

# Sri Lanka - Crop Estimating Survey on Paddy (Maha) - 1985

**Department of Census and Statistics**

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## Identification

### SURVEY ID NUMBER

LKA-DCS-CESP[M]-1985-v1.0

### TITLE

Crop Estimating Survey on Paddy (Maha) - 1985

### 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.

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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.

## 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	<a href="#">Link</a>

## 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
1984-10-01	1985-04-30

### 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

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#### 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

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#### 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	<a href="#">Link</a>
Agriculture and Environment Statistics Division	Department of Census and Statistics	agriculture@statistics.gov.lk	<a href="#">Link</a>
Information Unit	Department of Census and Statistics	information@statistics.gov.lk	<a href="#">Link</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.

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

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- 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_dissemination/DataDissaPolicy_2007Oct26.pdf)

#### CITATION REQUIREMENTS

Department of Census and Statistics, Crop Estimation Survey on Paddy [Maha] 1985, [CESP(M)1985], Version 1.0 of the internal use dataset July, 2009 provided by the National Data Archive, Data Processing Division, [www.statistics.gov.lk](http://www.statistics.gov.lk)"

#### ACCESS AUTHORITY

Name	Affiliation	Email	URL
Director General	Department of Census and Statistics	dgcensus@statistics.gov.lk	<a href="#">Link</a>

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## Metadata production

#### DDI DOCUMENT ID

DDI-LKA-DCS-CESP[M]-1985-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**

<b>Data file</b>	<b>Cases</b>	<b>Variables</b>
<b>1984_85maha</b>	12614	28



**Data file: 1984\_85maha**

Cases: 12614

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:** 1984\_85maha**Overview**

Valid: 12614    Invalid: 0  
 Type: Discrete    Width: 1    Range: -    Format: character

**Questions and instructions**

## CATEGORIES

Value	Category	Cases	
2	Maha	12614	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:** 1984\_85maha**Overview**

Valid: 12614    Invalid: 0    Minimum: 1981    Maximum: 1984    Mean: 1984    Standard deviation: 0.0378  
 Type: Continuous    Decimal: 0    Width: 4    Range: 1984 - 1984    Format: Numeric

**BLANK: BLANK****Data file:** 1984\_85maha**Overview**

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

**DISTRICT: District****Data file:** 1984\_85maha**Overview**

Valid: 12614    Invalid: 0    Minimum: 1    Maximum: 26    Mean: 12.019    Standard deviation: 7.111  
 Type: Continuous    Decimal: 0    Width: 2    Range: 1 - 26    Format: Numeric

**Questions and instructions**

## CATEGORIES

Value	Category	Cases	
1	Colombo	248	2%
2	Gampaha	482	3.8%
3	Kalutara	632	5%
4	Galle	806	6.4%
5	Matara	682	5.4%
6	Ratnapura	724	5.7%
7	Kegalle	672	5.3%
8	Kurunegala	838	6.6%
9	Puttalam	300	2.4%
10	Kandy	808	6.4%
11	Matale	626	5%
12	Nuwara Eliya	286	2.3%
13	Badulla	580	4.6%
14	Moneragala	476	3.8%
15	Jaffna	324	2.6%
16	Kilinochchi	346	2.7%
17	Vavuniya	206	1.6%
18	Mullaitivu	386	3.1%
19	Mannar	636	5%
20	Anuradhapura	590	4.7%
21	Polonnaruwa	196	1.6%
22	Trincomalee	422	3.3%
23	Batticaloa	428	3.4%
24	Ampara	456	3.6%
25	Hambantota	176	1.4%
26	Udawalawa	288	2.3%
27	Mahaweli H	0	0%

## AGA: AGA Division

Data file: 1984\_85maha

### Overview

Valid: 12614    Invalid: 0    Minimum: 1    Maximum: 18    Mean: 5.866    Standard deviation: 3.861  
 Type: Continuous    Decimal: 0    Width: 2    Range: 1 - 16    Format: Numeric

## TYPE\_OF\_IRRIGATION: Type of irrigation

Data file: 1984\_85maha

## Overview

Valid: 12614 Invalid: 0 Minimum: 1 Maximum: 3 Mean: 2.208 Standard deviation: 0.805  
 Type: Continuous Decimal: 0 Width: 1 Range: 1 - 3 Format: Numeric

## Questions and instructions

### CATEGORIES

Value	Category	Cases	
1	Major	3050	24.2%
2	Minor	3890	30.8%
3	Rainfed	5674	45%

## VILLAGE: Village code

Data file: 1984\_85maha

## Overview

Valid: 12614 Invalid: 0 Minimum: 1 Maximum: 35 Mean: 4.581 Standard deviation: 3.85  
 Type: Continuous Decimal: 0 Width: 2 Range: 1 - 23 Format: Numeric

## PARCEL\_NO: Parcel no

Data file: 1984\_85maha

## Overview

Valid: 12614 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	6307	50%
2	2	6307	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: 1984\_85maha

**Overview**

Valid: 12614   Invalid: 0   Minimum: 0   Maximum: 7   Mean: 0.00999   Standard deviation: 0.139  
 Type: Continuous   Decimal: 0   Width: 1   Range: 0 - 9   Format: Numeric

**EXTENT\_SOWN\_R: Extent Sown in Roods**

Data file: 1984\_85maha

**Overview**

Valid: 12614   Invalid: 0   Minimum: 0   Maximum: 9   Mean: 1.037   Standard deviation: 1.48  
 Type: Continuous   Decimal: 0   Width: 1   Range: 0 - 9   Format: Numeric

**EXTENT\_SOWN\_PERCHES: Extent Sown in Perches**

Data file: 1984\_85maha

**Overview**

Valid: 12614   Invalid: 0   Minimum: 0   Maximum: 99   Mean: 27.524   Standard deviation: 26.26  
 Type: Continuous   Decimal: 0   Width: 2   Range: 0 - 99   Format: Numeric

**NO\_OF\_LIYADDAS\_IN\_PARCEL: No of Liyaddas in Parcel**

Data file: 1984\_85maha

**Overview**

Valid: 5785   Invalid: 6829   Minimum: 0   Maximum: 99   Mean: 18.201   Standard deviation: 20.743  
 Type: Continuous   Decimal: 0   Width: 2   Range: 0 - 99   Format: Numeric

**Questions and instructions**

## CATEGORIES

Value	Category	Cases	
0	0	9	0.2%
1	1	222	3.8%
2	2	337	5.8%
3	3	356	6.2%
4	4	392	6.8%
5	5	322	5.6%
6	6	328	5.7%
7	7	259	4.5%
8	8	295	5.1%
9	9	218	3.8%
10	10	202	3.5%
11	11	154	2.7%



12	12	237	4.1%
13	13	117	2%
14	14	133	2.3%
15	15	141	2.4%
16	16	128	2.2%
17	17	63	1.1%
18	18	133	2.3%
19	19	60	1%
20	20	104	1.8%
21	21	61	1.1%
22	22	80	1.4%
23	23	38	0.7%
24	24	70	1.2%
25	25	68	1.2%
26	26	55	1%
27	27	30	0.5%
28	28	65	1.1%
29	29	17	0.3%
30	30	62	1.1%
31	31	26	0.5%
32	32	45	0.8%
33	33	16	0.3%
34	34	33	0.6%
35	35	32	0.6%
36	36	33	0.6%
37	37	21	0.4%
38	38	35	0.6%
39	39	17	0.3%
40	40	46	0.8%
41	41	12	0.2%
42	42	46	0.8%
43	43	18	0.3%
44	44	11	0.2%
45	45	34	0.6%
46	46	19	0.3%
47	47	15	0.3%
48	48	47	0.8%
49	49	15	0.3%
50	50	20	0.3%

51	51	15	0.3%
52	52	28	0.5%
53	53	11	0.2%
54	54	16	0.3%
55	55	13	0.2%
56	56	12	0.2%
57	57	10	0.2%
58	58	13	0.2%
59	59	6	0.1%
60	60	25	0.4%
61	61	5	0.1%
62	62	21	0.4%
63	63	6	0.1%
64	64	14	0.2%
65	65	19	0.3%
66	66	4	0.1%
67	67	7	0.1%
68	68	19	0.3%
69	69	1	0%
70	70	2	0%
72	72	21	0.4%
73	73	7	0.1%
74	74	7	0.1%
75	75	5	0.1%
76	76	11	0.2%
77	77	3	0.1%
78	78	5	0.1%
80	80	7	0.1%
81	81	3	0.1%
82	82	8	0.1%
83	83	2	0%
84	84	11	0.2%
85	85	6	0.1%
86	86	6	0.1%
87	87	2	0%
88	88	5	0.1%
89	89	3	0.1%
90	90	6	0.1%
91	91	3	0.1%

92	92	6	0.1%
94	94	2	0%
95	95	3	0.1%
96	96	6	0.1%
97	97	1	0%
99	99	89	1.5%

## Description

### DEFINITION

Liyadda - major block of cultivation in a parcel

### LENGTH\_LIYADDA: Length of Liyadda

Data file: 1984\_85maha

#### Overview

Valid: 4623    Invalid: 7991    Minimum: 0    Maximum: 360    Mean: 71.308    Standard deviation: 41.04  
 Type: Continuous    Decimal: 0    Width: 3    Range: 0 - 353    Format: Numeric

### BREDTH\_LIYADDA: Bredth of liyadda

Data file: 1984\_85maha

#### Overview

Valid: 4622    Invalid: 7992    Minimum: 0    Maximum: 503    Mean: 44.558    Standard deviation: 27.594  
 Type: Continuous    Decimal: 0    Width: 3    Range: 0 - 286    Format: Numeric

### TENURE: Tenure

Data file: 1984\_85maha

#### Overview

Valid: 12363    Invalid: 251    Minimum: 0    Maximum: 4    Mean: 1.534    Standard deviation: 0.888  
 Type: Continuous    Decimal: 0    Width: 1    Range: 0 - 4    Format: Numeric

## Questions and instructions

### CATEGORIES

Value	Category	Cases	
0	0	73	0.6%
1	Singly owned	8617	69.7%
2	Jointly owned	943	7.6%
3	Ande	2463	19.9%

4	Other	267	2.2%
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## 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: 1984\_85maha

### Overview

Valid: 12363 Invalid: 251 Minimum: 0 Maximum: 7 Mean: 2.654 Standard deviation: 1.775  
Type: Continuous Decimal: 0 Width: 1 Range: 0 - 7 Format: Numeric

## Questions and instructions

### CATEGORIES

Value	Category	Cases	
0	0	254	2.1%
1	By Tractor	3792	30.7%
2	Buffalow ploughed	3472	28.1%
3	Buffalow mudded	837	6.8%
4	Mammotied	2398	19.4%
5	5	230	1.9%
6	6	842	6.8%
7	7	538	4.4%

## Description

### DEFINITION

Predominant method of preparation of land

## VARIETY\_OF\_SEED: Variety of seed

Data file: 1984\_85maha

## Overview

Valid: 12366 Invalid: 248 Minimum: 0 Maximum: 6 Mean: 1.364 Standard deviation: 0.721  
 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: 1984\_85maha

### Overview

Valid: 12363 Invalid: 251 Minimum: 0 Maximum: 4 Mean: 1.489 Standard deviation: 0.858  
 Type: Continuous Decimal: 0 Width: 1 Range: 0 - 4 Format: Numeric

## Questions and instructions

### CATEGORIES

Value	Category	Cases	
0	0	114	0.9%
1	Broadcasting	8922	72.2%
2	Transplanted in rows	562	4.5%
3	Transplanted not in rows	2701	21.8%
4	Row seeded	64	0.5%

## FERTILIZER\_APPLICATION: Fertilizer Application

Data file: 1984\_85maha

### Overview

Valid: 12369 Invalid: 245 Minimum: 0 Maximum: 4 Mean: 1.366 Standard deviation: 0.922  
 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	6	0%
1	Chemical Only	10529	85.1%
2	Organic Only	241	1.9%

3	Both Chemical & Organic	483	3.9%
4	None	1110	9%

## WT\_OF\_CHEM\_FERT: Weight of Chemical Fertilizer

Data file: 1984\_85maha

### Overview

Valid: 11014    Invalid: 1600    Minimum: 0    Maximum: 9999    Mean: 284.111    Standard deviation: 520.66  
 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: 1984\_85maha

### Overview

Valid: 725    Invalid: 11889    Minimum: 0    Maximum: 9999    Mean: 533.43    Standard deviation: 1105.436  
 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: 1984\_85maha

### Overview

Valid: 12363    Invalid: 251    Minimum: 0    Maximum: 5    Mean: 2.098    Standard deviation: 1.092  
 Type: Continuous    Decimal: 0    Width: 1    Range: 0 - 4    Format: Numeric

### Questions and instructions

#### CATEGORIES

Value	Category	Cases	
0	0	91	0.7%
1	Hand weeding	4067	32.9%
2	Using weedisides	5239	42.4%
3	By the use of water	478	3.9%

4	No weeding	2487	20.1%
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## INSECTISIDES: Insecticides Used

Data file: 1984\_85maha

### Overview

Valid: 12364 Invalid: 250 Minimum: 0 Maximum: 2 Mean: 1.339 Standard deviation: 0.511  
Type: Continuous Decimal: 0 Width: 1 Range: 0 - 2 Format: Numeric

### Questions and instructions

#### CATEGORIES

Value	Category	Cases	
0	0	227	1.8%
1	Used	7721	62.4%
2	Not used	4416	35.7%

## FUNGICIDES: Fungicides Used

Data file: 1984\_85maha

### Overview

Valid: 12364 Invalid: 250 Minimum: 0 Maximum: 2 Mean: 1.708 Standard deviation: 0.591  
Type: Continuous Decimal: 0 Width: 1 Range: 0 - 2 Format: Numeric

### Questions and instructions

#### CATEGORIES

Value	Category	Cases	
0	0	880	7.1%
1	Used	1855	15%
2	Not used	9629	77.9%

## ADVERSE\_AFFECTS: Adverse Affects

Data file: 1984\_85maha

### Overview

Valid: 12365 Invalid: 249 Minimum: 0 Maximum: 7 Mean: 5.988 Standard deviation: 1.672  
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	614	5%
1	Seed faulure	72	0.6%
2	Drought	92	0.7%
3	Flood	395	3.2%
4	Pests	25	0.2%
5	Other adverse factors	19	0.2%
6	Not affected	5630	45.5%
7	Slightly affected	5518	44.6%

### YIELD: Yield

Data file: 1984\_85maha

#### Overview

Valid: 4464 Invalid: 8150 Minimum: 0 Maximum: 39718 Mean: 11897.195 Standard deviation: 5619.784  
 Type: Continuous Decimal: 0 Width: 5 Range: 8 - 80258 Format: Numeric

### RECNO: Record No

Data file: 1984\_85maha

#### Overview

Valid: 4464 Invalid: 8150 Minimum: 0 Maximum: 4312 Mean: 3976.626 Standard deviation: 441.858  
 Type: Continuous Decimal: 0 Width: 4 Range: 0 - 9122 Format: Numeric

### SERIAL: Serial No

Data file: 1984\_85maha

#### Overview

Valid: 12614 Invalid: 0  
 Type: Discrete Width: 3 Range: - Format: character

## Questions and instructions

### CATEGORIES

Value	Category	Cases	
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001		46	0.4%
002		7	0.1%
003		12	0.1%
004		64	0.5%
005		15	0.1%
006		13	0.1%
007		50	0.4%
008		14	0.1%
009		2	0%
01		37	0.3%
010		32	0.3%
011		6	0%
012		3	0%
013		27	0.2%
014		10	0.1%
015		4	0%
016		25	0.2%
017		11	0.1%
018		9	0.1%
019		36	0.3%
02		441	3.5%
020		7	0.1%
021		10	0.1%
022		23	0.2%
023		2	0%
024		13	0.1%
025		23	0.2%
026		7	0.1%
027		4	0%
028		9	0.1%
029		5	0%
03		440	3.5%
031		9	0.1%
033		7	0.1%
034		3	0%
035		5	0%
036		5	0%
037		9	0.1%
039		3	0%

04		96	0.8%
040		5	0%
041		2	0%
042		1	0%
044		5	0%
045		2	0%
05		392	3.1%
050		2	0%
051		3	0%
06		414	3.3%
067		2	0%
07		135	1.1%
073		2	0%
08		363	2.9%
09		385	3.1%
1		4	0%
10		150	1.2%
101		44	0.3%
102		6	0%
103		5	0%
104		28	0.2%
105		9	0.1%
106		8	0.1%
107		28	0.2%
108		5	0%
109		4	0%
11		350	2.8%
110		26	0.2%
111		12	0.1%
112		7	0.1%
113		20	0.2%
114		4	0%
115		7	0.1%
116		30	0.2%
117		5	0%
118		4	0%
119		10	0.1%
12		365	2.9%
120		6	0%

121		11	0.1%
122		14	0.1%
123		4	0%
124		3	0%
125		14	0.1%
126		7	0.1%
127		5	0%
128		8	0.1%
129		8	0.1%
13		131	1%
130		7	0.1%
131		9	0.1%
132		2	0%
133		1	0%
134		6	0%
135		2	0%
136		2	0%
137		1	0%
138		4	0%
14		323	2.6%
140		2	0%
141		1	0%
142		2	0%
143		1	0%
144		1	0%
147		2	0%
148		2	0%
149		1	0%
15		337	2.7%
151		2	0%
158		2	0%
16		137	1.1%
17		297	2.4%
18		296	2.3%
19		133	1.1%
20		245	1.9%
201		65	0.5%
202		4	0%
203		1	0%

204		44	0.3%
205		11	0.1%
206		11	0.1%
207		33	0.3%
208		12	0.1%
209		11	0.1%
21		243	1.9%
210		43	0.3%
211		8	0.1%
213		25	0.2%
214		13	0.1%
215		14	0.1%
216		30	0.2%
217		2	0%
218		2	0%
219		19	0.2%
22		129	1%
220		6	0%
221		4	0%
222		19	0.2%
223		10	0.1%
224		5	0%
225		15	0.1%
226		4	0%
227		7	0.1%
228		10	0.1%
229		1	0%
23		214	1.7%
230		1	0%
231		3	0%
232		6	0%
234		2	0%
235		3	0%
236		3	0%
237		5	0%
238		2	0%
239		2	0%
24		202	1.6%
241		1	0%

243		2	0%
244		2	0%
245		2	0%
25		108	0.9%
252		2	0%
258		2	0%
26		166	1.3%
267		2	0%
269		1	0%
27		169	1.3%
28		96	0.8%
29		137	1.1%
30		130	1%
301		38	0.3%
302		4	0%
303		2	0%
304		36	0.3%
305		9	0.1%
306		6	0%
307		26	0.2%
308		13	0.1%
309		10	0.1%
31		65	0.5%
310		28	0.2%
311		11	0.1%
312		3	0%
313		15	0.1%
314		2	0%
315		4	0%
316		15	0.1%
317		2	0%
318		5	0%
319		8	0.1%
32		94	0.7%
320		7	0.1%
321		8	0.1%
322		24	0.2%
323		14	0.1%
324		5	0%

325		12	0.1%
326		4	0%
327		5	0%
328		8	0.1%
329		3	0%
33		96	0.8%
330		2	0%
331		9	0.1%
332		4	0%
333		4	0%
334		4	0%
335		1	0%
336		1	0%
337		1	0%
338		2	0%
339		4	0%
34		60	0.5%
340		1	0%
341		4	0%
343		2	0%
346		2	0%
347		2	0%
348		4	0%
35		82	0.7%
350		2	0%
354		4	0%
36		86	0.7%
363		2	0%
37		51	0.4%
372		4	0%
38		58	0.5%
39		59	0.5%
40		32	0.3%
401		32	0.3%
402		5	0%
403		9	0.1%
404		48	0.4%
405		9	0.1%
406		8	0.1%

407		25	0.2%
408		5	0%
409		3	0%
41		43	0.3%
410		23	0.2%
411		10	0.1%
412		11	0.1%
413		33	0.3%
414		14	0.1%
415		11	0.1%
416		23	0.2%
417		8	0.1%
418		5	0%
419		21	0.2%
42		45	0.4%
420		4	0%
421		4	0%
422		5	0%
423		1	0%
424		5	0%
425		6	0%
426		5	0%
427		3	0%
428		12	0.1%
429		4	0%
43		29	0.2%
430		5	0%
431		5	0%
432		5	0%
433		2	0%
434		3	0%
435		4	0%
437		3	0%
438		2	0%
439		1	0%
44		28	0.2%
440		3	0%
441		2	0%
442		2	0%

443		2	0%
445		2	0%
446		2	0%
449		1	0%
45		29	0.2%
450		2	0%
451		3	0%
452		1	0%
455		2	0%
458		2	0%
46		22	0.2%
469		1	0%
47		20	0.2%
48		14	0.1%
49		16	0.1%
50		16	0.1%
501		53	0.4%
502		6	0%
503		9	0.1%
504		43	0.3%
505		12	0.1%
506		6	0%
507		41	0.3%
508		9	0.1%
509		11	0.1%
51		10	0.1%
510		39	0.3%
511		12	0.1%
512		4	0%
513		32	0.3%
514		11	0.1%
515		7	0.1%
516		25	0.2%
517		6	0%
518		8	0.1%
519		29	0.2%
52		14	0.1%
520		18	0.1%
521		8	0.1%



522		9	0.1%
523		7	0.1%
524		9	0.1%
525		14	0.1%
526		7	0.1%
527		3	0%
528		12	0.1%
529		9	0.1%
53		14	0.1%
530		3	0%
531		10	0.1%
532		6	0%
533		6	0%
534		9	0.1%
536		2	0%
537		11	0.1%
54		6	0%
540		4	0%
541		5	0%
542		1	0%
543		6	0%
544		2	0%
546		2	0%
55		8	0.1%
551		3	0%
555		1	0%
557		2	0%
56		10	0.1%
57		4	0%
571		2	0%
58		2	0%
59		8	0.1%
60		6	0%
601		47	0.4%
602		5	0%
603		4	0%
604		28	0.2%
605		4	0%
606		7	0.1%

607		38	0.3%
608		13	0.1%
609		4	0%
61		4	0%
610		22	0.2%
611		7	0.1%
612		3	0%
613		31	0.2%
614		15	0.1%
615		7	0.1%
616		20	0.2%
617		2	0%
618		8	0.1%
619		13	0.1%
62		6	0%
620		5	0%
621		5	0%
622		13	0.1%
623		1	0%
624		5	0%
625		10	0.1%
626		8	0.1%
627		8	0.1%
628		7	0.1%
629		1	0%
63		4	0%
630		2	0%
631		9	0.1%
632		2	0%
633		5	0%
634		9	0.1%
635		4	0%
636		4	0%
637		3	0%
638		4	0%
64		2	0%
640		8	0.1%
641		3	0%
642		5	0%

643		1	0%
644		1	0%
646		2	0%
648		2	0%
649		2	0%
65		6	0%
652		1	0%
657		2	0%
66		6	0%
660		2	0%
661		2	0%
664		1	0%
67		2	0%
68		6	0%
69		4	0%
70		4	0%
701		52	0.4%
702		5	0%
703		4	0%
704		38	0.3%
705		9	0.1%
706		6	0%
707		44	0.3%
708		3	0%
709		8	0.1%
71		4	0%
710		18	0.1%
711		12	0.1%
712		12	0.1%
713		41	0.3%
714		4	0%
715		7	0.1%
716		20	0.2%
717		11	0.1%
718		7	0.1%
719		25	0.2%
72		2	0%
720		3	0%
721		9	0.1%

722		26	0.2%
723		2	0%
724		8	0.1%
725		17	0.1%
726		6	0%
727		8	0.1%
728		14	0.1%
729		3	0%
73		4	0%
730		5	0%
731		6	0%
732		2	0%
733		1	0%
734		6	0%
735		1	0%
738		4	0%
739		2	0%
74		4	0%
740		2	0%
741		1	0%
742		2	0%
743		1	0%
746		2	0%
752		2	0%
754		2	0%
764		1	0%
770		2	0%
801		45	0.4%
802		8	0.1%
803		6	0%
804		43	0.3%
805		11	0.1%
806		7	0.1%
807		23	0.2%
808		15	0.1%
809		10	0.1%
810		34	0.3%
811		6	0%
812		14	0.1%

813		39	0.3%
814		7	0.1%
815		5	0%
816		25	0.2%
817		12	0.1%
818		5	0%
819		25	0.2%
820		8	0.1%
821		2	0%
822		20	0.2%
823		14	0.1%
824		4	0%
825		15	0.1%
826		2	0%
827		1	0%
828		12	0.1%
829		4	0%
830		4	0%
831		3	0%
832		2	0%
833		3	0%
834		4	0%
837		5	0%
838		4	0%
839		3	0%
840		2	0%
843		2	0%
845		2	0%
848		2	0%
849		2	0%
851		1	0%
855		1	0%
864		2	0%
901		39	0.3%
902		7	0.1%
903		4	0%
904		26	0.2%
905		11	0.1%
906		4	0%

907		25	0.2%
908		8	0.1%
909		2	0%
910		31	0.2%
911		10	0.1%
912		8	0.1%
913		30	0.2%
914		9	0.1%
915		3	0%
916		20	0.2%
917		8	0.1%
918		5	0%
919		11	0.1%
920		7	0.1%
921		4	0%
922		10	0.1%
923		5	0%
924		9	0.1%
925		6	0%
926		6	0%
927		3	0%
928		8	0.1%
929		3	0%
930		5	0%
931		8	0.1%
932		5	0%
933		1	0%
934		4	0%
935		6	0%
936		1	0%
937		5	0%
938		2	0%
940		3	0%
941		2	0%
942		2	0%
944		1	0%
945		3	0%
947		2	0%
948		2	0%

954		2	0%
961		2	0%

# Download related resources

## Questionnaires

### Crop Estimation Survey on Paddy - Survey Schedule

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

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## Technical documents

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

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

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

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

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## Other materials

### Crop Estimation Survey on Paddy - Preliminary Cultivator Information Collecting Form

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

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### Crop Estimation Survey on Paddy - Cultivators Selected for Survey

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

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### Crop Estimation Survey on Paddy - Quality Checking Report

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

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### Time series data of Extent, Yield and Production

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

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### District Codes List for Crop Estimation Survey of Paddy

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Title District Codes List for Crop Estimation Survey of Paddy



Filename District Codes List.xls

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## **Study Documentation of CESP(M)85 Project**

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Title Study Documentation of CESP(M)85 Project

Filename Study Documentation of CESP(M)85 Project.pdf

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