Sri Lanka

Department of Census and Statistics, Ministry of Finance and Planning

Crop Estimating Survey on Paddy (Maha) - 1983

Study Documentation

September 10, 2013

Metadata Production

Metadata Producer(s)	Department of Census and Statistics (DCS) , Ministry Of Finance and Planning , Conducting the survey
Production Date	September 23, 2009
Version	Version 1.0 (2009)
Identification	DDI-LKA-DCS-CESP[M]-1983-v1.0

Table of Contents

Sri Lanka (1982-1983)

Crop Estimating Survey on Paddy (Maha) - 1983 (CESP[M] 1983)

Overview	
Type	Agricultural Survey [ag/oth]
Identification	LKA-DCS-CESP[M]-1983-v1.0
Version	Production Date: 2009-07-23 V1.0: Full edited dataset, original version for internal DPD Use
Series	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.

Scope & Coverage

Scope
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	agricultural, forestry and rural industry [2.1]

Geographic Coverage
National Coverage

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

Producers & Sponsors

Primary Investigator(s)	Department of Census and Statistics, Ministry of Finance and Planning
Funding Agency/ies	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

Data Collection Dates	start 1982-10-01 end 1983-04-30
Data Collection Mode	Face-to-face [f2f]

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.

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 Collector(s)	

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 Processing & Appraisal

Other Processing

Average yield per acre/hectare of paddy is estimated at the Head quarters in Colombo, based on the crop cutting sample data received from the Districts using a DBASE program and SPSS software customized for this purpose by the Agriculture and Environment Statistics Division of DCS. Prior to final processing manual coding, verifications of data entries and checking outliers are performed

Data in the From C.C.3 are entered District-wise by about 10 Data Entry Operators / Coding Clerks into a dBase III database. Then the databases they generate are merged to get the total file for the survey. This file which is in dbase form is imported to SPSS to produce standard tables.

Estimates of Sampling Error

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

Accessibility

Access Authority	Director General (Department of Census and Statistics) , http://www.statistics.gov.lk , dgcensus@statistics.gov.lk
Contact(s)	Director General (Department of Census and Statistics) , http://www.statistics.gov.lk/ , dgcensus@statistics.gov.lk Agriculture and Environment Statistics Division (Department of Census and Statistics) , http://www.statistics.gov.lk/agriculture/index.htm , agriculture@statistics.gov.lk Information Unit (Department of Census and Statistics) , http://www.statistics.gov.lk/ , information@statistics.gov.lk

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"

Rights & Disclaimer

Disclaimer

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

Files Description

Dataset contains 1 file(s)

1982_83maha	
# Cases	13350
# Variable(s)	28

Variables List

Dataset contains 28 variable(s)

File 1982_83maha

#	Name	Label	Type	Format	Valid	Invalid	Question
1	SEASON	Season	discrete	character-1	13350	0	-
2	YEAR	Year	continuous	numeric-4.0	13350	0	-
3	BLANK	BLANK	discrete	character-1	0	0	-
4	DISTRICT	District	continuous	numeric-2.0	13350	0	-
5	AGA	AGA Division	continuous	numeric-2.0	13350	0	-
6	TYPE_OF_IRRIGATION	Type of irrigation	continuous	numeric-1.0	13350	0	-
7	VILLAGE	Village code	continuous	numeric-2.0	13350	0	-
8	PARCEL_NO	Parcel no	continuous	numeric-1.0	13350	0	-
9	EXTENT_SOWN_A	Extent Sown in acres	continuous	numeric-1.0	13350	0	-
10	EXTENT_SOWN_R	Extent Sown in Roods	continuous	numeric-1.0	13350	0	-
11	EXTENT_SOWN_P	Extent Sown in Perches	continuous	numeric-2.0	13350	0	-
12	NO_OF_LIYADDAS_IN_PARCEL	No of Liyaddas in Parcel	continuous	numeric-2.0	6024	7326	-
13	LENGTH_LIYADDA	Length of Liyadda	continuous	numeric-3.0	4818	8532	-
14	BREDTH_LIYADDA	Bredth of liyadda	continuous	numeric-3.0	4817	8533	-
15	TENURE	Tenure	continuous	numeric-1.0	13053	297	-
16	PREPARATION_OF_LAND	Preparation of Land	continuous	numeric-1.0	13052	298	-
17	VARIETY_OF_SEED	Variety of seed	continuous	numeric-1.0	13051	299	Write the name or index of seed paddy and leave the box blank for official use.
18	SOWING_METHOD	Sowing Method	continuous	numeric-1.0	13052	298	-
19	FERTILIZER_APPLICATION	Fertilizer Application	continuous	numeric-1.0	13049	301	Inquire from the cultivator the total quantity of fertilizer used in the parcel and give the quantity in Kg's.
20	WT_OF_CHEM_FERT	Weight of Chemical Fertilizer	continuous	numeric-4.0	11747	1603	-
21	WTOFORG_FERT	Weight of Organic Fertilizer	continuous	numeric-4.0	796	12554	-
22	WEEDING	Weeding	continuous	numeric-1.0	13051	299	-
23	INSECTISIDES	Insecticides Used	continuous	numeric-1.0	13051	299	-
24	FUNGICIDES	Fungicides Used	continuous	numeric-1.0	13049	301	-
25	ADVERSE_AFFECTS	Adverse Affects	continuous	numeric-1.0	13051	299	-
26	YIELD	Yield	continuous	numeric-5.0	4969	8381	-
27	RECNO	Record No	continuous	numeric-4.0	4969	8381	-
28	SERIAL	Serial No	discrete	character-3	13350	0	-

Variables Description

Dataset contains28 variable(s)

File 1982_83maha

#1 SEASON: Season	
Information	[Type= discrete] [Format=character] [Missing=*]
Statistics [NW/ W]	[Valid=13350 /-] [Invalid=0 /-]
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.

Value	Label	Cases	Percentage
2	Maha	13350	100.0%

Warning: these figures indicate the number of cases found in the data file. They cannot be interpreted as summary statistics of the population of interest.

#2 YEAR: Year	
Information	[Type= continuous] [Format=numeric] [Range= 8283-8283] [Missing=*]
Statistics [NW/ W]	[Valid=13350 /-] [Invalid=0 /-] [Mean=8283 /-] [StdDev=0 /-]

#3 BLANK: BLANK	
Information	[Type= discrete] [Format=character] [Missing=*]
Statistics [NW/ W]	[Valid=0 /-] [Invalid=0 /-]

#4 DISTRICT: District	
Information	[Type= continuous] [Format=numeric] [Range= 1-26] [Missing=*]
Statistics [NW/ W]	[Valid=13350 /-] [Invalid=0 /-] [Mean=11.883 /-] [StdDev=7.115 /-]

Value	Label	Cases	Percentage
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%

File 1982_83maha (cont.)

#4 DISTRICT: District (cont.)

Value (cont.)	Label	Cases	Percentage
14	Moneragala	396	3.0%
15	Jaffna	464	3.5%
16	Kilinochchi	430	3.2%
17	Vavuniya	394	3.0%
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	0.0%

Warning: these figures indicate the number of cases found in the data file. They cannot be interpreted as summary statistics of the population of interest.

#5 AGA: AGA Division

Information	[Type= continuous] [Format=numeric] [Range= 1-16] [Missing=*]
Statistics [NW/ W]	[Valid=13350 /-] [Invalid=0 /-] [Mean=5.938 /-] [StdDev=3.866 /-]

#6 TYPE_OF_IRRIGATION: Type of irrigation

Information	[Type= continuous] [Format=numeric] [Range= 1-3] [Missing=*]
Statistics [NW/ W]	[Valid=13350 /-] [Invalid=0 /-] [Mean=2.234 /-] [StdDev=0.799 /-]

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

Warning: these figures indicate the number of cases found in the data file. They cannot be interpreted as summary statistics of the population of interest.

#7 VILLAGE: Village code

Information	[Type= continuous] [Format=numeric] [Range= 1-23] [Missing=*]
Statistics [NW/ W]	[Valid=13350 /-] [Invalid=0 /-] [Mean=4.56 /-] [StdDev=3.746 /-]

#8 PARCEL_NO: Parcel no

Information	[Type= continuous] [Format=numeric] [Range= 1-2] [Missing=*]

File 1982_83maha (cont.)

#8 PARCEL_NO: Parcel no (cont.)

Statistics [NW/ W]	[Valid=13350 /-] [Invalid=0 /-] [Mean=1.5 /-] [StdDev=0.5 /-]
Definition	Parcel - Paddy land Parcel is the land demarcated for the operator to cultivate

Value	Label	Cases	Percentage
1	1	6675	50.0%
2	2	6675	50.0%

Warning: these figures indicate the number of cases found in the data file. They cannot be interpreted as summary statistics of the population of interest.

#9 EXTENT_SOWN_A: Extent Sown in acres

Information	[Type= continuous] [Format=numeric] [Range= 0-9] [Missing=*]
Statistics [NW/ W]	[Valid=13350 /-] [Invalid=0 /-] [Mean=0.0135 /-] [StdDev=0.176 /-]

#10 EXTENT_SOWN_R: Extent Sown in Roods

Information	[Type= continuous] [Format=numeric] [Range= 0-9] [Missing=*]
Statistics [NW/ W]	[Valid=13350 /-] [Invalid=0 /-] [Mean=1.041 /-] [StdDev=1.482 /-]

#11 EXTENT_SOWN_PERCHES: Extent Sown in Perches

Information	[Type= continuous] [Format=numeric] [Range= 0-99] [Missing=*]
Statistics [NW/ W]	[Valid=13350 /-] [Invalid=0 /-] [Mean=27.711 /-] [StdDev=26.431 /-]

#12 NO_OF_LIYADDAS_IN_PARCEL: No of Liyaddas in Parcel

Information	[Type= continuous] [Format=numeric] [Range= 0-99] [Missing=*]
Statistics [NW/ W]	[Valid=6024 /-] [Invalid=7326 /-] [Mean=17.045 /-] [StdDev=20.316 /-]
Definition	Liyadda - major block of cultivation in a parcel

Frequency table not shown (96 Modalities)

#13 LENGTH_LIYADDA: Length of Liyadda

Information	[Type= continuous] [Format=numeric] [Range= 0-353] [Missing=*]
Statistics [NW/ W]	[Valid=4818 /-] [Invalid=8532 /-] [Mean=74.983 /-] [StdDev=58.116 /-]

#14 BREDTH_LIYADDA: Bredth of liyadda

Information	[Type= continuous] [Format=numeric] [Range= 0-286] [Missing=*]
Statistics [NW/ W]	[Valid=4817 /-] [Invalid=8533 /-] [Mean=47.299 /-] [StdDev=47.602 /-]

File 1982_83maha (cont.)

#15 TENURE: Tenure

Information	[Type= continuous] [Format=numeric] [Range= 0-4] [Missing=*]
Statistics [NW/ W]	[Valid=13053 /-] [Invalid=297 /-] [Mean=1.542 /-] [StdDev=0.9 /-]
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.

Value	Label	Cases	Percentage
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%

Warning: these figures indicate the number of cases found in the data file. They cannot be interpreted as summary statistics of the population of interest.

#16 PREPARATION_OF_LAND: Preparation of Land

Information	[Type= continuous] [Format=numeric] [Range= 0-7] [Missing=*]
Statistics [NW/ W]	[Valid=13052 /-] [Invalid=298 /-] [Mean=2.646 /-] [StdDev=1.658 /-]
Definition	Predominant method of preparation of land

Value	Label	Cases	Percentage
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%

Warning: these figures indicate the number of cases found in the data file. They cannot be interpreted as summary statistics of the population of interest.

#17 VARIETY_OF_SEED: Variety of seed

Information	[Type= continuous] [Format=numeric] [Range= 0-3] [Missing=*]
Statistics [NW/ W]	[Valid=13051 /-] [Invalid=299 /-] [Mean=1.386 /-] [StdDev=0.726 /-]
Literal question	Write the name or index of seed paddy and leave the box blank for official use.

File 1982_83maha (cont.)

#18 SOWING_METHOD: Sowing Method

Information	[Type= continuous] [Format=numeric] [Range= 0-4] [Missing=*]
Statistics [NW/ W]	[Valid=13052 /-] [Invalid=298 /-] [Mean=1.529 /-] [StdDev=0.89 /-]

Value	Label	Cases	Percentage
0	0	150	1.1%
1	Broadcasting	9142	70.1%
2	Transplanted in rows	528	4.0%
3	Transplanted not in rows	3175	24.3%
4	Row seeded	55	0.4%

Warning: these figures indicate the number of cases found in the data file. They cannot be interpreted as summary statistics of the population of interest.

#19 FERTILIZER_APPLICATION: Fertilizer Application

Information	[Type= continuous] [Format=numeric] [Range= 0-4] [Missing=*]
Statistics [NW/ W]	[Valid=13049 /-] [Invalid=301 /-] [Mean=1.361 /-] [StdDev=0.921 /-]
Literal question	Inquire from the cultivator the total quantity of fertilizer used in the parcel and give the quantity in Kg's.

Value	Label	Cases	Percentage
0	0	58	0.4%
1	Chemical Only	11091	85.0%
2	Organic Only	139	1.1%
3	Both Chemical & Organic	656	5.0%
4	None	1105	8.5%

Warning: these figures indicate the number of cases found in the data file. They cannot be interpreted as summary statistics of the population of interest.

#20 WT_OF_CHEM_FERT: Weight of Chemical Fertilizer

Information	[Type= continuous] [Format=numeric] [Range= 0-5600] [Missing=*]
Statistics [NW/ W]	[Valid=11747 /-] [Invalid=1603 /-] [Mean=294.645 /-] [StdDev=488.479 /-]
Definition	To be filled if Chemical fertilizer is applied (Weight of Chemical fertilizer kg)

#21 WTOFORG_FERT: Weight of Organic Fertilizer

Information	[Type= continuous] [Format=numeric] [Range= 0-3600] [Missing=*]
Statistics [NW/ W]	[Valid=796 /-] [Invalid=12554 /-] [Mean=445.143 /-] [StdDev=732.807 /-]
Definition	To be filled if Organic fertilizer is applied (Weight of Organic fertilizer kg)

#22 WEEDING: Weeding

Information	[Type= continuous] [Format=numeric] [Range= 0-4] [Missing=*]
Statistics [NW/ W]	[Valid=13051 /-] [Invalid=299 /-] [Mean=2.17 /-] [StdDev=1.156 /-]

File 1982_83maha (cont.)

#22 WEEDING: Weeding (cont.)

Value	Label	Cases	Percentage
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	24.0%

Warning: these figures indicate the number of cases found in the data file. They cannot be interpreted as summary statistics of the population of interest.

#23 INSECTISIDES: Insecticides Used

Information	[Type= continuous] [Format=numeric] [Range= 0-2] [Missing=*]
Statistics [NW/ W]	[Valid=13051 /-] [Invalid=299 /-] [Mean=1.357 /-] [StdDev=0.523 /-]

Value	Label	Cases	Percentage
0	0	260	2.0%
1	Used	7875	60.3%
2	Not used	4915	37.7%

Warning: these figures indicate the number of cases found in the data file. They cannot be interpreted as summary statistics of the population of interest.

#24 FUNGICIDES: Fungicides Used

Information	[Type= continuous] [Format=numeric] [Range= 0-2] [Missing=*]
Statistics [NW/ W]	[Valid=13049 /-] [Invalid=301 /-] [Mean=1.73 /-] [StdDev=0.569 /-]

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

Warning: these figures indicate the number of cases found in the data file. They cannot be interpreted as summary statistics of the population of interest.

#25 ADVERSE_AFFECTS: Adverse Affects

Information	[Type= continuous] [Format=numeric] [Range= 0-7] [Missing=*]
Statistics [NW/ W]	[Valid=13051 /-] [Invalid=299 /-] [Mean=5.779 /-] [StdDev=1.707 /-]
Pre-question	Codes 1,2,3,4 or 5 should be encircled only if the parcel was severely affected and it was not harvested.

Value	Label	Cases	Percentage
0	0	677	5.2%
1	Seed fauilure	274	2.1%
2	Drought	184	1.4%
3	Flood	86	0.7%
4	Pests	13	0.1%

File 1982_83maha (cont.)

#25 ADVERSE_AFFECTS: Adverse Affects (cont.)

Value (cont.)	Label	Cases	Percentage
5	Other adverse factors	33	0.3%
6	Not affected	8189	62.8%
7	Slightly affected	3592	27.5%

Warning: these figures indicate the number of cases found in the data file. They cannot be interpreted as summary statistics of the population of interest.

#26 YIELD: Yield

Information	[Type= continuous] [Format=numeric] [Range= 8-80258] [Missing=*]
Statistics [NW/ W]	[Valid=4969 /-] [Invalid=8381 /-] [Mean=12490.204 /-] [StdDev=7106.687 /-]

#27 RECNO: Record No

Information	[Type= continuous] [Format=numeric] [Range= 0-9122] [Missing=*]
Statistics [NW/ W]	[Valid=4969 /-] [Invalid=8381 /-] [Mean=2906.953 /-] [StdDev=1011.344 /-]

#28 SERIAL: Serial No

Information	[Type= discrete] [Format=character] [Missing=*]
Statistics [NW/ W]	[Valid=13350 /-] [Invalid=0 /-]
Frequency table not shown (546 Modalities)	

Documentation

Questionnaires

Crop Estimation Survey on Paddy - Survey Schedule, "Documentation\CC3.pdf"

Technical documents

Formulae to Calculate Avg. Yield & Variance for a given Stratum, "Documentation\Formulae to Calculate Avg. Yield & Variance for a given Stratum.doc"

References

Crop Estimation Survey on Paddy - Preliminery Cultivator Information Collecting Form, Form. C.C.1, "Documentation\CC1.pdf"

Crop Estimation Survey on Paddy - Cultivators Selected for Survey, "Documentation\CC2.pdf"

Crop Estimation Survey on Paddy - Quality Checking Report, "Documentation\CC4.pdf"

Other documents

Study Documentation of CESP(M)83 Project, "Documentation\Study Documentation of CESP(M)83 Project.pdf"

Time series data of Extent, Yield and Production, "Documentation\Time Series Data of Extent, Yield, Production.xls"

District Codes List for Crop Estimation Survey of Paddy, "Documentation\District Codes List.xls"