Sri Lanka - Crop Estimating Survey on Paddy (Maha) - 1983

Department of Census and Statistics

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Identification

SURVEY ID NUMBER
LKA-DCS-CESP[M]-1983-v1.0

TITLE
Crop Estimating Survey on Paddy (Maha) - 1983

COUNTRY

Name	Country code
Sri Lanka	LKA

STUDY TYPE
Agricultural Survey [ag/oth]

SERIES INFORMATION
This survey was started in the year 1950. It is conducted in Yala and Maha seasons with a view to estimate the average yield of paddy and production by District. In a Maha season about 6000 and in a Yala season about 4000 experiments are being conducted for this survey and it is the only source to estimate the country's paddy production. The findings are essential to calculate various important figures such as volume of additional rice requirement of the country to be imported

This survey is carried out in each season of a cultivation year to collect the paddy extent under categories namely;

Asweddumized Extent
Sown Extent
Harvested Extent

Paddy extent is estimated on the basis of complete enumeration of paddy parcels in the county covering both Maha and Yala seasons.

All these variables are being collected through a form. The extent categories are again classified by type of irrigation namely;

Major Irrigation Schemes
Minor Irrigation Schemes
Rain-fed

ABSTRACT
Crop estimating survey on paddy which is popularly known as "Crop Cutting Survey" commenced in the year 1950. It is conducted in Maha and Yala season with a view to estimate the average yield of paddy and production by District. In a Maha season about 6,000 and in a Yala season about 4,000 experiments are being conducted for this survey and it is the only source to estimate the country's paddy production. Policy Planners are benefited by these data in numerous ways for taking the decisions such as volume of additional rice requirement of the country to be imported in time, evaluation of extension programs undertaken to uplift the average yields of paddy, pricing policies of rice, mobilization of stocks from one place to another and many more. Therefore, it is a great responsibility to estimate paddy production accurately and timely to fulfill the national requirement.

Field staff attached to each District has been entrusted with many responsibilities on various data collection activities and among them, method of data collection for crop cutting is different from the other surveys. This survey is associated with an objective approach; as such crop cutting officers should carry out experiments in the field by themselves. According to the standard procedure, the crop cutting officer must visit the selected paddy field and they should follow a number of steps such as; demarcate the specified plot of land equivalent to 16' ½'' X 16' 1/2" (a paddy land of one perch of an acre), harvest the crop of the plot, thresh the grain, measure the grain using standard set of seers and finally report the results through the prescribed form CC3.

Special remarks - effective from 2005/2006 Maha Season

In order to perform these steps, Crop Cutting Officers should get the fullest co-operation from selected farmers. According to the available information, the whole process of conducting such an experiment takes around three hours. Also, all steps are

being performed manually in many occasions. It is obvious that the crop cutting is a laborious procedure at present. Considering the volume of work and practical difficulties which could affect negatively, it is a must to introduce an updated method in order to maintain the quality of data. Some of the suggestions to overcome this burden are as follows.

(1) Reduce the volume and time of involvement of the officers
(2) Introduce modern equipment to thresh the grain or assess the paddy yield of the plot.
(3) Replace the current methodology with an alternative survey procedure.

As an initial step, the Agriculture Division of DCS in line with above suggestion noted in (1) a pilot survey has been conducted in Kegalle District in the 2005/06 Maha season. This was extended to Matara and Kurunegala Districts during the Maha 2007/08, by reducing the experimental plot size to half of that of the standard plot which is used at present. Now, the Agriculture Division is statistically testing the results of the pilot survey against the results of the standard survey conducted hitherto. If there is no significant difference between these two, the new plot size would be introduced in the near future.

Concepts, Definitions and Classifications associated with Crop Estimation of Paddy Survey

Seasons - In Sri Lanka there are two major cultivation seasons associated with two monsoons and they are known as Maha season and Yala Season.

Maha Season is the main season associated with North-east monsoons effective during September - April in the following year. When a particular crop is planted and harvested during this period is known to be Maha Crop.

Yala season is the secondary season which is associated with South-west monsoons effective during the period between May to September. When a particular crop is planted and harvested during this period is known to be Yala Crop.

Mode of Irrigation
There are three type of irrigations related with paddy cultivation. They are (1). Major Irrigation schemes (2). Minor Irrigation schemes (3). Rain-fed schemes.

Major Irrigation schemes defined to be an irrigated scheme of which water is fed to more than 200 acres otherwise it defines as a Minor Irrigation scheme.

Rain-fed is defined, if the cultivated extent is purely depending on rain water in absence of permanent water tank or reservoir.

Volume of Production is reported in Metric Tons.
Average Yield per acre or Hectare: An Indicator of productivity per area unit (2.471 acres = 1 hectare while 1 hectare is equal to 1,000 square meters) estimated through crop cutting survey. Average yield per acre is reported in Bushels while per hectare is reported in Kgs.

Average yield is expressed in terms of Paddy (grain with the husk form but not in Rice form)

Area Harvested refers to the gross area of which the harvest is gathered excluding the area damaged due to different causes.

Gross Area refers to the extent of which reported by enumerators or respondents based on cultivated extent estimated by seed rates but not based on cadastral surveys while Net Area refers to the extent evolved by deducting the extent set a part for bunds and ridges.

Production for a year should consider to be the sum of the production of Maha season and Yala season. For instance the production of the year 2005 is to be the sum of 2004/05 Maha season and Yala season of 2005.

KIND OF DATA
Sample survey data [ssd]

UNIT OF ANALYSIS
Paddy land Parcel 16 1/2" X 16 1/2", Where smaller experimental plot sizes are used in terraced fields, the actual length and breadth of these plots should be deducted.

Version

VERSION DESCRIPTION
V1.0: Full edited dataset, original version for internal DPD Use

VERSION DATE
2009-07-23

Scope

NOTES
Geographical information
Paddy parcel information
System of tenure
Method of preparation of land
Variety of seed
Method of sowing
Application of Fertilizer
Weeding
Insects/Fungus control
Adverse affects on crop
Yield

TOPICS

Topic	Vocabulary	URI
agricultural, forestry and rural industry [2.1]	CESSDA	Link

Coverage

GEOGRAPHIC COVERAGE
National Coverage

UNIVERSE
The survey covered a random sample from all the paddy lands in Sri Lanka

Producers and sponsors

PRIMARY INVESTIGATORS

Name	Affiliation
Department of Census and Statistics	Ministry of Finance and Planning

FUNDING AGENCY/SPONSOR

Name	Abbreviation
Government of Sri Lanka	GOSL

Sampling

SAMPLING PROCEDURE
Sampling Design: The sampling design adopted in the survey is a stratified multistage sampling method where DS Divisions were treated as strata and mode of irrigation schemes namely; Major, Minor, and Rain-fed as sub strata. Number of villages

to be selected for crop cutting experiments in each scheme is decided on the basis of the following proportions.

Acreage sown in the previous corresponding season Number of villages to be selected
< 500 Acres 3
500 - <1000 Acres 5
1000 - < 5000 Acres 10
5000 - < 10,000 Acres 15
10,000 - < 15,000 Acres 20
15,000 - < 20,000 Acres 25
20,000 Acres and above 30

Though the recommended design is such, considering the sampling variances occurred during the previous seasons, the number of experimental villages to be selected is being curtailed in order to keep the number of villages within a range of 3,000 for a Maha season and 2,000 for a Yala season in a year. Other reasons for such restrictions were related to practical aspects like cost of the survey and number of personnel that could be deployed to carry out crop cuttings.

In each selected village two crop cutting experiments are conducted. The whole procedure in conducting the experiment is stated in detail in the manual of Crop Cutting Experiments prepared by the Agriculture Division. At present the sample villages and the parcels are selected at random. However, prior to 1980, selection of villages as well as parcels was done at random with probability proportional to the area cultivated during the previous corresponding season with replacement. As the procedure was somewhat laborious and time consuming, it was replaced with the present system i.e. both stages at random. Sample villages are selected in the head office while the selections of parcels are done at the respective Districts.

Controlling of Non-sampling Errors: In view of the accuracy of the experimental results, a sample of 1/5 of selected villages are to be supervised by executive officers/District Heads identified from the District such as DS/GA, Divisional Secretary, Director/Deputy Director of Agriculture, Deputy Commissioners of Agrarian Development in addition to the Senior Staff of DCS attached to the District. Spot checks are to be performed by them by visiting the sample villages.

Estimation of Average Yield of Paddy
Average yield of paddy per acre/hectare by mode of irrigation and by District is being estimated through an objective survey which is popularly known as crop cutting survey on paddy. This has been initiated in 1950 and the methodology introduced by Dr. Koshal, Statistician of FAO (an Indian expert) under the assistance of FAO. From time to time some modifications have been introduced and the procedure is still in operation to estimate the paddy production in each season.

Data Collection

DATES OF DATA COLLECTION

Start	End
1982-10-01	1983-04-30

DATA COLLECTION MODE
Face-to-face [f2f]

SUPERVISION
“Agricultural Research and Production Assistants (ARPO) earlier known as “Govi Sevana Niyamakas” of Agrarian Development Department attached to Agrarian Service Centers do play the role of “Primary Reporters” to report the extent in P1 form which is parcel-wise enumeration of all paddy growing parcels.

They list out the area Asweddumized, Sown and Harvested in Maha and Yala seasons at village/Yaya,Tract/Kandam in the prescribed form. Here the “paddy parcel” is defined to be piece/plot of land cultivated by one individual farmer or group of farmers jointly surrounded by another paddy parcel cultivated by another individual farmer or group of farmers or any land cultivated with crops other than paddy or uncultivated land such as road, stream etc.

The paddy extent thus enumerated is summarized by Village/Yaya/Tract/Kandam and transferred to the form known as P2 which gives the aggregate extent under paddy by above categories and by irrigation modes at GN division level and by DS level. This form is prepared by the Range Statistical Officer attached to a particular DS. During the Yala season the sown and harvested extents are recorded while asweddumized extent is updated, only if there occurs a change.

However, it is to be noted that the Districts where ARPOs are not appointed, Grama Niladaris (GNN) are still acting as

primary reporters for the collection of paddy statistics as well as other agricultural statistics. This is specifically true for Northern and Eastern Provinces.

The aggregate extent prepared for DS level leads to the compilation of paddy extent at various higher levels such as District and All Island Level. It is important to note that the extent reported/listed in the P1 form is the “Gross Extent” since the extent of most of the paddy parcels are not based on any cadastral survey or measures, but reported extent are based on seed rates or traditional measurement or guesstimates as per the knowledge of respective farmers. This gross extent is ultimately converted to net-extent by applying correction factors which were determined at District level through a land measurement survey carried out by means of a sample of paddy parcels with the assistance of the Survey General Department in 1970s.

The list prepared by the primary reporters in the P1 form acts as the basis for the selection of sample of paddy parcels while the list of paddy growing villages compiled in the P2 form acts the basis to select villages for the National Crop Cutting Survey on Paddy conducted by the Agriculture and Environment Statistics Division of DCS.

DATA COLLECTION NOTES

Crop Cutting Officers: Once the list of villages are transmitted to the Statistics Branch of the respective District, the Head of the Division Deputy Director/Senior Statistician/Statistician has to identify the crop cutting officers who are to be suitable for conducting these experiments in the selected villages. Guideline is to choose them preferably out of the field officers attached to the respective DS Divisions who are related to the discipline of agriculture such as Agricultural Officers/Agricultural Instructors of the Ministry of Agriculture, Divisional Officers of Department of Agrarian Development, Colonization Officers, etc. in addition to the Range Statistical Officers of DCS. Range Statistical Officers should undertake at least three experiments in his range. The direction is to discuss this matter in the District Agriculture Committee Meeting (DAC) held once in a month chaired by District Secretary/Government Agent and then assign the villages in concurrence with the DS/GA

The Statistical officer (SO) or the Agriculture Instructor (AI) in the area visits the selected paddy land along with the farmer and cuts the crop in the demarcated area. The crop is measured in Seers then and there and the yield is recorded. Then in the same way yield for the other parcel is recorded. The crop collected for measuring is returned to the farmer. In addition to the yield recorded in this manner, other relevant information requested in the form C.C.3 has to be collected .

Ancillary Information: When crop cuttings are done in the field, in addition to sample fields selected for crop cuttings, an extra set of sample (four parcels) fields are selected to collect ancillary information related to the paddy crop viz. usage inputs, system of tenure, variety of seed, etc. Along with the final estimates on production and average yield the estimated extent related to the above characteristics are being disseminated.

DATA COLLECTORS

Questionnaires

QUESTIONNAIRES

The questionnaire is Form C.C.3 printed in Sinhala/English and Tamil/English languages. It has three parts.

Part I is about the geographical and Paddy land parcel information.

Part II includes System of tenure, Method of preparation of land, Variety of seed, Method of sowing, Application of Fertilizer, Weeding, Insecticides, Fungicides, Adverse affects on crop.

Part III Collects yield information.

In the questionnaire the above information is recorded for two parcels selected for the survey. The same Form C.C.3 is used to collect data for both Yala and Maha seasons. Maha Season falls during "North-east monsoon" from September to March in the following year. Yala season is effective during the period from May to end of August.

Data Appraisal

ESTIMATES OF SAMPLING ERROR

Formulae needed to calculate Avg. Yield & Variance for a given Stratum is available in the External Resource Section.

Access policy

CONTACTS

Name	Affiliation	Email	URL
Director General	Department of Census and Statistics	dgcensus@statistics.gov.lk	Link
Agriculture and Environment Statistics Division	Department of Census and Statistics	agriculture@statistics.gov.lk	Link
Information Unit	Department of Census and Statistics	information@statistics.gov.lk	Link

CONFIDENTIALITY

Under the Statistical ordinance, micro data cannot be released with identifications for public use. Procedures are in place to ensure that information relating to any particular individual person, household or undertaking will be kept strictly confidential and will not be divulged to external parties. Information on individual or individual Household/establishment will not be divulged or published in such a form that will facilitate the identification of any particular person or establishment as the data have been collected under the Census/Statistical ordinance, according to which the information at individual level cannot be divulged and such information is strictly confidential.

ACCESS CONDITIONS

The dataset has been anonymized and is available as a Public Use Dataset. It is accessible to all for statistical and research purposes only, under the following terms and conditions:

1. The data and other materials will not be redistributed or sold to other individuals, institutions, or organizations without the written agreement.

2. The data will be used for statistical and scientific research purposes only. They will be used solely for reporting of aggregated information, and not for investigation of specific individuals or organizations.

3. No attempt will be made to re-identify respondents, and no use will be made of the identity of any person or establishment discovered inadvertently.

4. No attempt will be made to produce links among datasets provided by the Department or among data from the Department and other datasets that could identify individuals or organizations.

5. Any books, articles, conference papers, theses, dissertations, reports, or other publications that employ data obtained from the Department will cite the source of data in accordance with the Citation Requirement provided with each dataset.

6. An electronic copy of all reports and publications based on the requested data will be sent to the Department

The following rules apply to micro data released by the Department of Census and Statistics.

• Only the requests of Government Institutions, Recognized Universities, Students, and selected international agencies are entertained. However, the Data users are required to strictly adhere to the terms stipulated in the agreement form.

• All the data requests should be made to Director General (DG) of the DCS as the sole authority of releasing data is vested with the DG of the DCS. The DCS of Sri Lanka reserves sole right to approve or reject any data request made depending on the confidential nature of the data set and intended purpose of the study or analysis.

• Requests for micro data should be made through the agreement form designed by DCS for this purpose (Form D.R.1). The agreement form should be filled in triplicate and the Study/project proposal should accompany the filled agreement form. If requests are made for the micro data of more than one survey, a separate agreement should be signed.

• If the data request is from a student a letter from the respective Dept. Head/Dean/Supervisor, recommending the issue of data, should also be accompanied.

• If the request is approved only 25% of the data file is released at the first stage. The release of the total data file is considered only after reviewing the draft report prepared on the basis of the 25% sample data file.

• The released Data file should be used only for the specific study/Analysis mentioned in the agreement form and shall not

be used for any other purpose without the prior approval of the Director General of the DCS. Moreover, Copies of the micro-data file, obtained from the DCS, shall not be given to anyone else without the prior written approval of the Director General of the DCS.

• The draft report of the Study/Analysis should be submitted to the DCS and the concurrence of the DG of the DCS, should be obtained before publishing it. Once published, a copy of the final report should be submitted to the DCS.

[Department : The Department of Census and Statistics (DCS)]

Source : http://www.statistics.gov.lk/databases/data dissemination/DataDissaPolicy_2007Oct26.pdf

CITATION REQUIREMENTS

Department of Census and Statistics, Crop Estimation Survey on Paddy [Maha] 1983, [CESP(M)1983], Version 1.0 of the internal use dataset July, 2009 provided by the National Data Archive, Data Processing Division, www.statistics.gov.lk"

ACCESS AUTHORITY

Name	Affiliation	Email	URL
Director General	Department of Census and Statistics	dgcensus@statistics.gov.lk	Link

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DISCLAIMER

The Department of Census and Statistics bears no responsibility for any results or interpretations arising from the secondary use of the data.

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Metadata production

DDI DOCUMENT ID

DDI-LKA-DCS-CESP[M]-1983-v1.0

PRODUCERS

Name	Abbreviation	Affiliation	Role
Department of Census and Statistics	DCS	Ministry Of Finance and Planning	Conducting the survey

DATE OF METADATA PRODUCTION

2009-07-23

DDI DOCUMENT VERSION

Version 1.0 (2009)

Data Dictionary

Data file	Cases	Variables
1982_83maha	13350	28

Data file: 1982_83maha

Cases:	13350
Variables:	28

Variables

ID	Name	Label	Question
V135	SEASON	Season	
V136	YEAR	Year	
V137	BLANK	BLANK	
V138	DISTRICT	District	
V139	AGA	AGA Division	
V140	TYPE_OF_IRRIGATION	Type of irrigation	
V141	VILLAGE	Village code	
V142	PARCEL_NO	Parcel no	
V143	EXTENT_SOWN_A	Extent Sown in acres	
V144	EXTENT_SOWN_R	Extent Sown in Roods	
V145	EXTENT_SOWN_PERCHES	Extent Sown in Perches	
V146	NO_OF_LIYADDAS_IN_PARCEL	No of Liyaddas in Parcel	
V147	LENGTH_LIYADDA	Length of Liyadda	
V148	BREDTH_LIYADDA	Bredth of liyadda	
V149	TENURE	Tenure	
V150	PREPARATION_OF_LAND	Preparation of Land	
V151	VARIETY_OF_SEED	Variety of seed	Write the name or index of seed paddy and leave the box blank for official use.
V152	SOWING_METHOD	Sowing Method	
V153	FERTILIZER_APPLICATION	Fertilizer Application	Inquire from the cultivator the total quantity of fertilizer used in the parcel and give the quantity in Kg's.
V154	WT_OF_CHEM_FERT	Weight of Chemical Fertilizer	
V155	WTOFORG_FERT	Weight of Organic Fertilizer	
V156	WEEDING	Weeding	
V157	INSECTISIDES	Insecticides Used	
V158	FUNGICIDES	Fungicides Used	
V159	ADVERSE_AFFECTS	Adverse Affects	
V160	YIELD	Yield	
V161	RECNO	Record No	
V162	SERIAL	Serial No	

Total: 28

SEASON: Season

Data file: 1982_83maha

Overview

Valid: 13350 Invalid: 0
Type: Discrete Width: 1 Range: - Format: character

Questions and instructions

CATEGORIES

Value	Category	Cases	
2	Maha	13350	100%

Description

DEFINITION
Yala season is the secondary season which is associated with South-west monsoons effective during the period between May to September. When a particular crop is planted and harvested during this period is known to be Yala Crop.

YEAR: Year

Data file: 1982_83maha

Overview

Valid: 13350 Invalid: 0 Minimum: 8283 Maximum: 8283 Mean: 8283 Standard deviation: 0
Type: Continuous Decimal: 0 Width: 4 Range: 8283 - 8283 Format: Numeric

BLANK: BLANK

Data file: 1982_83maha

Overview

Valid: 0 Invalid: 0
Type: Discrete Width: 1 Range: - Format: character

DISTRICT: District

Data file: 1982_83maha

Overview

Valid: 13350 Invalid: 0 Minimum: 1 Maximum: 26 Mean: 11.883 Standard deviation: 7.115
Type: Continuous Decimal: 0 Width: 2 Range: 1 - 26 Format: Numeric

Questions and instructions

CATEGORIES

Value	Category	Cases	
1	Colombo	284	2.1%
2	Gampaha	578	4.3%
3	Kalutara	628	4.7%
4	Galle	906	6.8%
5	Matara	738	5.5%
6	Ratnapura	748	5.6%
7	Kegalle	718	5.4%
8	Kurunegala	784	5.9%
9	Puttalam	410	3.1%
10	Kandy	890	6.7%
11	Matale	618	4.6%
12	Nuwara Eliya	306	2.3%
13	Badulla	610	4.6%
14	Moneragala	396	3%
15	Jaffna	464	3.5%
16	Kilinochchi	430	3.2%
17	Vavuniya	394	3%
18	Mullaitivu	252	1.9%
19	Mannar	556	4.2%
20	Anuradhapura	484	3.6%
21	Polonnaruwa	214	1.6%
22	Trincomalee	512	3.8%
23	Batticaloa	506	3.8%
24	Ampara	430	3.2%
25	Hambantota	202	1.5%
26	Udawalawa	292	2.2%
27	Mahaweli H	0	0%

AGA: AGA Division

Data file: 1982_83maha

Overview

Valid: 13350 Invalid: 0 Minimum: 1 Maximum: 18 Mean: 5.938 Standard deviation: 3.866
Type: Continuous Decimal: 0 Width: 2 Range: 1 - 16 Format: Numeric

TYPE_OF_IRRIGATION: Type of irrigation

Data file: 1982_83maha

Overview

Valid: 13350 Invalid: 0 Minimum: 1 Maximum: 3 Mean: 2.234 Standard deviation: 0.799
Type: Continuous Decimal: 0 Width: 1 Range: 1 - 3 Format: Numeric

Questions and instructions

CATEGORIES

Value	Category	Cases	
1	Major	3062	22.9%
2	Minor	4096	30.7%
3	Rainfed	6192	46.4%

VILLAGE: Village code

Data file: 1982_83maha

Overview

Valid: 13350 Invalid: 0 Minimum: 1 Maximum: 37 Mean: 4.56 Standard deviation: 3.746
Type: Continuous Decimal: 0 Width: 2 Range: 1 - 23 Format: Numeric

PARCEL_NO: Parcel no

Data file: 1982_83maha

Overview

Valid: 13350 Invalid: 0 Minimum: 1 Maximum: 2 Mean: 1.5 Standard deviation: 0.5
Type: Continuous Decimal: 0 Width: 1 Range: 1 - 2 Format: Numeric

Questions and instructions

CATEGORIES

Value	Category	Cases	
1	1	6675	50%
2	2	6675	50%

Description

DEFINITION
Parcel - Paddy land Parcel is the land demarcated for the operator to cultivate

EXTENT_SOWN_A: Extent Sown in acres

Data file: 1982_83maha

Overview

Valid: 13350 Invalid: 0 Minimum: 0 Maximum: 8 Mean: 0.0135 Standard deviation: 0.176
Type: Continuous Decimal: 0 Width: 1 Range: 0 - 9 Format: Numeric

EXTENT_SOWN_R: Extent Sown in Roods

Data file: 1982_83maha

Overview

Valid: 13350 Invalid: 0 Minimum: 0 Maximum: 9 Mean: 1.041 Standard deviation: 1.482
Type: Continuous Decimal: 0 Width: 1 Range: 0 - 9 Format: Numeric

EXTENT_SOWN_PERCHES: Extent Sown in Perches

Data file: 1982_83maha

Overview

Valid: 13350 Invalid: 0 Minimum: 0 Maximum: 99 Mean: 27.711 Standard deviation: 26.431
Type: Continuous Decimal: 0 Width: 2 Range: 0 - 99 Format: Numeric

NO_OF_LIYADDAS_IN_PARCEL: No of Liyaddas in Parcel

Data file: 1982_83maha

Overview

Valid: 6024 Invalid: 7326 Minimum: 0 Maximum: 99 Mean: 17.045 Standard deviation: 20.316
Type: Continuous Decimal: 0 Width: 2 Range: 0 - 99 Format: Numeric

Questions and instructions

CATEGORIES

Value	Category	Cases	
0	0	10	0.2%
1	1	286	4.8%
2	2	433	7.2%
3	3	420	7%
4	4	435	7.2%
5	5	345	5.7%
6	6	365	6.1%
7	7	246	4.1%
8	8	325	5.4%
9	9	228	3.8%
10	10	178	3%
11	11	142	2.4%

12	12	233	3.9%
13	13	109	1.8%
14	14	151	2.5%
15	15	151	2.5%
16	16	111	1.8%
17	17	72	1.2%
18	18	122	2%
19	19	47	0.8%
20	20	105	1.7%
21	21	62	1%
22	22	97	1.6%
23	23	49	0.8%
24	24	51	0.8%
25	25	54	0.9%
26	26	49	0.8%
27	27	31	0.5%
28	28	58	1%
29	29	26	0.4%
30	30	68	1.1%
31	31	20	0.3%
32	32	40	0.7%
33	33	17	0.3%
34	34	22	0.4%
35	35	49	0.8%
36	36	28	0.5%
37	37	24	0.4%
38	38	38	0.6%
39	39	16	0.3%
40	40	32	0.5%
41	41	18	0.3%
42	42	32	0.5%
43	43	14	0.2%
44	44	17	0.3%
45	45	28	0.5%
46	46	10	0.2%
47	47	17	0.3%
48	48	36	0.6%
49	49	12	0.2%
50	50	22	0.4%

51	51	7	0.1%
52	52	24	0.4%
53	53	14	0.2%
54	54	15	0.2%
55	55	9	0.1%
56	56	9	0.1%
57	57	13	0.2%
58	58	13	0.2%
59	59	6	0.1%
60	60	27	0.4%
61	61	11	0.2%
62	62	20	0.3%
63	63	6	0.1%
64	64	14	0.2%
65	65	15	0.2%
66	66	8	0.1%
67	67	12	0.2%
68	68	13	0.2%
69	69	7	0.1%
70	70	10	0.2%
72	72	14	0.2%
73	73	8	0.1%
74	74	7	0.1%
75	75	8	0.1%
76	76	10	0.2%
77	77	0	0%
78	78	5	0.1%
80	80	7	0.1%
81	81	3	0%
82	82	5	0.1%
83	83	3	0%
84	84	8	0.1%
85	85	2	0%
86	86	4	0.1%
87	87	1	0%
88	88	2	0%
89	89	1	0%
90	90	6	0.1%
91	91	4	0.1%

92	92	4	0.1%
94	94	2	0%
95	95	4	0.1%
96	96	2	0%
97	97	1	0%
99	99	98	1.6%

Description

DEFINITION
Liyadda - major block of cultivation in a parcel

LENGTH_LIYADDA: Length of Liyadda

Data file: 1982_83maha

Overview

Valid: 4818 Invalid: 8532 Minimum: 0 Maximum: 999 Mean: 74.983 Standard deviation: 58.116
Type: Continuous Decimal: 0 Width: 3 Range: 0 - 353 Format: Numeric

BREDTH_LIYADDA: Bredth of liyadda

Data file: 1982_83maha

Overview

Valid: 4817 Invalid: 8533 Minimum: 0 Maximum: 999 Mean: 47.299 Standard deviation: 47.602
Type: Continuous Decimal: 0 Width: 3 Range: 0 - 286 Format: Numeric

TENURE: Tenure

Data file: 1982_83maha

Overview

Valid: 13053 Invalid: 297 Minimum: 0 Maximum: 9 Mean: 1.542 Standard deviation: 0.9
Type: Continuous Decimal: 0 Width: 1 Range: 0 - 4 Format: Numeric

Questions and instructions

CATEGORIES

Value	Category	Cases	
0	0	64	0.5%
1	Singly owned	9056	69.4%
2	Jointly owned	1078	8.3%
3	Ande	2509	19.2%

4	Other	344	2.6%

Description

DEFINITION
System of Tenure could be (1) Singly owned (2)Jointly owned including Thattumaru and Kattimaru. (3) Ande
(4) Other
Thattumaru - An accepted cultivation system where a each person claiming ownership of a paddy field cultivates a predetermined area of the field in rotation.

Kattimaru - Cultivating different crops in different seasons.

Ande - Permitting a non-owner to cultivate the paddy field under the condition that the crop produced from that is shared between him and the owner.

PREPARATION_OF_LAND: Preparation of Land

Data file: 1982_83maha

Overview

Valid: 13052 Invalid: 298 Minimum: 0 Maximum: 9 Mean: 2.646 Standard deviation: 1.658
Type: Continuous Decimal: 0 Width: 1 Range: 0 - 7 Format: Numeric

Questions and instructions

CATEGORIES

Value	Category	Cases	
0	0	189	1.4%
1	By Tractor	3876	29.7%
2	Buffalow ploughed	3456	26.5%
3	Buffalow mudded	1270	9.7%
4	Mammotied	2935	22.5%
5	5	141	1.1%
6	6	805	6.2%
7	7	378	2.9%

Description

DEFINITION
Predominant method of preparation of land

VARIETY_OF_SEED: Variety of seed

Data file: 1982_83maha

Overview

Valid: 13051 Invalid: 299 Minimum: 0 Maximum: 3 Mean: 1.386 Standard deviation: 0.726
Type: Continuous Decimal: 0 Width: 1 Range: 0 - 3 Format: Numeric

Questions and instructions

LITERAL QUESTION
Write the name or index of seed paddy and leave the box blank for official use.

SOWING_METHOD: Sowing Method

Data file: 1982_83maha

Overview

Valid: 13052 Invalid: 298 Minimum: 0 Maximum: 9 Mean: 1.529 Standard deviation: 0.89
Type: Continuous Decimal: 0 Width: 1 Range: 0 - 4 Format: Numeric

Questions and instructions

CATEGORIES

Value	Category	Cases	
0	0	150	1.1%
1	Broadcasting	9142	70.1%
2	Transplanted in rows	528	4%
3	Transplanted not in rows	3175	24.3%
4	Row seeded	55	0.4%

FERTILIZER_APPLICATION: Fertilizer Application

Data file: 1982_83maha

Overview

Valid: 13049 Invalid: 301 Minimum: 0 Maximum: 4 Mean: 1.361 Standard deviation: 0.921
Type: Continuous Decimal: 0 Width: 1 Range: 0 - 4 Format: Numeric

Questions and instructions

LITERAL QUESTION
Inquire from the cultivator the total quantity of fertilizer used in the parcel and give the quantity in Kg's.

CATEGORIES

Value	Category	Cases	
0	0	58	0.4%
1	Chemical Only	11091	85%
2	Organic Only	139	1.1%

3	Both Chemical & Organic	656	5%
4	None	1105	8.5%

WT_OF_CHEM_FERT: Weight of Chemical Fertilizer

Data file: 1982_83maha

Overview

Valid: 11747 Invalid: 1603 Minimum: 0 Maximum: 9999 Mean: 294.645 Standard deviation: 488.479
Type: Continuous Decimal: 0 Width: 4 Range: 0 - 5600 Format: Numeric

Description

DEFINITION
To be filled if Chemical fertilizer is applied (Weight of Chemical fertilizer kg)

WTOFORG_FERT: Weight of Organic Fertilizer

Data file: 1982_83maha

Overview

Valid: 796 Invalid: 12554 Minimum: 0 Maximum: 8000 Mean: 445.143 Standard deviation: 732.807
Type: Continuous Decimal: 0 Width: 4 Range: 0 - 3600 Format: Numeric

Description

DEFINITION
To be filled if Organic fertilizer is applied (Weight of Organic fertilizer kg)

WEEDING: Weeding

Data file: 1982_83maha

Overview

Valid: 13051 Invalid: 299 Minimum: 0 Maximum: 9 Mean: 2.17 Standard deviation: 1.156
Type: Continuous Decimal: 0 Width: 1 Range: 0 - 4 Format: Numeric

Questions and instructions

CATEGORIES

Value	Category	Cases	
0	0	123	0.9%
1	Hand weeding	4280	32.8%
2	Using weedisides	5035	38.6%
3	By the use of water	484	3.7%

4	No weeding	3128	24%

INSECTISIDES: Insecticides Used

Data file: 1982_83maha

Overview

Valid: 13051 Invalid: 299 Minimum: 0 Maximum: 9 Mean: 1.357 Standard deviation: 0.523
Type: Continuous Decimal: 0 Width: 1 Range: 0 - 2 Format: Numeric

Questions and instructions

CATEGORIES

Value	Category	Cases	
0	0	260	2%
1	Used	7875	60.3%
2	Not used	4915	37.7%

FUNGICIDES: Fungicides Used

Data file: 1982_83maha

Overview

Valid: 13049 Invalid: 301 Minimum: 0 Maximum: 2 Mean: 1.73 Standard deviation: 0.569
Type: Continuous Decimal: 0 Width: 1 Range: 0 - 2 Format: Numeric

Questions and instructions

CATEGORIES

Value	Category	Cases	
0	0	826	6.3%
1	Used	1875	14.4%
2	Not used	10348	79.3%

ADVERSE_AFFECTS: Adverse Affects

Data file: 1982_83maha

Overview

Valid: 13051 Invalid: 299 Minimum: 0 Maximum: 9 Mean: 5.779 Standard deviation: 1.707
Type: Continuous Decimal: 0 Width: 1 Range: 0 - 7 Format: Numeric

Questions and instructions

QUESTION PRETEXT
Codes 1,2,3,4 or 5 should be encircled only if the parcel was severely affected and it was not harvested.

CATEGORIES

Value	Category	Cases	
0	0	677	5.2%
1	Seed faulure	274	2.1%
2	Drought	184	1.4%
3	Flood	86	0.7%
4	Pests	13	0.1%
5	Other adverse factors	33	0.3%
6	Not affected	8189	62.8%
7	Slightly affected	3592	27.5%

YIELD: Yield

Data file: 1982_83maha

Overview

Valid: 4969 Invalid: 8381 Minimum: 0 Maximum: 99999 Mean: 12490.204 Standard deviation: 7106.687
Type: Continuous Decimal: 0 Width: 5 Range: 8 - 80258 Format: Numeric

RECNO: Record No

Data file: 1982_83maha

Overview

Valid: 4969 Invalid: 8381 Minimum: 0 Maximum: 9999 Mean: 2906.953 Standard deviation: 1011.344
Type: Continuous Decimal: 0 Width: 4 Range: 0 - 9122 Format: Numeric

SERIAL: Serial No

Data file: 1982_83maha

Overview

Valid: 13350 Invalid: 0
Type: Discrete Width: 3 Range: - Format: character

Questions and instructions

CATEGORIES

Value	Category	Cases	

001		58	0.4%
002		26	0.2%
003		29	0.2%
004		66	0.5%
005		14	0.1%
006		18	0.1%
007		57	0.4%
008		16	0.1%
009		22	0.2%
01		44	0.3%
010		43	0.3%
011		21	0.2%
012		18	0.1%
013		44	0.3%
014		15	0.1%
015		25	0.2%
016		32	0.2%
017		28	0.2%
018		24	0.2%
019		28	0.2%
02		383	2.9%
020		22	0.2%
021		17	0.1%
022		40	0.3%
023		12	0.1%
024		10	0.1%
025		20	0.1%
026		18	0.1%
027		7	0.1%
028		12	0.1%
029		10	0.1%
03		403	3%
030		3	0%
031		8	0.1%
032		2	0%
033		3	0%
034		12	0.1%
035		4	0%
036		6	0%

037		2	0%
038		3	0%
039		4	0%
04		128	1%
040		6	0%
041		2	0%
042		4	0%
043		2	0%
044		2	0%
045		2	0%
046		3	0%
05		418	3.1%
050		2	0%
051		1	0%
052		1	0%
054		1	0%
055		1	0%
06		405	3%
064		2	0%
068		2	0%
07		120	0.9%
08		377	2.8%
09		367	2.7%
10		123	0.9%
101		45	0.3%
102		5	0%
103		3	0%
104		32	0.2%
105		13	0.1%
106		10	0.1%
107		32	0.2%
108		6	0%
109		5	0%
11		363	2.7%
110		34	0.3%
111		7	0.1%
112		5	0%
113		21	0.2%
114		10	0.1%

115		8	0.1%
116		21	0.2%
117		11	0.1%
118		13	0.1%
119		27	0.2%
12		373	2.8%
120		10	0.1%
122		29	0.2%
123		6	0%
124		1	0%
125		22	0.2%
126		7	0.1%
127		7	0.1%
128		5	0%
129		1	0%
13		132	1%
130		7	0.1%
131		11	0.1%
132		5	0%
133		1	0%
134		5	0%
135		2	0%
136		5	0%
137		4	0%
139		2	0%
14		321	2.4%
140		1	0%
141		2	0%
142		1	0%
143		3	0%
144		4	0%
148		5	0%
149		2	0%
15		326	2.4%
150		2	0%
156		2	0%
158		1	0%
16		123	0.9%
17		291	2.2%

18		305	2.3%
19		127	1%
20		267	2%
201		50	0.4%
202		13	0.1%
203		6	0%
204		24	0.2%
205		8	0.1%
206		6	0%
207		36	0.3%
208		21	0.2%
209		10	0.1%
21		268	2%
210		39	0.3%
211		9	0.1%
212		5	0%
213		25	0.2%
214		11	0.1%
215		9	0.1%
216		33	0.2%
217		7	0.1%
218		2	0%
219		21	0.2%
22		120	0.9%
220		11	0.1%
221		9	0.1%
222		25	0.2%
223		10	0.1%
224		8	0.1%
225		16	0.1%
226		4	0%
227		4	0%
228		23	0.2%
229		3	0%
23		245	1.8%
230		1	0%
231		15	0.1%
232		4	0%
233		10	0.1%

234		12	0.1%
235		4	0%
236		3	0%
237		3	0%
238		6	0%
239		12	0.1%
24		241	1.8%
240		7	0.1%
242		3	0%
243		2	0%
245		2	0%
246		2	0%
249		3	0%
25		102	0.8%
252		1	0%
254		1	0%
26		183	1.4%
27		195	1.5%
28		105	0.8%
29		153	1.1%
30		148	1.1%
301		27	0.2%
302		15	0.1%
303		3	0%
304		47	0.4%
305		3	0%
306		6	0%
307		26	0.2%
308		9	0.1%
309		9	0.1%
31		80	0.6%
310		22	0.2%
311		6	0%
312		1	0%
313		21	0.2%
314		4	0%
315		7	0.1%
316		17	0.1%
317		4	0%

318		4	0%
319		28	0.2%
32		123	0.9%
320		9	0.1%
321		12	0.1%
322		18	0.1%
323		4	0%
324		9	0.1%
325		20	0.1%
326		7	0.1%
327		3	0%
328		9	0.1%
329		9	0.1%
33		124	0.9%
330		2	0%
331		10	0.1%
332		2	0%
333		1	0%
334		1	0%
335		2	0%
336		2	0%
34		67	0.5%
340		2	0%
343		2	0%
344		2	0%
345		2	0%
346		2	0%
349		2	0%
35		90	0.7%
350		2	0%
352		2	0%
355		2	0%
36		85	0.6%
366		2	0%
367		2	0%
37		58	0.4%
38		77	0.6%
39		61	0.5%
40		40	0.3%

401		45	0.3%
402		8	0.1%
403		4	0%
404		30	0.2%
405		8	0.1%
406		3	0%
407		34	0.3%
408		7	0.1%
409		10	0.1%
41		60	0.4%
410		42	0.3%
411		7	0.1%
412		6	0%
413		27	0.2%
414		7	0.1%
415		7	0.1%
416		24	0.2%
417		1	0%
418		4	0%
419		16	0.1%
42		51	0.4%
420		7	0.1%
421		9	0.1%
422		14	0.1%
423		5	0%
424		1	0%
425		7	0.1%
426		2	0%
427		1	0%
428		9	0.1%
429		4	0%
43		40	0.3%
430		6	0%
431		6	0%
432		7	0.1%
433		3	0%
434		4	0%
435		3	0%
436		2	0%

437		7	0.1%
438		3	0%
439		3	0%
44		36	0.3%
440		3	0%
441		2	0%
442		2	0%
445		2	0%
446		4	0%
447		2	0%
45		32	0.2%
46		16	0.1%
47		24	0.2%
48		29	0.2%
49		15	0.1%
50		17	0.1%
501		69	0.5%
502		9	0.1%
503		12	0.1%
504		43	0.3%
505		8	0.1%
506		11	0.1%
507		53	0.4%
508		6	0%
509		15	0.1%
51		14	0.1%
510		31	0.2%
511		3	0%
512		6	0%
513		45	0.3%
514		12	0.1%
515		10	0.1%
516		38	0.3%
517		6	0%
518		5	0%
519		27	0.2%
52		10	0.1%
520		3	0%
521		2	0%

522		17	0.1%
523		13	0.1%
524		8	0.1%
525		22	0.2%
526		5	0%
527		8	0.1%
528		9	0.1%
529		7	0.1%
53		16	0.1%
530		12	0.1%
531		14	0.1%
532		8	0.1%
533		1	0%
534		12	0.1%
535		2	0%
536		2	0%
537		6	0%
538		4	0%
539		5	0%
54		8	0.1%
540		6	0%
541		2	0%
542		2	0%
543		1	0%
544		3	0%
546		1	0%
549		1	0%
55		2	0%
551		3	0%
552		2	0%
554		2	0%
555		1	0%
558		1	0%
56		4	0%
57		4	0%
58		2	0%
59		4	0%
60		4	0%
601		37	0.3%

602		12	0.1%
603		15	0.1%
604		34	0.3%
605		5	0%
606		9	0.1%
607		33	0.2%
608		2	0%
609		6	0%
610		25	0.2%
611		5	0%
612		4	0%
613		32	0.2%
614		8	0.1%
615		7	0.1%
616		24	0.2%
617		9	0.1%
618		10	0.1%
619		15	0.1%
62		4	0%
620		6	0%
621		6	0%
622		11	0.1%
623		6	0%
624		5	0%
625		12	0.1%
626		4	0%
627		4	0%
628		10	0.1%
629		5	0%
63		4	0%
630		4	0%
631		9	0.1%
632		2	0%
633		4	0%
634		5	0%
635		2	0%
637		9	0.1%
639		1	0%
64		2	0%

640		1	0%
641		3	0%
643		4	0%
644		1	0%
646		6	0%
647		3	0%
65		2	0%
651		2	0%
652		2	0%
66		2	0%
661		2	0%
67		2	0%
671		2	0%
68		2	0%
69		4	0%
70		2	0%
701		40	0.3%
702		8	0.1%
703		8	0.1%
704		25	0.2%
705		6	0%
706		8	0.1%
707		31	0.2%
708		10	0.1%
709		7	0.1%
710		38	0.3%
711		14	0.1%
712		12	0.1%
713		24	0.2%
714		11	0.1%
715		3	0%
716		27	0.2%
717		12	0.1%
718		6	0%
719		17	0.1%
72		2	0%
720		2	0%
721		4	0%
722		16	0.1%

723		4	0%
724		1	0%
725		11	0.1%
726		8	0.1%
727		3	0%
728		6	0%
729		4	0%
73		2	0%
730		4	0%
731		5	0%
732		4	0%
733		2	0%
734		2	0%
735		2	0%
736		5	0%
739		1	0%
740		5	0%
741		1	0%
743		2	0%
744		2	0%
747		1	0%
749		1	0%
75		2	0%
76		2	0%
765		2	0%
801		46	0.3%
802		15	0.1%
803		7	0.1%
804		33	0.2%
805		8	0.1%
806		9	0.1%
807		39	0.3%
808		15	0.1%
809		3	0%
810		31	0.2%
811		11	0.1%
812		4	0%
813		27	0.2%
814		9	0.1%

815		6	0%
816		27	0.2%
817		15	0.1%
818		6	0%
819		31	0.2%
820		5	0%
821		5	0%
822		14	0.1%
823		2	0%
824		4	0%
825		5	0%
826		4	0%
827		8	0.1%
828		11	0.1%
829		7	0.1%
830		1	0%
831		5	0%
832		4	0%
833		4	0%
834		7	0.1%
835		7	0.1%
836		1	0%
837		9	0.1%
838		1	0%
839		5	0%
840		6	0%
842		2	0%
843		2	0%
845		3	0%
849		2	0%
854		2	0%
861		2	0%
901		41	0.3%
902		8	0.1%
903		12	0.1%
904		38	0.3%
905		5	0%
906		5	0%
907		23	0.2%

908		11	0.1%
909		12	0.1%
910		24	0.2%
911		6	0%
912		10	0.1%
913		24	0.2%
914		10	0.1%
915		8	0.1%
916		34	0.3%
917		6	0%
918		5	0%
919		21	0.2%
920		4	0%
921		10	0.1%
922		18	0.1%
923		5	0%
924		10	0.1%
925		15	0.1%
926		4	0%
928		11	0.1%
929		3	0%
930		6	0%
931		9	0.1%
932		1	0%
933		1	0%
934		3	0%
935		4	0%
936		5	0%
937		6	0%
938		2	0%
940		1	0%
941		2	0%
942		3	0%
944		2	0%
945		1	0%
946		2	0%
947		4	0%
950		1	0%
974		2	0%

Download related resources

Questionnaires

Crop Estimation Survey on Paddy - Survey Schedule

Title Crop Estimation Survey on Paddy - Survey Schedule
Filename CC3.pdf

Technical documents

Formulae to Calculate Avg. Yield & Variance for a given Stratum

Title Formulae to Calculate Avg. Yield & Variance for a given Stratum
Filename Formulae to Calculate Avg. Yield & Variance for a given Stratum.doc

Other materials

Crop Estimation Survey on Paddy - Preliminery Cultivator Information Collecting Form

Title Crop Estimation Survey on Paddy - Preliminery Cultivator Information Collecting Form
Filename CC1.pdf

Crop Estimation Survey on Paddy - Cultivators Selected for Survey

Title Crop Estimation Survey on Paddy - Cultivators Selected for Survey
Filename CC2.pdf

Crop Estimation Survey on Paddy - Quality Checking Report

Title Crop Estimation Survey on Paddy - Quality Checking Report
Filename CC4.pdf

Study Documentation of CESP(M)83 Project

Title Study Documentation of CESP(M)83 Project
Filename Study Documentation of CESP(M)83 Project.pdf

Time series data of Extent, Yield and Production

Title Time series data of Extent, Yield and Production
Filename Time Series Data of Extent, Yield, Production.xls

District Codes List for Crop Estimation Survey of Paddy

Title District Codes List for Crop Estimation Survey of Paddy

Filename	District Codes List.xls

Study Documentation of CESP(M)83 Project

Title	Study Documentation of CESP(M)83 Project
Filename	Study Documentation of CESP(M)83 Project.pdf