

Inputs

Indicators (units)

1. Percent gross cropped area treated with pesticide
2. Percent gross cropped area treated with fertilizer
3. Total fertilizer consumption - NPK (000 tonnes)
4. Total quantity of fertilizer consumed - Nitrogenous (000 tonnes)
5. Total quantity of fertilizer consumed - Phosphatic (000 tonnes)
6. Total quantity of fertilizer consumed - Potash (000 tonnes)
7. Total pesticide consumption (tonnes)
8. Fertilizer Consumption per ha – NPK (KG/ Hectare)
9. Fertilizer Consumed per ha – Nitrogenous (KG/ Hectare)
10. Fertilizer Consumed per ha – Phosphatic (KG/ Hectare)
11. Fertilizer Consumed per ha – Potash (KG/ Hectare)

Data Sources

Input Survey:

1. Percent gross cropped area treated with pesticide
2. Percent gross cropped area treated with fertilizer

Agriculture Statistics at a Glance:

3. Total fertilizer consumption - NPK (000 tonnes)
4. Total quantity of fertilizer consumed - Nitrogenous (000 tonnes)
5. Total quantity of fertilizer consumed - Phosphatic (000 tonnes)
6. Total quantity of fertilizer consumed - Potash (000 tonnes)
7. Fertilizer Consumption per ha – NPK (KG/ Hectare)
8. Fertilizer Consumed per ha – Nitrogenous (KG/ Hectare)
9. Fertilizer Consumed per ha – Phosphatic (KG/ Hectare)
10. Fertilizer Consumed per ha – Potash (KG/ Hectare)

Directorate of Plant Protection, Quarantine & Storage:

11. Total pesticide consumption (tonnes)

Institution Who Collected Primary Data

Input Survey:

Agriculture Census Division
Department of Agriculture, Cooperation and Farmers Welfare

Date metadata was updated: April 2022

Data were accessed: September 2021

Ministry of Agriculture and Farmers Welfare

Technical staff from the District Statistical Office, Taluk Statistical Office, and Directorate of Agriculture collect primary data.

Fertilizer Consumption:

Department of Fertilizers

Ministry of Chemicals and Fertilizers

Pesticide Consumption:

State Agriculture Departments

Compiled by the Pesticide Monitoring and Documentation Unit

Directorate of Plant Protection, Quarantine, and Storage

Department of Agriculture, Cooperation and Farmers Welfare

Ministry of Agriculture and Farmers Welfare

Years Data Have Been Collected

Input Survey:

Every five years, from 1976-1977 to 2016-2017

Fertilizer Consumption:

Unknown

Pesticide Consumption:

Unknown

Years Data Are Compiled For

Input Survey:

2011-2012

Fertilizer Consumption:

2016-2017 to 2019-20

Pesticide Consumption:

2016-2017 to 2020-21

Population Subgroups Available

Input Survey indicators are available by size-group, but not compiled in the Poshan Atlas.

Methods of Data Collection

Input Survey:

Input Survey follows the Agriculture Census exercise. The survey covers the whole country. All types of agricultural holdings, except institutional holdings and holdings operated by persons not residing in the village, are enumerated. Thus, only individual and joint holdings operated by

resident cultivators constitute the population for the 2011-2012 survey.¹ The reference point for the survey is 2011-2012 and data was collected from 1st July 2012, after the completion of the 2011-2012 crop season.

A two-stage stratified sampling methodology was used for the Input Survey 2011-2012. Tehsils/Blocks constituted the strata, villages within a stratum the first-stage units, and 'Operational Holdings' in the selected villages the second-stage units. The sample size of first-stage units was 7% of the total number of villages from each stratum. These 7% villages were selected randomly out of the villages already selected for Phase-II of Agriculture Census, 2010-2011. Operational holdings were sub-divided into five size groups and a simple random sample of four operational holdings was selected from each of the five size groups². If in a selected village, the total number of operational holdings was four or less in a particular size-group, then all of the holdings for that size group were selected. Data was collected through household surveys of the selected operational holders.

Schedule 2.2 of the Input Survey collects data on irrigation status, area treated with one or more fertilizers, quantity of fertilizer used, by cultivated crop type. An operational holding may be treated wholly, partly, or not treated at all with fertilizers. For the purpose of the survey, holdings were classified only as treated or not treated with fertilizers. Accordingly, partly treated holdings were also considered as treated with fertilizer. Area treated with fertilizer, as reported by the survey, has been divided by Gross Cropped Area to calculate percent gross cropped area treated with fertilizer for the Poshan Atlas.

Schedule 2.6 collects data on pest management practices under the following categories:

- a. Agronomic and cultural practices
- b. Mechanical control
- c. Biological, nature based or environmental methods
- d. Chemical methods
- e. Others (none of the above 4)
- f. No effort

Total area managed with chemical methods is divided by the Gross Cropped Area to calculate percent gross cropped area treated with pesticides for the Poshan Atlas.

Fertilizer Consumption:

Data are compiled by the Department of Fertilizers, Ministry of Chemicals and Fertilizers (previously under the Ministry of Agriculture Cooperation and Farmer's Welfare).

Pesticide Consumption:

¹Previous Input Surveys excluded only institutional holdings and not also holdings operated by persons not residing in the village.

² Size-groups are 1) Marginal (below 1.0 ha), 2) Small (1.0 to 1.99 ha), 3) Semi-medium (2.0 to 3.99 ha), 4) Medium (4.0 to 9.99 ha), and 5) Large (1.00 ha and above).

Date metadata was updated: April 2022

Data were accessed: September 2021

The Pesticides Unit of the Directorate compiles data received during Zonal Conferences for Kharif and Rabi Seasons each year, Department of Chemicals & Petrochemicals and Directorate General of Statistics & Commercial Intelligence, Kolkata. The Pesticides Unit monitors the demand and availability of pesticides in States/UTs for adoption of crop protection measures. With coordination by the Statistics Unit, it also collects and compiles various data on Demand & Consumption of pesticides, Sale Points for the distribution of pesticides in the country, etc. State level data are presented at seasonal States/ UTs Zonal Conferences on Inputs by respective states and compiled by the Pesticides Unit.

Consumption estimates are collected for select chemical (Technical Grade) pesticides, presented in tonnes at the state level. District level consumption data are currently unavailable.

Data from Andhra Pradesh, Telangana, Orissa, and Punjab have been revised based on data presented in the respective state parliaments. Specific details are found in "CONSUMPTION OF CHEMICAL PESTICIDES IN VARIOUS STATES/UTs DURING 2014-15 TO 2019-20"

Example of Interpreting Data

In 2011, only 23.67% of gross cropped area in Srikakulam district of Andhra Pradesh was treated with pesticides, compared to 76.38% in Krishna district, the highest in the state.

From the 2016 to 2018, total fertilizer use in the state of Tamil Nadu increased from 908,450 tonnes to 1,129,300 tonnes. In the same period, pesticide use fell from 2,092 tonnes to 1,901 tonnes in the state.

References and Further Reading

Input Survey 2011-12 report: <http://agcensus.nic.in/document/is2011/is2011rep.html>

Department of Plant Protection statistical database: <http://ppqs.gov.in/statistical-database>

Pesticide Monitoring and Documentation Unit:

<http://ppqs.gov.in/divisions/pesticides-monitoring-documentation/pesticide-monitoring-and-documentation-unit>