

1. HISTORICAL OUTLINE

The Renewable Natural Resources (RNR) Census 2009, to which the metadata review and data presented here refer, is the second census of its kind to be conducted in the Kingdom of Bhutan, after the RNR Census 2000.

2. LEGAL BASIS AND ORGANIZATION

Legal framework

The legal basis for the collection of statistics in the country is provided by the Executive Order of the Prime Minister Com 04/06/1196 dated 26 May 2006.

Institutional framework and international collaboration

The Policy and Planning Division (PPD) of the Ministry of Agriculture and Forests (MoAF) is the agency responsible for undertaking the RNR Census in Bhutan. The heads of the departments or divisions within the MoAF formed the Agricultural Census Steering Committee. Besides the PPD, the committee comprised representatives of the following MoAF entities: (i) the Department of Agriculture; (ii) the Department of Livestock; and (iii) the Department of Forests and Park Services.

The census was funded from the following sources: the Danish Agency for International Development (DANIDA), the Swiss Agency for Development Cooperation (SDC), the International Food Policy Research Institute (IFPRI), and the Royal Government of Bhutan (RGoB).

Census staff

The census fieldwork involved approximately 730 enumerators, 60 supervisors and 20 census coordinators.

3. REFERENCE DATE AND PERIOD

Reference day: the day of enumeration, for the household's identification information, etc.

Reference period: from January to December 2008, for utilization of land, land tenure, irrigation, use of fertilizers, agriculture machinery and equipment, labour, main source of income, forestry, etc.

4. ENUMERATION PERIOD

Enumeration was done from January to February 2009, except for the subdistricts of Laya, Lunana and Naja, where enumeration was conducted from July to August 2009 because of inaccessibility in winter.

5. SCOPE OF CENSUS AND DEFINITION OF THE STATISTICAL UNIT

The **census scope** covered agricultural activities (crop and livestock production) and forestry activities.

The **statistical unit** was the farm household, defined as a person or group of persons operating as one economic unit and engaged in agricultural production.

6. GEOGRAPHIC COVERAGE

The census mainly focused on the rural and semi-urban areas¹ of the country, where the natural resources sector still dominates the population's development occupation.

7. CUT-OFF THRESHOLD AND OTHER EXCLUSIONS

The units engaged in agricultural activities in towns, schools and military barracks were excluded from the census.

8. METHODOLOGY

Methodological modality for conducting the census

The classical approach was used in the AC 2009.

Frame

The census frame was built on the basis of the list of households provided by the Geog (subdistricts) RNR Extension Centers (structures of the MoAF).

Complete and/or sample enumeration methods

The census consisted of a complete enumeration of the households engaged in agricultural and forestry activities.

Sample design (if sampling was used)

No sampling was used.

¹ Semi-urban areas where agricultural production activity is practiced.

Data collection methods

Data collection was done by means of face-to-face interviews using paper forms, that is, the PAPI method. The enumerators visited the households; however, in a few cases, because of the scattered nature of settlements and the distances between them, the respondents (farmers) had to be gathered at appropriate locations to be interviewed.

Questionnaire(s)

Data were collected using one single questionnaire.

The RNR 2009 census questionnaire covered 12 of the 16 core items² recommended for the WCA 2010 round.

9. USE OF TECHNOLOGY

Census results were disseminated and are accessible online.

10. DATA PROCESSING AND ARCHIVING

The database was designed using Microsoft Access software. Data entry was done by temporary recruits using 20 computers. Data processing was performed by establishing queries in the Microsoft Access program. The data analysis was carried out using Microsoft Excel.

11. CENSUS DATA QUALITY

The data validation was scrutinized at three key stages, to decrease errors: (i) at questionnaire design;³ (ii) at field data collection;⁴ and (iii) at data computation.

12. DISSEMINATION

The RNR 2009 census results were disseminated by means of printed reports, which were distributed to all relevant departments and agencies of the Royal Government of Bhutan. The final census reports, published in two volumes, included extensive methodological explanations. The PDF version of the RNR 2009 census report is available on the institution's website.⁵

13. DATA SOURCES

FAO. 2016. Regional Roundtable on the World Programme for the Census of Agriculture 2020 (WCA 2020). 19–23 September 2016, Bangkok, Thailand. In: *World Programme for the Census of Agriculture* [online]. Rome, Italy. [Cited 4 September 2019]. <http://www.fao.org/world-census-agriculture/events/wca2020bangkok/en/>

Ministry of Agriculture and Forests, Policy and Planning Division. 2010. *Renewal Natural Resources (RNR) Census 2009, Final report (Volumes I and II)*. Thimphu, Bhutan.

14. CONTACT

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² The following four items were not covered: (i) "Legal status of agricultural holder"; (ii) "Household size"; (iii) "Presence of aquaculture on the holding"; and (iv) "Other economic production activities of the holding's enterprise".

³ The RNR census questionnaire was designed in such a way that in most cases, the enumerators were simply required to write codes, tick and select from a list. This ensured uniformity and prevented misspellings of the entries.

⁴ Field data collection was done by the Extension Officers posted in the Geogs. These officers were subject specialists, well acquainted with the local farming system and were reasonably versed in local dialects. The enumerators were provided with an enumeration manual each, for reference during the data collection. In addition, at the end of each day, the field supervisors checked the completed questionnaires for completeness and errors.

⁵ As the "DoA-RNR census 2009", at <http://www.moaf.gov.bt/download/Statistics/#wafb-cat-2>.

BHUTAN – RENEWABLE NATURAL RESOURCES CENSUS 2009 – MAIN RESULTS

AGRICULTURAL AREA OF HOLDINGS		
	Holdings	Agricultural area (ha)
Total	n.a.	94 903

LIVESTOCK	
	Head
Cattle	310 071
Yaks	40 482
Sheep	12 116
Goats	34 176
Pigs/swine	18 963
Horses	22 301
Poultry (1 000 head)	198

MACHINERY AND EQUIPMENT USED ON THE HOLDING	
	Units
Total tractors of all kind	136
Other (machine-powered)	
Power tiller	1 662
Power thresher	439
Diesel engine thresher	479
Rice mill set	2 565
Maize sheller	179
Paddy transplanter	535
Power sprayer	292
Corn flake machine	144
Vegetable/fruit drier	37
Water pump	177

TEMPORARY CROPS HARVESTED	
	Area (ha)
Total	n.a.
Cereals	n.a.
Rice	19 356
Maize	27 227
Wheat	3 189
Barley	1 314
Buckwheat	3 438
Millet	3 519
Spice and aromatic crops	n.a.
Chilies	3 826
Oilseed crops	n.a.
Mustard	3 579
Root/tuber crops	n.a.
Potatoes	5 560

PERMANENT CROPS	
	Number of trees/plants
Total	n.a.
Tropical and subtropical fruits	n.a.
Mangoes	35 000
Citrus fruits	n.a.
Mandarines	1 975 000
Pome fruits and stone fruits	n.a.
Apples	321 000
Peaches	40 100
Pears	22 000
Plums	9 000
Nuts	n.a.
Walnuts	45 000
Areca nuts	1 751 000
Other	451 000