

Sri Lanka

Department of Census and Statistics

## Crop Estimating Survey on Paddy (Yala) - 1999

Study Documentation

November 3, 2009

# Metadata Production

Metadata Producer(s)	Department of Census and Statistics (DCS) , Ministry Of Finance and Planning , Conducting the survey
Production Date	November 1, 2008
Version	Version 1.0 (2008)
Identification	DDI-LKA-DCS-CESP[Y]-1999-v1.0

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Sri Lanka (1999)

## Crop Estimating Survey on Paddy (Yala) - 1999 (CESP[Y] 1999)

Overview	
Type	Agricultural Survey [ag/oth]
Identification	LKA-DCS-CESP[Y]-1999-v1.0
Version	Production Date: 2008-12-01 V1.0: Full edited dataset, for internal DPD Use
Series	<p>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</p> <p>This survey is carried out in each season of a cultivation year to collect the paddy extent under categories namely;</p> <p>Asweddumized Extent Sown Extent Harvested Extent</p> <p>Paddy extent is estimated on the basis of complete enumeration of paddy parcels in the county covering both Maha and Yala seasons.</p> <p>All these variables are being collected through a form known as P1. The extent categories are again classified by type of irrigation namely;</p> <p>Major Irrigation Schemes Minor Irrigation Schemes Rain-fed</p>
<p><u>Abstract</u></p> <p>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.</p> <p>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' ½" (a paddy land of one perch of an acre), harvest the crop of the plot, thresh the grain, measure the grain</p>	

using standard set of seers and finally report the results through the prescribed form CC3.

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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.

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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]
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### 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	Department of Census and Statistics (DCS) , Source of funds

## 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	Yala: start 1999-07 Yala: end 1999-09
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Data Collection Mode	Face-to-face [f2f]
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#### 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)	
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### 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 Form 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) , <a href="http://www.statistics.gov.lk">http://www.statistics.gov.lk</a> , <a href="mailto:dgcensus@slt.net.lk">dgcensus@slt.net.lk</a>
Contact(s)	Director General ( Department of Census and Statistics) , <a href="http://www.statistics.gov.lk/">http://www.statistics.gov.lk/</a> , <a href="mailto:dgcensus@slt.net.lk">dgcensus@slt.net.lk</a> Agriculture and Environment Statistics Division ( Department of Census and Statistics) , <a href="http://www.statistics.gov.lk/agriculture/index.htm">http://www.statistics.gov.lk/agriculture/index.htm</a> , <a href="mailto:agriculture@statistics.gov.lk">agriculture@statistics.gov.lk</a> Information Unit ( Department of Census and Statistics) , <a href="http://www.statistics.gov.lk/">http://www.statistics.gov.lk/</a> , <a href="mailto:information@statistics.gov.lk">information@statistics.gov.lk</a>

### 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](http://www.statistics.gov.lk/databases/data%20dissemination/DataDissaPolicy_2007Oct26.pdf)

Citation Requirements

Department of Census and Statistics, Crop Estimation Survey on Paddy [Yala] 1999 [CESP(Y)99], Version 1.0 of the internal use dataset December, 2008 provided by the National Data Archive, Data Processing Division, [www.statistics.gov.lk](http://www.statistics.gov.lk)"

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## Files Description

Dataset contains 1 file(s)

1999yala	
# Cases	5112
# Variable(s)	28

# Variables List

Dataset contains 28 variable(s)

File 1999yala							
#	Name	Label	Type	Format	Valid	Invalid	Question
1	<a href="#">d_r</a>	Filler	discrete	character-1	0	0	-
2	<a href="#">sea</a>	Season	discrete	character-1	5111	0	-
3	<a href="#">yr</a>	Year	discrete	numeric-2.0	5112	0	-
4	<a href="#">dist</a>	District	continuous	numeric-2.0	5112	0	-
5	<a href="#">aga</a>	AGA Division	continuous	numeric-2.0	5112	0	-
6	<a href="#">irr</a>	Irrigation type	discrete	numeric-1.0	5108	4	-
7	<a href="#">vil</a>	Village	continuous	numeric-2.0	5111	1	-
8	<a href="#">ld</a>	Parcel No	discrete	numeric-1.0	5111	1	-
9	<a href="#">a</a>	Extent sown - Acres	discrete	numeric-2.0	5111	1	-
10	<a href="#">r</a>	Extent sown - Rood	discrete	numeric-1.0	5101	11	-
11	<a href="#">p</a>	Extent sown - Perches	continuous	numeric-2.0	4995	117	-
12	<a href="#">lid</a>	Number of Liyaddas in the Parcel	continuous	numeric-3.0	2384	2728	-
13	<a href="#">len</a>	Length of Liyadda	continuous	numeric-3.0	1930	3182	-
14	<a href="#">bre</a>	Bredth of Liyadda	continuous	numeric-3.0	1909	3203	-
15	<a href="#">ten</a>	System of tenure	discrete	numeric-1.0	5110	2	-
16	<a href="#">pre</a>	Preparation of land	discrete	numeric-1.0	5111	1	-
17	<a href="#">ver</a>	Variety of seed	discrete	numeric-1.0	5111	1	Write the name or index of seed paddy and leave the box blank for official use.
18	<a href="#">sow</a>	Sowing method	discrete	numeric-1.0	5111	1	-
19	<a href="#">fer</a>	Fertilizer application	discrete	numeric-1.0	5110	2	Inquire from the cultivator the total quantity of fertilizer used in the parcel and give the quantity in Kg's.
20	<a href="#">che</a>	If chemical fertilizer is applied	continuous	numeric-4.0	5012	100	-
21	<a href="#">org</a>	If organic fertilizer is applied	continuous	numeric-4.0	506	4606	-
22	<a href="#">wee</a>	Weeding	discrete	numeric-1.0	5108	4	-
23	<a href="#">inc</a>	Insecticides	discrete	numeric-1.0	5109	3	-
24	<a href="#">fun</a>	Fungicides	discrete	numeric-1.0	5108	4	-
25	<a href="#">dam</a>	Adverse affects on crop	discrete	numeric-1.0	5108	4	-
26	<a href="#">yld</a>	Yield	continuous	numeric-5.2	2029	3083	-
27	<a href="#">recn</a>	Record Number	continuous	numeric-4.0	120	4992	-
28	<a href="#">sn</a>	Serial Number	discrete	character-5	0	0	-

# Variables Description

Dataset contains 28 variable(s)

File 1999yala

## #1 d\_r: Filler

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

## #2 sea: Season

Information	[Type= discrete] [Format=character] [Missing=*]
Statistics [NW/ W]	[Valid=5111 /-] [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
.		1	0.0%
0		2	0.0%
1		2	0.0%
3		1	0.0%
9		1	0.0%
U		1	0.0%
Y		3201	62.6%
`		1	0.0%
d		1	0.0%
m		2	0.0%
y		1898	37.1%

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.

## #3 yr: Year

Information	[Type= discrete] [Format=numeric] [Range= 0-99] [Missing=*]
Statistics [NW/ W]	[Valid=5112 /-] [Invalid=0 /-]

Value	Label	Cases	Percentage
0		2	0.0%
5		2	0.0%
6		3	0.1%
9		4	0.1%
11		1	0.0%
41		1	0.0%
42		1	0.0%
90		4	0.1%

# Crop Estimating Survey on Paddy (Yala) - 1999 - Variables Description

## File 1999yala (cont.)

### #3 yr: Year (cont.)

Value (cont.)	Label	Cases	Percentage
98		1	0.0%
99		5093	99.6%

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.

### #4 dist: District

Information	[Type= continuous] [Format=numeric] [Range= 1-27] [Missing=*]		
Statistics [NW/ W]	[Valid=5112 /-] [Invalid=0 /-]		
Value	Label	Cases	Percentage
1	1	2	0.0%
2	2	300	6.0%
3	3	135	2.7%
4	4	110	2.2%
5	5	795	15.9%
6	6	493	9.9%
7	7	0	0.0%
8	8	1049	21.0%
9	9	86	1.7%
10	10	34	0.7%
11	11	259	5.2%
13	13	26	0.5%
14	14	30	0.6%
17	17	27	0.5%
18	18	1	0.0%
20	20	550	11.0%
21	21	213	4.3%
22	22	96	1.9%
23	23	230	4.6%
24	24	561	11.2%
25	25	0	0.0%
26	26	0	0.0%
27	27	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= 1-40] [Missing=*]		
Statistics [NW/ W]	[Valid=5112 /-] [Invalid=0 /-] [Mean=8.743 /-] [StdDev=6.562 /-]		



# Crop Estimating Survey on Paddy (Yala) - 1999 - Variables Description

## File 1999yala (cont.)

### #6 irr: Irrigation type

Information	[Type= discrete] [Format=numeric] [Range= 1-3] [Missing=*]		
Statistics [NW/ W]	[Valid=5108 /-] [Invalid=4 /-]		
Value	Label	Cases	Percentage
1	Major	2056	40.3%
2	Minor	1668	32.7%
3	Rainfed	1384	27.1%
Sysmiss		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 vil: Village

Information	[Type= continuous] [Format=numeric] [Range= 1-57] [Missing=*]
Statistics [NW/ W]	[Valid=5111 /-] [Invalid=1 /-] [Mean=4.092 /-] [StdDev=3.332 /-]

### #8 Id: Parcel No

Information	[Type= discrete] [Format=numeric] [Range= 1-2] [Missing=*]		
Statistics [NW/ W]	[Valid=5111 /-] [Invalid=1 /-]		
Definition	Parcel - Paddy land Parcel is the land demarcated for the operator to cultivate		
Value	Label	Cases	Percentage
1		2590	50.7%
2		2521	49.3%
Sysmiss		1	
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 a: Extent sown - Acres

Information	[Type= discrete] [Format=numeric] [Range= 0-16] [Missing=*]		
Statistics [NW/ W]	[Valid=5111 /-] [Invalid=1 /-]		
Value	Label	Cases	Percentage
0		2800	54.8%
1		1114	21.8%
2		665	13.0%
3		308	6.0%
4		73	1.4%
5		76	1.5%
6		15	0.3%
7		11	0.2%
8		11	0.2%

## File 1999yala (cont.)

## #9 a: Extent sown - Acres (cont.)

Value (cont.)	Label	Cases	Percentage
9		3	0.1%
10		20	0.4%
11		3	0.1%
12		1	0.0%
13		2	0.0%
14		2	0.0%
15		1	0.0%
16		1	0.0%
20		5	0.1%
Sysmiss		1	

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.

## #10 r: Extent sown - Rood

Information	[Type= discrete] [Format=numeric] [Range= 0-5] [Missing=*]		
Statistics [NW/ W]	[Valid=5101 /-] [Invalid=11 /-]		
Value	Label	Cases	Percentage
0		1976	38.7%
1		1059	20.8%
2		1565	30.7%
3		498	9.8%
4		1	0.0%
6		1	0.0%
8		1	0.0%
Sysmiss		11	

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.

## #11 p: Extent sown - Perches

Information	[Type= continuous] [Format=numeric] [Range= 0-60] [Missing=*]
Statistics [NW/ W]	[Valid=4995 /-] [Invalid=117 /-] [Mean=4.193 /-] [StdDev=8.837 /-]

## #12 lid: Number of Liyaddas in the Parcel

Information	[Type= continuous] [Format=numeric] [Range= 0-608] [Missing=*]
Statistics [NW/ W]	[Valid=2384 /-] [Invalid=2728 /-] [Mean=13.567 /-] [StdDev=22.228 /-]
Definition	Liyadda - major block of cultivation in a parcel

# Crop Estimating Survey on Paddy (Yala) - 1999 - Variables Description

## File 1999yala (cont.)

### #13 len: Length of Liyadda

Information	[Type= continuous] [Format=numeric] [Range= 0-630] [Missing=*]
Statistics [NW/ W]	[Valid=1930 /-] [Invalid=3182 /-] [Mean=71.439 /-] [StdDev=69.647 /-]

### #14 bre: Bredth of Liyadda

Information	[Type= continuous] [Format=numeric] [Range= 0-573] [Missing=*]
Statistics [NW/ W]	[Valid=1909 /-] [Invalid=3203 /-] [Mean=45.344 /-] [StdDev=32.621 /-]

### #15 ten: System of tenure

Information	[Type= discrete] [Format=numeric] [Range= 0-4] [Missing=*]
Statistics [NW/ W]	[Valid=5110 /-] [Invalid=2 /-]
Definition	<p>System of Tenure could be (1) Singly owned (2)Jointly owned including Thattumaru and Kattimaru. (3) Ande (4) Other</p> <p>Thattumaru - An accepted cultivation system where a each person claiming ownership of a paddy field cultivates a predetermined area of the field in rotation.</p> <p>Kattimaru - Cultivating different crops in different seasons.</p> <p>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.</p>

Value	Label	Cases	Percentage
0	0	0	0.0%
1	Singly owned	3844	75.2%
2	Jointly owned	380	7.4%
3	Ande	771	15.1%
4	Other	115	2.3%
Sysmiss		2	

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 pre: Preparation of land

Information	[Type= discrete] [Format=numeric] [Range= 0-7] [Missing=*]
Statistics [NW/ W]	[Valid=5111 /-] [Invalid=1 /-]
Definition	Predominant method of preparation of land

Value	Label	Cases	Percentage
0	0	0	0.0%
1	By Tractor	4218	82.5%
2	Buffalow ploughed	294	5.8%
3	Buffalow mudded	107	2.1%
4	Mammotied	268	5.2%
5	5	81	1.6%

## File 1999yala (cont.)

## #16 pre: Preparation of land (cont.)

Value (cont.)	Label	Cases	Percentage
6	6	48	0.9%
7	7	95	1.9%
Sysmiss		1	

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 ver: Variety of seed

Information	[Type= discrete] [Format=numeric] [Range= 1-3] [Missing=*]		
Statistics [NW/ W]	[Valid=5111 /-] [Invalid=1 /-]		
Literal question	Write the name or index of seed paddy and leave the box blank for official use.		
Value	Label	Cases	Percentage
1		4976	97.4%
2		128	2.5%
3		7	0.1%
Sysmiss		1	

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.

## #18 sow: Sowing method

Information	[Type= discrete] [Format=numeric] [Range= 0-4] [Missing=*]		
Statistics [NW/ W]	[Valid=5111 /-] [Invalid=1 /-]		
Value	Label	Cases	Percentage
0	0	0	0.0%
1	Broadcasting	4799	93.9%
2	Transplanted in rows	58	1.1%
3	Transplanted not in rows	249	4.9%
4	Row seeded	5	0.1%
Sysmiss		1	

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 fer: Fertilizer application

Information	[Type= discrete] [Format=numeric] [Range= 1-4] [Missing=*]		
Statistics [NW/ W]	[Valid=5110 /-] [Invalid=2 /-]		
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
1		4693	91.8%
2		27	0.5%

# Crop Estimating Survey on Paddy (Yala) - 1999 - Variables Description

## File 1999yala (cont.)

### #19 fer: Fertilizer application (cont.)

Value (cont.)	Label	Cases	Percentage
3		299	5.9%
4		91	1.8%
Sysmiss		2	

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 che: If chemical fertilizer is applied

Information	[Type= continuous] [Format=numeric] [Range= 0-3600] [Missing=*]
Statistics [NW/ W]	[Valid=5012 /-] [Invalid=100 /-] [Mean=265.324 /-] [StdDev=320.311 /-]
Definition	To be filled if Chemical fertilizer is applied

### #21 org: If organic fertilizer is applied

Information	[Type= continuous] [Format=numeric] [Range= 0-8000] [Missing=*]
Statistics [NW/ W]	[Valid=506 /-] [Invalid=4606 /-] [Mean=439.022 /-] [StdDev=1054.628 /-]
Definition	To be filled if Organic fertilizer is applied

### #22 wee: Weeding

Information	[Type= discrete] [Format=numeric] [Range= 0-4] [Missing=*]
Statistics [NW/ W]	[Valid=5108 /-] [Invalid=4 /-]

  

Value	Label	Cases	Percentage
0	0	0	0.0%
1	Hand weeding	1128	22.1%
2	Using weedisides	3482	68.2%
3	By the use of water	97	1.9%
4	No weeding	401	7.9%
Sysmiss		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.

### #23 inc: Insecticides

Information	[Type= discrete] [Format=numeric] [Range= 0-2] [Missing=*]
Statistics [NW/ W]	[Valid=5109 /-] [Invalid=3 /-]

  

Value	Label	Cases	Percentage
0	0	0	0.0%
1	Used	3124	61.1%
2	Not used	1985	38.9%

# Crop Estimating Survey on Paddy (Yala) - 1999 - Variables Description

## File 1999yala (cont.)

### #23 inc: Insecticides (cont.)

Value (cont.)	Label	Cases	Percentage
Sysmiss		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.

### #24 fun: Fungicides

Information	[Type= discrete] [Format=numeric] [Range= 0-2] [Missing=*]		
Statistics [NW/ W]	[Valid=5108 /-] [Invalid=4 /-]		
Value	Label	Cases	Percentage
0	0	0	0.0%
1	Used	1258	24.6%
2	Not used	3850	75.4%
Sysmiss		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.

### #25 dam: Adverse affects on crop

Information	[Type= discrete] [Format=numeric] [Range= 0-7] [Missing=*]		
Statistics [NW/ W]	[Valid=5108 /-] [Invalid=4 /-]		
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	0	0.0%
1	Seed faulure	56	1.1%
2	Drought	20	0.4%
3	Flood	7	0.1%
4	Pests	1	0.0%
5	Other adverse factors	1	0.0%
6	Not affected	4008	78.5%
7	Slightly affected	1015	19.9%
Sysmiss		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.

### #26 yld: Yield

Information	[Type= continuous] [Format=numeric] [Range= 0-35.28] [Missing=*]		
Statistics [NW/ W]	[Valid=2029 /-] [Invalid=3083 /-] [Mean=15.879 /-] [StdDev=9.068 /-]		

### #27 recn: Record Number

Information	[Type= continuous] [Format=numeric] [Range= 0-3900] [Missing=*]		
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## File 1999yala (cont.)

## #27 recn: Record Number (cont.)

Statistics [NW/ W]	[Valid=120 /-] [Invalid=4992 /-] [Mean=991.242 /-] [StdDev=2861.668 /-]
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## #28 sn: Serial Number

Information	[Type= discrete] [Format=character] [Missing=*]
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Statistics [NW/ W]	[Valid=0 /-] [Invalid=0 /-]
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## 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 2006 - Preliminary 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(Y)99 Project, "Documentation\Study Documentation of CESP(Y)99 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"