



**METADATA FOR  
NATIONAL AGRICULTURAL STATISTICS**

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**PAKISTAN**

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### **List of Acronyms**

ACAC	Agricultural Credit Advisory Committee
ACO	Agriculture Census Organization
ADC	Agriculture Development Commissioner
ALMA	Agriculture and Livestock Marketing & Grading Adviser
AMIS	Agricultural Management Information System
APCom	Agriculture Price Commission
CRS	Crop Reporting Services
EW	Economic Wing
FBS	Federal Bureau Statistics
GDP	Gross Domestic Product
ICES	Improvement of Crop Estimation System
MKS	International System of Measurement
PSDP	Public Sector Development Program
PCSI	Pakistan Cotton Standards Institute
TCP	Trading Corporation of Pakistan
USAID	United States Agency for International Development

## CHAPTER 1. NATIONAL SYSTEM OF AGRICULTURAL STATISTICS

### 1.1 Legal Framework and Statistical Advisory Bodies

Pakistan has adopted a National System of government for collection of statistics. Its statistical service is decentralized and multi-agencies are involved in this concern. The Statistics Division serves as the coordinator of the major statistical services in the country. However, it exercises very loose control over the statistical activities in the four (4) provinces of the country. This is particularly true in the case of agricultural statistics, as it has been an accepted view that agriculture is a provincial subject. The provinces are given sufficient level of autonomy in the planning, development and operations of their respective statistical activities.

The conduct of all statistical activities in the federal and provincial governments is authorized by the state through its General Statistics Act of 1975. The law provides for required structures and organizations to promote the establishment of a robust statistical service in the country. It mandates the creation of statistical councils both in the federal and province levels as the policy-making bodies on statistical matters. It also recognizes separate federal and provincial statistics authorities and vests these organizations with the responsibilities, *inter alia*, for:

- Setting up statistical programmes;
- Appraising/reviewing quality of all statistics at the national and provincial levels;
- Designing and/or approving forms and procedures for statistical enquiries;
- Setting rules to avoid duplication and sub-standard data collection;
- Standardization of concepts and definitions relating to statistics;
- Giving advice and guidance and coordinating activities of other statistical organizations;
- Identification of gaps in the statistical series;
- Compilation and publication of statistical reports.

Notwithstanding the strong provisions in the General Statistics Act of 1975, problems of timeliness, reliability and responsiveness of the statistical services to address the needs of users continue to persist. Many agencies are doing stand-alone statistical activities, using varied approaches, resulting in duplication and sometimes, conflicting results. The lack of strong political will or the inadequacies in the resources and expertise of the agencies tasked to implement the law could be major contributory factors for the pervasiveness of the problems cited.

Statistical cells exist in some line ministries and provincial governments. A Bureau of Statistics is established in each province to coordinate and oversee the statistical activities in their areas. However, these cells do not have the expertise to prepare and implement within standard statistical surveys. Most of the trained survey statisticians are working with the Statistics Division. Many of the activities of these

units have been largely confined to the organization and compilation of data from administrative by-products of their agencies' operations.

Federal level statistics evolve from the consolidation of province level reports. With respect to agricultural statistics, the delineation in the responsibilities between the Federal Bureau Statistics (FBS) and the Ministry of Food, Agriculture and Livestock has not been properly set. Occasionally, FBS conducts its own crop cutting exercises. It also collects agricultural prices as input to its wholesale and consumer price indices. Both agencies produce statistical publications based on the reports they each receive from the provinces.

The Provinces' Bureau of Statistics and the statistical cells at the agriculture departments also issue statistical publications at the province level. In the MINFAL, the Economic Wing (EW) is responsible for collection, publication and release of crop estimates and related agriculture statistics. It is also tasked to carry out analytical work on an ad-hoc basis for the ministry. However, with a very much reduced personnel complement, it is not in an advantageous position to carry out all these assignments.

There are General Statistics Act 1975 and The Agricultural Census Act, 1958 - Act No. XLI of 1958 (Annexure-I & II) which indicate the scope and responsibility of organization responsible for the collection and compilation of statistical data. The responsibility of Statistical Advisory Bodies, in connection with statistical data and its supervision fall on FBS. The statistical system is working independently in the provinces titled as CRS. They play active role in crop estimation survey. These organizations were established under legal cover/laws and procedures. Statistical Coordinating Boards also work in the provinces for finalizing the Agricultural Statistical Data.

## **1.2 Structure and Organization of the Major Agricultural Statistical Agencies**

The information regarding data collection organization can be obtained from the Head of the organization and at official website of the Government of Pakistan. Different agencies are responsible for different types of data. The structure of these agencies is almost similar and working with some hierarchy. These hierarchies are also available in the form of charts. This also shows the human resources/man power in the organization. The details of budget and expenditure on agriculture programs are available in the Public Sector Development Program (PSDP) of each Ministry /Department. All the organizations have a complete history of its establishment. The Economic Wing has lack of resources in manpower as well capability.

There is need to appoint professional staff and by imparting training to existing staff in the field of modern Statistical techniques and forecasting analysis. For this purpose, two projects have been started namely "Capacity Building of Economic

Wing” and “Strengthening of Improvement of Agricultural Statistics”. Most of the detail has been provided in the write-up. As regard the budget and statistical programmes, each department has its own program and budget. This can be obtained from them.

### 1.3 Outputs and Dissemination of Agricultural Statistics

The information is disseminated at free of cost. Each organization is responsible for the publication and dissemination through publications, soft copies & MINFAL website [www.minfal.gov.pk](http://www.minfal.gov.pk) of data collected by the different organizations. However, collection, compilation, publication and dissemination of agricultural statistics on national level is the responsibility of Economic Wing of the Ministry of Food, Agriculture and Livestock. Some of the agricultural statistics are also uploaded on the website [www.faoap-apcas.org](http://www.faoap-apcas.org). The personal information such as telephone number, address and publications are available from the Head of the department and can be obtained from the website of the ministry. However, the addresses, and telephone & fax Numbers of the major federal and provincial organizations involved in agricultural data collections are given below and organogram of these organizations are given at Annexure V:

S.No.	Address	Phone No.	Fax No.
1.	Senior Marketing Officer Agriculture and Livestock Products Marketing Grading Department, 79-E Al-Rehman Chamber, Blue Area Islamabad	051-9214063	051-9214063
2.	The Chairman Agricultural Pries Commission Mandir Plaza, G-8 Markaz Islamabad.	051-9261280	051-9261290
	(Mr. Arif Mahmood Cheema) Federal Bureau of Statistics SLIC Building No.5 Blue Area, Islamabad	051-9210245	051-9206284
3.	The Agricultural Census Commissioner Agricultural Census Organization, Gurumangat Road, Gulberg-III, Lahore	042-5752654 042-5758030	042-5752009
4.	The Director Directorate of Agriculture Crop Reporting Service 385-Main Samanabad, Lahore	042-7523341	042-7523882

S.No.	Address	Phone No.	Fax No.
5.	The Director Crop Reporting Service Shahbaz Building Block-F Hyderabad (Sindh)	022-9201159	022-9201167
6.	The Statistician Crop Reporting Services Agriculture Training Institute Campus Jamrud Road Peshawar University NWFP, Peshawar	091-9216376	091-9216372
7	The Director Crop Reporting Service Government of Balochistan, Quetta	081-9211518	081-9211506

Title of Publication	Domains/ Contents	Medium	Format	Periodicity/ Frequency
Agricultural Statistics of Pakistan				Annually
Fruits, Vegetables and Condiments Statistics of Pakistan				Annually
Crop Area Production (by Districts)				
Yearbook of MINFAL				Annually
Notification/Brushers				Rabi/Kharif Seasons

The information about the Ministry's can be obtained from the Website of Internet.

MINFAL:- [www.minfal.gov.pk](http://www.minfal.gov.pk)

FBS:- [www.statpak.gov.pk](http://www.statpak.gov.pk)

The MINFAL is publishing the publications as stated above. Some publications are published on annual basis. The notification for releasing crop estimates are published as and when the concurrence received from FBS. The estimates are prepared or compiled on the basis the estimates received from provinces. Census surveys are carried out once in ten years. Information of major crops estimates are also announced on Radio, TV and through Press media.

## **1.4 Dialogue with Data Users and Cooperation with International Organizations**

Before starting the survey in the field, the responsible agencies circulate the questionnaires or proforma among all stakeholders for obtaining their views and comments. In the light of comments, they revise the questionnaires and include their reasonable suggestions. The draft designs of survey questionnaires were presented to the relevant stakeholders including the FBS, CRS and ACO for discussion. The survey results are presented in a meeting of all stakeholders. After approval, the results are published in book format. The data published in the above mentioned publications help a lot to researchers, policy makers. The Economic Wing also disseminates all type of agriculture related statistics to national as well as international organizations on regular basis. The agricultural statistics are also supplied to FAO, IFAD, World Bank, Asian Bank, IMF Missions and other International agencies. Meetings are also arranged with data users and extended cooperation to them including international organizations.

## **1.5 Strategic Framework**

Most of the work is carried out according to routine plan. Now, two projects have been started for improvement of agricultural statistics. With the completion of the projects, the statistics could be generated more accurate, reliable and in time. There is a lot of shortcoming in the collection, compilation and publication of agricultural statistics in Pakistan both at provincial as well as national level. The government tries to improve this system and one of the most ambitious projects undertaken by Government to improve the crop estimation process was a project in late 1980 aimed at demonstrating and eventually institutionalizing the use of satellite imagery as a means for evolving an area sampling frame for agricultural surveys. After almost 13 years of work, the project was renamed as Improvement of Crop Estimate System (ICES) and was then jointly operated by FBS and MINFAL, completed the preparation of area frames for all four provinces. The ICES identified the province as the study domain.

The issues and concerns that need to be addressed are the following:

- The final production estimates of only three crops; namely wheat, rice and cotton of the Punjab and Sindh provinces are based on scientific crop cutting surveys methods. The rest of the estimates are only subjective and opinion of the growers..
- Final estimates of crops are not being received in time in the Ministry of Food, Agriculture and Livestock for timely release. Some times the estimates are received with 4 – 5 months late from the due date.
- Great difficulty is faced in collection of data from numerous livestock farmers who are scattered all over the country. The data receipts are very late and incomplete.

## Chapter 2. MAJOR DOMAINS AND SELECTED INDICATORS OF AGRICULTURAL STATISTICS

### 2.1 List of Major Domains and Selected Statistics and Indicators

Domains	Statistics/Indicators
Land use & sources of irrigation	Area holding by land use types and sources of irrigation
Production	Volume of crops, livestock, weather and prices
Agricultural Credit	Loans advanced to farmers
Trade	Total volume & value of exports and imports
Rural infrastructures	Extension services, roads and irrigation channels etc
Agricultural inputs	Volume of sales of fertilizers and pesticides and seed

### 2.2 Metadata for Each of the Major Domains

#### 2.2.1 Production

##### 2.2.1.1 Concepts, Definitions and Classifications

The concepts, definitions and classifications of agricultural are self-explanatory and do not have any confusion. The International System of Measurement (MKS) prevails in the country such as meter, kilogram and second are used for length, weight and time, respectively. The statistics conforms with international standards. The concepts and definitions used in the measurement of Gross National Product, Gross Domestic Products and Gross Value Added in Agriculture conform with the international standards.

The main cereals cultivated in the country are wheat, rice, barley, millet and jowar and main cash crops are cotton, sugarcane, tobacco and jute including some fruits such as mangoes and oranges.

##### 2.2.1.2 Coverage, Availability, Data Sources and Responsible Agencies

Most of the statistics are collected by different agencies. The scope and coverage of agriculture statistics vary from national to provincial level. Due to devolution of power at district, the Economic Wing has started publishing the agriculture statistics at district level from this 2006 on yearly basis. Efforts are being taken to improve methods and its reliability.

Data is basically collected by union council level. Then compiled at different levels and consolidated to reach at national level figures. District and provincial level data is also presented through estimates/ notifications and also in publication form. The data at national level covers data of four provinces as well special area like FATA & FANA. About 20 twenty years data is presented in the publication.

### **2.2.1.3 Data Processing, Estimation and Revision Methodology**

Although agricultural statistics is collected theoretically by census and sample surveys, Pakistan is actually one of the few countries in the Asia Pacific region that use sampling approach in agricultural censuses. Different sampling designs and data collectors are employed in the agriculture and livestock censuses. The Patwaris or local revenue collectors are used as enumerators for agriculture census and Livestock and veterinary workers of the provincial agriculture and livestock department works as the enumerators for livestock census. After the publication of census results, no effort is being extended to undertake any analysis of the data. Mostly major crops are covered in sampling techniques. The estimates of minor crops are based on opinion as well record provided by land record.

The provincial Crop Reporting Services (CRS) responsible for the agricultural data collection regarding areas and crop production are also using the sample technique. These sample designs were formulated by the Federal Bureau of Statistics (FBS) and being used in the province of Punjab, whereas the other provinces are not yet started data collection on the basis of these samples. The data is being collected in the province of Sindh, NWFP and Balochistan on the objective method (Annexure IV).

Moreover, the data is further processed in electronic equipments. The main software used is MS Word having components MS Word, MS Excel and power Point beside this Corel Draw and Ms Access. With the passage of time the use of computer is increasing.

## **Chapter 3. MAJOR DATA SOURCES FOR AGRICULTURAL STATISTICS**

### **3.1 List of Major Agricultural Censuses, Surveys and Registers**

#### **Census**

Agriculture and Livestock Census

#### **Surveys**

#### **Registers**

### **3.2 Metadata for Each of the Major Censuses**

#### **3.2.1 Agriculture and Livestock Census**

##### **3.2.1.1 Overview**

The statistical agencies involved in the census were the Federal Bureau of Statistics (FBS), Crop Reporting Service (CRS), Agricultural Livestock Marketing Adviser (ALMA) & Agriculture Census Organization (ACO).

Agriculture and Livestock census is carried out every 10 years. The Statistics Division does this job along with other agriculture related items such as household surveys. Similarly population census is conducted once in 10 years and for remaining years projections are made to know the figures for instance use. Through household survey income and expenditure are known and other factors such as population by sex, employment rate and labour force etc. The detail about methodology for estimation of area and production are given. Land use data is provided by provincial agriculture departments. As regards administrative register, revenue departments collect this information through jinswar statements. The detail about these organizations has been given in previous chapters. The list of major agricultural Censuses and Survey conducted by the Agricultural Census Organization and their publications are given at (Annexure-VII & VIII).

##### **3.2.1.2 Conduct, Operations and Data Quality Control**

The data regarding the agriculture statistics collected by the provincial CRS and the Agriculture Census Organization are processed manually as well as with electronic equipments, etc. However, Ministry of Food, Agriculture and Livestock is in the process of strengthening the capacity of the provincial CRS by providing them IT

equipment at district and provincial level so that the more advanced techniques are applied.

The data is stored / computerized at district level as mentioned in section 2.2.2. Then according to requirement, the data is processed by calculating percentage, growth rate, projection, totaling the figures and analyzing this statistics for further use. Missing data is generated by growth rate/ percentage calculation where the data looks more abnormal log models are used. Livestock census is conducted to know the population of livestock. To some extent, the record of each entity is also maintained. Livestock population census maintains record of all such items. The record of milk production and yield is maintained but milk sucked by young ones is not maintained. Livestock Wing maintains population of all cattle, buffaloes, sheep, goats, poultry and fisheries. Supplement bulletin is published for revising the figures of statistics. We process, estimate and generate data according to General statistics act, 1975, The Agricultural Census Act, 1958 and ACO. (Annexure-I, II, III)

Agricultural Census Organization is as attached department of Statistics Division, Ministry of Finance and Economic Affairs, Government of Pakistan. The Office of the organization is located at Lahore, Pakistan which manages the function of liaison with the concerned provincial government departments, and planning, supervision of field operations in whole of the country including Azad Jammu & Kashmir, Tribal Areas and Northern areas of Gilgit and Baltistan. Besides its own staff, the organization borrows field staff on a fairly substantial scale from the various provincial government departments for the massive work of enumeration. The staff so borrowed from Land Revenue, Livestock & Dairy Development and Agriculture Extension Departments is used respectively for Agriculture, Livestock and Agricultural Machinery Censuses. Before utilizing their services the incumbents are trained properly in census concepts and procedures by the officials of census organization. The district administration is also associated invariably in all the field operations. Deputy Commissioners and Officers In charge of concerned departments at respective districts act as District Census Officers for all the needed field operations in their jurisdiction.

As regards units, area, production and yield are measured in (acres, hectares), tonnes and kilogram. Generally, it is sufficient to say that all units are in MKS, which is international system of measurement. Details for all these entities are given in form of tables.