,609 MT of cardamom were harvested from 11,599 acres in 2021. This was 566 MT less than in 2020. Climate change has been significantly impacting the traditional management practices of cardamom farming. The harvested production of cardamom has become uncertain due to persistent pests and diseases. The yield per acre was recorded at 140 kg in 2021, less 20 kg than in 2020. Major cardamom growing dzongkhags – Samtse (less 253 MT than in 2020), Tsirang (less 130 MT than in 2020), Dagana (less 23 MT than in 2020) and Chhukha (less 75 MT than in 2020) recorded lower levels of production in 2021.

4.2 Ginger

Harvest of ginger was 7,154 MT in 2021. This was 1,736 MT less than in 2020. A similar observation was noted for ginger farming in terms of the production levels for major producing dzongkhags. Samdrup Jongkhar harvested 2,189 MT (less 340 MT than in 2020), Samtse 1,364 MT (less 296 MT than in 2020) and Chhukha 1,422 MT (less 819 MT than in 2020) in 2021. The national ginger yield per acre declined from 2,389 kg in 2020 to 2,323 kg in 2021. About 641 acres reduction in the harvested area was observed in 2021 compared to previous year.

4.3 Sichuan pepper

The 2021 Agriculture survey collected information on the production of Sichuan pepper for the first time during the reference year. The harvested production here refers to domesticated Sichuan pepper and do not include those collected as NWFP from the forests. Sale of Sichuan pepper or thingye fetches good price to farmers. The number of thingye growers have increased recently in many dzongkhags. The harvested production of Sichuan pepper was a little more than 30 MT in 2021. Monggar harvested 6 MT while Trongsa and Trashi Yangtse, respectively harvested 5 MT each.

5. ROOTS AND TUBERS

5.1 Potato

Among the roots and tuber, potato has been one of the highest cash crops exported to India and this generates a lot of revenue to the farming population. The country harvested 38,573 MT of potatoes in 2021, which was 6,928 MT less than in 2020 (a decrease of 15 percent). Most of the major potato producing dzongkhags had lower harvests in 2021 – Wangdue Phodrang harvested 10,815 MT (2,734 MT less than in 2020); Paro harvested 4,370 MT (1,038 MT less than in 2020); and Monggar harvested 3,752 MT (501 MT more than in 2020).

5.2 Cassava

About 389 MT of cassava was harvested in 2021. This was 219 MT less than in 2020. The per acre yield of cassava was recorded at 1,820 kg in 2021, less 80 kg than in 2020. Major cassava producing dzongkhags – Chhukha (less 52 MT than in 2020) and Samtse (less 93 MT than in 2020) reported lower level of harvested production in 2021.

5.3 Other roots and tuber

The harvest of other roots and tuber included 53 MT of sweet potato (down 14 MT than in 2020), 147 MT of taro (down 97 MT than in 2020) and 146 MT of ground apple (down 90 MT than in 2020). Lower levels of harvested production were recorded due to significant reduction in the harvested area.

6. FRUITS

6.1 Apple

About 2,324 MT of apple were harvested in 2021. This was 1,732 MT less than in 2020. The per bearing tree yield of apple was recorded at 17 kg in 2021, less 4 kg than in 2020. Major apple producing dzongkhags – Paro harvested 1,511 MT (less 1,279 MT than in 2020) and Thimphu harvested 577 MT (less 190 MT than in 2020). In terms of the yield per bearing tree, Paro recorded at 17 kg (less 5 kg than in 2020) and Thimphu at 20 kg (less 2 kg than in 2020). The lower level of apple production in 2021 was due to reduction in bearing trees to 134,004 (less 57,613 trees than in 2020).

6.2 Areca nut

About 21,377 MT of areca nut were harvested in 2021. This was 3,931 MT more, equivalent 23 percent more than in 2020. The per bearing tree yield of areca nut was recorded at 12 kg in 2021, more 1 kg than in 2020. Major areca nut producing dzongkhags – Samtse harvested 11,393 MT (more 3,902 MT than in 2020), Sarpang harvested 6,350 MT (more 630 MT than in 2020) and Samdrup Jongkhar harvested 1,605 MT (less 257 MT than in 2020) in 2021.

6.3 Mandarin

About 15,966 MT of mandarin were harvested in 2021. This was 9,694 MT less than in 2020. The per bearing tree yield of mandarin was recorded at 20 kg in 2021, less 10 kg than in 2020. Major mandarin producing dzongkhags – Dagana harvested 2,792 MT (less 1,014 MT than in 2020), Samdrup Jongkhar harvested 2,378 MT (less 926 MT than in 2020) and Tsirang harvested 2,148 MT (less 1,331 MT than in 2020) in 2021.

6.4 Watermelon

About 156 MT of watermelon were harvested in 2021. This was 103 MT more than in 2020. The per acre yield of watermelon was recorded at 2,613 kg in 2021, more 1,105 kg than in 2020. Major watermelon producing dzongkhags – Zhemgang harvested 55 MT (more 35 MT than in 2020), Samtse harvested 51 MT, Trashigang harvested 21 MT (more 19 MT than in 2020), Tsirang harvested 7 MT (less 3 MT than in 2020) and Monggar harvested 7 MT (more 6 MT than in 2020) in 2021. About 67 acres of area was estimated under watermelon cultivation. This was 30 acres more than in 2020.

6.5 Dragon fruit

About 1 MT of dragon fruit were harvested in 2021. This was marginal increase in the harvested production in 2021 than in 2020. The per bearing tree yield of dragon fruit was recorded at 3 kg in 2021, equivalent than in 2020. Only 105 bearing trees were reported to increase in 2021. Not many dzongkhags reported to grow dragon fruits in 2021.

Of those reported dzongkhags, Monggar and Tsirang accounted for the larger share of dragon fruit harvest in 2021.

6.6 Kiwi

Country recorded 51 MT of kiwi production in 2021. This was 22 MT more than in 2020. An estimated 4,084 bearing kiwi trees (up 1,016 bearing trees than in 2020) existed in 16 dzongkhags in 2021. The per bearing tree yield was recorded at 12 kg in 2021 (more 3 kg than in 2020). Chhukha dzongkhag reported more than three-fourth of the total kiwi production in 2021.

7. VARIABLE NAME, LABEL AND DESCRIPTION

This section gives detail description of all the variables given in the dataset. The variable name is given in the first column and it is same as the question number given in the questionnaire. The second column gives the label of the variable. It describes the variable in few words. The third column describes each variable in detail.

Household Identification

Variable Name	Variable Label	Description	Remarks
A1_Dzongkhag	Dzongkhag	Name of the dzongkhag/district where household is currently residing	
A2_Gewog	Gewog	Name of the gewog where household is currently residing	
A5_sampleno	Household sample no	Sample number of the households which is unique within the PSUs	

Section I: Cereals

Variable Name	Variable Label	Description	Remarks
B1	cereal grow yes/no TG	Whether the household grow any cereals in their gewog in 2021 or not.	
B2_1_1 to B2_1_8	Cereal grown in their geog	Type of cereal grown by the household in their gewog in 2021. Types of cereals are; [1] Paddy Irrigated [2] Paddy Upland (Kam Bja/Pang bara) [3] Maize (Geza/Aashum/Makai) [4] Wheat (Ka/Bong) [5] Barley (Nay/Femong) [6] Millet (Memja/Kongpu/Kodoko/Yangra) [7] Buckwheat (Bjo/Khala/Jarey/Guntshon) [8] Quinoa	
B2_2_11 to B2_2_18	Sown area cereals in their gewog	If the household says that they grow above cereals in their gewog, then the area sown of that particular cereal by the household in decimal.	
B2_3_11 to B2_3_18	Lost area in their gewog	If the household says that they grow above cereals in their gwog, then the area loss of that particular cereal by the household in decimal.	

B2_41 to B2_48	cereals product quantity in their gewog	If the household says that they grow above cereals in their gewog, then the quantity of that particular cereal produced by the household in KG	
B3	Cereal grow another gewog	Whether the household grow any cereals in another gewog in 2021 or not.	
B4	Dzongkhag name cereals	If the household says that they are growing cereals in another gewog then their residing gewog in 2021, then name of Dzongkhag where they grow cereals.	
B5	Gewog name cereals	If the household says that they are growing cereals in another gewog then their residing gewog in 2021, then name of Gewog where they grow cereals.	
B5_1	chiwog name cereals	If the household says that they are growing cereals in another gewog then their residing gewog in 2021, then name of chiwog where they grow cereals.	
B6_1_1 to B6_1_8	Cereal grown another gewog	Type of cereal grown by the household in another gewog in 2021. Types of cereals are; [1] Paddy Irrigated [2] Paddy Upland (Kam Bja/Pang bara) [3] Maize (Geza/Aashum/Makai) [4] Wheat (Ka/Bong) [5] Barley (Nay/Femong) [6] Millet (Memja/Kongpu/Kodoko/Yangra) [7] Buckwheat (Bjo/Khala/Jarey/Guntshon) [8] Quinoa	
B6_2_11 to B6_2_17	Sown area another gewog	If the household says that they grow above cereals in another gewog, then the area sown of that particular cereal by the household in decimal.	
B6_3_11 to B6_3_17	Lost area another gewog	If the household says that they grow above cereals in another gewog, then the area loss of that particular cereal by the household in decimal.	
B6_41 to B6_47	Product quantity another gewog	If the household says that they grow above cereals in another gewog, then the quantity of that particular cereal produced by the household in KG	
B7	Cereal grow yet another gewog	Whether the household grow any cereals in yet another gewog in 2021 or not.	
B8	Dzongkhag name yet another gewog	If the household says that they are growing cereals in yet another gewog then their residing gewog in 2021, then name of Dzongkhag where they grow cereals.	
B9	Gewog name yet another gewog	If the household says that they are growing cereals in yet another gewog then their residing gewog in 2021, then name of Gewog where they grow cereals.	
B9_1	chiwog name yet another chiwog	If the household says that they are growing cereals in yet another gewog then their residing gewog in 2021, then name of chiwog where they grow cereals.	
B10_1_1 to B10_1_8	Cereal grown y	Type of cereal grown by the household in yet another gewog in 2021. Types of cereals are; [1] Paddy Irrigated [2] Paddy Upland (Kam Bja/Pang bara) [3] Maize (Geza/Aashum/Makai) [4] Wheat (Ka/Bong) [5] Barley (Nay/Femong) [6] Millet (Memja/Kongpu/Kodoko/Yangra) [7] Buckwheat (Bjo/Khala/Jarey/Guntshon) [8] Quinoa	
B10_2_11 to B10_2_17	Sown area yet another gewog	If the household says that they grow above cereals in yet another gewog, then the area sown of that particular cereal by the household in decimal.	

B10_3_11 to B10_3_17	Lost area yet another gewog	If the household says that they grow above cereals in yet another gewog, then the area loss of that particular cereal by the household in decimal.	
B10_41 to B10_47	Product quantity of cereals yet another gewog	If the household says that they grow above cereals in yet another gewog, then the quantity of that particular cereal produced by the household in KG	
B10_5	cereal sold yes/no	Whether the household has sold any cereals in 2021 or not.	
B10_5	Type of cereal sold	Type of cereal sold by the household in 2021	
B10_5_11 to B10_5_18	quantity sold	Total quantity of cereal sold by the household in 2021 in KG	
B10_5_1a1 to B10_5_1a8	quantity sold from home	Total quantity of cereal sold by the household in 2021 in KG from home.	
B10_5_21 to B10_5_28	rate per kg of cereals	Rate per KG of the cereal sold from home	

Section II: Oil Seeds

Variable Name	Variable Label	Description	Remarks
B11	Oil seed grow yes/no	Whether the household grow any oil seeds in 2021 or not.	
B12_1_1 to B12_1_5	oil seeds type grown	Type of oil seed grown in 2021 by the household: [1] Mustard (Pyka/Memba/Yungka/Tori) [2] Sunflower (Nima meto/Gham phul) [3] Soybean (Lebee/Bhatamas) [4] Groundnut (Badam) [5] Perilla (Naam/Selam)	
B12_2_11 to B12_2_15	Sown area of oil seeds	If the household says that they grow above oil seeds, then the area sown of that particular oil seeds by the household in decimal.	
B12_3_11 to B12_3_15	Lost area of oil seeds	If the household says that they grow above oil seeds, then the area loss of that particular oil seeds by the household in decimal.	
B12_41 to B12_45	oil seeds product quantity	If the household says that they grow above oil seeds , then the quantity of that particular oil seeds produced by the household in KG	
B12_5	oil seeds sold yes/no	Whether the household has sold any oil seeds in 2021 or not.	
B12_6_1 to B12_5_5	Type of oil seeds sold	Type of oil seeds sold by the household in 2021	
B12_7_1	quantity oil seeds sold	Total quantity of oil seeds sold by the household in 2021 in KG	
B12_7_2	quantity oil seeds sold from home	Total quantity of oil seeds sold by the household in 2021 in KG from home.	
B12_7_3	rate per kg oil seeds	Rate per KG of the oil seeds sold from home	

Section III: Pulses

Variable Name	Variable Label	Description	Remarks
B13	Pulses grow yes/no	Whether the household grow any pulses in 2021 or not.	
B14_1_1 to B14_1_4	pulses type grown	Type of oil pulses grown in 2021 by the household: [1] Rajma beans (Mashaam/ Bhorl) [2] Mung beans (Gakpu/Shakpu/Kalo dhaal) [3] Lentil (Mussori dhaal) [4] Beans dry (Semchung kham/Oray sangma)	
B14_2_11 to B14_2_14	Sown area of Pulses	If the household says that they grow above pulses, then the area sown of that particular pulses by the household in decimal.	
B14_3_11 to B14_3_14	Lost area of pulses	If the household says that they grow above pulses, then the area loss of that particular pulses by the household in decimal.	
B14_41 to B14_45	pulses product quantity	If the household says that they grow above pulses , then the quantity of that particular pulses produced by the household in KG	
B14_4a	pulses sold yes/no	Whether the household has sold any pulses in 2021 or not.	
B14_5_1 to B14_5_4	Type of pulses sold	Type of pulses sold by the household in 2021	
B14_5_11 to B14_5_14	quantity pulses sold	Total quantity of pulses sold by the household in 2021 in KG	
B14_5_1a1 to B14_5_1a4	quantity pulses sold from home	Total quantity of pulse sold by the household in 2021 in KG from home.	
B14_5_21 to B14_5_24	rate per kg pulses	Rate per KG of the pulses sold from home	

Section IV: Vegetables

Variable Name	Variable Label	Description	Remarks
B15	Veg grow yes/no	Whether the household grow any vegetables in 2021 or not.	
B16_1_1 to B16_1_21	Veg type grown	Type of vegetables grown in 2021 by the household: [1] Asparagus (Ngyakhagchu/Kurelo) [2] Beans Green/fresh (Semchum) [3] Brinjal (Dolom/Bando/Baigun) [4] Broccoli [5] Bulb Onion (Gop/Pyaz/Gogpa) [6] Bunching Onion/spring onion (Dong Gop dama) [7] Cabbages (Banda Kopi) [8] Carrot (Laphu Maap/Gajar) [9] Cauliflower (Metokopi/Phool kopi) [10] Chilli (all type) [11] Garlic leaves (Chagop dama/Lasun pata/Lamshaba) [12] Gourd (Khatem/olachoto/Lauka/Kairu) [13] Green leaves (Hoentsey/Sag/Spinach/Paiga) [14] Peas Green fresh (Mator/Changma/Baisem) [15] Pumpkin (Kakur/Brumsha/Pharshee) [16] Radish (Laphu/Mula) [17] Squash (Baekha/Escus) [18] Tomato (Lambenda) [19] Turnip (Endo/Donai) [20] Beetroot	
B16_2_11 to B16_2_121	Sown area of vegetables	If the household says that they grow above vegetables, then the area sown of the particular vegetables by the household in decimal.	
B16_3_11 to B16_3_121	Lost area of vegetables	If the household says that they grow above vegetables, then the area loss of that particular vegetables by the household in decimal.	
B16_41 to B16_421	vegetables product quantity	If the household says that they grow above vegetables, then the quantity of that particular vegetables produced by the household in KG	
B16_5	veg sold yes/no	Whether the household has sold any vegetables in 2021 or not.	
B16_5a2_1 to B16_5a2_21	Type of vegetables sold	Type of vegetables sold by the household in 2021	
B16_5a_1 to B16_5a_21	quantity veg sold	Total quantity of vegetables sold by the household in 2021 in KG	

B16_5_1a1 to B16_5_1a21	quantity veg sold from home	Total quantity of vegetables sold by the household in 2021 in KG from home.	
B16_5_21 to B16_5_221	rate per kg veg	Rate per KG of the vegetables sold from home	

Section V: Spices

Variable Name	Variable Label	Description	Remarks
B17	spices grow yes/no	Whether the household grow any spices in 2021 or not.	
B18_1_1 to B18_1_6	spices type grown	Type of spices grown in 2021 by the household: [1] Cardamom (Alanchi) [2] Ginger (Saga/Aduwa) [3] Turmeric (Yongka/Haldi) [4] Garlic bulb (Chagop/Lasun) [5] Coriander (Yuse/Daneya) [6] Sichuan Pepper (Timbur/Thingey/Ghee)	
B18_2_1 to B18_2_6	Sown area of spices	If the household says that they grow above spices, then the area sown of the particular spices by the household in decimal.	
B18_3_1 to B18_3_6	Lost area of spices	If the household says that they grow above spices, then the area loss of that particular spices by the household in decimal.	
B18_41 to B18_46	spices product quantity	If the household says that they grow above spices , then the quantity of that particular spices produced by the household in KG	
B18_5	spices sold yes/no	Whether the household has sold any spices in 2021 or not.	
B18_5a_1 to B18_5a_6	Type of spices sold	Type of spices sold by the household in 2021	
B18_5_1a1 to B18_5_1a6	quantity spices sold	Total quantity of spices sold by the household in 2021 in KG	
B18_5_11 to B18_5_16	quantity spices sold from home	Total quantity of spices sold by the household in 2021 in KG from home.	
B18_5_21 to B18_5_26	rate per kg spices	Rate per KG of the spices sold from home	
B18_6	cardamom grow another gewog	Whether the household grow any cardamom in another gewog in 2021 or not.	
B18_7	Dzongkhag name cardamom	If the household says that they are growing cardamom in another gewog then their residing gewog in 2021, then name of Dzongkhag where they grow cardamom.	
B18_8	Gewog name cardamom	If the household says that they are growing cardamom in another gewog then their residing gewog in 2021, then name of Gewog where they grow cardamom.	
B18_9	chiwog name cardamom	If the household says that they are growing cardamom in another gewog then their residing gewog in 2021, then name of chiwog where they grow cardamom.	
B18_101	Sown area another gewog cardamom	If the household says that they grow cardamom in another gewog, then the area cardamom sown by the household in decimal.	
B18_121	Lost area another gewog cardamom	If the household says that they grow cardamom in another gewog, then the cardamom area loss by the household in decimal.	
B18_151	Product quantity another gewog cardamom	If the household says that they grow cardamom in another gewog, then the quantity of cardamom produced by the household in KG	

Section VI : Roots and Tuber

Variable Name	Variable Label	Description	Remarks
B19	roots and tubers grow yes/no	Whether the household grow any roots and tuber in 2021 or not.	
B20_1_1 to B20_1_5	roots and tubers type grown	Type of roots and tubers grown in 2021 by the household: [1] Potato (Pasong/Kaeva/Alu) [2] Sweet Potato (Kaeva-Ngarm/Sakar khanda/Yengorong) [3] Cassava_Tapioca (Shingjoktang/Deyshe-Kaeva/Semal tarul) [4] Taro_Yautia_Collocasia (Bozong/Daw/Piralu) [5] Ground apple	
B21_2_1 to B21_2_5	Sown area of roots and tubers	If the household says that they grow above roots and tubers, then the area sown of the particular roots and tubers by the household in decimal.	
B21_3_1 to B21_3_5	Lost area of roots and spices	If the household says that they grow above roots and spices, then the area loss of that particular roots and tubers by the household in decimal.	
B21_41 to B21_45	roots and tubers product quantity	If the household says that they grow above roots and spices , then the quantity of that particular roots and spices produced by the household in KG	
B21_5	roots and tubers sold yes/no	Whether the household has sold any roots and tubers in 2021 or not.	
B21_5a_1 to B21_5a_5	Type of roots and spices sold	Type of roots and tubers sold by the household in 2021	
B21_5_1a1 to B21_5_1a5	quantity roots and tubers sold	Total quantity of roots and tubers sold by the household in 2021 in KG	
B21_5_11 to B21_5_15	quantity roots and tubers sold from home	Total quantity of roots and tubers sold by the household in 2021 in KG from home.	
B21_5_21 to B21_5_25	rate per kg roots and tubers	Rate per KG of the roots and tubers sold from home	
B21_5_3	potato grow another gewog	Whether the household grow any potato in another gewog in 2021 or not.	
B21_5_4	Dzongkhag name potato	If the household says that they are growing potato in another gewog then their residing gewog in 2021, then name of Dzongkhag where they grow potato.	
B21_5_5	Gewog name potato	If the household says that they are growing potato in another gewog then their residing gewog in 2021, then name of Gewog where they grow potato.	
B21_5_6	chiwog name potato	If the household says that they are growing potato in another gewog then their residing gewog in 2021, then name of chiwog where they grow potato.	
B21_5_7	Sown area another gewog potato	If the household says that they grow potato in another gewog, then the area potato sown by the household in decimal.	
B21_5_8	Lost area another gewog potato	If the household says that they grow potato in another gewog, then the potato area loss by the household in decimal.	
B21_5_9	Product quantity another gewog potato	If the household says that they grow potato in another gewog, then the quantity of potato produced by the household in KG	

Section VII: Fruits

Variable Name	Variable Label	Description	Re- marks
B22	fruits grow yes/no	Whether the household have fruit tree in their current residing gewog in 2021	
B22_1_1 to B22_1_26	fruit trees type	Type of fruit trees have in 2021 by the household: [1] Apple [2] Apricot (Kham chungku) [3] Arecanut (Doma/Guwae) [4] Avacado (Gule/Baruwa) [5] Banana (Ngala/Lai say/Kala) [6] Dragon fruit (Gewaringpa/Gyelwaringa) [7] Guava (Bebpasue/Ambak) [8] Hazelnut (Hazay) [9] Jackfruit (Damsay/Dremleng/Katar) [10] Kiwi (Zhempaybogtong) [11] Lemons and Limes (Kapoor zaymo/Limbu) [12] Litchi [13] Mandarin (Tshelu/Soontala) [14] Mango (Amchukoli/Am say/Amp) [15] Papaya (Modhufala/Mewa) [16] Passion Fruit (Jaga chup/Zargong/Garanda [17] Peach (Kham/lengsey/ Aru) [18] Pear (Lee/Lee tong/Naspati) [19] Persimmon (Aunday) [20] Pineapple (Jana congtsse/Anaras) [21] Plum (Choolee/Say-choorpu/Arubagara) [22] Pomegranate (Chindu/Thalemsey) [23] Tree tomato (Rup tomatar/Shing lambenda) [24] Walnut (Tago/Khey say/Okhar) [25] Watermelon (Apa guto/Kharmuza) [26] Cucumber (Goenchu/Mangpung/Kakra)	
B22_2_1 to B21_2_26	Sown area of fruit tree	If the household says that they have above fruit tree, then the area sown of the particular fruit tree by the household in decimal.	
B22_3_1 to B22_3_26	Lost area of fruit tree	If the household says that they have above fruit tree, then the area loss of that particular fruit tree by the household in decimal.	
B22_21 to B22_226	Total fruit tree	If the household says that they have fruit tree, then the total number of fruit trees.	
B22_31 to B22_326	Bearing fruit tree	If the household says that they have fruit tree, then bearing number of fruit tree.	

B22_51 to B22_526	products fruit tree	If the household says that they have above fruit trees , then the quantity of that particular fruit produced by the household in KG	
B22_61 to B22_626	Bearing fruit tree lost	If the household says that they have fruit tree, then number of fruit tree bearing fruit has been lost.	
B23	fruit grow another gewog	Whether the household have any fruit tree in another gewog in 2021 or not.	
B24	Dzongkhag name fruit	If the household says that they have fruit tree in another gewog then their residing gewog in 2021, then name of Dzongkhag where they have fruit tree.	
B25	Gewog name fruit	If the household says that they have fruit tree in another gewog then their residing gewog in 2021, then name of Gewog where they have fruit tree.	
B25_1	chiwog name fruit	If the household says that they have any fruit tree in another gewog then their residing gewog in 2021, then name of chiwog where they have fruit tree.	
B26_1_1 to B26_1_26	fruit trees type in another gewog	Type of fruit trees have in 2021 in another gewog by the household: [1] Apple [2] Apricot (Kham chungku) [3] Arecanut (Doma/Guwae) [4] Avacado (Gule/Baruwa) [5] Banana (Ngala/Lai say/Kala) [6] Dragon fruit (Gewaringpa/Gyelwaringa) [7] Guava (Bebpasue/Ambak) [8] Hazelnut (Hazay) [9] Jackfruit (Damsay/Dremleng/Katar) [10] Kiwi (Zhempaybogtong) [11] Lemons and Limes (Kapoor zaymo/Limbu) [12] Litchi [13] Mandarin (Tshelu/Soontala) [14] Mango (Amchukoli/Am say/Amp) [15] Papaya (Modhufala/Mewa) [16] Passion Fruit (Jaga chup/Zargong/Garanda [17] Peach (Kham/lengsey/ Aru) [18] Pear (Lee/Lee tong/Naspati) [19] Persimmon (Aunday) [20] Pineapple (Jana congtsse/Anaras) [21]Plum (Choolee/Say-choorpu/Arubagara) [22] Pomegranate (Chindu/Thalemsey) [23] Tree tomato (Rup tomatar/Shing lambenda) [24] Walnut (Tago/Khey say/Okhar) [25] Watermelon (Apa guto/Kharmuza) [26] Cucumber (Goenchu/Mangpung/Kakra)	
B26_21 to B26_226	Total fruit tree another gewog	If the household says that they have fruit tree, then the total number of fruit trees in another gewog.	

B26_31 to B26_326	Bearing fruit tree another gewog	If the household says that they have fruit tree, then bearing number of fruit tree in another gewog.	
B26_51 to B26_526	products fruit tree another gewog	If the household says that they have above fruit trees, then the quantity of that particular fruit produced by the household in KG in another gewog.	
B26_61 to B26_626	Bearing fruit tree lost another gewog	If the household says that they have fruit tree, then number of fruit tree bearing fruit has been lost in another gewog.	
B26_6	Fruit sold yes/no	Whether the household has sold any fruits in 2021 or not.	
B26_6a_1 to B26_6a_26	Type of fruits sold	Type of fruits sold by the household in 2021: [1] Apple [2] Apricot (Kham chungku) [3] Arecanut (Doma/Guwae) [4] Avacado (Gule/Baruwa) [5] Banana (Ngala/Lai say/Kala) [6] Dragon fruit (Gewaringpa/Gyelwaringa) [7] Guava (Bebpasue/Ambak) [8] Hazelnut (Hazay) [9] Jackfruit (Damsay/Dremleng/Katar) [10] Kiwi (Zhempaybogtong) [11] Lemons and Limes (Kapoor zaymo/Limbu) [12] Litchi [13] Mandarin (Tshelu/Soontala) [14] Mango (Amchukoli/Am say/Amp) [15] Papaya (Modhufala/Mewa) [16] Passion Fruit (Jaga chup/Zargong/Garanda [17] Peach (Kham/lengsey/ Aru) [18] Pear (Lee/Lee tong/Naspati) [19] Persimmon (Aunday) [20] Pineapple (Jana congtsse/Anaras) [21] Plum (Choolee/Say-choorpu/Arubagara) [22] Pomegranate (Chindu/Thalemsey) [23] Tree tomato (Rup tomatar/Shing lambenda) [24] Walnut (Tago/Khey say/Okhar) [25] Watermelon (Apa guto/Kharmuza) [26] Cucumber (Goenchu/Mangpung/Kakra)	
B26_6_11 to B26_6_126	quantity fruits sold	Total quantity of fruit sold by the household in 2021 in KG.	
B26_5_1a1 to B26_5_1a26	quantity roots and tubers sold from home	Total quantity of roots and tubers sold by the household in 2021 in KG from home.	
B26_6_2a1 to B26_6_2a26	rate per fruits	Rate per KG of the fruits sold from home.	

8. KEY INDICATORS

The key indicators and their details are as follows:

Indicator: Representation of the statistical data for a specified time, place or any other relevant characteristic. It is a summary measure related to a key issue or phenomenon and derived from a series of observed facts. Indicators can be used to reveal relative positions or show positive or negative change.

Unit: Unit of observation or measurement for which data are collected or derived.

Indicator definition: Describes the indicator in detail or definition of the indicator.

Method of computation: It is the mathematical calculation/model/formula includes both arithmetical or non-arithmetical steps and which followed a well-defined model.

Comments and Limitations: If any characteristics of design or methodology that impacted or influenced the interpretation of the finding from this research.

Sl. No	Indicator	Unit	Indicator Definition	Method of Computation
1	Production of cereals	Metric tons	Production of cereals includes production of following cereals; [1] Paddy Irrigated [2] Paddy Upland (Kam Bja/Pang bara) [3] Maize (Geza/Aashum/Makai) [4] Wheat (Ka/Bong) [5] Barley (Nay/Femong) [6] Millet (Memja/Kongpu/Kodoko/Yangra) [7] Buckwheat (Bjo/Khala/Jarey/Guntshon) [8] Quinoa	The production of cereals is computed by multiplying the harvest area of the holding as reported in the survey with the crop cut yield of the respective gewogs (i.e. area based on the sown area minus the crop area lost).
2	Production of oilseeds	Metric tons	Production of oilseeds includes production of following oilseeds; [1] Mustard (Pyka/Memba/Yungka/Tori) [2] Sunflower (Nimameto/Gham phul) [3] Soybean (Lebee/Bhatamas) [4] Groundnut (Badam) [5] Perilla (Naam/Selam)	As reported by farmer
3	Production of Pulses	Metric tons	Production of oilseeds includes production of following oilseeds; [1] Rajma beans (Mashaam/ Bhor) [2] Mung beans (Gakpu/Shakpu/Kalo dhaal) [3] Lentil (Mussori dhaal) [4] Beans dry (Semchung kham/Oray sangma)	As reported by farmer

4	Production of Vegetables	Metric ton	<p>Production of vegetables includes production of following vegetables;</p> <p>[1]Asparagus(Ngyakhagchu)</p> <p>[2]Beans Green/ fresh (Semchum)</p> <p>[3] Brinjal (Dolom/Bando/Baigun)</p> <p>[4] Broccoli</p> <p>[5] Bulb Onion (Gop/Pyaz/Gogpa)</p> <p>[6] Bunching Onion/spring onion (Dong Gop dama)</p> <p>[7] Cabbages (Banda Kopi)</p> <p>[8]Carrot (Laphu Maap/Gajar)</p> <p>[9] Cauliflower (Metokopi/Phool kopi)</p> <p>[10] Chili (all type)</p> <p>[11]Garlic leaves (Chagop dama/Lasun pata/Lamshaba)</p> <p>[12]Gourd (Khatem/olachoto/Lauka/Kairu)</p> <p>[13]Green leaves(sag/ Hoentsey/ Spinach/Paiga)</p> <p>[14]Peas Green/fresh (Mator/Changma/Baisem)</p> <p>[15]Pumpkin(Kakur/Brumsha/Pharshee)</p> <p>[16] Radish (Laphu/Mula)</p> <p>[17]Squash (Baekha/Escus)</p> <p>[18]Tomato (Lambenda)</p> <p>[19]Turnip (Endo/Donai)</p> <p>[20] Beetroot</p>	As reported by farmer
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5	Production of Spices	Metric tons	Production of spices includes production of following spices; [1] Cardamom (Alanchi) [2] Ginger (Saga/Aduwa) [3] Turmeric (Yongka/Haldi) [4] Garlic bulb (Chagop/Lasun) [5] Coriander (Yuse/ Daneya) [6]Sichuan Pepper(Ghee/ (Timbur/Thingey)	As reported by farmer
6	Production of roots and tubers	Metric tons	Production of roots and tubers includes production of following roots and tubers; [1] Potato (Pasong/Kaeva/Alu) [2]Sweet Potato (Kaeva-Ngarm/Sakar khanda/Yengorong) [3]Cassava_Tapioca (Shingjoktang/Deyshe-Kaeva/Semal tarul) [4]Taro_Yautia_Collocasia (Bozong/Daw/Piralu) [5] Ground apple	As reported by farmer

7	Production of fruits	Metric tons	Production of fruits includes production of following fruits; [1] Apple [2] Apricot (Kham chungku) [3]Arecanut (Doma/Guwae) [4] Avacado (Gule/Baruwa) [5]Banana (Ngala/Laisay/Kala) [6]Dragon fruit (Gewaringpa/Gyelwaringa) [7] Guava (Bebpasue/Ambak) [8] Hazelnut (Hazay) [9]Jackfruit (Damsay/Dremleng/Katar) [10] Kiwi (Zhempaybogtong) [11]Lemons and Limes (Kapoor zaymo/Limbu) [12] Litchi [13]Mandarin (Tshelu/Soontala) [14] Mango (Amchukoli/Am say/Amp) [15]Papaya (Modhufala/Mewa) [16]Passion Fruit (Jaga chup/Zargong/Garanda) [17]Peach (Kham/lengsey/Aru) [18]Pear (Lee/Lee tong/Naspati) [19] Persimmon (Aunday) [20]Pineapple (Jana congtsse/Anaras) [21]Plum(Choolee/Say-choorpu/Arubagara) [22]Pomegranate (Chindu/Thalemsey) [23]Tree tomato (Rup tomatar/Shing lambenda) [24]Walnut(Tago/Khey say/Okhar) [25]Watermelon (Apa guto/Kharmuza) [26]Cucumber (Goenchu/Mangpung/Kakra)	As reported by farmer
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9. REPORT

The 2021 AS report is available in hard copy as well as in the NSB website.

ANNEXURE: 2021 AGRICULTURE SURVEY QUESTIONNAIRE



QUESTIONNAIRE

དཔལ་ལྷན་འབྲུག་གཞུང་།
རྒྱལ་ཡོངས་རྩིས་དཔྱད་བཀོད་འཛིན།

Royal Government of Bhutan
National Statistics Bureau

2021 AGRICULTURE SURVEY
སྤྱི་ལོ་ ༢༠༢༡ སོ་ནམ་བརྟན་ཞིབ།



All information collected in this questionnaire will strictly remain confidential

MODULE A: HOUSEHOLD IDENTIFICATION

Dzongkhag:	Prefilled										
Gewog:	Prefilled										
Chiwog:	Prefilled										
Village:											
Sample Household Number:	Prefilled										
Respondent's name:											
Contact Number of the HH:											
House Number:											
Thram Number:											
Tap to record GPS:											
Tap to record Date of the Interview	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="border: 1px solid black; width: 20px; height: 20px;"></td> <td style="border: 1px solid black; width: 20px; height: 20px;"></td> <td style="border: 1px solid black; width: 20px; height: 20px;"></td> <td style="border: 1px solid black; width: 20px; height: 20px;"></td> <td style="border: 1px solid black; width: 20px; height: 20px;"></td> <td style="border: 1px solid black; width: 20px; height: 20px;"></td> <td style="border: 1px solid black; width: 20px; height: 20px;"></td> <td style="border: 1px solid black; width: 20px; height: 20px;"></td> <td style="border: 1px solid black; width: 20px; height: 20px;"></td> <td style="border: 1px solid black; width: 20px; height: 20px;"></td> </tr> </table>										

MODULE B: CEREAL

Did your household grow any [CEREAL] in this <i>gewog</i> in 2021?	
[1] Yes	<input type="checkbox"/>
[2] No (>>Did your households grow any [CEREAL] in another <i>gewog</i> in 2021?)	<input type="checkbox"/>
What CEREAL did you grow in this <i>Gewog</i> in 2021? Please select all that apply	
[1] Paddy Irrigated	<input type="checkbox"/>
[2] Paddy Upland (Kam Bja/Pang bara)	<input type="checkbox"/>
[3] Maize (Geza/Aashum/Makai)	<input type="checkbox"/>
[4] Wheat (Ka/Bong)	<input type="checkbox"/>
[5] Barley (Nay/Femong)	<input type="checkbox"/>
[6] Millet (Memja/Kongpu/Kodoko/Yangra)	<input type="checkbox"/>
[7] Buckwheat (Bjo/Khala/Jarey/Guntshon)	<input type="checkbox"/>
[8] Quinoa	<input type="checkbox"/>
Area sown of [CEREAL NAME] in DECIMAL	<input type="text"/>
Area lost of [CEREAL NAME] in DECIMAL	<input type="text"/>
Quantity of [CEREAL NAME] produced in KG	<input type="text"/>
Did your household grow any [CEREAL] in another <i>gewog</i> in 2021?	
[1] Yes	<input type="checkbox"/>
[2] No (>>Did your households grow any [CEREAL] in yet another <i>gewog</i> in 2021?)	<input type="checkbox"/>
Which <i>Dzongkhag</i> ?	<input type="text"/>
Which <i>Gewog</i> ?	<input type="text"/>
Which <i>Chiwog</i> ?	<input type="text"/>
What CEREAL did you grow in another <i>Gewog</i> in 2021? Please select all that apply	
[1] Paddy Irrigated	<input type="checkbox"/>
[2] Paddy Upland (Kam Bja/Pang bara)	<input type="checkbox"/>
[3] Maize (Geza/Aashum/Makai)	<input type="checkbox"/>
[4] Wheat (Ka/Bong)	<input type="checkbox"/>
[5] Barley (Nay/Femong)	<input type="checkbox"/>
[6] Millet (Memja/Kongpu/Kodoko/Yangra)	<input type="checkbox"/>
[7] Buckwheat (Bjo/Khala/Jarey/Guntshon)	<input type="checkbox"/>
[8] Quinoa	<input type="checkbox"/>

QUESTIONNAIRE

Area sown of [CEREAL NAME] in DECIMAL [1] Yes	<input type="text"/>
Area lost of [CEREAL NAME] in DECIMAL	<input type="text"/>
Quantity of [CEREAL NAME] produced in KG	<input type="text"/>
Did your household grow any [CEREAL] in yet another gewog in 2021?	
[1] Yes	<input type="checkbox"/>
[2] No (>>Did your households sell any [CEREAL] in 2021?)	<input type="checkbox"/>
Which Dzongkhag?	<input type="text"/>
Which Gewog?	<input type="text"/>
Which Chiwog?	<input type="text"/>
What CEREAL did you grow in yet another Gewog in 2021? Please select all that apply	
[1] Paddy Irrigated	<input type="checkbox"/>
[2] Paddy Upland (Kam Bja/Pang bara)	<input type="checkbox"/>
[3] Maize (Geza/Aashum/Makai)	<input type="checkbox"/>
[4] Wheat (Ka/Bong)	<input type="checkbox"/>
[5] Barley (Nay/Femong)	<input type="checkbox"/>
[6] Millet (Memja/Kongpu/Kodoko/Yangra)	<input type="checkbox"/>
[7] Buckwheat (Bjo/Khala/Jarey/Guntshon)	<input type="checkbox"/>
[8] Quinoa	<input type="checkbox"/>
Area sown of [CEREAL NAME] in DECIMAL [1] Yes	<input type="text"/>
Area lost of [CEREAL NAME] in DECIMAL	<input type="text"/>
Quantity of [CEREAL NAME] produced in KG	<input type="text"/>
Did your household sell any [CEREAL] in 2021?	
[1] Yes	<input type="checkbox"/>
[2] No (>>module c-Oilseeds)	<input type="checkbox"/>
What CEREAL did you sell in 2021? Please select all that apply	
[1] Paddy Irrigated	<input type="checkbox"/>
[2] Paddy Upland (Kam Bja/Pang bara)	<input type="checkbox"/>
[3] Maize (Geza/Aashum/Makai)	<input type="checkbox"/>
[4] Wheat (Ka/Bong)	<input type="checkbox"/>
[5] Barley (Nay/Femong)	<input type="checkbox"/>
[6] Millet (Memja/Kongpu/Kodoko/Yangra)	<input type="checkbox"/>
[7] Buckwheat (Bjo/Khala/Jarey/Guntshon)	<input type="checkbox"/>
[8] Quinoa	<input type="checkbox"/>
Total quantity of [CEREAL NAME] sold in KG	<input type="text"/>
Total quantity of [CEREAL NAME] sold from home in KG	<input type="text"/>
Rate per KG of [CEREAL NAME] sold from home	<input type="text"/>

MODULE C: OILSEEDS

Did your household grow any [OILSEEDS] in 2021?	
[1] Yes	<input type="checkbox"/>
[2] No (>>Did your households sell any [OILSEEDS] in 2021?)	<input type="checkbox"/>
What OILSEEDS did you grow in 2021? Please select all that apply	
[1] Mustard (Pyka/Memba/Yungka)	<input type="checkbox"/>
[2] Sunflower (Nima meto/Gum phul)	<input type="checkbox"/>
[3] Soybean (Lebee/Bhatamas)	<input type="checkbox"/>
[4] Groundnut (Badam)	<input type="checkbox"/>
[5] Perilla (Naam/Selam)	<input type="checkbox"/>
Area sown of [OILSEEDS NAME] in DECIMAL	<input type="text"/>
Area lost of [OILSEEDS NAME] in DECIMAL	<input type="text"/>
Quantity of [OILSEEDS NAME] produced in KG	<input type="text"/>
Did your household sell any [OILSEEDS] in 2021?	
[1] Yes	<input type="checkbox"/>
[2] No (>>module D-Pulses)	<input type="checkbox"/>
What OILSEEDS did you sell in 2021? Please select all that apply	
[1] Mustard (Pyka/Memba/Yungka)	<input type="checkbox"/>
[2] Sunflower (Nima meto/Gum phul)	<input type="checkbox"/>
[3] Soybean (Lebee/Bhatamas)	<input type="checkbox"/>
[4] Groundnut (Badam)	<input type="checkbox"/>
[5] Perilla (Naam/Selam)	<input type="checkbox"/>
Total quantity of [OILSEEDS NAME] sold in KG	<input type="text"/>
Total quantity of [OILSEEDS NAME] sold from home in KG	<input type="text"/>
Rate per KG of [OILSEEDS NAME] sold from home	<input type="text"/>

MODULE D: PULSES

Did your household grow any [PULSES] in 2021?	
[1] Yes	<input type="checkbox"/>
[2] No (>>Did your households sell any [PULSES] in 2021?)	<input type="checkbox"/>
What PULSES did you grow in 2021? Please select all that apply	
[1] Rajma beans (Mashaam)	<input type="checkbox"/>
[2] Mung beans (Gakpu/Shakpu/Kalo dhaal)	<input type="checkbox"/>
[3] Lentil (Mussori dhaal)	<input type="checkbox"/>
[4] Beans dry (Semchung kham/Oray sangma)	<input type="checkbox"/>
Area sown of [PULSES NAME] in DECIMAL	<input type="text"/>
Area lost of [PULSES NAME] in DECIMAL	<input type="text"/>
Quantity of [PULSES NAME] produced in KG	<input type="text"/>
Did your household sell any [PULSES] in 2021?	
[1] Yes	<input type="checkbox"/>
[2] No (>>module E-Vegetables)	<input type="checkbox"/>
What PULSES did you sell in 2021? Please select all that apply	
[1] Rajma beans (Mashaam)	<input type="checkbox"/>
[2] Mung beans (Gakpu/Shakpu/Kalo dhaal)	<input type="checkbox"/>
[3] Lentil (Mussori dhaal)	<input type="checkbox"/>
[4] Beans dry (Semchung kham/Oray sangma)	<input type="checkbox"/>
Total quantity of [PULSES NAME] sold in KG	<input type="text"/>
Total quantity of [PULSES NAME] sold from home in KG	<input type="text"/>
Rate per KG of [PULSES NAME] sold from home	<input type="text"/>

MODULE E: VEGETABLES

Did your household grow any [VEGETABLES] in 2021?		
[1] Yes		<input type="checkbox"/>
[2] No (>>Did your households sell any [VEGETABLES] in 2021?)		<input type="checkbox"/>
What VEGETABLES did you grow in 2021? Please select all that apply		
[1] Asparagus (Ngyakhagchu)	<input type="checkbox"/>	[11] Garlic leaves (Chagop dama/Lasun pata/Lamshaba)
[2] Beans Green/fresh (Semchum)	<input type="checkbox"/>	[12] Gourd (Khatem/olachoto/Lauka/Kairu)
[3] Brinjal (Dolom/Bando/Baigun)	<input type="checkbox"/>	[13] Green leaves (Hoentsey/Sag/Spinach/Paiga)
[4] Broccoli	<input type="checkbox"/>	[14] Peas Green/fresh (Mator/Changma/Baisem)
[5] Onion Bulb (Gop/Pyaz/Gogpa)	<input type="checkbox"/>	[15] Pumpkin (Kakur/Brumsha/Pharshee)
[6] Bunching Onion/spring onion (Dong Gop dama)	<input type="checkbox"/>	[16] Radish (Laphu/Mula)
[7] Cabbages (Banda Kopi)	<input type="checkbox"/>	[17] Squash (Baekha/Escus)
[8] Carrot (Laphu Maap/Gajar)	<input type="checkbox"/>	[18] Tomato (Lambenda)
[9] Cauliflower (Metokopi/Phool kopi)	<input type="checkbox"/>	[19] Turnip (Endo/Donai)
[10] Chili (all type)	<input type="checkbox"/>	[20] Beetroot
Area sown of [VEGETABLES NAME] in DECIMAL		<input type="text"/>
Area lost of [VEGETABLES NAME] in DECIMAL		<input type="text"/>
Quantity of [VEGETABLES NAME] produced in KG		<input type="text"/>
Did your household sell any [VEGETABLES] in 2021?		
[1] Yes		<input type="checkbox"/>
[2] No (>>module F-Spices)		<input type="checkbox"/>
What VEGETABLES did you sell in 2021? Please select all that apply		
[1] Asparagus (Ngyakhagchu)	<input type="checkbox"/>	[11] Garlic leaves (Chagop dama/Lasun pata/Lamshaba)
[2] Beans Green/fresh (Semchum)	<input type="checkbox"/>	[12] Gourd (Khatem/olachoto/Lauka/Kairu)
[3] Brinjal (Dolom/Bando/Baigun)	<input type="checkbox"/>	[13] Green leaves (Hoentsey/Sag/Spinach/Paiga)
[4] Broccoli	<input type="checkbox"/>	[14] Peas Green/fresh (Mator/Changma/Baisem)
[5] Onion Bulb (Gop/Pyaz/Gogpa)	<input type="checkbox"/>	[15] Pumpkin (Kakur/Brumsha/Pharshee)
[6] Bunching Onion/spring onion (Dong Gop dama)	<input type="checkbox"/>	[16] Radish (Laphu/Mula)
[7] Cabbages (Banda Kopi)	<input type="checkbox"/>	[17] Squash (Baekha/Escus)
[8] Carrot (Laphu Maap/Gajar)	<input type="checkbox"/>	[18] Tomato (Lambenda)
[9] Cauliflower (Metokopi/Phool kopi)	<input type="checkbox"/>	[19] Turnip (Endo/Donai)
[10] Chili (all type)	<input type="checkbox"/>	[20] Beetroot
Total quantity of [VEGETABLES NAME] sold in KG		<input type="text"/>
Total quantity of [VEGETABLES NAME] sold from home in KG		<input type="text"/>
Rate per KG of [VEGETABLES NAME] sold from home		<input type="text"/>

MODULE F: SPICES

Did your household grow any [SPICES] in 2021?	
[1] Yes	<input type="checkbox"/>
[2] No (>>Did your households grow any [CARDAMOM] in another gewog in 2021?)	<input type="checkbox"/>
What [SPICES] did you grow in 2021? Please select all that apply	
[1] Cardamom (Alanchi)	<input type="checkbox"/>
[2] Ginger (Saga/Aduwa)	<input type="checkbox"/>
[3] Turmeric (Yongka/Haldi)	<input type="checkbox"/>
[4] Garlic bulb (Chagop/Lasun)	<input type="checkbox"/>
[5] Coriander (Yuse/Daneyaya)	<input type="checkbox"/>
[6] Sichuan Pepper (Timbur/Thingey/Ghee)	<input type="checkbox"/>
Area sown of [SPICES NAME] in DECIMAL	<input type="text"/>
Area lost of [SPICES NAME] in DECIMAL	<input type="text"/>
Quantity of [SPICES NAME] produced in KG	<input type="text"/>
Did your household grow any [CARDAMOM/GINGER] in another gewog in 2021?	
[1] Yes	<input type="checkbox"/>
[2] No (>>Did your households sell any [CARDAMOM/GINGER] in 2021?)	<input type="checkbox"/>
Which Dzongkhag?	<input type="text"/>
Which Gewog?	<input type="text"/>
Which Chiwog?	<input type="text"/>
Area sown of [CARDAMOM/GINGER] in DECIMAL	<input type="text"/>
Area lost of [CARDAMOM/GINGER] in DECIMAL	<input type="text"/>
Quantity of [CARDAMOM/GINGER] produced in KG	<input type="text"/>
Did your household sell any [SPICES] in 2021?	
[1] Yes	<input type="checkbox"/>
[2] No (>>module G-Roots and Tuber)	<input type="checkbox"/>
What [SPICES] did you sell in 2021? Please select all that apply	
[1] Cardamom (Alanchi)	<input type="checkbox"/>
[2] Ginger (Saga/Aduwa)	<input type="checkbox"/>
[3] Turmeric (Yongka/Haldi)	<input type="checkbox"/>
[4] Garlic bulb (Chagop/Lasun)	<input type="checkbox"/>
[5] Coriander (Yuse/Daneyaya)	<input type="checkbox"/>
[6] Sichuan Pepper (Timbur/Thingey/Ghee)	<input type="checkbox"/>
Total quantity of [SPICES NAME] sold in KG	<input type="text"/>
Total quantity of [SPICES NAME] sold from home in KG	<input type="text"/>
Rate per KG of [SPICES NAME] sold from home	<input type="text"/>

MODULE G: ROOTS AND TUBER

Did your household grow any [ROOTS AND TUBER] in 2021?	
[1] Yes	<input type="checkbox"/>
[2] No (>>Did your households grow any[ROOTS AND TUBER] in another gewog in 2021?)	<input type="checkbox"/>
What [ROOTS AND TUBER] did you grow in 2021? Please select all that apply	
[1] Potato (Pasong/Kaeva/Alu)	<input type="checkbox"/>
[2] Sweet Potato (Kaeva-Ngarm/Sakar khanda/Yengorong)	<input type="checkbox"/>
[3] Cassava_Tapioca (Shingjoktang/Deyshe-Kaeva/Semal tarul)	<input type="checkbox"/>
[4] Taro_Yautia_Collocasia (Bozong/Daw/Piralu)	<input type="checkbox"/>
[5] Ground apple	<input type="checkbox"/>
Area sown of [ROOTS AND TUBER NAME] in DECIMAL	<input type="text"/>
Area lost of [ROOTS AND TUBER NAME] in DECIMAL	<input type="text"/>
Quantity of [ROOTS AND TUBER NAME] produced in KG	<input type="text"/>
Did your household grow any [ROOTS AND TUBER] in another gewog in 2021?	
[1] Yes	<input type="checkbox"/>
[2] No (>>Did your households sell any[ROOTS AND TUBER] in 2021?)	<input type="checkbox"/>
Which <i>Dzongkhag</i> ?	<input type="text"/>
Which <i>Gewog</i> ?	<input type="text"/>
Which <i>Chiwog</i> ?	<input type="text"/>
Area sown of [ROOTS AND TUBER] in DECIMAL	<input type="text"/>
Area lost of [ROOTS AND TUBER] in DECIMAL	<input type="text"/>
Quantity of [ROOTS AND TUBER] produced in KG	<input type="text"/>
Did your household sell any [ROOTS AND TUBER] in 2021?	
[1] Yes	<input type="checkbox"/>
[2] No (>>module H-Fruits)	<input type="checkbox"/>
What [ROOTS AND TUBER] did you sell in 2021? Please select all that apply	
[1] Potato (Pasong/Kaeva/Alu)	<input type="checkbox"/>
[2] Sweet Potato (Kaeva-Ngarm/Sakar khanda/Yengorong)	<input type="checkbox"/>
[3] Cassava_Tapioca (Shingjoktang/Deyshe-Kaeva/Semal tarul)	<input type="checkbox"/>
[4] Taro_Yautia_Collocasia (Bozong/Daw/Piralu)	<input type="checkbox"/>
[5] Ground apple	<input type="checkbox"/>
Total quantity of [ROOTS AND TUBER NAME] sold in KG	<input type="text"/>
Total quantity of [ROOTS AND TUBER NAME] sold from home in KG	<input type="text"/>
Rate per KG of [ROOTS AND TUBER NAME] sold from home	<input type="text"/>

MODULE H: FRUITS

Did your household grow any [FRUIT TREE] in 2021?

[1] Yes

[2] No (>>Did your households have any [FRUIT TREE] in another *gewog* in 2021?)

What [FRUIT TREES] did you have in 2021? Please select all that apply

[1] Apple <input type="checkbox"/>	[14] Mango (Amchukoli/Am say/Amp) <input type="checkbox"/>
[2] Apricot (Kham chungku) <input type="checkbox"/>	[15] Papaya (Modhufala/Mewa) <input type="checkbox"/>
[3] Areca nut (Doma/Guwae) <input type="checkbox"/>	[16] Passion Fruit (Jaga chup/Zargong/Garanda) <input type="checkbox"/>
[4] Avacado (Zhungge Gule/Baruwa) <input type="checkbox"/>	[17] Peach (Kham/lengsey/Aru) <input type="checkbox"/>
[5] Banana (Ngala/Lai say/Kala) <input type="checkbox"/>	[18] Pear (Lee/Lee tong/Naspati) <input type="checkbox"/>
[6] Dragon fruit (Gewaringpa/Gyelwaringa) <input type="checkbox"/>	[19] Persimmon (Aunday) <input type="checkbox"/>
[7] Guava (Bebpasue/Ambak) <input type="checkbox"/>	[20] Pineapple (Jana congtsé/Anaras) <input type="checkbox"/>
[8] Hazelnut (Hazay) <input type="checkbox"/>	[21] Plum (Choolee/Say-choorpu/Ambagara) <input type="checkbox"/>
[9] Jackfruit (Damsay/Dremleng/Kathar) <input type="checkbox"/>	[22] Pomegranate (Chindu/Thalemsey) <input type="checkbox"/>
[10] Kiwi (Zhempaykotong) <input type="checkbox"/>	[23] Tree tomato (Rup tomato/Shing lambenda) <input type="checkbox"/>
[11] Lemons and Limes (Kapoor zaymo/Limbu) <input type="checkbox"/>	[24] Walnut (Tago/Khey say/Okhar) <input type="checkbox"/>
[12] Litchi <input type="checkbox"/>	[25] Watermelon (Apa guto/Kharay muza) (>>Area sown/lost) <input type="checkbox"/>
[13] Mandarin (Tshelu/Soontala) <input type="checkbox"/>	[26] Cucumber (Goenchu/Mangpung/Kakra) (>>Area sown/lost) <input type="checkbox"/>

Area sown of [FRUIT NAME] in DECIMAL

Area lost of [FRUIT NAME] in DECIMAL

Total number of [FRUIT NAME] trees

Bearing number of [FRUIT NAME] trees

Quantity of [FRUIT NAME] produced in KG

Number of [FRUIT NAME] bearing trees lost

Did your household have any [FRUIT TREE] in another *gewog* in 2021?

[1] Yes

[2] No (>>Did your households sell any [FRUIT] in 2021?)

Which *Dzongkhag*?

Which *Gewog*?

Which *Chiwog*?

What [FRUIT TREES] did you have in 2021? Please select all that apply

[1] Apple	<input type="checkbox"/>	[14] Mango (Amchukoli/Am say/Amp)	<input type="checkbox"/>
[2] Apricot (Kham chungku)	<input type="checkbox"/>	[15] Papaya (Modhufala/Mewa)	<input type="checkbox"/>
[3] Areca nut (Doma/Guwae)	<input type="checkbox"/>	[16] Passion Fruit (Jaga chup/Zargong/Garanda)	<input type="checkbox"/>
[4] Avacado (Zhungge Gule/Baruwa)	<input type="checkbox"/>	[17] Peach (Kham/lengsey/Aru)	<input type="checkbox"/>
[5] Banana (Ngala/Lai say/Kala)	<input type="checkbox"/>	[18] Pear (Lee/Lee tong/Naspati)	<input type="checkbox"/>
[6] Dragon fruit (Gewaringpa/Gyelwaringa)	<input type="checkbox"/>	[19] Persimmon (Aunday)	<input type="checkbox"/>
[7] Guava (Bebpasue/Ambak)	<input type="checkbox"/>	[20] Pineapple (Jana congse/Anaras)	<input type="checkbox"/>
[8] Hazelnut (Hazay)	<input type="checkbox"/>	[21] Plum (Choolee/Say-choorpu/Ambagara)	<input type="checkbox"/>
[9] Jackfruit (Damsay/Dremleng/Kathar)	<input type="checkbox"/>	[22] Pomegranate (Chindu/Thalemsey)	<input type="checkbox"/>
[10] Kiwi (Zhempaykotong)	<input type="checkbox"/>	[23] Tree tomato (Rup tomato/Shing lambenda)	<input type="checkbox"/>
[11] Lemons and Limes (Kapoor zaymo/Limbu)	<input type="checkbox"/>	[24] Walnut (Tago/Khey say/Okhar)	<input type="checkbox"/>
[12] Litchi	<input type="checkbox"/>	[25] Watermelon (Apa guto/Kharay muza) (>>Area sown/lost)	<input type="checkbox"/>
[13] Mandarin (Tshelu/Soontala)	<input type="checkbox"/>	[26] Cucumber (Goenchu/Mangpung/Kakra) (>>Area sown/lost)	<input type="checkbox"/>

Total number of [FRUIT NAME] trees

Bearing number of [FRUIT NAME] trees

Quantity of [FRUIT NAME] produced in KG

Number of [FRUIT NAME] bearing trees lost

Did your household sell any [FRUITS] in 2021?

[1] Yes

[2] No (>>Tap to record EndTime)

What [FRUIT] did you sell in 2021? Please select all that apply

[1] Apple	<input type="checkbox"/>	[14] Mango (Amchukoli/Am say/Amp)	<input type="checkbox"/>
[2] Apricot (Kham chungku)	<input type="checkbox"/>	[15] Papaya (Modhufala/Mewa)	<input type="checkbox"/>
[3] Areca nut (Doma/Guwae)	<input type="checkbox"/>	[16] Passion Fruit (Jaga chup/Zargong/Garanda)	<input type="checkbox"/>
[4] Avacado (Zhungge Gule/Baruwa)	<input type="checkbox"/>	[17] Peach (Kham/lengsey/Aru)	<input type="checkbox"/>
[5] Banana (Ngala/Lai say/Kala)	<input type="checkbox"/>	[18] Pear (Lee/Lee tong/Naspati)	<input type="checkbox"/>
[6] Dragon fruit (Gewaringpa/Gyelwaringa)	<input type="checkbox"/>	[19] Persimmon (Aunday)	<input type="checkbox"/>
[7] Guava (Bebpasue/Ambak)	<input type="checkbox"/>	[20] Pineapple (Jana congse/Anaras)	<input type="checkbox"/>
[8] Hazelnut (Hazay)	<input type="checkbox"/>	[21] Plum (Choolee/Say-choorpu/Ambagara)	<input type="checkbox"/>
[9] Jackfruit (Damsay/Dremleng/Kathar)	<input type="checkbox"/>	[22] Pomegranate (Chindu/Thalemsey)	<input type="checkbox"/>
[10] Kiwi (Zhempaykotong)	<input type="checkbox"/>	[23] Tree tomato (Rup tomato/Shing lambenda)	<input type="checkbox"/>
[11] Lemons and Limes (Kapoor zaymo/Limbu)	<input type="checkbox"/>	[24] Walnut (Tago/Khey say/Okhar)	<input type="checkbox"/>
[12] Litchi	<input type="checkbox"/>	[25] Watermelon (Apa guto/Kharay muza) (>>Area sown/lost)	<input type="checkbox"/>
[13] Mandarin (Tshelu/Soontala)	<input type="checkbox"/>	[26] Cucumber (Goenchu/Mangpung/Kakra) (>>Area sown/lost)	<input type="checkbox"/>

QUESTIONNAIRE

Total quantity of [FRUIT NAME] sold in KG	<input type="text"/>
Total quantity of [FRUIT NAME] sold from home in KG	<input type="text"/>
Rate per KG of [FRUIT NAME] sold from home	<input type="text"/>
Tap to record EndTime	<input type="text"/>