

1. HISTORICAL OUTLINE

Six agricultural censuses (ACs) were conducted in the Islamic Republic of Pakistan: the first in 1960, then in 1972, 1980, 1990 and 2000. The most recent AC, to which the metadata and data presented here refer, was conducted in 2010.¹

2. LEGAL BASIS AND ORGANIZATION

Legal framework

The Agricultural Census Act 1958 (Act No. XLI of 1958) provided the legal basis for conducting census operations. In the context of the collection of agricultural data, the Act made it binding on the Government of Pakistan and on respondents to cooperate with the census enumerators and to furnish information on or with respect to items specified in the Act itself.

Institutional framework and international collaboration

The Agriculture Census Wing (ACW) of the Pakistan Bureau of Statistics (PBS) is responsible for the planning, execution and publication of data on ACs and surveys. The Agriculture Census Organization (ACO) of the Ministry of Economic Affairs and Statistics coordinated AC implementation throughout the country.

The census-taking exercise was guided by an Advisory Committee, comprised of approximately 50 members drawn from relevant federal and provincial government departments, universities, research institutes, farmers, etc.

Census staff

The census staff amounted to 8 271 provincial officers (supervisors) and enumerators (of which: 1 165 supervisors and 7 106 enumerators), as well as 13 officers and 73 ACW officials.

3. REFERENCE DATE AND PERIOD

Reference day: the day of the interview, for land tenure, orchard area, household members, number of livestock, etc.

Reference period: agricultural year 2009/2010, for irrigation, cropping pattern, use of pesticides, agricultural machinery and agricultural labour, etc.

4. ENUMERATION PERIOD

Enumeration was completed in three phases, because of administrative issues and seasonal variations in different regions of the country, as follows:

- Phase I: from 14 December 2009 to 31 January 2010, for hot areas (whole of Punjab and Sindh Provinces);
- Phase II: from 22 February to 10 April 2010, for hot areas located in other regions; and
- Phase III: from 17 May to 30 June 2010, for cold areas located in particular regions.

5. SCOPE OF THE CENSUS AND DEFINITION OF THE STATISTICAL UNIT

The **census scope** covered only agricultural activities (crop and animal production).

The **statistical unit** was the holding (farm), defined as “the aggregate area of land operated by member(s) of one household alone or with the assistance of member(s) of other household(s), without regard to location, size or title and normally used for crop production”. It also included nomadic livestock holdings.

6. GEOGRAPHIC COVERAGE

The AC 2010 covered the entire country.²

7. CUT-OFF THRESHOLD AND OTHER EXCLUSIONS

The following minimum size limits of holdings were applied in the AC 2010: (i) operate minimum of one *Kanal* (0.05 ha); and (ii) at least one head of cattle and/or buffalo, five sheep and/or goats for livestock.

The non-household sector was not covered in the AC.

8. METHODOLOGY

Methodological modality for conducting the census

The AC 2010 was a sample-based census conducted using the classical approach.

Frame

Different sampling frames were prepared for the AC 2010: (i) *mouza* (village) lists, updated at district level for each *tehsil* through the *mouza* (village) Census 2008;³ (ii) a list of urban blocks, prepared by the PBS; (iii) a list of national certainty holdings (NCHs); (iv) a list of households in each selected *mouza* (including data on total area, area owned and rented-in), prepared by the enumerators during the field operation; and (v) a list of *mouza* certainty holdings (MCHs).

¹ In addition, specialized censuses for livestock and agriculture machinery have been carried out: to date, four livestock censuses (in 1976, 1986, 1996 and 2006), and five agricultural machinery censuses (in 1968, 1975, 1984, 1994 and 2004).

² The geographical coverage was also extended to Gilgit Baltistan and Azad Jammu & Kashmir, each as a separate entity.

³ For sampling purposes, these lists contained only rural, partly urban and bechiragh (unpopulated) *mouzas* arranged by *patwar* circles and *kanungo* circles.

Complete and/or sample enumeration methods

The AC 2010 was conducted on a sample basis.

Sample design (if sampling was used)

All NCHs and MCHs were enumerated on a 100-percent basis. However, specific selection procedures for *mouzas*, urban blocks and common households at various sampling stages were applied. The sample design and sample size varied for different parts of the country. The entire country was divided into four distinct parts for sampling. The following sampling techniques were applied:

- single-stage stratified and systematic sampling;
- a two-stage sample design using stratified and systematic sampling; and
- a three-stage stratified and systematic cluster sampling.

Data collection method(s)

Provincial Revenue Departments acted as the enumeration agency. The information was collected through face-to-face interviews with the sampled household, using PAPI.

Questionnaire(s)

Three types of census forms were used in the AC 2010. Form 1 was used for household listings in the selected *mouzas* or urban blocks for further selection. The second questionnaire (Form 2) was for households reporting owned or rented-in land, it was divided into fourteen parts and was spread over eight pages. For landless households, a short questionnaire (Form 3) was used. It contained all of the questions in Form 2, except for those relating to land and crops.

The AC 2010 questionnaires covered 10 of the 16 core items⁴ recommended for the WCA 2010 round.

9. USE OF TECHNOLOGY

Census results were disseminated and are accessible online.

10. DATA PROCESSING AND ARCHIVING

After manual editing, the data were keypunched at the Data Processing Centre (DPC) of the PBS, in Lahore. Then, the data were processed by computer programmers through computer programmes developed for the purpose. The programmers produced computer printouts as the first edits for each district. These edits were checked at the ACO against source documents, and errors were corrected. The second edit was produced by the programmers after processing the errors found during the first edit. This process continued until the data of a particular district were declared error-free. After this, tabulations were produced.

A tabulation plan comprising 90 tables was prepared at the time of census planning and preparation.

11. CENSUS DATA QUALITY

The most important consideration was to control the extent of sampling and non-sampling errors during the census. In addition, to ensure data quality, checks for internal consistencies and comparisons with other corresponding series were undertaken.

12. DATA DISSEMINATION

The census data were tabulated at district, province and country level and published in the following reports: (i) *All Pakistan Report*, which contains tabulations at country and province level; (ii) *Provincial Reports*, which contain tabulations at province and district level; (iii) two *Special Reports* (for Gilgit Baltistan and Azad Jammu & Kashmir). The census publication with final census results "Agricultural Census 2010" was released in April 2012. The census results were disseminated online.

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/>

Pakistan Bureau of Statistics. 2012. Agricultural Census 2010 - Pakistan Report. In: *Pakistan Bureau of Statistics* [online]. Islamabad, Pakistan. [Cited 25 July 2019]. <http://www.pbs.gov.pk/content/agricultural-census-2010-pakistan-report>

14. CONTACT

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⁴ The following core items were not covered: (i) "Sex of agricultural holder"; (ii) "Age of agricultural holder"; (iii) "Main purpose of production of the holding"; (iv) "Presence of aquaculture on the holding"; (v) "Presence of forest and other wood land on the holding"; and (vi) "Other economic production activities of the holding's enterprise".

PAKISTAN – AGRICULTURAL CENSUS 2010 – MAIN RESULTS

NUMBER OF HOLDINGS AND AREA		
	Holdings	Area (ha)
Total	8 264 480	21 412 545
Individual farms	8 212 838	21 054 681
Joint farms	51 642	357 864

LAND TENURE		
	Holdings	Area (ha)
Total	8 264 480	21 412 545
Holdings operated under one tenure form	n.a.	18 343 303
Legal ownership	n.a.	15 957 905
Rented from others	n.a.	2 385 398
Holdings operated under two or more tenure forms	n.a.	3 069 232

LAND FRAGMENTATION		
	Holdings	Area (ha)
Total	8 264 480	21 412 545
1 parcel	n.a.	9 190 556
2–3 parcels	n.a.	7 370 647
4–5 parcels	n.a.	2 669 751
6–9 parcels	n.a.	2 041 340
10 parcels and over	n.a.	140 269

DISTRIBUTION OF HOLDINGS BY LAND SIZE CLASSES		
	Holdings	Area (ha)
Total	8 264 480	21 412 545
Less than 1 ha	n.a.	1 689 511
1–1.99 ha	n.a.	2 431 810
2–4.99 ha	n.a.	6 159 031
5–9.99 ha	n.a.	3 793 730
10–19.99 ha	n.a.	2 723 748
20–39.99 ha	n.a.	1 678 093
40–59.99 ha	n.a.	568 075
60 ha and over	n.a.	2 368 524

LAND USE		
	Holdings	Area (ha)
Total	8 264 480	21 412 545
Cultivated area	7 884 985	17 249 079
Cropped land	7 829 558	16 617 694
Land temporarily fallow	334 125	631 385
Uncultivated area	1 550 463	4 163 463
Forest	129 940	187 316
Other	n.a.	3 976 153

LABOUR FORCE OF THE HOLDING		Number
Members of holder's household engaged in agricultural activities		27 734 367
Male		17 711 043
Female		10 023 324
Total hired labour		28 670 428
Male		19 482 941
Female		9 187 487
Permanent labour		1 678 404
Male		1 511 233
Female		167 171
Casual labour		26 992 024
Male		17 971 708
Female		9 020 316

LIVESTOCK		
	Holdings	Head
Holdings with livestock	n.a.	
Cattle	6 066 474	24 114 463
Buffaloes	5 689 955	23 468 149
Sheep	1 323 049	15 025 647
Goats	6 294 528	45 738 230

FARMS REPORTING IRRIGATED AREA AS PERCENT OF CULTIVATED AREA		
	Holdings reporting	Area irrigated (ha)
Total farms with irrigated area	6 347 581	14 477 193
Under 51%	146 139	771 321
51% – 75.99%	53 327	249 900
76% – 100%	6 148 115	13 455 972

MACHINERY AND EQUIPMENT USED ON THE HOLDING		Used on the holding
Total tractors of all kinds		6 040 533
Combine harvesters		567 123
Other (machine-powered)		n.a.
Tubewell/pump		3 798 069
Thresher		7 326 063
Sheller		767 446
Reaper/harvester		753 082
Drill		2 150 962
Spray machine		4 230 489

TEMPORARY CROPS HARVESTED		
	Holdings	Area (ha)
Total	n.a.	n.a.
Cereals	n.a.	n.a.
Wheat	6 914 857	11 423 215
Rice	2 249 003	3 786 018
Maize	1 193 463	967 839
Vegetables and melons	507 790	587 368
Oilseed crops	459 565	509 491
Root/tuber crops	134 891	175 524
Leguminous crops	616 042	1 381 430
Sugar crops	896 923	1 064 002
Other temporary crops	n.a.	n.a.
Cotton	2 168 855	3 733 863
Fodder crops	2 722 409	2 443 119